COVID-19 and Crime: Effects of Stay-at-Home Orders on Domestic Violence

Abstract

COVID-19 has led to an abrupt change in time spent at home, with many cities and states implementing official stay-at-home (SAH), or "lockdown" policies. Using cell phone block-level activity data and administrative 911 and crime data from the city of Chicago, we estimate the effects of the Illinois governor's SAH order on calls for police service, crimes recorded by police, and arrests made relating to domestic violence. We find that the SAH order announcement increased time spent at home, leading to a decrease in total calls for police service, but a subsequent increase in domestic violence-related calls for police service. However, we find that official reports by police officers and arrests for domestic violence crimes fell by 6.8 percent and 26.4 percent, respectively. Declines in reported domestic violence crimes mirror drops in total reported crimes; however, the reduction for domestic violence crimes is around 5 times smaller than the decline in overall crime rates.

1   Introduction

In an effort to contain the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, or COVID-19), there have been abrupt and widespread changes in the amount of time people spend at home. Many cities implemented official stay-at-home (SAH), or "lockdown" policies in 2020, as cases continued to rise (Dave, Friedson, Matsuzawa, and Sabia, 2020; Gupta, Nguyen, Raman, Lee, Rojas, Bento, Simon, and Wing, 2020). Such policies have created new concern over domestic violence victims spending more time with their abusers (Sandler, 2020; Andrew, 2020). Increases in fear, stress, and financial constraints during the ongoing pandemic could lead to even more frequent and/or severe incidents of domestic violence as perpetrators lash out. Moreover, spiking unemployment rates and uncertain financial times may reduce potential victims' capacity to leave, creating a persistently unsafe environment.

Additionally, SAH policies may alter the frequency with which victims interact with potential reporters, resulting in this type of crime going undetected. This is especially true for children, as teachers, counselors, and administrators are the primary reporters for child maltreatment (Fitzpatrick, Benson, and Bondurant, 2020). Furthermore, police officers may answer fewer domestic-related calls for service in person, or spend less time on these calls, in an attempt to implement social distancing.

In this project, we estimate the extent to which time spent at home due to the COVID-19 pandemic affects calls for police service, reports, and arrests for intimate partner violence and child maltreatment to better understand the costs and benefits of lockdown policies. Specifically, we focus on the effects of the SAH policy in Chicago, Illinois, which was announced March 9, 2020 and was officially implemented on March 21, 2020. To measure the extent to which individuals complied with the SAH orders and to identify areas of the city most affected by SAH orders, we first analyze block-level cell phone activity data, along with other measures of mobility throughout the city, including public transit entries and traffic data. We then use detailed case-level administrative data on calls for police service (i.e., 911 calls), officer-initiated crime reports, and arrests to comprehensively assess the potential changes in crime reporting for domestic violence crimes and other crime types over this time period.

Using a fixed effects approach that compares weekly 911 call rates and crime rates in 2019 and

2020 before and after the SAH order announcement in Chicago, we find that policies leading to more time spent at home increased domestic-related police calls for service by 7.4 percent. These effects correspond to nearly 1,000 additional domestic calls than would have been expected over a 5-week window. The effects are largest in areas with more households that are married with children, areas with relatively high rates of rental residences, and areas that experienced the largest changes in staying at home. Additionally, we find that official reports and arrests for all crimes fell by nearly 30 percent, while domestic violence crimes fell by 6.8 percent. We find that these effects are short-lived; domestic-related calls for police service and reported crimes decline during the summer of 2020, although we argue that civil unrest and police mistrust play a critical role in evaluating additional weeks of data.

Importantly, using administrative data from the city of Chicago on calls for police service and crime reports allow us to disentangle some of the reasons that domestic violence is going undetected to create a more accurate measure of underlying violence and to suggest policy prescriptions to protect vulnerable groups. As a result, these data serve as an enhancement to current existing research, which uses multi-city approaches to estimate effects of lockdown policies to study only calls for police service (Leslie and Wilson, 2020; McCrary and Sanga, 2020). In using several different measures of both crime and economic activity, and by estimating effects within a large, demographically diverse city, we are able to shed new light on the scope of underlying changes in domestic abuse and the impacts of SAH orders on reporting processes. Consequently, we can speak to effects of stay-at-home policies on a number of different measures of domestic crimes and offer new evidence on victim reporting behavior. Moreover, in using comprehensive data on reported crimes, we are able to address how the changes in domestic crimes compare to other crime types, like drug and property crimes, to estimate the extent to which time spent at home affects criminal behavior more broadly and to provide suggestive cost estimates of the crime tradeoffs.

Although these administrative call-level data include reports of domestic violence even if no official report or arrest is made, domestic violence is widely known to experience nonrandom underreporting (Ellsberg, Heise, Pena, Agurto, and Winkvist, 2001). We expect that during the COVID-19 lockdown this underreporting persisted, and possibly even increased. Nonetheless, although considerable underreporting likely remains, we are able to compare incident reports over time to get a sense for how official reports and arrests for these types of crimes changed throughout

the city, before and after the SAH orders.

Importantly, we find that while the first-line reporting channel for domestic violence reporting (i.e., calls for police service) increased as a result of the lockdown, the more formal channels (i.e., official reported crime and police arrests for domestic crimes) did not. Based on the pre-pandemic call-to-crime report ratios, we estimate an 11 percent decrease in otherwise expected reports of domestic violence in March-April 2020. Given that the assigned priority of domestic violence calls by police remains unchanged across our sample period, this corresponds to over 600 cases of domestic violence crimes that went unreported between March and April throughout the city of Chicago.

Together, these results provide evidence to suggest that the wedge between domestic violence incidents and police reporting expanded when Chicagoans experienced the broadest COVID-related restrictions in March and April, generating support for three ideas: (i) COVID-19 reduced interactions between civilians and police, in an attempt to maintain social distancing; (ii) Third parties and/or neighbors were more likely to report domestic crimes as a result of increased time spent at home, while victims themselves were less likely to follow through with a police report, possibly related to the economic aftershocks of shutdowns; and/or (iii) The nature and severity of calls were different during this period, such that they did not reach the level of an arrest. Relatedly, the COVID-19 outbreak at Cook County jail may have also incentivized officers to raise the threshold required for a domestic arrest. In particular, we find that calls for domestic battery, the most severe domestic crime, did not change over this time period, although reported cases and arrests fell.

Notably, we do not find significant effects for domestic crimes against children, as measured by physical child abuse. This result may indicate that although domestic crimes rose in March-April 2020, calls for child abuse fell, potentially due to lessened visibility of child victims and limitations of various reporting channels for child maltreatment crimes. In particular, child protective services agencies are responsible for the majority of child maltreatment calls, and, like many states, the Illinois Department of Child and Family Services (DCFS) has seen a substantial drop in calls to the hotline (Jackson, 2020; Bullinger, Feely, Raissian, and Schneider, 2020; Bullinger, Boy, Feely, Messner, Raissian, Schneider, and Self-Brown, 2020).

As a whole, our findings build on recent evidence of the effects of lockdown policies on domestic violence. Other studies show that these policies across a number of cities increased police calls for service for domestic-related offenses by 10.2–12 percent, and that increases in domestic crimes

were concentrated during weekdays (Leslie and Wilson, 2020; McCrary and Sanga, 2020). We contribute to this literature by painting a more comprehensive picture of the effects of SAH orders while focusing on one city – Chicago – and extending our analysis beyond 911 calls to estimate effects on reported crimes and arrests. We also compare calls for police service, reports, and arrests for domestic crimes to those for non-domestic crimes. Additionally, we expand this evidence base by examining heterogenity by the timing and location of crimes and by block-group characteristics, including economic vulnerability, family structure, and living conditions, to better understand potential mechanisms. Finally, we perform longer-run analyses including data from the summer of 2020. Doing so allows us to speak to other social issues from this time (namely, racial justice protests and the subsequent disintegrating trust of police) and more carefully consider mechanisms since restrictions began loosening and other policy changes occurred during this time. We note that although we are not able to directly test the extent to which all possible mechanisms contribute to the findings we present, we investigate plausible explanations to determine potential drivers, providing supporting evidence where possible.

These findings have important implications for policy. In particular, our findings offer evidence on the health tradeoffs of SAH policies and the direct costs that they impose on domestic abuse victims. These results also highlight the potential need to protect domestic violence victims in the circumstance of future outbreaks and suggest that there is a need to strengthen the role that healthcare and law enforcement professionals play in detecting abuse, given that SAH orders have changed and disrupted the traditional abuse-detection process. Finally, given the evidence on the large external costs of intimate partner violence on the health and well-being of children (Aizer, 2010; Carrell, Hoekstra, and Kuka, 2018), addressing the increase in calls reporting intimate partner abuse in policymaking is relevant for improving total social welfare.

2 Data

2.1 Activity Tracking

We first use GPS-tracking data to determine how and when the lockdown policy in Chicago affected time spent at home. Specifically, on March 9, 2020, Governor J.B. Pritzker implemented COVID-19 executive order number 8, ordering Illinois residents not defined as "essential workers" or other

exempt personnel to remain at home. The order also dictated that individuals maintain social distancing of at least six feet from any other person when possible. The order was set to be effective March 21, 2020.[1] However, because SAH order announcements in other cities led to individuals sheltering-in-place immediately (Leslie and Wilson, 2020; Dave, Friedson, Matsuzawa, and Sabia, 2020; Gupta, Nguyen, Raman, Lee, Rojas, Bento, Simon, and Wing, 2020), we focus primarily on the SAH order announcement date, rather than the effective date, in the corresponding analyses.

In particular, we use SafeGraph cell phone activity tracking to more directly test how the Chicago SAH order announcement changed time spent at home. These data are generated using a panel of GPS pings from anonymous mobile devices. SafeGraph aggregates device data by Census block group and day, based on a device's home location. For a location to qualify as a user's "home", SafeGraph considers a common nighttime location of each mobile device over a 6-week period.[2]

We consider changes in time spent at home corresponding with the SAH order announcement using two main variables: the percent of devices that did not leave home in a particular day, and the percent of the day all devices spent at home during a given day. In some instances, we additionally consider the percent of devices that spent more than 6 hours at a non-home location between 8am-6pm, and those that spent between 4–6 hours at a non-home location between these hours to estimate the number of individuals continuing to work full-time and part-time out-of-home, respectively, during lockdown.

We present summary statistics for SafeGraph activity tracking data in Table 1 Panel (a). In Column 1, we present the overall means for data from the first 15 weeks of 2020, while Column 2 shows the standard deviation. In an average block group, SafeGraph tracks 54 devices per week. SafeGraph calculates that devices stay home for approximately 82 percent of the day. Of these devices, over 32 percent report staying entirely at home between January-April 2020.[3]

To supplement this analysis we consider two measures of mobility related to transportation - public transit use ("L-Train" ridership) and vehicular traffic. We use data on daily entries per station to measure the former and red light camera violations for the latter. Both of these datasets

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[1]For the full order, see `https://www2.illinois.gov/IISNews/21288-Gov._Pritzker_Stay_at_Home_Order.pdf`.

[2]The SafeGraph methodology uses a 7-geohash granularity (approximately 153m x 153m) to determine "home" locations.

[3]Prior to March 2020, on average devices spent 65 percent of time at home and 26 percent of devices report staying entirely at home.

are reported by the City of Chicago on their public data portal.[4]

2.2 Police Calls for Service

Our primary analyses use administrative case-level data on police service calls, or 911 calls, for the city of Chicago. These data contain information on the timing and location (e.g., latitude and longitude) of the call as well as a detailed description code referring to the nature of the call. We focus primarily on all calls that are flagged as "domestic disturbance" and "domestic battery", and consider the sum of these calls to be domestic violence-related calls for police service.[5] We additionally consider calls flagged for child abuse. For our preferred specifications, we construct call rates per 1,000 total population. We focus on data spanning January 1-April 14 for both 2019 and 2020, which includes calls occurring 10 weeks prior to lockdown and the 5 weeks during lockdown. In subsequent analyses, we additionally consider the following 18 weeks, which includes the phasing out of SAH policies.

One advantage in using police calls for one city is that the procedure used to classify calls does not vary across locations. Moreover, using call data allows us to better observe how reporting is changing during lockdown. We note that domestic crimes are widely underreported, and that child maltreatment may experience even further underreporting during lockdown, given school closures and social isolation away from mandated reporters (Baron, Goldstein, and Wallace, 2020; Bullinger, Feely, Raissian, and Schneider, 2020; Bullinger, Boy, Feely, Messner, Raissian, Schneider, and Self-Brown, 2020; Fitzpatrick, Benson, and Bondurant, 2020). Additionally, early in the pandemic many domestic violence shelters closed due to the potential for spread of the disease, leaving domestic violence advocates unable to help victims face-to-face (Ward, 2020). Therefore, any effects we find on these types of calls could be in *spite* of reduced visibility, indicating that estimates will likely understate the true effects of the policy. Conversely, if more residents are at home to observe violence in neighboring households, third party reporting could rise.

We present summary statistics for these data in Table 1 Panel (b). On average, a block group calls for police service 25.7 times per week from January 1, 2019-April 14, 2020. This corresponds to approximately 54,000 calls per week, or 7,700 calls per day, across the city of Chicago. Domestic

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[4]https://data.cityofchicago.org/

[5]Specifically, domestic disturbances are considered an argument between partners that denote verbal abuse or psychological abuse. Domestic battery includes calls for intimate partner physical violence.

violence-related calls make up about 5 percent of total calls.

2.3 Crime Reports and Arrests

To get a better sense of police interactions, arrests, and reporting of domestic crimes more gener-
ally, we supplement police calls for service using administrative offense-level data from the City of
Chicago's online data portal spanning January 1, 2019-April 14, 2020, although in some specifica-
tions we use data extending to August 2020. These data contain information on the timing and
location of the reported crime, including latitude and longitude and location type (e.g. residence,
street, store, etc.) as well as a detailed offense description code.[6]

These data also contain a flag if an offense is considered a domestic crime, which is critical for
our analyses. Notably, domestic violence and child maltreatment reports could be instigated by
individuals outside of the residence, and conflicts do not need to be contained in the home to be
flagged as a domestic crime.[7] Moreover, these offense-level data contain information on whether an
arrest was made, and victims do not need to press charges for a record to appear in the data.

For a record to appear in these data, a police officer must file a report of the incident. Because
911 calls may not lead to a formal police report, these data will therefore detect a different measure
of domestic crimes– those warranting a formal police report. In our main analysis, we select the set
of crimes used in each category to reflect different mechanisms that can affect family violence. For
domestic abuse we consider all reports that are flagged for or indicate a case of domestic violence
between adults and extend this analysis to separately estimate effects for domestic battery and
assault. Battery, the most serious offense listed above, includes unlawful physical contact with the
intent to cause injury, while assault reflects the presence or threat of harm to another individual.
In our definition of child abuse, we include cases of non-accidental injury to a child inflicted by a
parent or caregiver, as described in the data.[8] Notably, as shown in Table 1 Panel (c), of the weekly
domestic-related crime reports, 11 percent are for domestic assault and 55 percent are for domestic
battery.

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[6]Available for download at https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2.

[7]Specifically, in the state of Illinois, domestic violence is considered any crime against family members related by
blood, current or ex-spouses, those living in the same dwelling, people who are dating or engaged or used to date,
including same sex couples; and people with disabilities and their personal assistants, according to state statutes
(Illinois Attorney General, 2018).

[8]Specifically, for counts of child abuse we include any cases from the city of Chicago data that indicate physical
abuse (e.g., battery or aggravated assault of a child).

One of the primary advantages of these data is the ability to pinpoint the location, date, and time that the crime was reported. For our main analyses, we use coordinates to geocode the location of each crime and create a block group-by-week panel. For our preferred specifications, we construct crime and arrest rates per 1,000 total population. We additionally match these block groups to the calls for service data and household demographic and economic information from the 2018 American Community Survey to get a sense of how calls and crimes during the pandemic change differentially across block groups.[9]

3   Empirical Approach

Our primary approach for estimating the effects of the Chicago SAH order is a two-way fixed effects design that uses 2019 weekly block-level crime levels as the comparison group for weekly block-level crimes in 2020. We estimate differences in these weeks prior to and after the March 9 SAH order announcement. In our preferred specifications, we consider all block groups in Chicago to be treated, although we perform additional tests to compare areas with higher SAH compliance, as measured by time spent at home using cell phones, to those with lower compliance. The identifying assumption underlying this approach is that the changes in reported domestic violence in the comparison weeks provide a good counterfactual for the changes that would have been observed in the absence of lockdown policies.

We begin our analysis by estimating Ordinary Least Squares (OLS) models of the following form:

$$crime_{bwy} = \beta_0 + \beta_1 SAH_{bwy} + \pi_w + \pi_y + \alpha_b + u_{bwy} \tag{1}$$

where b, w, and y represent the block group, week, and year, respectively. *crime* represents the main outcome variables of interest: calls for police service rates, crime rates, and arrest rates for intimate partner violence and physical child abuse, among other crime categories. π_w and π_y represent week and year fixed effects, respectively, to account for seasonality in criminal activity,

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[9]For summary statistics of these variables, see Table A1. On average, block groups in Chicago are 49 percent White, 33 percent Black, and 27 percent Hispanic. About 8 percent of households are married with children.

and α_b represents block group fixed effects. We cluster standard errors at the block level. Our main variable of interest, SAH, is an indicator variable equal to one for weeks in 2020 occurring after week 10 (i.e., the weeks after the SAH order announcement in 2020) and zero otherwise. Therefore, our model can be thought of as a difference-in-differences design, where we compare crime rates by year and by week, prior to and after week 10.[10]

Additionally, we present week-by-week event study figures to consider how effects evolve over time. These models are of the following form:

$$y_{bwy} = \left(\sum_{\substack{t=-9 \\ t \neq 0}}^{5} \theta_t SAH_{bwy} \right) + \pi_w + \pi_y + \alpha_b + u_{bwy} \tag{2}$$

where variables remain the same as described above, and θ represents the coefficients of interest. These estimates are important in this context as individuals experience not only increases, but also persistence in time spent at home throughout the spring of 2020. Therefore, event-study coefficients allow us to track dynamic effects as partners and families spend more time with each other at home. In some specifications, we extend our analysis to observe effects in weeks over the summer of 2020 as well, yielding an additional 18 coefficients.

As with any difference-in-differences design, the validity of our approach requires common trends in the pre-period outcome over time for the treatment and control groups (i.e., weeks 1–10 in 2020 and weeks 1–10 in 2019, respectively). We provide support for this assumption with evidence that the trends in weekly crime rates in 2019 and 2020 are not diverging from one another in the weeks prior to the increase in time spent at home.

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[10]We focus on estimates based on OLS models because they are sometimes more precise than estimates based on weighted-least-squares models; however, our main findings are robust to WLS analogues that weight observations by the 2018 block-group population. Moreover, while we use call and crime rates as our preferred outcome, because crimes are discrete by nature, we also present estimates from the above specification using logged outcomes, a Poisson model, and the inverse hyperbolic sine of calls and crimes, which, unlike a standard log transformation, accounts for observations that have zero counts. Specifically, this transformation takes on the form $sinh_z^{-1} = ln(z + \sqrt{1 + z^2})$.

4 Estimating Effects of Social Distancing Policies on Domestic Violence

4.1 Effects on Mobility

In this section, we discuss the extent to which SAH policies responding to the COVID-19 pandemic affect domestic violence. Before presenting our estimated effects on police calls for service and reported crimes, we first show that the Illinois SAH order announcement on March 9, 2020 affected travel and economic activity in Chicago.

In Figure 1 we present time spent at home and work metrics for the city of Chicago over time during 2020. In particular, in the top panel we display mean weekly block-level averages of the percent of the day devices spent at home and the percent of devices staying completely at home, while the bottom panel presents the percent of people that are predicted to be working full time and part time outside of the home according to device location. Prior to week 10 (i.e., March 9), cellular devices spent approximately 70–80 percent of their days at home. After the announced SAH order, the percent of the day spent at home spikes sharply to nearly 100 percent by week 15. A similar rise occurs for the percent of those spending the day completely at home. At the same time, the percent of people that are predicted to be working outside of the home, according to device location, drops sharply.

This spike in time spent at home is mirrored by evidence in Figure 2, which displays weekly block-level average L-train entries and red light camera violations for the first 15 weeks of 2019 and 2020.[11] Notably, L-train entries dropped off after the March 9 announcement, then fell to nearly zero on March 21, despite the L-trains remaining in operation. This follows similar documented trends in mobility, non-essential worker travel, and restaurant reservations across a number of other cities (Leslie and Wilson, 2020; Dave, Friedson, Matsuzawa, and Sabia, 2020; Gupta, Nguyen, Raman, Lee, Rojas, Bento, Simon, and Wing, 2020).

As restrictions were loosened in a piecemeal fashion, all of these measures indicate a gradual return to normalcy. Appendix Figures A1 and A2 present cell phone mobility and transportation data that extends into August. Time spent at home nearly returns to pre-COVID levels by the

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[11]There is a noticeable drop in ridership in the 5th week of 2019 due to the polar vortex. That decrease is much smaller than the SAH decrease and provides a comparison for scale.

end of our panel, indicating that the impacts of staying at home dissipate after around week 14 or 15. Behaviors predicting employment, however, have not fully recovered by the end of this period, likely due to slow economic recovery and continued "work from home" policies by many employers.[12] Similarly, L-train entries do not recover, possibly due to the concern that mass transportation involves enclosed spaces, while red light camera violations increase substantially in May and the weeks afterwards.

We emphasize that any corresponding changes in crime will combine effects of time spent at home along with financial stress, economic uncertainty, and school closures (which became effective March 16).[13] While we cannot disentangle these mechanisms to speak to the causal channel of any *single* response to COVID-19, we note that following the SAH announcement in Illinois, more devices stayed at home for extended periods of time, traffic fell substantially, and fewer individuals took public transit. Therefore, we argue that time spent indoors, either by perpetrators, victims, or witnesses, most likely together, is a likely factor contributing to any observed changes in crime and reporting levels.

Below we present estimated reduced-form effects of the SAH announcement and additional social distancing policies on domestic violence-related calls for police service and crimes ending with a police report in an effort to contribute to the broader understanding of pandemic policies on domestic violence. We first present the results for the only the first 5 weeks after the stay-at-home order to isolate the effect of this extreme scenario, and then trace out the longer run effects in Section 5 to explore mechanisms as policies dissipate and new scenarios come into play.

4.2 Effects on Calls for Police Service

Conditional on an incident of domestic abuse occurring, a call for police service typically represents the first step in a crime intervention. These calls can be initiated by anyone witnessing the incident, including the victim and/or the perpetrator. Calls for police service have distinct advantages over other measures of domestic violence. For example, these data do not suffer from recall biases and other biases present in survey data. They also contain many incidents that do not get reported to

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[12] A device's home location is based over the previous 6-week period. Some devices' home locations may have changed throughout the spring and summer as people relocated to spend their quarantine.

[13] As a result, a number of standard theoretical economic household bargaining models, including models of instrumental violence, and violence as limited by threat points, could explain our results (Manser and Brown, 1980; McElroy and Horney, 1981; Farmer and Tiefenthaler, 1997; Pollak, 2005; Aizer, 2010; Anderberg and Rainer, 2011).

police because often victims or witnesses are hesitant to push forward with more formal procedures.

The COVID-19 pandemic may have altered calls for police service outside of the impact of the changes in underlying violence in a number of ways. For example, as a result of lockdown, victims may reduce their propensity to report instances of domestic violence as they spend more time at home with their abusers and are unable to escape and place a call in private or worry about future backlash. On the other hand, if lockdown creates greater potential benefits of a perpetrator's incapacitation for the victim, they may be more likely to report. Or, if SAH orders induce perpetrators to use violence at the extensive margin, the volume of calls may increase if new victims are more likely to report their abuse. Finally, for households with children, the added challenges of parenting during lockdown could escalate even otherwise regular interactions among family members.

Moreover, increased time spent at home has the potential to change reporting incentives for neighbors, especially in tight living quarters. Neighbors are more likely to be at home and may be more likely to witness evidence of abuse. Similarly, domestic disturbances might create negative spillovers for those spending time at home, especially if they are recurring. In either case, third parties may be more likely to report incidences of violence out of a desire to protect victim or even to just deter future disturbances.

For calls relating to child abuse, mandated reporters typically receive training and are instructed to report child abuse and neglect via the child abuse hotline or online reporting system (both which go directly to DCFS). Therefore, 911 calls relating to child abuse are less likely to be mandated reporters and more likely to be neighbors, friends, family, and others. Since children are spending less time with mandated reporters and more time in their homes and neighborhoods, calls for service relating to child abuse could increase. Alternatively, if children are less likely to interact with members beyond their immediate household, overall surveillance of child abuse, even from non-mandated reporters could decrease.

In this section, we investigate the claim that more domestic-related police calls for service did in fact occur during the early stages of lockdown in Chicago, and we explore subgroups of Census block groups to support the above hypotheses. Figure 3 first shows the event study figures for police calls for service. Importantly, in the weeks leading up to the SAH announcement, there are no statistically significant differences in calls during 2020, compared to 2019, for any outcome.

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Relative to trends in 2019, estimates indicate that the SAH announcement resulted in a decline in total calls for police service. When looking specifically at most calls for domestic conflicts and crimes, however, we present evidence that calls for domestic violence, domestic disturbance, and domestic battery generally increase in the weeks following the SAH announcement. Calls related to child abuse remain constant.

In Table 2 we present our main estimates, based on Equation 1, which summarize the event study figures presented in Figure 3. Column 1 presents estimates for all crime types, while Columns 2–4 and Column 5 present estimates for the listed domestic crimes (domestic violence, disturbance, and battery) and child abuse, respectively. All specifications include block group, week, and year fixed effects.[14] Echoing the event study figure, overall, we find that COVID-19 social distancing policies reduced calls for police service in 2020, relative to the same weeks of the year in 2019. However, this effect masks heterogeneity among call types.

We find that calls for domestic violence increased by 7.4 percent, with larger increases of nearly 9 percent for domestic disturbance calls. These figures correspond to approximately 200 more domestic-related calls across the city of Chicago per week. Notably, we find no changes in calls for domestic battery, suggesting that the influx of calls may be related to less severe types of domestic violence, although we cannot rule out increases ranging from 0–12 percent. Moreover, we find reductions in calls related to child maltreatment, consistent with evidence suggesting that there are fewer reports when children are not in school (Fitzpatrick, Benson, and Bondurant, 2020).[15]

In Chicago, domestic-related calls are always flagged as top-priority (i.e., Level "1"), requiring police officers to further investigate the incident. Therefore, these estimates *should* imply a mechanical increase in calls with higher priority after March 9. We show this is indeed the case in Figure 4. Notably, the number of other calls flagged as having the lowest level of priority, "Level 4", also increase over time, indicating that call-takers may be shifting calls from priority levels 2 and 3 to level 4 to diminish police interaction with civilians in non-emergency situations in an effort

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[14]The inclusion of these fixed effects means that we cannot include an indicator variable for block groups that are treated and an indicator variable for weeks in the post period due to collinearity. See Table A2 for a more simple difference-in-differences model that omits fixed effects, but includes the classic "post," "treat" and "post*treat" setup. Generally, estimates in weeks after the 10th week of the year ("post") are positive, indicating that crime rates experience seasonality. Estimates of the variable of interest are identical to our main results.

[15]These estimates are not sensitive to functional form. See Table A3 for estimates on logged outcomes and see Table A4 for estimates using a Poisson model. Estimates on domestic-related calls for police service are positive and statistically significant, ranging from 1.6–5.5 percent.

maintain social distancing, when possible.

To get a better sense of what types of households may be driving these results, in Table 3 we analyze effects separately by block group characteristics. In particular, we present estimates for block groups with an above-median number of households that report being white, black, Hispanic, or married with children, according to 2018 ACS data. We find statistically significant increases in domestic violence-related calls for police service across all of these subgroups, ranging from 6.0–14.5 percent.[16] The largest estimates are for blocks with an above-median level of White and Hispanic households and those with a large proportion of households that are married with children, although we note these estimates are not statistically different across panels. As shown in Columns 3–5, estimates are also similar across block types when analyzing domestic disturbance, battery, and child abuse, indicating that no one particular neighborhood or type of block group is driving our baseline increase in calls for domestic violence.

Using data from the ACS, we also analyze effects separately by block-group characteristics related to renting a home, and present these estimates in the second-to-last panel of Table 3. We do so to further explore the notion that renters grouped together in tighter living quarters may respond differently to SAH orders and/or be more likely to live next to a neighbor that can hear and report a domestic-related offense. We find that increases in domestic violence-related calls for police service are relatively large in areas with a majority of renters (10.3 percent). Furthermore, the persistent reductions in calls for child abuse are not statistically different for this set of block groups, adding further support for heterogenous effects based on proximity to potential reporters. These findings are consistent with evidence that SAH orders are likely to increase domestic violence reporting when there are more individuals living in the same building.

Finally, in the bottom panel of Table 3 we present estimates for one additional subgroup: block groups that had no domestic-violence related 911 calls in 2020 prior to March 9. Estimates indicate approximately a twofold increase in domestic calls for households in for these first-time offending groups. These findings provide some evidence that social distancing affected domestic violence at both the intensive and extensive margins, and is consistent with recent literature on the topic (Leslie

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[16]Additionally, when we measure effects for block groups with a relatively high proportion of households above the median income level, these estimates are statistically insignificant, further indicating that calls are concentrated among block groups with a larger percent of lower-income households. This may be unsurprising, given that women living in households with an annual income of less than $35,000 are four times more likely to be abused by a partner (Stith, Liu, Davies, Boykin, Alder, Harris, Som, McPherson, and Dees, 2009; U.S. Department of Justice, 2014).

and Wilson, 2020).

Next, in Table 4 we estimate effects separately by block subgroups, based on quartiles of changes in time spent at home and time spent at work between March and April. Overall, we find that domestic-related calls for police service are consistently concentrated in areas that experienced the largest changes in time spent at home and time spent completely at home. Moreover, in Table A5, we show that the block groups with the largest increases in time spent at home have a larger percentage of residents who are white, Hispanic, employed, own homes, and are married with children, largely consistent with the largest results reported in Table 3.[17]

Finally, to build off recent work from Leslie and Wilson (2020) and McCrary and Sanga (2020), we estimate effects on police service calls by time of day and present results in Table A6. Consistent with existing work estimating effects for police service calls in other cities, we find that estimates are driven by calls made during the week. We also find that the increase in calls for domestic-related police service is driven by nighttime calls, spanning 6pm-8am, when partners are more likely to spend time together. Alternatively, domestic violence might happen more during the week and in the evening during lockdown due to abrupt changes in routines and normalcy.

4.3   Effects on Reported Crimes and Arrests

In the above section, we present evidence that domestic violence-related police service calls increased after the SAH order announcement in Chicago. In this section, we explore whether this increase in calls subsequently corresponded with changes in crimes ending in a police report and/or arrest. To do do, we first present visual evidence of changes in citywide reported crimes in 2020, as compared in 2019, based on Equation 2.

In Figure 5 we present event study trends for all crime reports, as well as domestic violence, domestic disturbance, domestic battery and child abuse reports filed by a police officer. Notably, the overall crime rate fell substantially in 2020, as compared to 2019. Despite domestic-related calls for police service increasing in the weeks following the SAH announcement, reported domestic crimes also fell over this period. Estimates do not indicate any divergence in reporting trends in

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[17]It is also possible that different demographics disproportionally call 911 for domestic violence in 2020 relative to 2019. For example, residents in black neighborhoods especially are less likely to report crime after high-profile police violence cases (Desmond, Papachristos, and Kirk, 2016). We note that the end of our sample period occurs before the murder of George Floyd in May 2020, which resulted in nationwide protests against police violence.

the four weeks leading up to the March 9 announcement.[18]

Table 5 presents the main estimates for crime reports. In particular, we find statistically significant decreases between 7–28 percent in reported domestic violence crimes and 97 percent fewer child abuse reports in the 5 weeks following the SAH announcement in Chicago.[19]

Although on net these findings suggest that changes in time spent at home increase domestic-related calls for police service but decrease domestic violence reporting, these effects may mask important variation in reporting across households. In particular, one alternative possibility is that homeowners socially distanced from other neighbors may be less likely to report domestic violence, but families living in closer quarters (i.e., apartments) may be *more* likely to hear and report domestic crimes during prolonged periods of time within their residences. Given that two-thirds of domestic crimes happen at home, having more neighbors nearby may increase the likelihood of a witness (U.S. Department of Justice, 2014).

We investigate this possibility in Table 6. Indeed, we find that the drop in reported domestic crimes is driven by individuals living in houses, rather than apartments, offering further support for the idea that proximity to other people during lockdown is an important driver of domestic violence reporting. Estimates for domestic crimes reported in apartments are statistically insignificant and precise enough to rule out more than a 1.6 percent reduction in crime. Moreover, we find no evidence to suggest that these effects are driven by individuals living in public housing (Columns 4 and 5).[20]

Taken together our findings thus far suggest that the social distancing efforts during COVID-19 resulted in substantial underfiling of official incident reports for domestic crimes, as shown by the existing wedge between call for police service and incident reports. This underreporting could be both due to a change in the victim's threat point, causing the victim to be less likely to report their abuser, the lack of visibility and reporting by a third party outside of the home, and/or shifts in the nature of the police calls for service regarding domestic violence.

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[18]While we estimate statistically significant coefficients in the 6th and 7th weeks prior to the announcement, we note that we do not estimate a similar divergence for domestic violence crimes, nor do we estimate effects for any other pre-treatment weeks.

[19]Unlike effects for calls for police service, which increase during weekdays and nights, and could be due to 3rd party reporting, the reduction in crime reporting is driven by reductions in daytime reports (Table A6). One explanation is that increased time spent at home could cause fewer victims to report their abuse if their partner is spending more time with them during the day. Similarly, effects are largest in block groups experiencing the largest changes in time spent at home (Table A7).

[20]Similarly, if we expand our analysis to look at arrests for assaults and batteries occurring within a residence, more generally, estimates are statistically insignificant. See Figure A3.

We do not find any evidence that police are less likely to be dispatched to investigate domestic-related calls, as these calls are flagged with the highest priority level. However, we note that police have discretion over whether to file a report and whether to arrest, which may lead to gaps in calls and reporting that change systematically over time as interactions with civilians become more dangerous due to the pandemic. Moreover, on March 20, Chicago PD announced that they would limit or halt prosecuting for some offenses, such as low-level, non-violent drug offenses, in an effort to better protect police officers, jail staff, and first responders (Bauer, 2020). To explore whether police are more likely to avoid filing a domestic violence report in the wake of social distancing measures, in Table 7, we estimate effects on the ratio of reported crimes to calls for police service. Estimates indicate a 11.2 percent decline in the average weekly ratio of reported crimes to calls for domestic violence. These findings suggest that the increase in domestic-related calls for police service as a result of increased time spent at home was likely substantially offset by a lack of police reports. These effects correspond to approximately 600 fewer domestic violence crimes reported over a five-week period than would be expected in the absence of social distancing policies.[21]

To get a better sense of how SAH policies affect domestic violence reporting, we further investigate effects on reports that better measure the severity of violence: crimes ending in arrest. This is because an arrest may occur even if the victim chooses not to press charges and is most likely to occur when a victim has suffered more severe injuries. To the extent that SAH policies change a victim's incentives to report violence as well as an officer's incentives to interact, arrest rates could also better reflect the proportion of cases that warrant police intervention. Moreover, changes in arrests may be especially important given that arrest can incapacitate a perpetrator, at least temporarily, and provide potential deterrence effects, leading to lower violence in the future. On the other hand, if more instances of domestic abuse are occurring but these crimes do not end in arrest, it is likely that victims are experiencing more violence during lockdown, but are fearful of potential backlash from sending a partner or spouse to jail.

Figure 6 and Table 8 displays estimates for arrest rates in Chicago in 2020, as compared to 2019. Similar to our findings in Table 5, we find that time spent at home during COVID-19 shelter in place provisions reduced arrests for domestic violence, assault, and battery. Specifically, we find

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[21]This comes from the fact that we estimate approximately 1,200 additional calls for police service, of which we should expect 26 percent to evolve into official reports, and 300 fewer reported domestic-violence crimes.

that arrest rates for domestic violence fell by 26.4 percent, which is smaller than the over 57 percent decrease in arrest rates overall. These findings support two ideas: (i) overall crime fell during this period, resulting in fewer reports and arrests, and/or (ii) that officers reduced interactions with reported perpetrators in an attempt to relax resource constraints and comply with social distancing.[22] Additionally, the first cases of COVID-19 appeared in the Cook County jail (1,093 cases total) on March 19th, which may also have contributed to drops in the arrests if police avoided booking the marginal individual for fear of further spreading the virus.

4.4 Effects on Non-Domestic Crimes

Our results thus far indicate that total calls for police service, reported crimes, and arrests all fell after SAH orders went into place in Chicago. We also show that calls related to domestic violence increased, while reported domestic violence and arrests for domestic crimes declined. In an effort to better understand the relative nature of changes in domestic crimes during the COVID-19 pandemic, in this section we discuss effects for calls, reported crimes, and arrests for other types of crime.

First, as shown in Table 9, estimates indicate reductions in calls for police service for all other non-domestic crime types, although we find statistically significant effects only for theft and gun crimes. These findings are in line with the notion that after the SAH announcement in Chicago, 911 calls for domestic-related crimes increased both as compared to 2019 and as compared to other types of offenses.[23]

Table 9 presents estimated average effects of SAH policies on domestic crimes, drug-related crimes, gun-related crimes, and property crimes, including theft and robbery, as measured by reported crimes, as well as crimes ending in arrest. For all crime types we see a downward trend over time, with the most notable decline for theft. This is perhaps unsurprising, given that SAH orders require retail stores to close temporarily and there are fewer potential victims on the street and riding public transit. Specifically, we find large reductions in all reported crimes, totaling 29.3 percent, with a 31.0 percent reduction in theft and a 84.6 percent reduction in drug crimes. Notably, although reported domestic crimes fell, the nearly 7 percent decline is relatively small compared

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[22]The latter explanation seems most likely for drug crimes, as arrests dropped to zero in April.

[23]This is also consistent with Figure A4, which presents weekly block-level averages of crime rates for domestic crimes, as well as theft, gun-related crimes, robbery, and drug crimes using raw data only from 2020. While crime rates for other types of crime fell after March 9, 2020, domestic violence crime rates remained relatively flat in comparison. These trends are in contrast with crime rates in 2019, which increase slightly across weeks for all outcomes.

to other crimes, indicating that this is likely partially driven by changes in reporting. We also find large reductions in arrest rates for theft, robbery, and drug-related crimes, ranging from 40–85 percent, with arrests for domestic crimes falling by 26.4 percent in comparison.

5 Longer-Run Effects on Domestic Crimes

In this section, we discuss longer-term estimates of pandemic policies by extending our analysis beyond spring 2020, through August 20, 2020. *Ex ante*, it is unclear what the role of pandemic policies would be on domestic crimes throughout the summer. If the results are primarily driven by unemployment and reduced financial well-being, then we may expect an increase toward the end of the summer. This is in part because the economic support provided by the federal government through July 2020 via the CARES Act buffered families against the financial consequences (Han, Meyer, and Sullivan, 2020).

Alternatively, if the results are driven by time spent at home, we may expect a decrease in domestic crimes in the long-run. This could be due to families adjusting to the "new normal" or to governments lifting bans on stay-at-home orders. For example, Chicago's Mayor announced reopening plans on May 28. Similarly, neighboring states Indiana and Wisconsin both re-opened beginning one week earlier. Indeed, Appendix Figure A1 shows a gradual return to out-of-home employment and people starting to leave their homes. This is mirrored by changes in traffic patterns (Appendix Figure A2). Notably, the exit from the pandemic is quite different than the entry to the pandemic; the original stay-at-home order abruptly disrupted daily life resulting in immediate stress and uncertainty. In contrast, plans were made in a variety of contexts to gradually resume to pre-pandemic life.

Moreover, it is well-documented that after a police-involved shooting, civilians are less likely to communicate with police and are less likely to report crimes (Premkumar, 2020; Desmond, Papachristos, and Kirk, 2016). On May 25, 2020, police officers killed George Floyd in Minneapolis, Minnesota. The event sparked nationwide protests against police brutality and social unrest, with strong calls for defunding the police. For example, by mid-June, over 2,000 cities across the U.S. had Black Lives Matter demonstrations (Burch, Cai, Gianordoli, McCarthy, and Patel, 2020). A June 2020 survey by Pew showed that, as compared to 2016, attitudes towards police were both

less favorable and substantially lower among minority populations (Pew, 2020). These events are especially important for the interpretation and context of our results, as the increasingly strained relationships between civilians and the police force during the summer of 2020 likely play a major role in the reporting and policing of crimes.

Indeed, in Figure A5, event studies estimates indicate that after the immediate increase in domestic violence calls, calls tend to plateau and then drop below the typical call volume, as compared to weeks in 2019. This is in contrast with overall calls, which increase in weeks starting with and following the imitation of civil unrest. Additionally, we find that reports and arrests (Figures A6 and A7) both continue to decline until about 10 weeks following the SAH order (e.g., the week of May 20), when they begin to return to the previous year's levels.

Table 10 displays the coefficients mirroring the event study figures, showing the dynamic nature of the effects by combining weeks in groups of five.[24] As shown in Column 2, calls for police service relating to domestic violence increase by about 7 percent in the first five weeks following the stay-at-home order. Between 6 to 10 weeks into lockdown, we find a decline domestic violence calls, persisting throughout 25 weeks after the order. Similarly, as shown in Table 11, we observe declines in domestic violence crimes 6–15 weeks following the order. Between weeks 16 and 25, domestic violence reports are no different in 2020 relative to 2019.[25] Two ideas explain the reasons for this reversion to the mean: (i) reporting of crimes, including domestic crimes fell with increasing distrust in police forces and/or (ii) increases in domestic violence calls in March and April of 2020 represented a short-run shock to households that faded as households adjusted to new ways of living.[26]

As time continues, it becomes more challenging to empirically attribute changes in domestic violence 911 calls, reports, and arrests to the stay-at-home order. March 2020 was uniquely different than March 2019 in that Chicagoans experienced the pandemic, stay-at-home order, and other pandemic-related policies, including school closures. In April and May 2020 households additionally experienced the implementation of other social and economic policies, including benefits from the

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[24]In particular, we estimate Equation 2, using a lagged indicator equal to one for weeks 0–5, 6–10, and 11–15 weeks after the SAH announcement and zero otherwise. Estimates are relative to the 0–5 weeks prior to the announcement.

[25]While we estimate statistically significant leads for overall crime rates, we note that effects are positive prior to the SAH announcement and we estimate no pre-period significant effects for domestic violence crime rates.

[26]We note that in week 20 (i.e., 10 weeks after the SAH announcement), many cities near Chicago began reopening, including cities in the state of Indiana. These openings are reflected by a subsequent increase in time Chicagoans spent away from home. We note that when we estimate coefficients for 6–9 weeks after the announcement separately, instead of 6–10 weeks, to account for this shock, we find no statistically significant effect on 911 calls.

CARES Act and the beginning of city reopenings. In Summer 2020, households then endured the phasing out of lockdown policies, protests regarding police brutality, and general civil unrest. As a result, we caution against attributing changes to weeks beyond May to the SAH announcement, since both Chicago and surrounding states began gradually re-opening and protests picked up momentum at this time.

6 Discussion

In this paper we estimate the effects of stay-at-home policies on domestic violence. In particular, we analyze the causal effects of the March 9 Illinois SAH announcement on calls for police service, crime reports, and arrests for domestic violence-related crimes in the city of Chicago. We first show that the announcement increased time spent at home, reduced traffic, and nearly eliminated public transportation use. We then present evidence that the SAH order increased domestic violence-related calls for police service by 7.4 percent, corresponding to 1,202 additional calls over a 5-week period. We show that these effects are largest for block groups that increased their time spent at home the most, and those with a relatively large proportion of households that are married with children, renters, and had not experienced a domestic-related 911 call prior to March 9. These subgroups highlight the differential role that lockdown plays for various populations. Moreover, we find that the SAH order decreased reported domestic crimes by 6.8 percent and arrests for domestic crimes by 26.4 percent, indicating a gap between how lockdown policies affected calls for service relative to reports and arrests, which require in-person interactions.

Compared to other crimes such as drug and property crimes, calls for police service related to domestic violence are the only type of calls that increased during our study period. Similarly, total reported crimes dropped during the shelter-in-place period. However, declines for domestic violence crimes are substantially smaller than both the decline in overall crimes and other non-violent crime rates. Overall, we estimate that over 600 cases of domestic violence crimes went underreported between March and April. When taking these cases into account, the total costs of SAH policies in terms of domestic crimes could total up to $42 million (Cohen, Rust, and Tidd, 2004; Heaton, 2010).[27] However, we also note that significant reductions in property crimes, like theft, account

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[27]While reductions in other crime types may offset this large cost, we note that serious assaults are much more costly per crime, as compared to larceny or drug crimes, on average Heaton (2010). Moreover, we note that gun

for approximately \$2.3 million in benefits over this time period (Heaton, 2010).[28] Moreover, there are substantial health benefits of lockdowns in a pandemic, and SAH policies in Chicago have been estimated to have saved over 10,000 lives, leading to benefits of over \$20 billion (Urban Health Collaborative, 2020).

While we cannot test all possible mechanisms to explain these results, we provide evidence that these effects are driven by households in areas that increased their time at home the most, lower-income areas with more renters, and areas with a greater number of married couples with children. However, we acknowledge that the increase in domestic violence calls for police service could additionally reflect a shift in nature of the calls. For example, they may be the result of experiences that do not reach the level of domestic violence stemming from factors such as economic uncertainty, financial stress, or changes in alcohol- or drug-related behavior.[29] Moreover, when we extend our panel to analyze effects in the summer of 2020, we show that increases in domestic-related calls for police service were relatively short-lived, and fell relative to 2019 levels after the initiation of protests and civil unrest. These findings support the notion that that community relationships with police play a key role in reporting of domestic violence crimes.

Our findings speak to health trade offs inherent in policies to address the ongoing COVID-19 pandemic. In particular, state and local governments should consider the costs and benefits of keeping first responders and the incarcerated population safe, while also taking into account the large direct costs to domestic violence victims. As the pandemic continues, measuring the lasting health effects of stay-at-home policies is an important avenue for future research.

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crimes are also underreported during this time period, which would further increase this estimate by a factor of three.

[28]This comes from the fact that a 31 percent reduction in theft accounts for 1,152 crimes in this 5-week period and Heaton (2010) calculates an economic cost of \$2,000 per larceny.

[29]For example, according to data from the Chicago Department of Public Health, relative to the same time period in 2019, between January and June 2020 there was a 55 percent increase in opioid-related overdose deaths in Chicago. There was also a 60 percent increase in opioid-related EMS responses McGhee (2020).

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Figure 1: Effect of SAH Orders on the Percent of Time Spent at Home and at Work
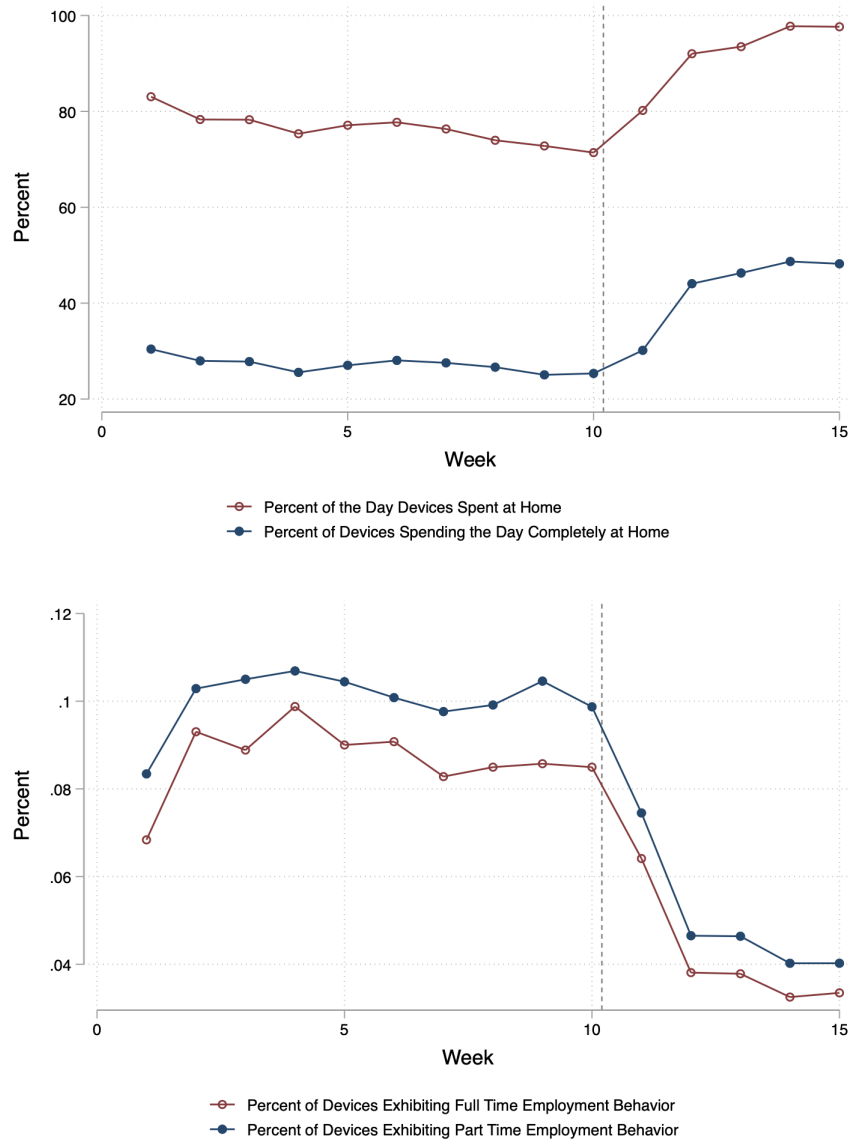
Notes: Weekly block group-level data is from SafeGraph from January 1, 2020-April 14, 2020. "Percent of the Day Devices Spent at Home" measures the median dwell time at home. "Percent of Devices Spending the Day Completely at Home" represents the percent of devices which did not leave home. "Full-time" and "Part-time" work is calculated by the number of devices that spent between 3 and 6 hours and greater than 6 hours at a location other than their home geohash-7 during the period of 8 am - 6 pm in local time, respectively. For a location to qualify as a user's "home", SafeGraph considers a common nighttime geohashed location of each mobile device over a 6-week period.

Figure 2: Effect of SAH Orders on L-Train Entries and Red Light Camera Violations
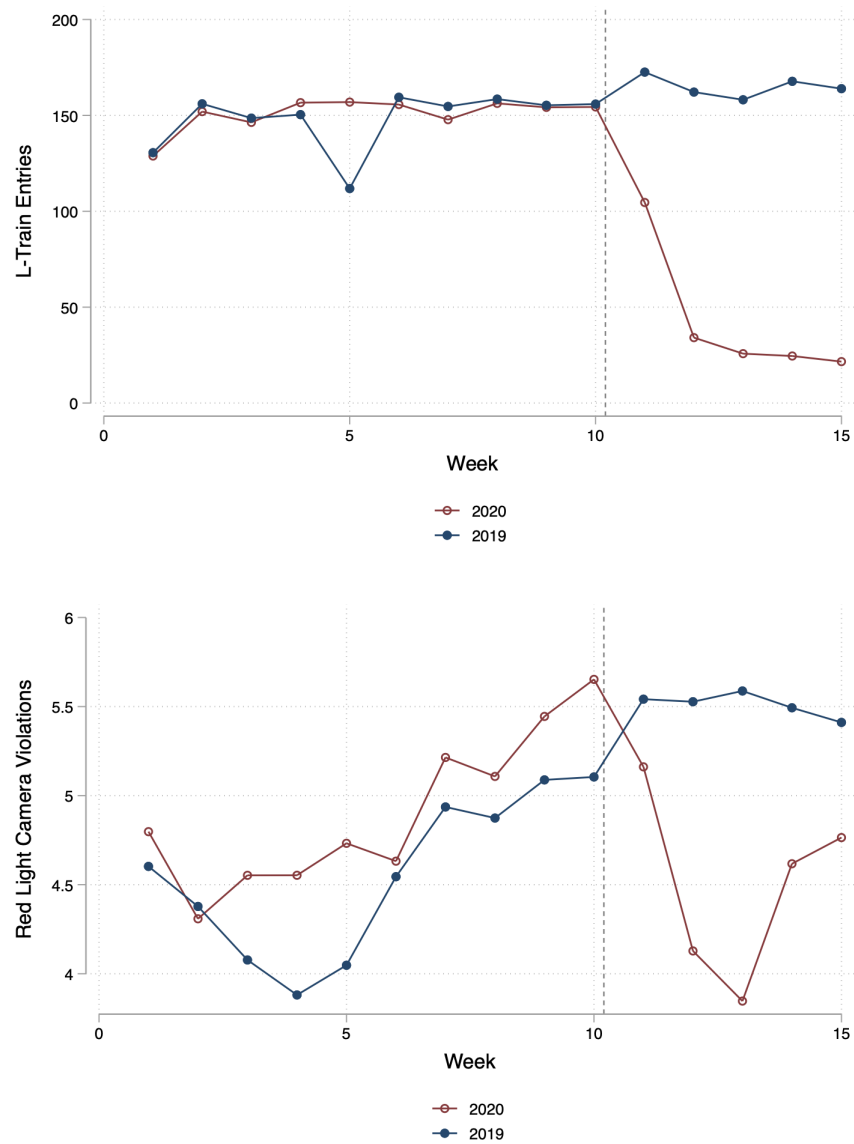
Notes: Scatters represent weekly average block-level averages of l-train entries and red light camera violations. Data is from city of Chicago from January 2020-April 2020.

Figure 3: Effect of SAH Orders on Calls for Police Service Rates
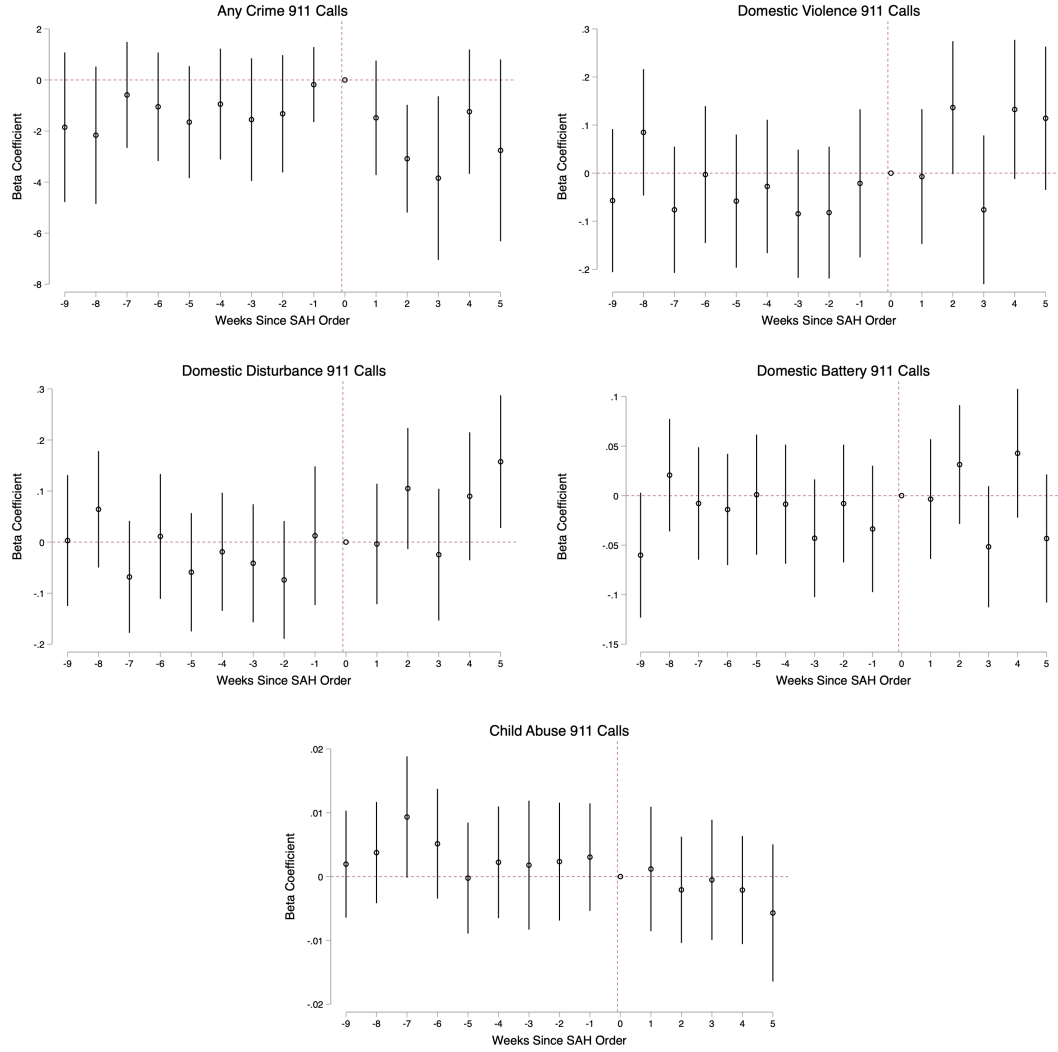
Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the listed call rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Call for police service data is from the city of Chicago for the first 15 weeks of 2019 and 2020.

Figure 4: Effect of SAH Orders on Calls for Police Service Rates in 2020, by Priority Level
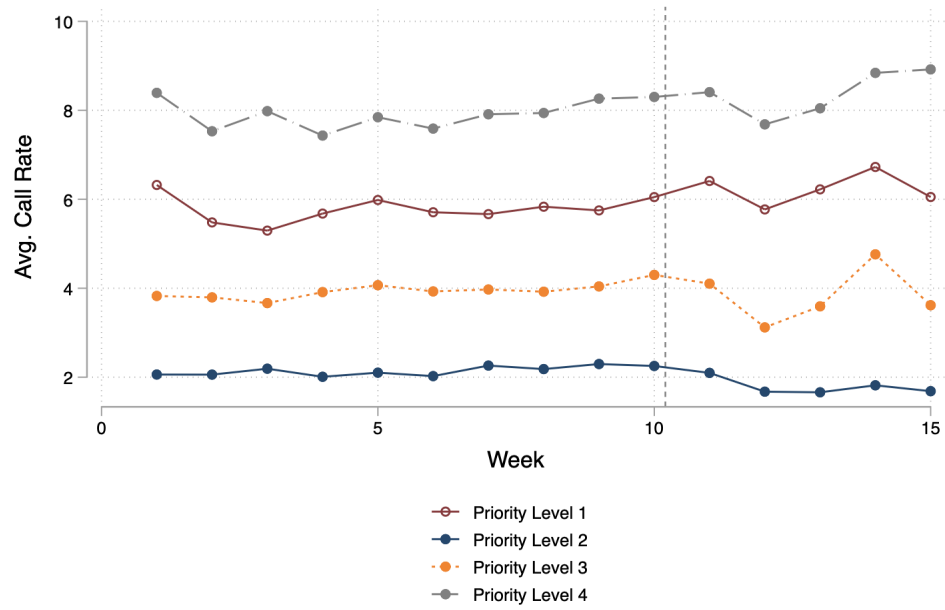
Notes: Scatters represent weekly average block-level rates of police service call rates in 2020, by priority level. Priority Level 1 represents the most urgent need, while Level 4 calls are the least urgent. All domestic-related calls are flagged as Level 1 priority. Call data are from the city of Chicago.

Figure 5: Effect of SAH Orders on Reported Domestic Crime Rates
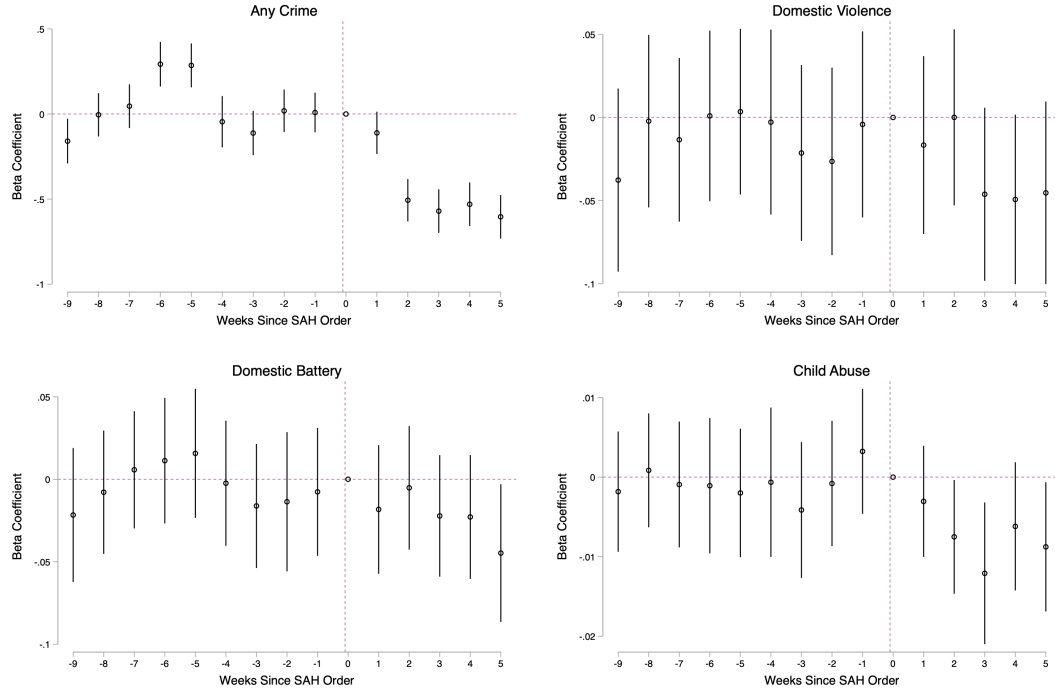
Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the listed crime rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Crime data are from the city of Chicago for the first 15 weeks of 2019 and 2020.

Figure 6: Effect of SAH Orders on Rates of Crimes Ending in Arrest
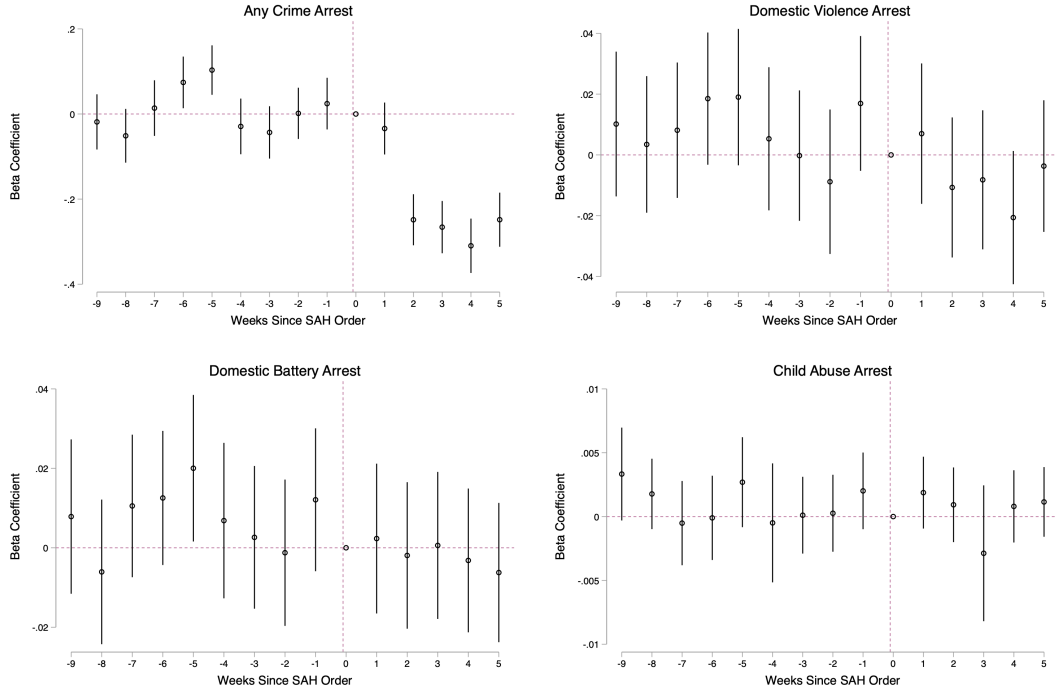
Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the listed crime rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Crime data are from the city of Chicago for the first 15 weeks of 2019 and 2020.

Table 1: Summary Statistics

|	Mean	St. Dev.
(a) Activity Tracking		
Number of Devices	54.37	30.88
Pct of Time Spent at Home	81.70	14.67
Pct of Time Spent Completely at Home	32.59	10.77
Count Working Full Time	3.82	2.78
(b) Calls for Police Service		
All 911 Calls	25.71	39.00
Domestic Violence 911 Calls	1.34	2.22
Domestic Disturbance 911 Calls	1.03	1.82
Domestic Battery 911 Calls	0.30	0.74
Child Abuse 911 Calls	0.01	0.11
(c) Crime Reports		
Any Reported Crime	1.69	2.17
Domestic-Related Crimes	0.32	0.67
Domestic Assaults	0.04	0.20
Domestic Battery	0.17	0.47
Child Abuse	0.01	0.08
Population	1280.22	596.20

Notes: Weekly block-level data are for the first 15 weeks of 2020 only. Data on devices and time spent at home are from SafeGraph. Crime data and data on police service calls are from the city of Chicago. Column 1 presents the mean of the listed variable. Column 2 shows standard deviation. $N = 31,410$.

Table 2: Average Effects of SAH Orders on Call for Police Service Rates

	All Calls	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
Effect of Stay at Home Order	-1.352*	0.092***	0.082***	0.010	-0.005**
	(0.778)	(0.030)	(0.026)	(0.013)	(0.002)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	26.221	1.349	1.023	0.326	0.010

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 3: Average Effects of SAH Orders on Call for Police Service Rates, by Block Characteristics

	All Calls	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
All Blocks					
Effect of Stay at Home Order	-1.352*	0.092***	0.082***	0.010	-0.005**
	(0.778)	(0.030)	(0.026)	(0.013)	(0.002)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	24.401	1.250	0.953	0.297	0.009
Above Median % White					
Effect of Stay at Home Order	-2.617**	0.053***	0.054***	-0.001	-0.004**
	(1.221)	(0.019)	(0.017)	(0.008)	(0.002)
Observations	31290	31290	31290	31290	31290
Pre-Period Mean	15.620	0.377	0.286	0.091	0.005
Above Median % Black					
Effect of Stay at Home Order	0.080	0.127**	0.106**	0.021	-0.007**
	(0.947)	(0.057)	(0.049)	(0.025)	(0.003)
Observations	31290	31290	31290	31290	31290
Pre-Period Mean	33.596	2.109	1.610	0.499	0.013
Above Median % Hispanic					
Effect of Stay at Home Order	-1.277	0.104***	0.091***	0.013	-0.006***
	(1.216)	(0.031)	(0.027)	(0.012)	(0.002)
Observations	31290	31290	31290	31290	31290
Pre-Period Mean	17.430	0.717	0.547	0.170	0.006
Above Median % Married with Children					
Effect of Stay at Home Order	-1.631	0.117***	0.092***	0.025*	-0.003
	(1.231)	(0.034)	(0.030)	(0.013)	(0.002)
Observations	31290	31290	31290	31290	31290
Pre-Period Mean	19.097	0.853	0.652	0.200	0.006
Above Median % Renters					
Effect of Stay at Home Order	-1.392	0.172***	0.143***	0.029	-0.004
	(1.179)	(0.048)	(0.041)	(0.021)	(0.003)
Observations	31290	31290	31290	31290	31290
Pre-Period Mean	29.582	1.674	1.273	0.402	0.012
No Prior DV Calls					
Effect of Stay at Home Order	-2.428**	0.133***	0.108***	0.025***	0.003
	(0.951)	(0.023)	(0.019)	(0.010)	(0.002)
Observations	7020	7020	7020	7020	7020
Pre-Period Mean	8.899	0.074	0.055	0.019	0.001

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS. "Above Median % White," "Above Median % Black," "Above Median % Hispanic," and "Above Median % Renters" block groups are defined as those with a percent of the white, Black, Hispanic, and renting populations above the median level according to 2018 ACS block-level data. "Above Median % Married with Children" indicates block groups that have an above-median proportional of households reporting that they are married with children according to 2018 ACS block-level data. "No Prior DV Calls" block groups are defined as those without a single domestic violence-related police call for service in the first 9 weeks of 2020, prior to the SAH announcement.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 4: Effects on Domestic-Related Call for Police Service Rates,
by Changes in Time Spent at Home and Time Spent at Work

	Quartile 1 (Bottom 25th)	Quartile 2 (25-50th)	Quartile 3 (50-75th)	Quartile 4 (Top 75th)
Time at Home				
Effect of Stay at Home Order	0.107	0.093*	0.036	0.124*
	(0.070)	(0.053)	(0.056)	(0.063)
Observations	15540	15600	15030	15630
Pre-Period Mean	1.616	1.181	0.941	1.271
Time Completely at Home				
Effect of Stay at Home Order	0.125	0.091	0.086*	0.066*
	(0.087)	(0.057)	(0.051)	(0.036)
Observations	15630	15630	15630	15630
Pre-Period Mean	2.137	1.333	0.956	0.581
Working Full Time				
Effect of Stay at Home Order	0.054	0.037	0.150**	0.128*
	(0.042)	(0.064)	(0.064)	(0.068)
Observations	15630	15630	15630	15630
Pre-Period Mean	0.648	1.156	1.385	1.813
Working Part Time				
Effect of Stay at Home Order	0.013	0.099**	0.051	0.206**
	(0.038)	(0.050)	(0.064)	(0.081)
Observations	15630	15630	15630	15630
Pre-Period Mean	0.632	1.050	1.388	1.929

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS. Column 1 presents estimates for the subgroup of blocks that had the smallest percent changes in the listed outcome, i.e. the bottom quartile. Columns 2 and 3 presents estimates for the second and third quartiles, which represent the 25th-50th percentile and 50th-75th percentile, respectively. Column 4 presents estimates for the quartile with the largest changes in the listed outcome. Changes in time spent at home or time spent at work is measured by the changes in weekly block-level averages between March and April of the listed outcome.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 5: Average Effects of SAH Orders on Police-Reported Domestic Crime Rates

	All Reports	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
Effect of Stay at Home Order	-0.4975***	-0.0211**	-0.0385***	-0.0735***	-0.0068***
	(0.0302)	(0.0102)	(0.0069)	(0.0111)	(0.0016)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	1.852	0.337	0.155	0.371	0.007

Notes: Crime data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Crime rates are constructed per 1,000 population based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 6: Average Effects of SAH Orders on Police-Reported Domestic
Violence Crime Rates by Location

	All DV	Apartment	House	Public Apartment	Public Housing
Effect of Stay at Home Order	-0.0211**	0.0080	-0.0050	-0.0007	-0.0007
	(0.0102)	(0.0060)	(0.0069)	(0.0008)	(0.0008)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	0.310	0.115	0.125	0.002	0.002

Notes: Crime data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Crime rates are constructed per 1,000 population based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 7: Average Effects of SAH Orders on the Ratio of Reported Crimes to Calls for Police Service

	All	Domestic Violence	Child Abuse
Effect of Stay at Home Order	-0.0185***	-0.0128**	-0.0005
	(0.0028)	(0.0051)	(0.0003)
Observations	62610	62610	62610
Pre-Period Mean	0.0970	0.1140	0.0000

Notes: Crime data and calls for police service data are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. The outcome variables are calculated as the number of reported crimes divided by the calls for police service of each listed crime type.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 8: Average Effects of SAH Orders on Rates of Domestic Crimes Ending in Arrest

	All Arrests	Domestic Violence	Domestic Assault	Domestic Battery	Child Abuse
Effect of Stay at Home Order	-0.2288***	-0.0145***	-0.0018	-0.0082**	-0.0005
	(0.0148)	(0.0043)	(0.0014)	(0.0036)	(0.0006)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	0.423	0.059	0.007	0.039	0.001

Notes: Crime data are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Arrest rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 9: Average Effects of SAH Orders on Call for Police Service Rates, Crime Rates, and Arrest Rates for Other Crime Types

	All	DV	Drug	Robbery	Theft	Gun
Call for Police Service Rates						
Effect of Stay at Home Order	-1.352*	0.092***	-0.018	-0.005	-0.016**	-0.012*
	(0.7776)	(0.0302)	(0.0276)	(0.0057)	(0.0070)	(0.0067)
Observations	62610	62610	62610	62610	62610	62610
Pre-Period Mean	24.401	1.250	0.233	0.064	0.115	0.033
Crime Rates						
Effect of Stay at Home Order	-0.498***	-0.021**	-0.088***	-0.011***	-0.110***	-0.018***
	(0.0302)	(0.0102)	(0.0083)	(0.0041)	(0.0135)	(0.0064)
Observations	62610	62610	62610	62610	62610	62610
Pre-Period Mean	1.702	0.310	0.104	0.054	0.355	0.101
Arrest Rates						
Effect of Stay at Home Order	-0.229***	-0.014***	-0.088***	-0.002**	-0.021***	-0.017***
	(0.0148)	(0.0043)	(0.0083)	(0.0011)	(0.0045)	(0.0039)
Observations	62610	62610	62610	62610	62610	62610
Pre-Period Mean	0.400	0.055	0.104	0.005	0.038	0.042

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are based on our main specification, defined in Equation 1, which contains block, week, and year fixed effects. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 10: Lagged Effects of SAH Orders on Call for Police Service Rates

	All Calls	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
6-10 Weeks Before SAH Announcement	-0.659	0.021	0.015	0.007	0.002
	(0.883)	(0.032)	(0.027)	(0.014)	(0.002)
0-5 Weeks Before SAH Announcement					
0-5 Weeks After SAH Announcement	-1.681*	0.103***	0.089***	0.014	-0.004*
	(0.934)	(0.033)	(0.029)	(0.014)	(0.002)
6-10 Weeks After SAH Announcement	-1.681	-0.108***	-0.057*	-0.050***	-0.004*
	(1.054)	(0.035)	(0.029)	(0.014)	(0.002)
11-15 Weeks After SAH Announcement	3.591*	-0.252***	-0.178***	-0.074***	-0.003
	(2.012)	(0.033)	(0.027)	(0.014)	(0.003)
16-20 Weeks After SAH Announcement	3.316	-0.326***	-0.230***	-0.096***	-0.000
	(2.164)	(0.036)	(0.029)	(0.015)	(0.002)
21-25 Weeks After SAH Announcement	2.879	-0.248***	-0.189***	-0.059***	-0.003
	(1.912)	(0.040)	(0.033)	(0.017)	(0.003)
Observations	137742	137742	137742	137742	137742

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are relative to the omitted variable, an indicator equal to one for weeks that occur 0–5 weeks before the SAH announcement, and zero otherwise. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table 11: Lagged Effects of SAH Orders on Police-Reported Domestic Crime Rates

	All Reports	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
6-10 Weeks Before SAH Announcement	0.118***	0.001	0.014*	0.029**	-0.001
	(0.029)	(0.012)	(0.008)	(0.012)	(0.002)
0-5 Weeks Before SAH Announcement					
0-5 Weeks After SAH Announcement	-0.438***	-0.021*	-0.031***	-0.059***	-0.007***
	(0.033)	(0.012)	(0.008)	(0.012)	(0.002)
6-10 Weeks After SAH Announcement	-0.608***	-0.078***	-0.047***	-0.111***	-0.007***
	(0.035)	(0.012)	(0.009)	(0.013)	(0.002)
11-15 Weeks After SAH Announcement	-0.305***	-0.033**	-0.023***	-0.050***	-0.005**
	(0.036)	(0.013)	(0.009)	(0.013)	(0.002)
16-20 Weeks After SAH Announcement	-0.406***	-0.008	0.005	-0.042***	-0.003
	(0.037)	(0.014)	(0.009)	(0.014)	(0.002)
21-25 Weeks After SAH Announcement	-0.394***	-0.015	0.016	-0.041***	-0.003
	(0.039)	(0.014)	(0.010)	(0.015)	(0.002)
Observations	137742	137742	137742	137742	137742

Notes: Crime data from 2019–2020 are from the city of Chicago. Weekly block-level data are for the first 15 weeks of 2019 and 2020 only. Estimates are relative to the omitted variable, an indicator equal to one for weeks that occur 0–5 weeks before the SAH announcement, and zero otherwise. Standard errors are clustered at the block level. Crime rates are constructed per 1,000 population based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Appendix

Figure A1: Effect of SAH Orders on the Percent of Time Spent at Home and at Work, January-August 2020
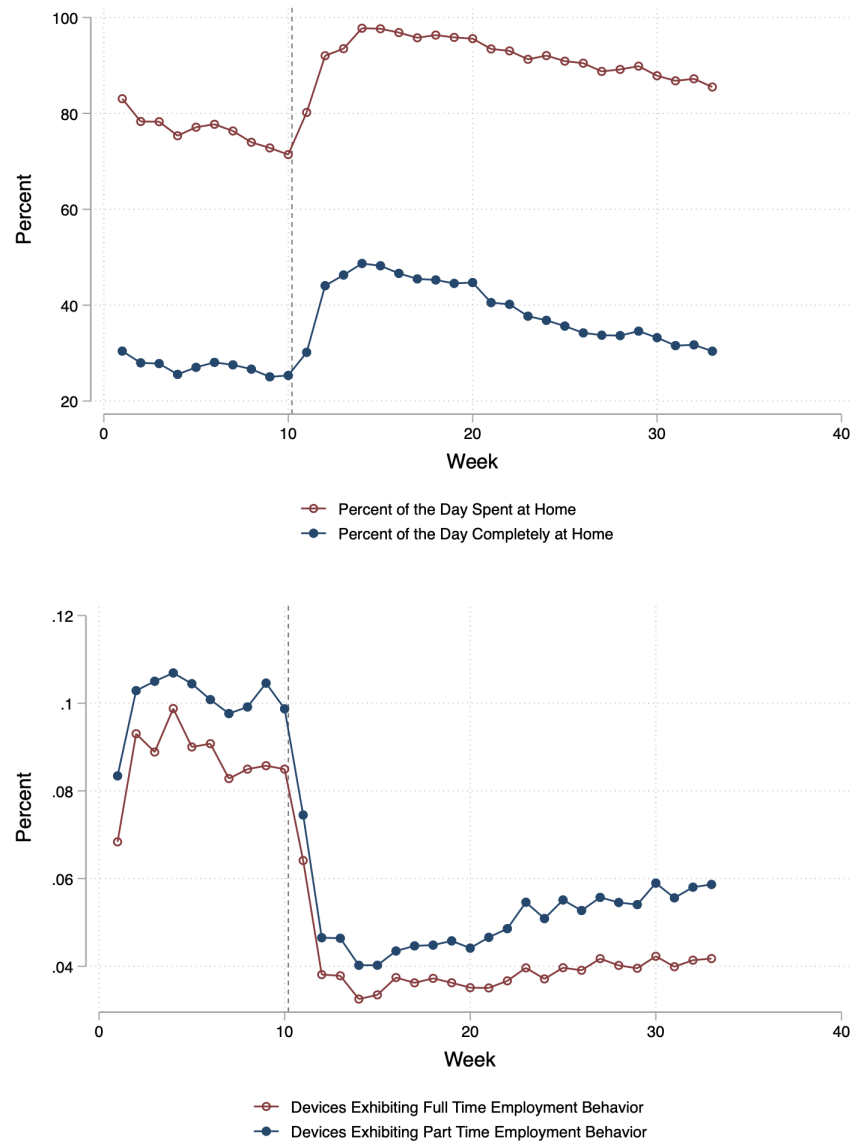
Notes: Weekly block group-level data is from SafeGraph from January 1, 2020-August 31, 2020. "Percent of the Day Spent at Home" measures the median dwell time at home. "Percent Time Spent Completely at Home" represents the percent of devices which did not leave home. "Full-time" and "Part-time" work is calculated by the number of devices that spent between 3 and 6 hours and greater than 6 hours at a location other than their home geohash-7 during the period of 8 am - 6 pm in local time, respectively. For a location to qualify as a user's "home", SafeGraph considers a common nighttime geohashed location of each mobile device over a 6-week period.

Figure A2: Effect of SAH Orders on L-Train Entries and Red Light Camera Violations, January-August 2020
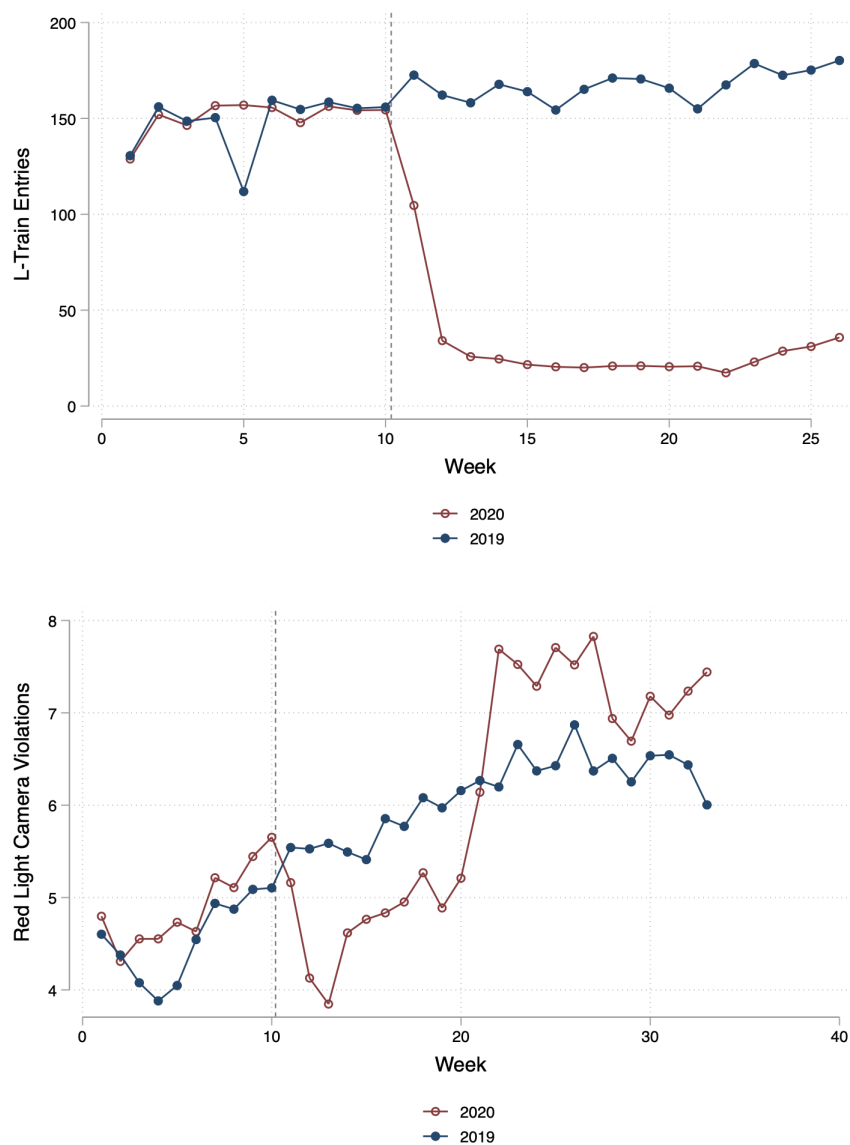

Notes: Scatters represent weekly average block-level averages of l-train entries and red light camera violations. Data is from city of Chicago. For L-train entries, data is shown only for the first 27 weeks of 2020, while data for red light camera violations is shown for the first 34 weeks of 2020 due to availability.

Figure A3: Effect of SAH Orders on Arrest Rates for Assaults and Batteries Occurring in a
Residence, Comparing 2019 to 2020 for the City of Chicago
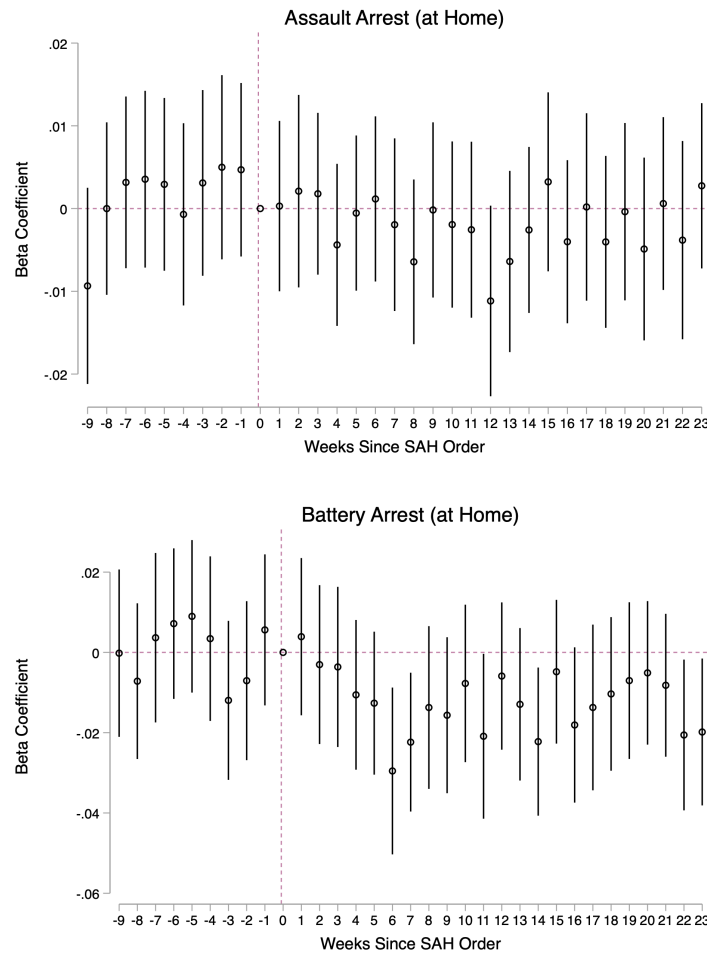
Assault Arrest (at Home)

Battery Arrest (at Home)

Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of the corresponding arrest rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Crime data, including indicators for location type, are from the city of Chicago.

Figure A4: Effect of SAH Orders on Weekly Reported Crime Rates in 2020
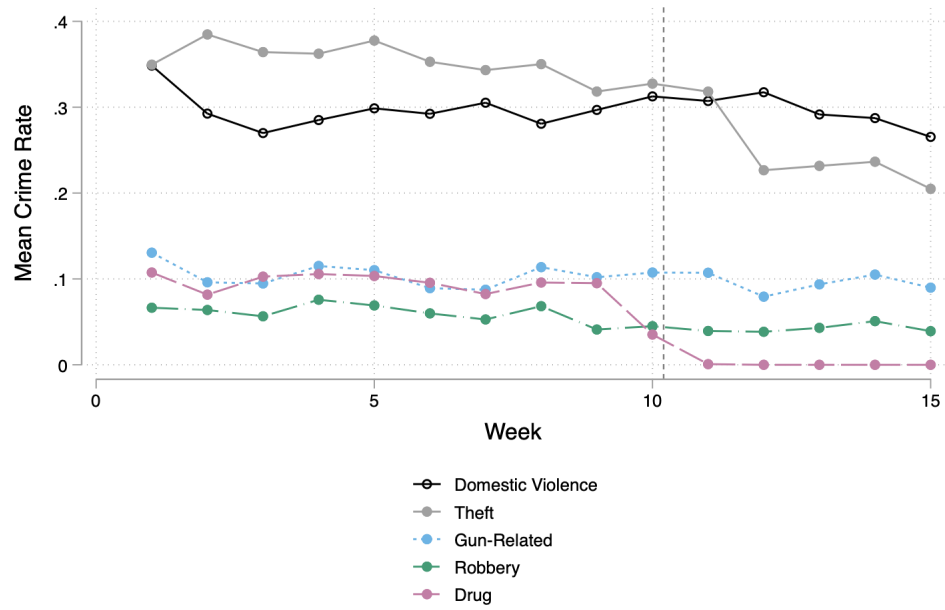
Notes: Crime data from 2020 are from the city of Chicago. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data.

Figure A5: Effect of SAH Orders on Calls for Police Service Rates

Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the listed call rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Call data is from the city of Chicago.

Figure A6: Effect of SAH Orders on Reported Domestic Crime Rates
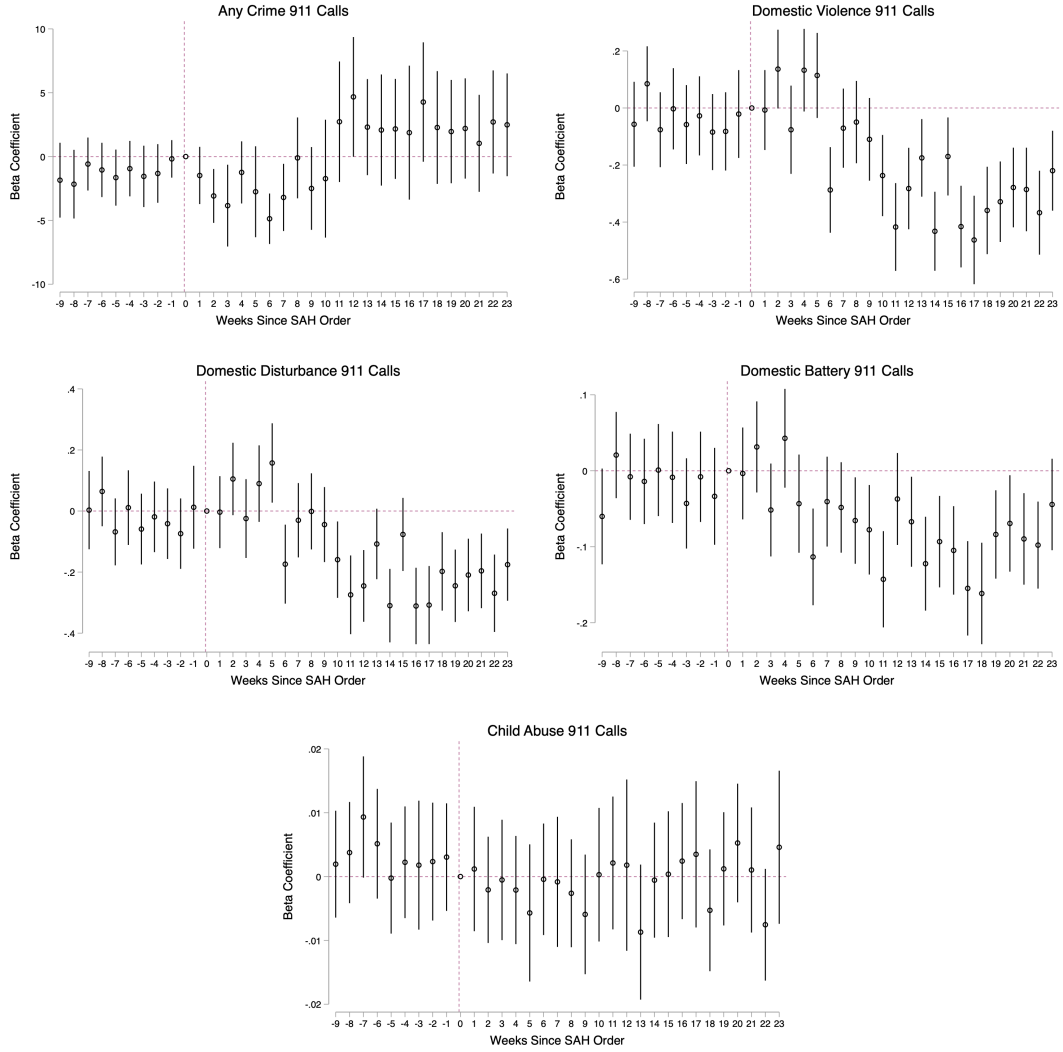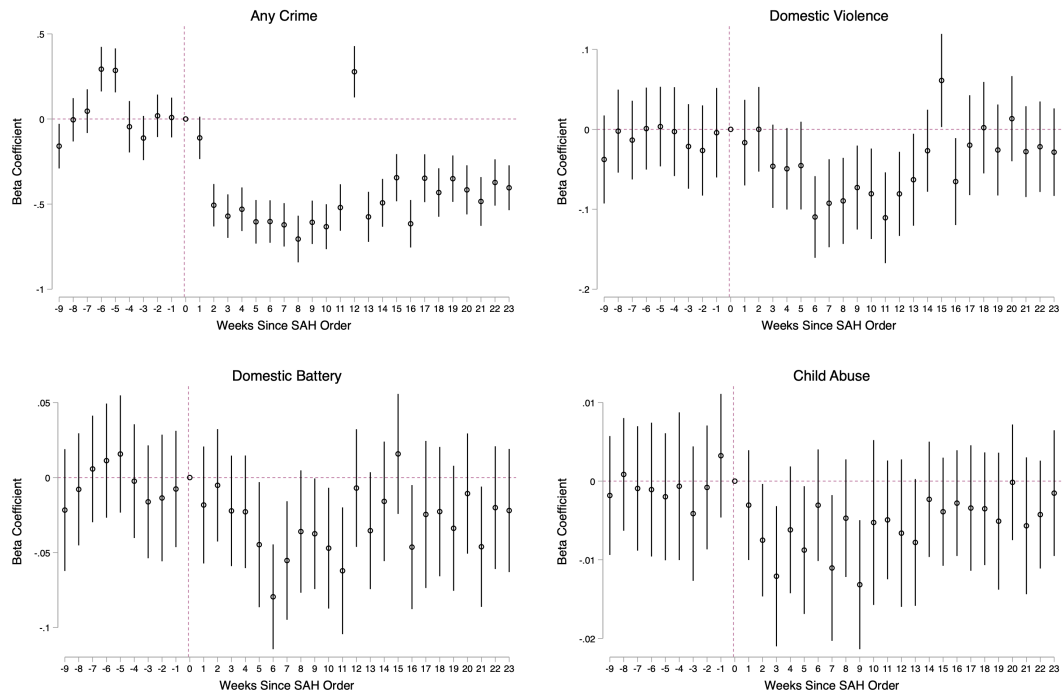

Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the listed crime rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Crime data from 2019–2020 are from the city of Chicago.

Figure A7: Effect of SAH Orders on Rates of Crimes Ending in Arrest

Notes: Each figure plots week-level coefficients of interest and their 95% confidence interval, from Equation 2, of each of the lis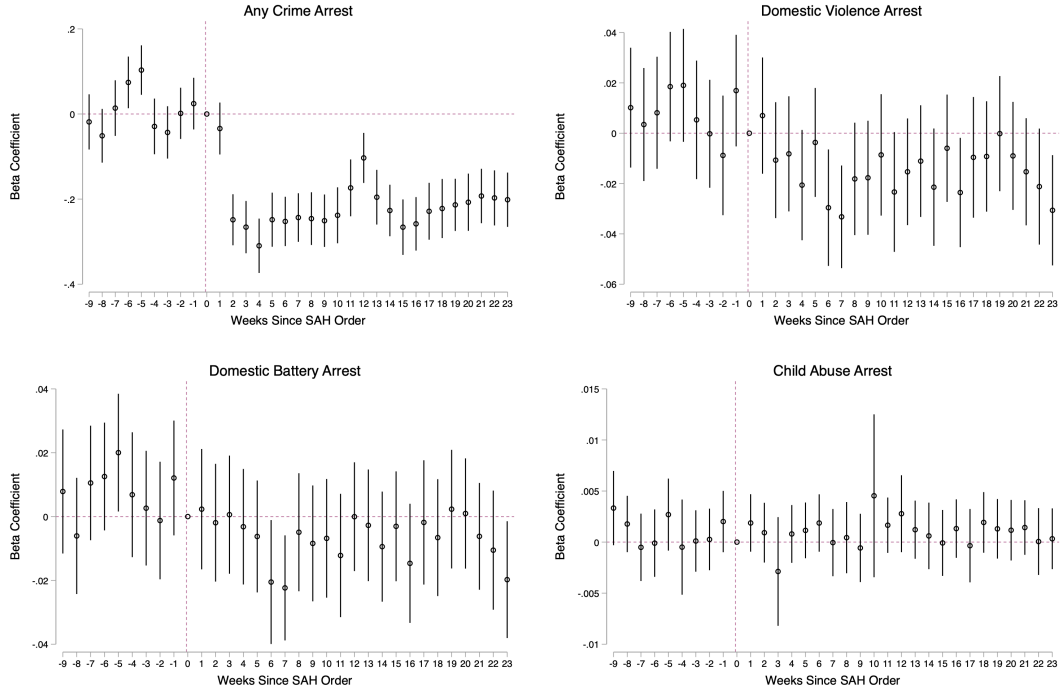ted crime rates. The vertical line represents the March 9 Illinois SAH announcement. Rates are constructed per 1,000 population, based on 2018 block-level ACS data. Crime data from 2019–2020 are from the city of Chicago.

Table A1: Summary Statistics for Block-Level Characteristics

	Mean	St. Dev.
Population	1280.22	596.20
Percent White	0.49	0.34
Percent Black	0.33	0.40
Percent Hispanic	0.27	0.30
Percent Married with Children	0.08	0.04
Workers Over 16	599.82	361.44
Median Family Income	55077.61	30391.26
Percent Renters	0.49	0.25

Notes: Weekly block-level data on block characteristics are from the 2018 ACS. Column 1 presents the mean and Column 2 presents the standard deviation of each listed variable.

Table A2: Average Effects of SAH Orders on Police-Reported Domestic Crime Rates

	All	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
911 Call Rates					
Effect of Stay at Home Order	-1.388*	0.093***	0.083***	0.010	-0.005**
	(0.776)	(0.030)	(0.026)	(0.013)	(0.002)
Week >10	1.949***	0.078***	0.063***	0.015	0.004***
	(0.647)	(0.022)	(0.018)	(0.009)	(0.002)
Year = 2020	-1.410	-0.010	0.010	-0.020***	0.002**
	(1.110)	(0.019)	(0.016)	(0.007)	(0.001)
Observations	62820	62820	62820	62820	62820
Pre-Period Mean	23.947	1.231	0.940	0.292	0.008
Crime Rates					
Effect of Stay at Home Order	-0.5096***	-0.0254**	-0.0363***	-0.0766***	-0.0069***
	(0.0316)	(0.0103)	(0.0072)	(0.0107)	(0.0015)
Week >10	0.1087***	0.0172**	0.0200***	0.0473***	0.0018
	(0.0191)	(0.0077)	(0.0053)	(0.0085)	(0.0013)
Year = 2020	-0.0572***	-0.0159**	-0.0053	-0.0062	0.0015*
	(0.0168)	(0.0063)	(0.0040)	(0.0063)	(0.0009)
Observations	62820	62820	62820	62820	62820
Pre-Period Mean	1.670	0.305	0.136	0.326	0.007

Notes: Crime data from 2019–2020 are from the city of Chicago. Standard errors are clustered at the block level. Crime rates are constructed per 1,000 population based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table A3: Average Effects of SAH Orders on Logged 911 Call Rates and Logged Crime Rates

	All Calls	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
Logged 911 Call Rates					
Effect of Stay at Home Order	-0.115***	0.047***	0.044***	-0.005	-0.078
	(0.009)	(0.014)	(0.015)	(0.018)	(0.080)
Observations	60369	29669	26087	12454	217
Pre-Period Mean	5.070	2.924	2.811	2.476	2.168
Logged Crime Rates					
Effect of Stay at Home Order	-0.2001***	-0.0158	-0.0479***	-0.0742***	-0.0271
	(0.0119)	(0.0131)	(0.0150)	(0.0128)	(0.0256)
Observations	41592	14698	7596	15796	163
Pre-Period Mean	2.942	2.387	2.245	2.388	2.148
IHS 911 Call Rates					
Effect of Stay at Home Order	-0.116***	0.034***	0.035***	0.011	-0.004**
	(0.009)	(0.010)	(0.010)	(0.007)	(0.001)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	3.348	0.708	0.581	0.231	0.008
IHS Crime Rates					
Effect of Stay at Home Order	-0.2049***	-0.0150**	-0.0299***	-0.0477***	-0.0056***
	(0.0111)	(0.0069)	(0.0051)	(0.0071)	(0.0012)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	1.012	0.253	0.124	0.278	0.006

Notes: The top two panels present estimates on logged rates, where call and crime rates are constructed per 10,000 population, based on block-level population data from the 2018 ACS. The bottom two panels show estimates using the inverse hyperbolic sine (IHS) of the crime or call count. This transformation takes on the form $sinh_z^{-1} = ln(z + \sqrt{1 + z^2})$. Crime data from 2019–2020 are from the city of Chicago. Estimates are based on Equation 1. Standard errors are clustered at the block level. *, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table A4: Average Effects of SAH Orders on Domestic-Related 911 Call Rates and Crime Rates, Poisson

	All Calls	Domestic Violence	Domestic Disturb.	Domestic Battery	Child Abuse
Calls for Police Service					
Effect of Stay at Home Order	-0.066*	0.077***	0.089***	0.031	-0.524***
	(0.035)	(0.020)	(0.023)	(0.035)	(0.182)
Observations					
Mean	61080.0	59790.0	59280.0	54330.0	12990.0
ppmean	28.9	1.4	1.1	0.3	0.0
Crimes					
Effect of Stay at Home Order	-0.347***	-0.079***	-0.298***	-0.243***	-1.162***
	(0.017)	(0.030)	(0.045)	(0.030)	(0.224)
Observations					
Mean	61650.0	56820.0	51810.0	57750.0	10350.0
ppmean	2.1	0.4	0.2	0.4	0.0

Notes: The top panel presents Poisson estimates for calls for police service, while the bottom panel presents Poisson estimates for crime levels. Crime data from 2019–2020 are from the city of Chicago. Estimates are based on Equation 1 and include block group and week fixed effects. Standard errors are clustered at the block level.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table A5: Summary Statistics, by Changes in Time Spent at Home

	Quartile 1 (Bottom 25th)	**Quartile 1** (25-50th)	**Quartile 3** (50-75th)	**Quartile 4** (Top 75th)
Population	1163.71	1284.17	1361.95	1308.73
Percent White	0.33	0.45	0.53	0.62
Percent Black	0.54	0.37	0.26	0.15
Percent Hispanic	0.20	0.29	0.31	0.29
Percent Married with Children	0.07	0.07	0.08	0.09
Workers Over 16	478.37	598.99	664.73	654.48
Median Family Income	42821.24	51052.93	57334.43	68714.97
Percent Renters	0.59	0.52	0.47	0.38

Notes: Data on block-level characteristics are from the 2018 ACS. Column 1 presents estimates for the subgroup of blocks that had the smallest percent changes in the time spent at home, i.e. the bottom quartile. Columns 2 and 3 presents estimates for the second and third quartiles, which represent the 25th-50th percentile and 50th-75th percentile, respectively. Column 4 presents estimates for the quartile with the largest changes in the time spent at home. Changes in time spent at home is measured by the changes in weekly block-level averages between March and April of the listed outcome.

Table A6: Average Effects of SAH Orders on Domestic Violence-Related Calls for Police Service Rates and Reported Crime Rates by Time of Day

	All DV	Weekday	Weekend	Daytime (8am-6pm)	Nighttime (6pm-8am)
Calls for Police Service Rate					
Effect of Stay at Home Order	0.0924***	0.0970***	-0.0047	0.0107	0.0817***
	(0.0302)	(0.0242)	(0.0165)	(0.0171)	(0.0242)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	1.250	0.840	0.410	0.500	0.750
Reported Crime Rate					
Effect of Stay at Home Order	-0.0211**	-0.0117	-0.0095	-0.0167**	-0.0044
	(0.0102)	(0.0087)	(0.0058)	(0.0073)	(0.0073)
Observations	62610	62610	62610	62610	62610
Pre-Period Mean	0.310	0.213	0.097	0.157	0.153

Notes: Crime data from 2019–2020 are from the city of Chicago. Estimates are based on Equation 1. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.

Table A7: Effects on Domestic-Related Crime Reports, by Changes in Time Spent at Home and Time Spent at Work

	Quartile 1 (Bottom 25th)	Quartile 2 (25-50th)	Quartile 3 (50-75th)	Quartile 4 (Top 75th)
Time Spent at Home				
Effect of Stay at Home Order	-0.003	-0.013	-0.016	-0.051**
	(0.022)	(0.019)	(0.020)	(0.021)
Observations	15540	15600	15030	15630
Pre-Period Mean	0.391	0.292	0.245	0.310
Time Spent Completely at Home				
Effect of Stay at Home Order	-0.049*	0.007	-0.013	-0.029**
	(0.026)	(0.022)	(0.019)	(0.013)
Observations	15630	15630	15630	15630
Pre-Period Mean	0.516	0.343	0.239	0.143
Working Full Time				
Effect of Stay at Home Order	-0.039**	-0.028	0.002	-0.021
	(0.015)	(0.020)	(0.022)	(0.024)
Observations	15630	15630	15630	15630
Pre-Period Mean	0.176	0.292	0.335	0.437
Working Part Time				
Effect of Stay at Home Order	-0.015	-0.033*	-0.023	-0.013
	(0.014)	(0.018)	(0.022)	(0.026)
Observations	15630	15630	15630	15630
Pre-Period Mean	0.162	0.271	0.344	0.463

Notes: Calls for police service data from 2019–2020 are from the city of Chicago. Estimates are based on Equation 1. Standard errors are clustered at the block level. Police service call rates are constructed per 1,000 population, based on block-level population data from the 2018 ACS. Column 1 presents estimates for the subgroup of blocks that had the smallest percent changes in the listed outcome, i.e. the bottom quartile. Columns 2 and 3 presents estimates for the second and third quartiles, which represent the 25th-50th percentile and 50th-75th percentile, respectively. Column 4 presents estimates for the quartile with the largest changes in the listed outcome. Changes in time spent at home or time spent at work is measured by the changes in weekly block-level averages between March and April of the listed outcome.

*, **, and *** indicate statistical significance at the ten, five, and one percent levels, respectively.