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Hannah Passmore Date

Impact of COVID-19 risk-mitigation strategies on family violence in the United States: A systematic review of grey literature

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Bachelor of Arts
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2018

Thesis Committee Chair: Kathryn M. Yount, PhD, MHS

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
In partial fulfillment of the requirements for the degree of
Master of Public Health
In the Hubert Department of Global Health
2021

Abstract

Impact of COVID-19 risk-mitigation strategies on family violence in the United States: A systematic review of grey literature

By Hannah Passmore

COVID-19 risk-mitigation strategies have the potential to increase the risk of family violence in the United States. Good data on the impact of risk-mitigation strategies on rates of family violence is crucial both in crafting effective risk-mitigation strategies that do not increase risk of violence and will better inform interventions and resources for survivors. This study aims to assess the impact of state-level risk-mitigation strategies on rates of family violence across the U.S. To assess the impact of risk-mitigation strategies, we performed a systematic review of grey literature in which we extracted data on changes in family violence from news media in the U.S. We analyzed this data through simple descriptive analyses and comparisons by data source, geographic region, and time frame, and performed a bivariate analysis to assess the association between the duration of the risk-mitigation strategies and changes in rates of family violence. 64.8 % of all changes in reports of violence were positive, indicating a possible increase in violence and/or violence reporting. However, all the changes in reports of child maltreatment were negative, indicating a decrease in violence and/or violence reporting. These results suggest that the COVID-19 risk-mitigation strategies did have an impact on rates of violence and patterns in violence reporting. More research is needed to understand the mechanisms through which risk-mitigation strategies impact risk of family violence to develop more effective prevention and intervention strategies both within and outside of a pandemic response context.

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Acknowledgements

Many thanks to my committee chair, Dr. Kathryn M. Yount, for her invaluable insight and encouragement in designing and implementing the entire study, her assistance with the data analysis, and her support in developing the manuscript. Thank you also to Tyler Moses for supporting the development of the search protocol, and to Yiman Li for her insights and advice in data organization and analysis. I would also like to thank my friends and family in Atlanta and across the country and world—their support made writing a thesis in a pandemic possible.

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Acronym list

CM	Child maltreatment
COVID-19	Coronavirus Disease 2019
CPS	Child Protective Services
DV	Domestic violence
EO	Executive Order
IPV	Intimate partner violence
PDF	Portable Document Format
PTSD	Post-traumatic stress disorder
URL	Uniform Resource Locator
WHO	World Health Organization

Chapter 1: Introduction

Background and Significance

Following the characterization of COVID-19 as a pandemic on March 11, 2020[1], states in the United States began enacting various risk-mitigation strategies in an attempt to slow transmission. Because many of these risk-mitigation strategies severely limited social interaction, ability to work, restricted movement, and kept people confined to their homes, experts on family violence expressed fear that these measures could result in a spike of intimate partner violence (IPV) and child maltreatment (CM). As early as March 26, 2020, the World Health Organization (WHO) released a bulletin indicating the risk of an increase in family violence due to COVID-19, and cited reports from several countries, including the US, that showed an increase in reports of violence.[2] Because family violence is a great threat to health and well-being, and because the threat of violence within the home might make risk-mitigation strategies less effective and thus put people at greater risk of COVID-19 infection, understanding the impact of COVID-19 and the subsequent risk-mitigation strategies on family violence in the US is critical.

State-level risk-mitigation strategies in the United States took many forms. Some risk-mitigation strategies had the potential to restrict movement, limit social connection, and limit income. These more restrictive risk-mitigation strategies included stay-at-home/shelter-in-place orders, school closures, non-essential business closures, travel bans and mandatory quarantines for travelers. The first state-level risk-mitigation strategies in the US were enacted on March 10, 2020, in Ohio, Oregon, and Washington. Every state, as well as Puerto Rico and Washington, DC enacted at least one of these risk-mitigation strategies, but there was a variation in the types of strategies used. The duration in which these strategies were in place also varied widely from

state to state. Figure 1 illustrates the diversity in length of stay-at-home orders, only one of the many risk-mitigation strategies used.

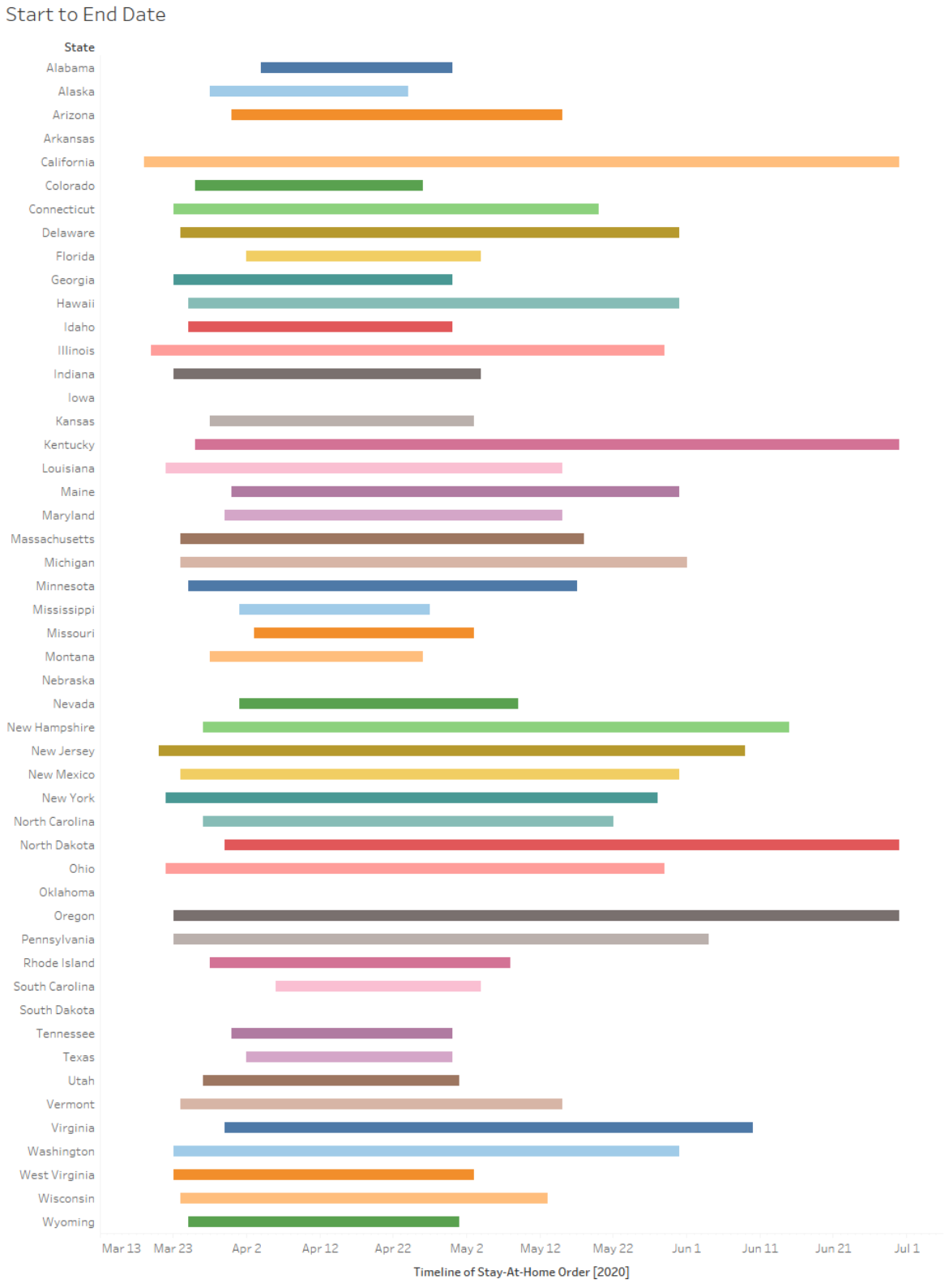

Figure 1. *Stay-at-home order duration by state*

Because these risk-mitigation strategies represent an unprecedented restriction on social interaction, mobility, and the ability to work, good data is necessary to assess the impact of these strategies on rates of family violence in the US. Research on violence victimization and perpetration indicate that economic stress and social isolation are major risk factors.[3] Additionally, research on violence within emergency settings – the 2008 financial crisis and in refugee camp settings – indicate that acute financial stress, as was experienced in 2008, and the restriction of the family to the home in a stressful situation, which occurred among refugees, are also risk factors for family violence.[4,5] Though the COVID-19 pandemic risk-mitigation strategies were unprecedented in the US, our understanding of family violence risk indicates that there is a potential for these strategies to increase the prevalence of violence.

It is crucial to obtain accurate and thorough data on the impacts of the risk-mitigation strategies on violence to understand the mechanisms of violence and to create effective prevention and intervention strategies. In order to protect the health of all, we need risk-mitigation strategies that can prevent disease transmission without putting people in danger of violence. Knowing the impact of our current strategies on rates of family violence can help us craft better policy for future pandemics as well as help us identify gaps in our violence prevention and intervention strategies beyond the pandemic context.

Problem Statement

COVID-19 risk-mitigation strategies have the potential to increase the risk of family violence in the United States. Good data on the impact of risk-mitigation strategies on rates of family violence is crucial for crafting effective risk-mitigation strategies that do not increase risk of violence and informing useful interventions and resources for survivors. Because this topic is

relatively new, there is a lack of comprehensive data, and most studies looking at the impact of COVID-19 on family violence have been limited in scope to either investigate one city with multiple measures of violence or across multiple cities with only one measure of violence. There is also a lack of studies that have included rural areas of the United States.

Purpose Statement

Exploring the changes in rates of family violence during the COVID-19 pandemic by systematically reviewing grey literature allows us to quickly obtain information on changes in rates of violence from different measures and from a wide variety of locations in the United States. Understanding the impact of risk-mitigation strategies on rates of violence is crucial for developing future risk-mitigation strategies that effectively protect individuals without adverse impacts on health and well-being.

Research Objectives

In order to ensure that pandemic risk-mitigation strategies, both for the current COVID-19 pandemic and in the future, are able to protect individuals from disease without adverse impacts, such as increases in family/partner violence, we must understand the impact of the strategies used on rates of family violence in the United States.

The aims of the study are as follows:

1. Use news media to understand the impact of COVID-19 risk-mitigation strategies on rates of IPV and CM.
2. Identify patterns of changes in family/partner violence rates by type of violence, geographic region, and source.

3. Assess the effect of the intensity of risk-mitigation strategies on patterns of changes in rates of IPV and CM.

Significance Statement

This study adds to a growing body of literature on the impacts of risk-mitigation strategies on rates of family/partner violence. Conclusions drawn from this study can be used in policy formation to create future risk-mitigation strategies that do not put individuals at higher risk for violence, and to provide resources and intervention to individuals currently impacted by violence.

This study utilizes news media to obtain data from across the United States and from a variety of different measures of violence; previous studies in this area have either focused on one measure or on one locale. The methodology of this study is also significant, as it develops a protocol for systematic reviews of grey literature. Future research can build on this methodology, as it is applicable for explorative research of other ongoing, critical phenomena.

Definition of Terms

Risk-mitigation strategies – Refers to the state-level measures enacted to slow transmission of COVID-19, including stay-at-home orders, school closures, business closures, travel bans, and mandatory quarantines for travelers.

Intimate partner violence – Refers to interpersonal physical, sexual, emotional/psychological violence, stalking, and other forms of aggression perpetrated by a current or former intimate partner.[6]

Child maltreatment – Refers to violence against children, including physical abuse, sexual abuse, emotional abuse, and neglect.[7]

Grey literature – Refers to information that is published outside the traditional academic space; in this study, the grey literature referenced is news articles.[8]

Family violence – Refers to violence that occurs within the home, including violence between intimate partners, elder abuse, violence perpetrated by other family members, and child maltreatment.[9]

Chapter 2: Literature Review

This chapter provides an overview of the literature regarding family violence and COVID-19. In order to understand the relationship between COVID-19 and rates of family violence, the mechanisms linking COVID-19 risk-mitigation strategies and forms of family violence, including intimate partner violence (IPV) and child maltreatment (CM), must be understood. This chapter reviews the literature on economic stress and social isolation as risk factors for family violence, and the impact of COVID-19 risk-mitigation strategies on economic stress and social isolation.

IPV and child maltreatment

The World Health Organization (WHO) describes a typology of violence characterized both by the perpetrator of violence and the nature of the violence. Within this typology, family violence refers to forms of violence that occur within the home, and include interpersonal violence between intimate partners, elder abuse, violence perpetrated by other family members, and child maltreatment.[9]

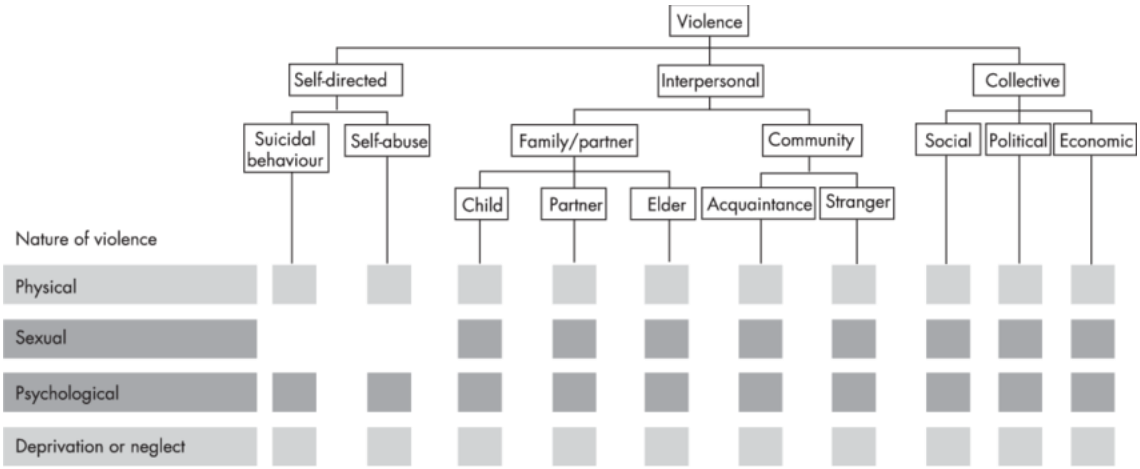

Figure 2. *A typology of violence* [9]

IPV refers to interpersonal violence by a current or former intimate partner. IPV can be physical violence, sexual violence, emotional/psychological violence, stalking, and other forms of aggression. Intimate partners can be spouses, boyfriends/girlfriends, sexual partners, or any other type of partnership characterized by close emotional, physical, and sexual contact.[6] CM refers broadly to violence against children. There are four recognized types of child maltreatment: physical abuse, sexual abuse, emotional abuse, and neglect.[7]

An estimated one in five women and one in seven men are victims of IPV in the United States.[10] Data from 2013 indicates that 9 in 1,000 children in the US are victims of some form of CM; rates differ based on type of maltreatment.[11] Studies suggest that IPV and CM or other forms of family violence often co-occur; as many as 40% of IPV cases also include some form of CM.[12]

Health impacts of IPV and CM

IPV and CM are severe public health threats. Exposure to violence can result in many types of adverse health outcomes that are not restricted to the immediate injuries or health conditions that might result from physical or sexual violence. People who experience violence are at higher risk of developing mental health conditions, including mood disorders, PTSD, and substance use disorders, as well as long-term physical health sequelae, such as cardiovascular disease and chronic pain.[13] Exposure to IPV also has negative effects on the health of children; children's exposure to IPV can contribute to higher risks of malnutrition, post-traumatic stress, and a number of behavioral problems.[14-16]

Mechanisms linking COVID-19 risk-mitigation strategies with IPV and CM

Loss of employment/income resulting in financial insecurity and acute/chronic economic stress

Economic or financial stress is a strong predictor of IPV perpetration. Economic stress is often caused by lower income, financial insecurity, and unemployment. These characteristics have also been linked to IPV perpetration and victimization. In the United States, lower income is a consistent predictor of higher risks of IPV.[17] Evidence links receiving welfare benefits with higher rates of IPV.[18] While some studies have found that unemployment is not a risk factor for IPV, other studies suggest that employment status, income level, and job type are important predictors of IPV perpetration and victimization, given their links to economic stress.[3] Situational coping mechanisms, like substance use, which can be utilized to deal with economic stress, are associated with higher susceptibility to both perpetration and victimization of IPV.[19] Economic independence, especially for women, is a known protective factor against IPV victimization, but financial and economic circumstances often leave victims dependent on the perpetrator.[20] COVID-19 risk-mitigation strategies lead to increased economic stress, as people have lost employment and income and subsequently experience housing, food, and other financial insecurities. Unemployment rates shot to 14.7% in April, 2020, and in May, 2020, 43.4% of adults surveyed indicated that they or a family member had lost a job or income due to the pandemic.[21] This unemployment and loss of income can lead to economic stress and exacerbate situational coping mechanisms, which increases immediate risk factors for IPV and CM perpetration and victimization.

COVID-19 related social isolation as a risk factor for IPV and CM and as a barrier for help-seeking

Risk-mitigation strategies such as stay-at-home orders, school closures, and business closures can cause social isolation. People are separated from both informal support networks, including friends and family, and more formal resources.[22] Social isolation is known to be a risk factor for IPV, and is often used as an abuse and control tactic of IPV perpetration. Social isolation, in the case of social distancing measures, may not be of the perpetrator's design but can result in the same outcomes.[22] Isolation separates people from community and resources, which is not only a predictor of IPV but also makes seeking help in response to IPV more difficult. Stay-at-home orders also increase the time spent with potential perpetrators, and studies on IPV during crisis settings, primarily among refugees, suggest that increased time spent at home with family under stress increases the risk of IPV.[5,23,24]

In the case of CM, school closures result in a loss of face-to-face time with mandatory reporters, such as teachers, social workers, and other school staff, that children normally interact with in school. Recent research indicates that school staff are responsible to most reports of CM to hotlines in the United States; school closure then might both increase the instances of violence but also reduce the likelihood of reporting and responding to violence.[25]

Preliminary research on IPV and COVID-19

In a content analysis of news articles from the first six weeks of the pandemic, researchers found that news media in the United States reported predicted increases in IPV, actual increases in IPV, and increases in barriers to IPV resources and services, such as shelters

or healthcare.[26] This preliminary evidence suggests that the "lockdown" in response to COVID-19 in the US has had unintended consequences in regard to IPV.

Other studies on the impact of COVID-19 and the subsequent social distancing measures on IPV and CM have inconsistent results. A study published in April using data from police departments in select cities across the US found that there were increases in IPV related arrests, police reports, and emergency calls in the weeks following restrictive measures such as school closures and stay-at-home orders.[27]

Researchers in Los Angeles that analyzed both police and non-police sources found that while IPV related emergency calls to the police and calls to IPV hotlines increased, IPV related crimes decreased.[28] A similar study in Chicago, which analyzed only police data, had similar findings; IPV related calls increased, but crimes decreased in the weeks following Illinois' stay-at-home order.[29] Leslie and Wilson (2020), looking at IPV related police calls across 14 different cities in the US, found that there was an increase in calls in March, April, and May, and that the highest increase occurred in the first five weeks after the enactment of widespread social distancing measures.[30] A trend analysis of IPV and CM crime data in Dallas indicated a significant increase in IPV related crime in the first two weeks following the implementation of a city-wide stay-at-home order, followed by a decrease in IPV related crime.[31]

Globally, there is some evidence that contacts to child helplines increased in the first six months of 2020.[32] In the United States, reports to state-level CM hotlines have declined in some places by as much as 69%, since widespread school closures in March 2020. A study comparing reports to CPS hotlines in Florida from 2020 to monthly-level data from previous years found that reports to CPS were uncharacteristically low in March and April 2020, and that this decrease was similar to the decrease observed in summer months when school is not in session and

children experiencing maltreatment are similarly separated from mandated reporters. The decrease in CPS reports, then, seems to be linked to school closures.[33] This research is complemented by Fitzpatrick, Benson, & Bondurant (2020), who found that education professionals were responsible for reporting CM cases that would otherwise be missed.[25]

This study aims to fill the gaps in our knowledge of the impact of the COVID-19 risk-mitigation strategies on rates of IPV and CM in the US. Previous studies have either looked at one measure of DV or CM across the entirety of the US or have used multiple measures in one city to determine changes in rates of violence. This study uses multiple measures collected from many locations across the US, including more rural locations that have not otherwise been investigated. There are also few studies that can geographically separate data on changes in IPV rates across the US. As this is a new research area, there is also a lack of research linking the length or intensity of movement-restricting executive orders to the change in rates of violence. This research attempts to fill that gap.

Measures of IPV and CM under COVID-19

There are different data sources on IPV and CM that have a priori strengths and limitations; we chose to use measures that rely on victim disclosure, including hotline contacts, police records, and CPS reports because of their rapid availability, wide scope, and ability to pick up on a wide spectrum of violence, from fatal to non-fatal. Ideal indicators for IPV and CM are those that capture the full scope of IPV and CM and that are less likely to be subject to underreporting. These measures include fatal outcomes, which are collected and reported more universally than other injuries, and sources like medical records or survey data. While these measures are robust, gathering data from these sources in real time is difficult, given delays in

their publication, and these measures miss non-fatal violence. Measures of IPV and CM that rely on victim disclosure, such as police reports or calls, hotline contacts, or court cases, run the risk of underreporting, due in part of a fear of retaliation and/or revictimization and stigmatization by authorities.[34] Despite their limitations, these measures often are more readily available in a timely manner, which is essential when guiding current policy decisions. It is crucial, though, that we assume there is some bias related to reporting in the data we collect using these measures.

Victims of IPV are more likely to disclose experiences of violence to informal sources, including friends or family, than to formal sources such as health professionals, shelters and hotlines, and the police.[35] Barriers to help-seeking, especially through formal sources, such as stigmatization of IPV, fear of retaliation, economic barriers, and geographic barriers all contribute to the underreporting of IPV, and these barriers might be exacerbated by COVID-19 and risk-mitigation strategies.[14,36] Formal sources that are less susceptible to these barriers, such as an anonymous phone-based hotline, for example, might have higher levels of disclosure than other sources of support. As violence increases or intensifies, help-seeking from formal sources increases as well.[34]

This study uses measures of IPV and CM reported in news articles as a way to rapidly assess the potential impacts of state-level risk-mitigation strategies on rates IPV and CM across the US, understanding that the executive orders affect economic and social-network pathways as described above. We seek to mitigate the impact of underreporting by including five different measures as estimates for IPV and CM rates: calls to IPV hotlines, including both state level and local hotlines, reports to child abuse hotlines or child protective services (CPS), emergency calls, police reports, and court cases. Utilizing data from news articles across the US also allows us to

see potential impacts across geographic regions and to assess associations of length of risk-mitigation strategies and changes in rates of IPV and CM, two areas that have not yet been adequately investigated.

Chapter 3: Manuscript

Impact of COVID-19 risk-mitigation strategies on family violence in the United States: A systematic review of grey literature

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Contribution of Student:
Ms. Passmore was responsible for designing the systematic review protocol, performing the systematic review, extracting and analyzing the data, and writing the first draft of the manuscript including all tables.

Abstract:

Objectives: To assess the impact of state-level risk-mitigation strategies on rates of family violence across the US.

Methods: We performed a systematic review of grey literature in which we extracted data on changes in family violence from news media in the US. We analyzed this data through simple descriptive analyses and comparisons by data source, geographic region, and time frame, and performed a bivariate analysis to assess the association between the duration of the risk-mitigation strategies and changes in rates of family violence.

Results: 64.8 % of all changes in reports of violence were positive, indicating an increase in violence and/or violence reporting. However, all the changes in reports of child maltreatment were negative, indicating a decrease in violence and/or violence reporting. These results suggest that the COVID-19 risk-mitigation strategies did have an impact on rates of violence and patterns in violence reporting.

Conclusions: Risk-mitigation strategies appear to have an impact on rates of violence and reporting. More research is needed to understand the mechanisms through which risk-mitigation strategies impact risk of family violence and to develop more effective prevention and intervention strategies within and outside of a pandemic response context.

Introduction

COVID-19 risk-mitigation strategies have the potential to increase the risk of family violence, including intimate partner violence (IPV) and child maltreatment (CM) in the United States. COVID-19 risk-mitigation strategies can lead to increased economic stress, as people have lost employment and income and subsequently experience housing, food, and other financial insecurities. Unemployment rates shot to 14.7% in April, 2020, and in May, 2020, 43.4% of adults surveyed indicated that they or a family member had lost a job or income due to the pandemic.[21] This unemployment and loss of income can lead to economic stress and exacerbate situational coping mechanisms, which increases immediate risk factors for IPV and CM perpetration and victimization. [3,17-19]

Risk-mitigation strategies such as stay-at-home orders, school closures, and business closures can also cause social isolation. Social isolation is known to be a risk factor for IPV and is often used as an abuse and control tactic of IPV perpetration. Social isolation, in the case of social distancing measures, may not be of the perpetrator's design but can result in the same outcomes.[22] Isolation separates people from community and resources, which is not only a predictor of IPV but also makes seeking help in response to IPV more difficult. Stay-at-home orders also increase the time spent with potential perpetrators, and studies on IPV during crisis settings, primarily among refugees, suggest that increased time spent at home with family under stress increases the risk of IPV.[5,23,24]

In the case of CM, school closures result in a loss of face-to-face time with mandatory reporters, such as teachers, social workers, and other school staff, that children normally interact with in school. Recent research indicates that school staff are responsible to most reports of CM

to hotlines in the United States; school closure then might both increase the instances of violence but also reduce the likelihood of reporting and responding to violence.[25]

Because this topic is relatively new, there is a lack of comprehensive data linking COVID-19 risk-mitigation strategies with violence. Most studies looking at the impact of COVID-19 on family violence have been limited in scope to either investigate one city with multiple measures of violence or across multiple cities with only one measure of violence. Previous studies have yielded inconclusive results on the impact of risk-mitigation strategies on violence.[14,22,26-32]

This study uses measures of IPV and CM reported in news articles as a way to rapidly assess the potential impacts of state-level risk-mitigation strategies on rates IPV and CM across the US, understanding that the executive orders affect economic and social-network pathways as described above. We seek to mitigate the impact of underreporting by including five different measures as estimates for IPV and CM rates: calls to IPV hotlines, including both state level and local hotlines, reports to child abuse hotlines or child protective services (CPS), emergency calls, police reports, and court cases. Utilizing data from news articles across the US also allows us to see potential impacts across geographic regions, and allows us to assess associations of length of risk-mitigation strategies and changes in rates of IPV and CM, two areas that have not yet been adequately investigated.

This study adds to a growing body of literature on the impacts of risk-mitigation strategies on rates of family violence. Conclusions drawn from this study can be used in policy formation to create future risk-mitigation strategies that do not put individuals at higher risk for violence, and to provide resources and intervention to individuals currently impacted by violence.

Methods

We collected data from news articles on family violence amid the COVID-19 state-level risk-mitigation strategies from March 2020, when the first executive orders were enacted, until September 2020, when the search was run. We first developed a protocol for the grey-literature systematic review, in consultation with a research librarian at the Woodruff Health Sciences Center Library. We used recent systematic reviews of grey literature to guide our protocol creation process.[37]

News Article Inclusion Criteria and Search

We searched the Internet to identify news articles about family violence amid the COVID-19 risk-mitigation strategies. Our inclusion criteria included:

- news articles that include data on changes in rates of family violence
- published in or about the United States
- after March 15, 2020.

Many print and online newspapers in the United States have online repositories of their articles, so a Google search was used to identify news articles. Google search was selected as the primary search engine because of its ability to run long search strings, and to filter results by news articles. We also consider Bing search to identify news articles, because it applies a different algorithm that may have captured some news articles missed by Google. However, Bing search lacked the ability to run the entire search string and to filter results by news articles, limiting its capacity for our purposes.

Google search optimizes results based on user and search history, so we cleared the search history, cache, and cookies in the web browser prior to the search to make the search more replicable. We ran the search in Google Chrome. We developed the Google search string to reflect the Google search word limit of 32 words. The full search string was: (covid OR coronavirus OR pandemic OR sars-cov-2 domestic violence OR intimate partner violence OR domestic abuse OR physical abuse OR child abuse OR sexual abuse OR sexual violence OR physical violence executive order OR stay at home OR healthy at home OR safer at home). The three sections of the search string reflected the three topic areas necessary for inclusion: COVID-19, family violence, and state-level risk-mitigation strategies.

The search was filtered by results type: news articles and by region: United States. The date range for the search was 3/15/2020 to 9/22/2020. To be inclusive of all articles that included information on state-level risk-mitigation strategies, we selected a start date that was five days after the first risk-mitigation strategies were enacted on March 10, 2020. The search was completed on September 22nd, 2020.

An initial headline screen was completed to eliminate articles with headlines that did not meet our inclusion criteria. Examples of articles that were excluded at the headline screen stage were articles with a focus outside of the United States, results that were press releases or reports and not news articles, and articles that failed to reference COVID-19. URLs of all screened articles were recorded. We included articles that did not reference COVID-19 in their headlines but referenced it in their subheadlines; these articles were included for additional full text screening in an effort capture all news articles that contained relevant data.

A full-text screen was completed to determine eligibility for final inclusion. At this stage, we also identified two duplicates; these articles were published in multiple newspapers and were

identified after screening the full text. Additionally, we determined if articles contained references to physical abuse, sexual assault, and child abuse, as well as if the article referenced a scientific study. This additional information did not factor into the inclusion or exclusion of the articles. A PDF of each article deemed eligible for inclusion following the full text screen was saved. The search strategy and identification process is displayed in Figure 3.

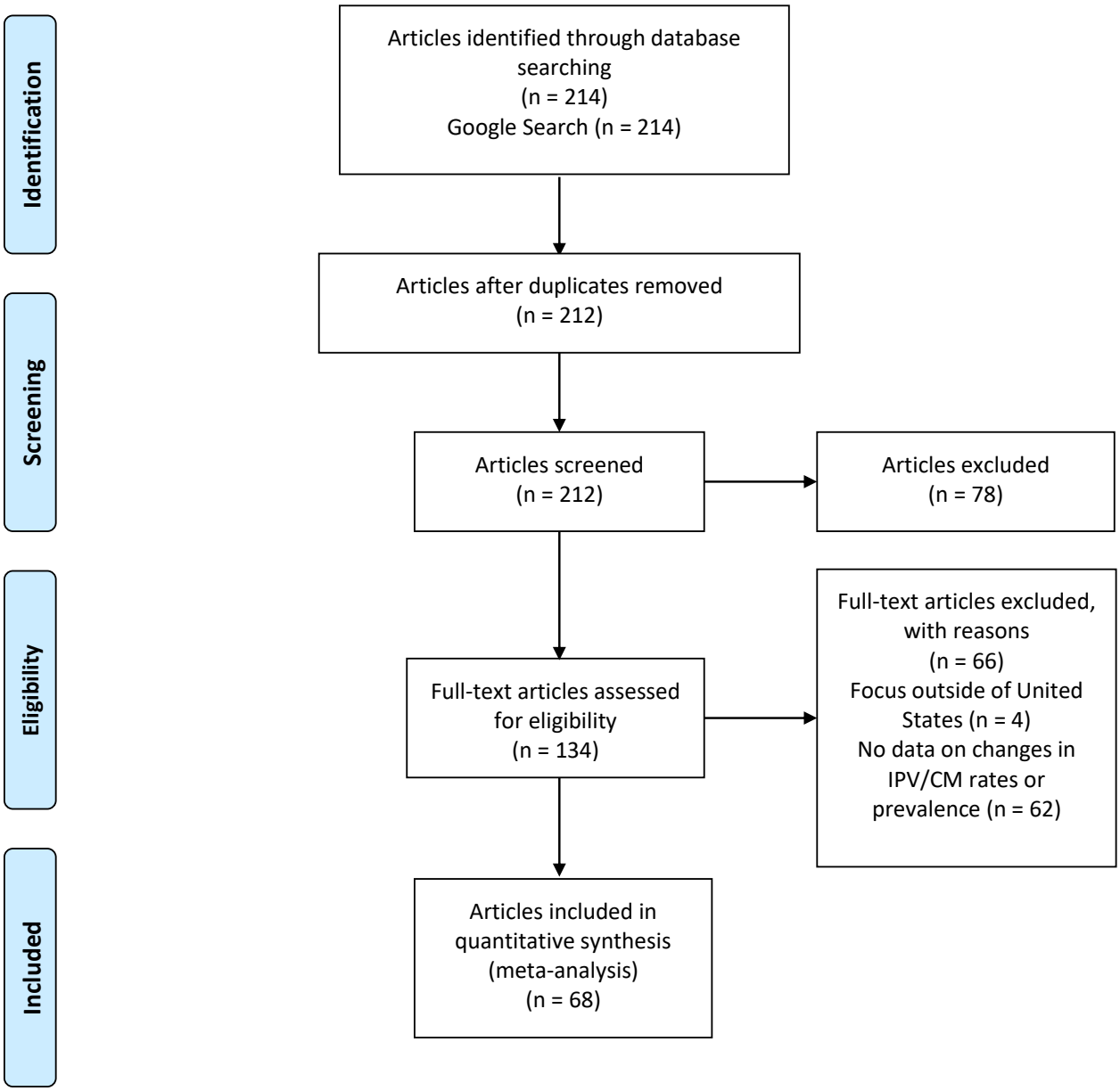

Figure 3*. Flow diagram of the systematic review of news articles*

Data Extraction

We developed an initial data extraction tool before performing the article search. We then finalized the tool in an iterative process as we performed the full text screen and began data extraction. We collected data on the city, county, or state of the data included in the article, the timeframe of the data shared in the article, the data source type, the quality assessment score of the article, and reported changes in rates of domestic violence, physical abuse, and sexual abuse. The reported changes in rates of violence were disaggregated by source type.

We performed a quality assessment on all included articles using a tool developed by Robinson et al. (2013) to assess the quality of newspaper articles reporting on scientific studies.[38] The tool uses 22 items to rank news articles into three categories: poor, satisfactory, and excellent. These items assess the use of citations of journals and researchers, use of researcher or specialist quotes, how the methods are described, and the care with which results are described.

Measures

Violence-related outcomes

The measures we used to estimate changes in IPV and CM rates were the percentage changes in rates of violence, by type of violence and source of the data, including: local hotline contacts, state hotline contacts, emergency calls related to IPV, police reports related to IPV, court cases related to IPV, and Child Protective Services (CPS) reports. We recorded the data source (police report, hotline call, emergency call, court case, or other) corresponding to the data elements that we extracted. Each data element was further disaggregated by type of violence:

intimate partner violence, physical abuse, and sexual abuse, with each data item listed above included in the three categories.

State-level risk-mitigation strategy exposure variables

We determined the duration of stay-at-home orders, school closures, and of movement-restricting executive orders for each data point; the beginning dates were the start dates of stay-at-home orders, school closures, and the first risk-mitigation strategy that went into effect in the state from which the data was from. We also recorded the month and week in which the data was reported. For each data point, we coded the city, county, state, and region of the US from which the data was gathered.

Data Analysis

We performed basic descriptive analyses and comparisons of the data by source type, quality assessment rating, and by timeframe. Our comparison was of the number of rate changes, the percent of rate changes that were positive, and the range of change.

We calculated the average rate changes of CPS reports by month and by week and created bar graphs. We calculated the average rate changes of IPV rates by month and by week, disaggregated by source type, and created bar graphs to visually represent this data. We calculated average rate changes of CPS reports and of IPV rates by geographic region and displayed these findings in bar graphs.

We performed a simple bivariate analysis to assess the association between the duration of the movement-restricting executive orders and changes in IPV rates and between the duration of school closures and changes in CPS rates.

Results

Table 1 displays the characteristics of the news articles included in the analysis. Most articles were published before June (77.9%, n = 53). The most common form of data extracted from the articles was hotline contact data (45.6%, n = 31). The majority of articles received a "satisfactory" quality assessment (75.0%, n = 51).

Table 1. *Articles included in analysis*

Characteristic	***No. (%) of articles n=68***
Date of publication (in 2020)	
March	7 (10.3)
April	29 (42.6)
May	17 (25.0)
June	8 (11.8)
July-September	7 (10.3)
Type of data	
Hotline contacts	31 (45.6)
Police reports	25 (36.8)
CPS reports	11 (16.2)
Court cases	23 (33.8)
Emergency calls	19 (27.9)
Other	1 (1.5)
Quality assessment rating	
Excellent	1 (1.5)
Satisfactory	51 (75.0)
Poor	16 (23.5)

Table 2 displays the differences in rates of change in reports of violence by quality assessment, data source, and month. Overall, there were 148 rate changes extracted from the 68 articles. The majority of these rate changes (64.8%, n = 96) were positive. Of the different data source types, emergency calls had the highest rate of positive rate changes (93.8%, n = 30). CPS reports were the only data source to have only negative rate changes. All other data sources had a majority positive rate changes.

Table 2. *Rates of change in reports of violence by quality assessment, data source, and month of 2020*

	# of rate changes reported	Positive rate changes # (%)	Negative rate changes # (%)	Rate changes with 0% change # (%)	Range of % change	Minimum % change	Maximum % change
Panel A: Results by Source Type							
Hotline contact	45	34 (75.6)	8 (17.8)	3 (6.6)	267%	-67%	200%
Emergency call	32	30 (93.8)	1 (3.1)	1 (3.1)	191%	-16%	175%
Police report	28	20 (71.4)	8 (28.6)	0 (0.0)	159%	-70%	89%
Court case	16	11 (68.8)	5 (31.2)	0 (0.0)	490%	-40%	450%
CPS contact	26	0 (0.0)	26 (100.0)	0 (0.0)	123%	-130%	-7%
Other	1	1 (100.0)	0 (0.0)	0 (0.0)	0%	80%	80%
Panel B: Results by Quality Assessment Rating							
Excellent	1	1 (100.0)	0 (0.0)	0 (0.0)	0%	80%	80%
Satisfactory	114	75 (65.8)	36 (31.6)	3 (2.6)	580%	-130%	450%
Poor	33	20 (60.6)	12 (36.4)	1 (3.0)	270%	-70%	200%
Panel C: Results by Time frame (last month covered by data)							
March	87	56 (64.4)	30 (34.5)	1 (1.1)	330%	-130%	200%
April	47	28 (59.6)	16 (34.0)	3 (6.4)	522%	-72%	450%
May	9	8 (88.9)	1 (1.1)	0 (0.0)	141	-16%	125%
June	3	3 (100.0)	0 (0.0)	0 (0.0)	7%	26%	33%
July	2	1 (50.0)	1 (50.0)	0 (0.0)	18	-14%	49%
	# of rate changes reported	Positive rate changes # (%)	Negative rate changes # (%)	Rate changes with 0% change # (%)	Range of % change	Minimum % change	Maximum % change

Rates of change in violence, by type of violence and month, March – July 2020

The average rate change in CPS reports by month and by week both indicate that there were fewer CPS reports as the school closures went on; the average change in CPS reports in April (-53%) is lower than the average change in March (-44%) (Figure 4).

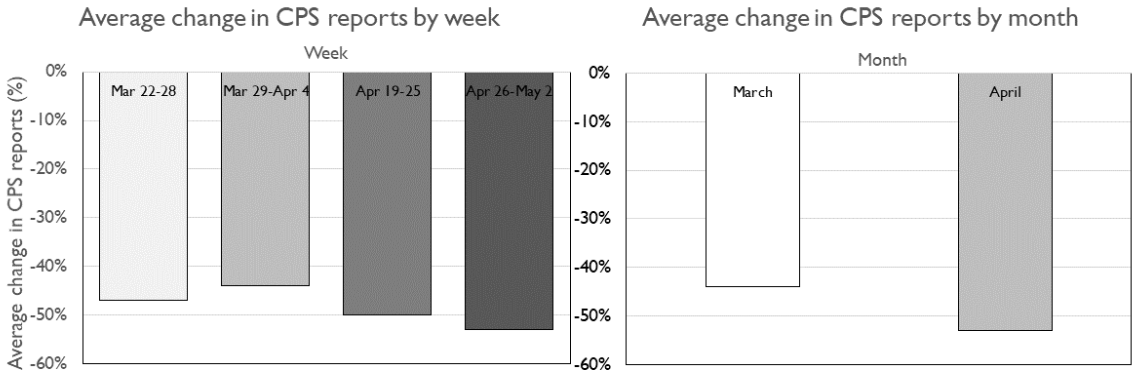

Figure 4. *Average change in CPS reports by month and week, March – April 2020*

The average changes in IPV rates were positive for most sources across the months (Figure 5). The average rate change for court cases in March (-13%) and for police reports in April (-8%) are negative, indicating a decrease in court cases and police reports towards the beginning of the risk-mitigation strategies. The average changes in IPV rates by month shows a slight inversed-U shape, as seen in Figure 5. The average rate change is lower in July 2020 than in the previous months. The average change in hotline contacts was highest in May (67%).

The average changes in IPV rates spike in May and slowly decrease as risk-mitigation measures eased in June and July. There are fewer observations of rate changes in May, June, and July as compared to March and April.

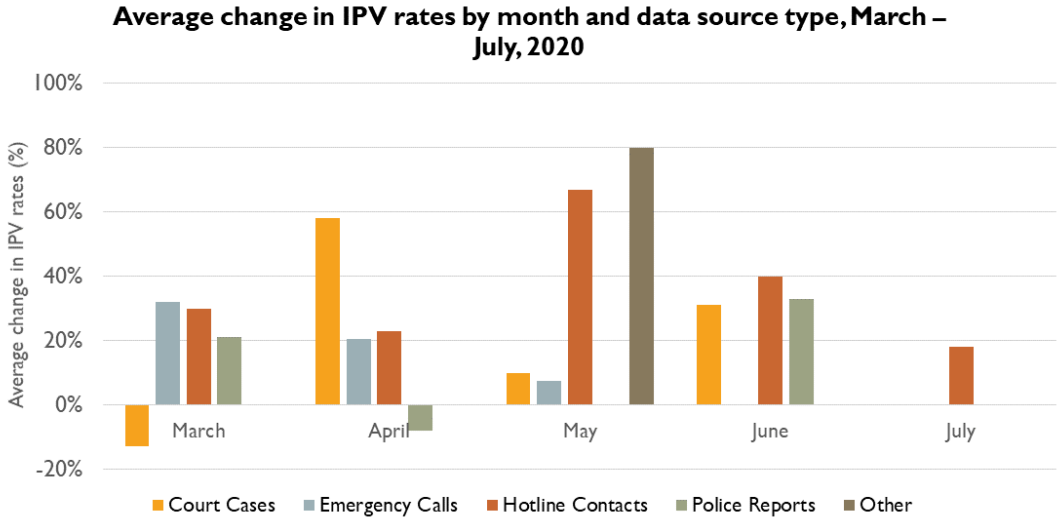

Figure 5. *Average change in IPV rates by month and data source, March – July 2020*

Rates of change in violence, by type of violence and region of the United States

All geographic regions had a decrease in reports to CPS (Figure 6). The Southwest and Southeast regions had the largest average rate changes in CPS reports (-70% and -64%, respectively). The West region had the smallest average change in CPS reports (-37%).

The Southeast had the highest average change in IPV rates (51%), and the Southwest region had an average change in IPV rates that was less than half of the Southeast region (23%). The Northeast region had the smallest average change in IPV rates (0%).

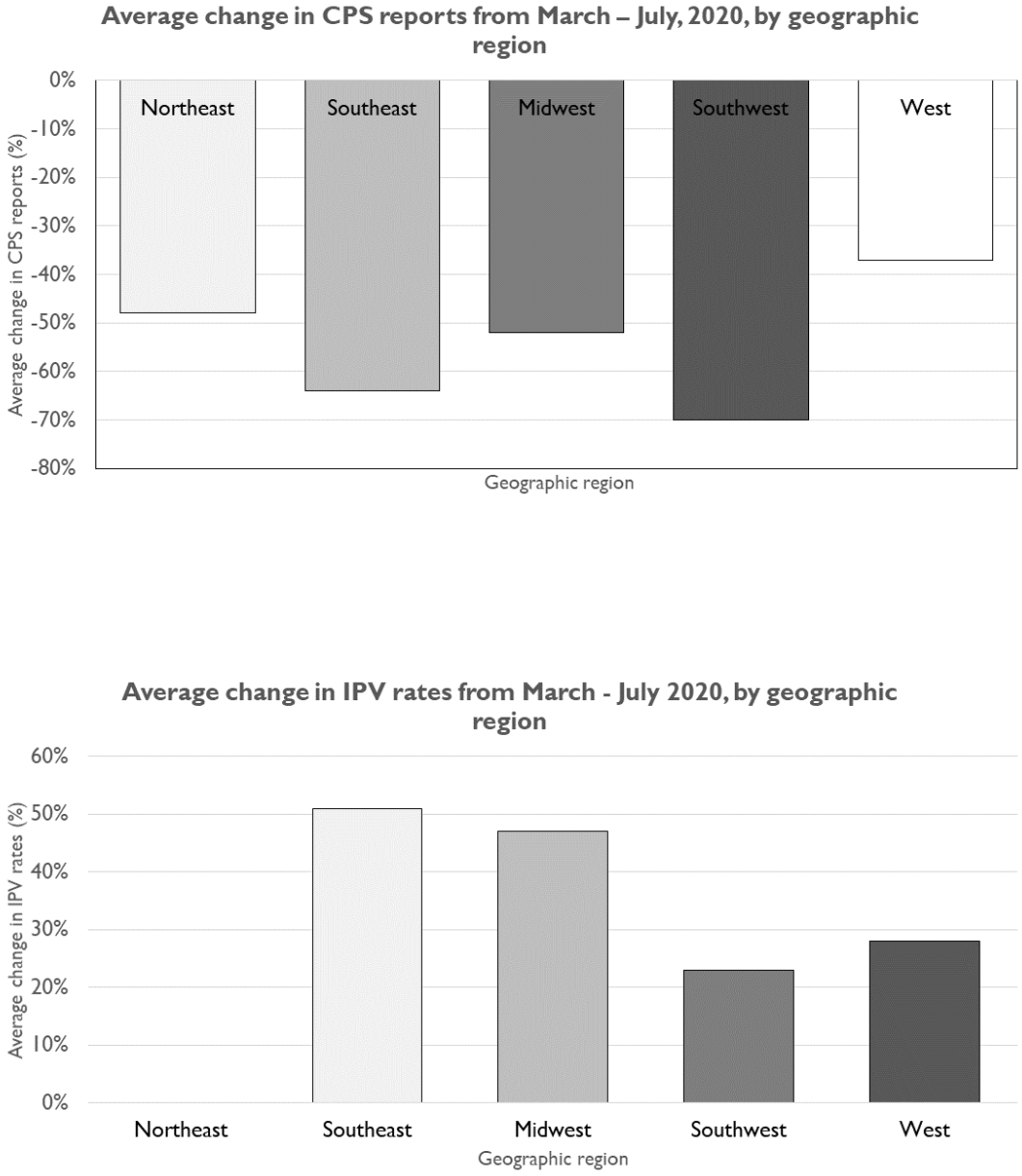

Figure 6. *Average change in CPS reports and IPV rates from March – July, 2020 by region of the United States*

Rates of change in violence by intensity of exposure to state-level COVID-19 risk-mitigation strategies

Figure 7 displays the impact of duration of risk-mitigation strategies on changes in CPS and IPV rates. At all durations, the rate change in CPS contacts were negative. While the largest change in CPS reports occurred after 20 days of risk-mitigation strategies, contacts to CPS did continue to be lower than normal as the duration of risk-mitigation strategies went on.

Changes in IPV rates are clustered towards the beginning of the risk-mitigation strategies. Some observations were reported before any state-level risk-mitigation strategies were enacted. The highest percent change observed occurred after a duration of 49 days.

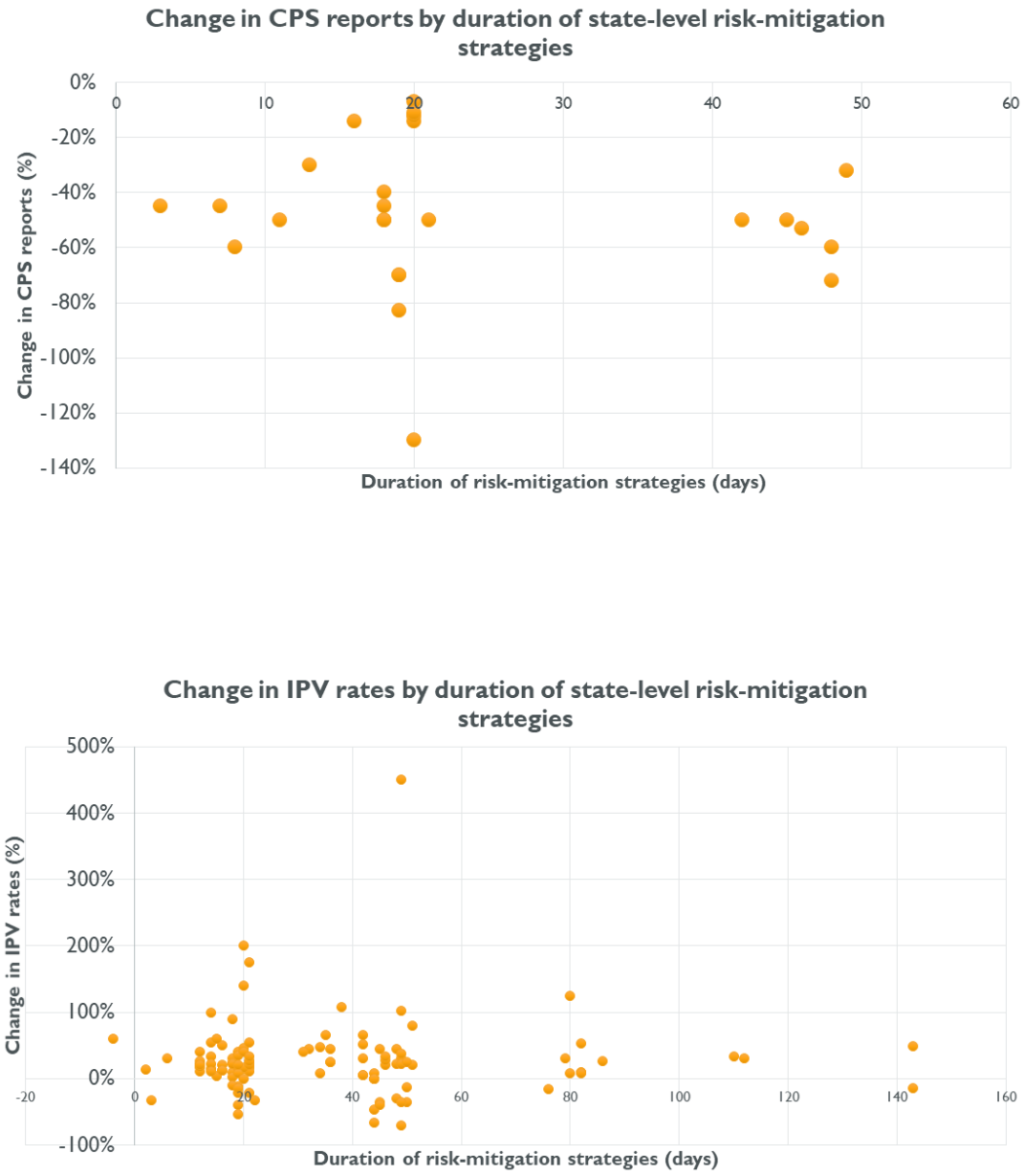

Figure 7. *Change in CPS reports and IPV rates by duration of state-level risk-mitigation strategies*

Discussion

This is the first systematic review of news articles to identify local-area estimates of changes in rates of IPV and CM related to the COVID-19 risk-mitigation strategies. The results of this study indicate that there was an increase either in violence or in reports of violence correlated with the state-level risk-mitigation strategies. 64.8% of all rate changes indicate an increase in violence, and five out of the six sources have a majority of rate changes that indicate an increase in violence.

A positive rate change in the rates of hotline contacts, police reports, emergency calls, court cases, CPS reports, and other sources would indicate an increase in violence, as these measures are acting as estimates of actual rates of IPV and CM. A negative rate change in these rates would indicate a decrease in violence. The observations of CPS reports are the only to be overwhelmingly of negative percent changes in rates; every observation reporting CPS report rates indicates a decrease in violence. This decrease in CPS reports could indicate either a decrease in child maltreatment and/or a decrease in contact with those who report to CPS, like teachers and other community workers, both of which could result in a decrease of CPS reports.[25]

The consistent decline in CPS reports in March and April 2020 indicates that there was little done to mitigate the impact of school closures on both 1.) CM and/or on 2.) the ability of reporters to CPS to interact with children, and thus see evidence of or report CM.[25] The data gathered only extends through April 2020, which makes it difficult to see if an increase in structured online learning or in school openings in Fall 2020 had any impact on CPS reporting.

Though the average changes in IPV rates were positive across most sources in most months from March through September, the average change in court cases in March and police

reports in April were negative; this is similar to findings from Los Angeles and Chicago.[28,29] The inversed U-shape of the average change in IPV rates, as seen in Figure 5, might suggest that rates of IPV decreased as restrictions eased. However, though the average rate change is lower in July 2020 than in the previous months, it is still positive, which suggests an increase in IPV and/or an increase in people seeking support related to domestic violence. The spike in average change of hotline contacts in May might indicate that as restrictions eased, survivors were better able to access resources. Fewer observations in June and July also suggest that media focus on this phenomenon diminished.

The average rate change in CPS reports by geographic region suggest that the Southeast and Southwest regions had the largest decrease in CPS reports compared to the Northeast, Midwest, and the West, which had the smallest average change in CPS reports. It is important to note, however, that there was only one data point for the Southwest region, making this average rate change unlikely to be indicative of the entire region.

The Southeast and Midwest regions had the highest average changes in IPV rates, and the Southwest region had an average change that was less than half of the Southeast region. The starkest discrepancy between the regions, however, is the average change in the Northeast region, which is 0. This might be because the Northeast region had a number of rate changes from court cases and police reports, which were sources more likely to report declines than other sources. This does not explain the entire discrepancy, however, because other regions also had data from these sources.

Contacts to CPS were lower than normal as the risk-mitigation strategies continued. This might suggest that, if the reason contacts were lower was due to lack of interaction with

mandatory reporters in the school, there was no change or resolution to this issue the longer that schools were closed.[25,32]

Most of the observed changes in IPV rates occurred towards the beginning of the risk-mitigation strategies. Changes in IPV rates that occurred before the state-level risk-mitigation strategies were enacted might be explained by the earlier adoption of county and city level measures. It is important to note that there continued to be an increase in IPV rates as the executive orders continued, even after some of the more restrictive measures, like stay-at-home orders, had been lifted. This could be an indication that the economic and familial stress factors related to the pandemic and the subsequent executive orders had an impact on IPV incidence, not just proximity in the home.[3,17,19] This trend could also indicate that as more restrictive measures were lifted, or as people began to adjust to restrictions, survivors of IPV were able to seek help at greater rates.[14] Our measure of intensity only looked at accumulated time under a movement-restricting executive order, and not the strictness of the order; analyzing the impact of different types of mitigation strategies on rates of violence would be an excellent next step.

Limitations and Strengths

One limitation to utilizing data from news sources is the potential for bias. It is possible that reporters focused on investigating and publishing articles that substantiated the anecdotal evidence that risk-mitigation strategies were causing a surge in violence, and thus were more likely to report positive changes in IPV or CM rates. If this is the case, our data would be less generalizable. However, as 35.2% of the observations indicated a decrease in the rate of IPV or CM, it is clear that reports that did not indicate a surge in violence were being published.

Analyzing data from news sources is also limited by lack of consistency in reporting. While all articles selected for inclusion had data on changes in IPV or CM rates, many articles did not make it clear what time periods were being compared. It is difficult to assess whether the change in rates was between the years 2020 and 2019, or if the change was observed between January or February 2020 and the time period following the enactment of risk-mitigation strategies. This lack of consistency makes our comparisons across news sources less robust.

Despite these limitations, this study has several notable strengths. Utilizing data from news sources allows us to rapidly assess the potential impact of COVID-19 risk-mitigation strategies on rates of IPV and CM. The news sources included in the study represent a wide variety of geographic regions, which allows for insight into changes in rates of family violence in smaller towns or rural areas that might be missed in other studies. Robust data on IPV and CM is difficult to obtain, especially considering the impact of underreporting. Extracting the data from news sources allows us to include a number of different measures of IPV and CM, which allows for a more accurate understanding of the actual rates of violence than if we relied on only one source type.

Public Health Implications

These findings indicate a change in rates of violence or a change in reporting patterns that is like what is being seen in other studies; there appears to be an increase in IPV reports and a decrease in reports of CM. Because the COVID-19 risk-mitigation strategies put in place were a necessary tool for pandemic control, we need to know the impacts of these measures on health and safety; knowing the impact of these measures on violence will help us to better implement similar risk-mitigation strategies in the future, and to ensure that these measures are safe and

effective for all. More research on how isolation or movement restrictions impact rates of violence and/or rates of reporting violence is necessary for crafting effective preventions and interventions. Research looking into whether there is an actual change in the incidence in violence or just in reporting patterns is a critical next step.

Understanding how financial stress and social isolation impact risk of IPV and CM is crucial in crafting a risk-mitigation strategy that does not increase risk of violence, including provisions for community building and robust financial support for those who have lost jobs or income. Additionally, there is a need for alternative means for monitoring the safety and well-being of children, given that reporters of CM are typically teachers, school staff, and other adults outside the home.

Chapter 4: Conclusion and Public Health Implications

These findings indicate a change in rates of violence or a change in reporting patterns that is similar to what is being seen in other studies; there appears to be an increase in IPV reports and a decrease in reports of CM. Because the COVID-19 risk-mitigation strategies put in place through state-level executive orders are effective and necessary for pandemic control, we need to know the impacts of these measures on health and safety; knowing the impact of these measures on violence will help us to better implement similar mitigation measures in the future, and to ensure that these measures are safe and effective for all. Understanding how financial stress and social isolation impact risk of violence is crucial in crafting risk-mitigation strategies that do not increase risk of violence, including provisions for community building and robust financial support for those who have lost jobs or income.

More research on how isolation or movement restriction impacts rates of violence and/or rates of reporting violence is necessary for crafting effective preventions and interventions. Research looking into whether there is an actual change in the incidence in violence or just in reporting patterns is a critical next step. We also need to further understand the differences in changing patterns of violence or violence reporting across geographic region, between rural and urban communities, and between different demographics. While this study provides a snapshot of current patterns, more research is needed to understand potential differences between different communities, and to better tailor prevention and intervention strategies. Research comparing the impact of risk-mitigation strategies in different countries is also critical in understanding the mechanisms of risk and in understanding what policies might make risk-mitigation strategies safer for all.

Additionally, this study brings to light the shortcomings of our child maltreatment prevention, reporting, and intervention systems. This study indicates that workers in schools are among the only reporters to CPS, and that interruptions in schooling, like school closures due to a pandemic or school closures in the summer, drastically decrease the number of reports made to CPS. Children at higher risk of maltreatment, such as children who might not have any contact with school staff or may be outside the education system, and children during vulnerable times, like during interruptions of schooling, are not being identified by our current systems of child maltreatment monitoring, prevention, and intervention.[25] This knowledge, combined with evidence that CPS is harmful, particularly to Black and Brown families, demands us to rethink the ways we approach the prevention, reporting, and intervention of child maltreatment.[39,40] This study, along with others that also highlight both the fragility and the harm of our reliance on school staff as the main reporters of child maltreatment, indicates that a better system is needed to truly protect children and families.

This study also highlights the importance of creating more effective family violence prevention systems outside of our pandemic risk-mitigation strategies. While this study aimed to look at violence exacerbated by the risk-mitigation strategies, the mechanisms that contribute to increased risk of violence were not created by the strategies and will continue to exist after the pandemic. These mechanisms, including risk related to economic stress and isolation, are ongoing, and we must find ways to mitigate this risk both inside and beyond a pandemic context. Providing livable wages and unemployment benefits to reduce economic stress and thus reduce risk of violence, for example, is a strategy that must be considered both to address the impacts of risk-mitigation strategies as well as to reduce violence once the world returns to “normal.” Comparing the US to countries that enacted different risk-mitigation strategies, particularly ones

that included financial support throughout the pandemic, would be informative to see if these measures have a protective impact, which might extend past the pandemic context. Similarly, we must search for ways to ensure the safety of our children outside of a school-based reporting system, which would better protect children both within a pandemic context and beyond.

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Appendix I: Review inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Includes data on changes in rates of family violence	Podcasts or radio broadcasts without transcripts
Published after March 15, 2020	Press releases or reports
References coronavirus or coronavirus-related state-level executive orders	
Published in/about the United States	
News article	

Appendix II: Supplemental table of article characteristics

Author	*Date Published*	*Publication*	*Major Features*	*Number of Rate Changes Reported*	*Quality Assessment Score (out of 22 points)*	*Quality Assessment Rating*
Rosana Hughes	4/5/2020	Chattanooga Times Free Press	Chattanooga, TN, police reports	2	0	Satisfactory
Anna Orso	3/19/2020	Philadelphia Inquirer	Philadelphia, PA, hotline contacts	1	2	Satisfactory
Tomeka Sinclair	5/1/2020	The Robesonian	NC, court cases	1	2	Satisfactory
Sue Davis	6/10/2020	Workers World	NY, TX, SC, court cases, emergency calls	4	4	Satisfactory
Andrea Gonzalez-Ramirez	6/30/2020	Type Investigations		1	0	Satisfactory
Kathleen E Kerry	5/3/2020	Delaware County Daily Times	Pennsylvania, hotline contacts	1	1	Satisfactory
Brian Rokos	4/16/2020	Press-Enterprise	CA, CPS reports	5	1	Satisfactory
Mallory Creveling	5/29/2020	Self	NY, hotline contacts	1	3	Satisfactory
Shalah Farzan	4/16/2020	St Louis Public Radio	St Louis, MO, hotline contacts	1	0	Satisfactory
Meliss Pamer and Chris Wolfe	4/16/2020	KTLA	Orange County, CA, emergency calls	1	0	Satisfactory
Morgan Romero	4/9/2020	KGW8	Oregon, CPS reports	1	1	Satisfactory
Claudia Boyd-Barret	6/25/2020	California Health Report	US, hotline contacts	1	4	Satisfactory
Mackenzie Wicker	3/30/2020	Asheville Citizen Times	Asheville, NC, hotline contacts	1	1	Satisfactory
Garna Mejia	3/26/2020	KSLTV	Utah, hotline contacts	1	0	Satisfactory
David Travis Bland	4/24/2020	The State	SC, emergency calls, hotline contacts, police reports	5	0	Satisfactory
Charlene Muhammad	5/29/2020	Final Call News	NY, TX, court cases, emergency calls	2	0	Satisfactory
Jo Ciavaglia	6/8/2020	Ponoco Record	PA, hotline contacts, CPS reports, emergency calls	6	0	Satisfactory
Kathleen Kunz	4/6/2020	Tuscon Local Media	AZ, hotline contacts	1	0	Satisfactory

Sarah Al-Asharni	4/6/2020	Business Insider	Boston, Seattle, Portland, police reports	3	0	Satisfactory
Peighton Harkins	26-Aug	Salt Lake Tribune	Salt Lake City, UT, emergency calls	1	6	Satisfactory
Candy Woodall	5/13/2020	USA Today	PA, CPS contacts	1	6	Satisfactory
Shirley Chan	6/30/2020	PIX 11	NY, police reports	1	-2	Poor
Ambar Rodriguez	8/10/2020	KTVL	Oregon, hotline contacts	2	0	Satisfactory
Divya Kumar	5/8/2020	Tampa Bay Times	FL, emergency calls, hotline contacts	2	0	Satisfactory
Chrisotpher O'Donnell and Divya Kumar	4/17/2020	Tampa Bay Times	FL, emergency calls	3	0	Satisfactory
Audra Gamble	4/16/2020	Holland Sentinel	MI, CPS reports, emergency calls, hotline contacts, police reports	6	0	Satisfactory
Morgan Romero	4/5/2020	KGW8	Portland, OR, police reports, emergency calls	6	0	Satisfactory
Ashley Southhall	4/17/2020, updated 8/7/2020	New York Times	NY, court cases, emergency calls, hotline contacts, police reports	6	0	Satisfactory
Ashley Fetters and Ogla Khazan	5/8/2020	The Atlantic	Milwaukee, WI, CPS contacts	1	2	Satisfactory
Sammy Cailoa	4/6/2020	CAPRadio	Sacramento, hotline contacts	1	0	Satisfactory
Molly Bohannon and Sheana Montanari	4/6/2020	AZ Central	Phoenix, AZ hotline contacts, emergency calls	3	0	Satisfactory
Marissa J Lang	3/27/2020	Washington Post	Washington DC, hotline contacts	1	-2	Poor
Jocelyn Noveck	3/26/2020	KPBS	MO, MN, IL, GA, CPS reports, hotline contacts	4	-2	Poor
Allison Garfield	4/30/2020	Daily Cardinal	Madison, WI, emergency calls	1	-2	Poor
Yelena Dzhanova	3/31/2020	CNBC	NY, hotline contacts	1	0	Satisfactory
Mary O'Doherty	5/9/2020	Columbus Dispatch	Columbus, OH, emergency calls, police reports	2	0	Satisfactory
Alex Napoliello	4/26/2020	NJ.com	NJ, court cases, police reports	4	-2	Poor
Jessica Miller and Peighten Harkins	4/27/2020	Salt Lake Tribune	Salt, court cases, CPS reports, emergency calls, hotline contacts	4	-2	Poor
Riley Beggin	4/19/2020	Bridge Michigan	MI, court cases, hotline contacts	2	0	Satisfactory
Taylor Walker	4/24/2020	Witness LA	Witness, court cases, police reports	5	-2	Poor
Jesse Leavenworth	4/18/2020	Hartford Courant	CT, hotline contacts, emergency calls	2	0	Satisfactory
Kate Bradshaw	4/22/2020	Palo Alto Online	Palo, court cases, police reports	1	0	Satisfactory
Lauren Baker	4/22/2020	WUFT	WUFT, court cases, police reports	3	-2	Poor
Connor Morris	9/22/2020	Ideastream/ FreshWater	US, emergency calls	1	4	Satisfactory

Amy Beth Hanson	4/18/2020	ABC News Alabama	WA, MT, OK, LA, NV, CPS reports	5	0	Satisfactory
Faith Miller	5/4/2020	Southeast Express	Southeast, court cases, police reports	3	3	Satisfactory
Betty Yu	4/11/2020	CBS San Francisco	San Francisco, CA, hotline contacts, police reports	3	0	Satisfactory
Melissa Healy	8/18/2020	La Times/Concord Monitor	Boston, hospital records	1	11	Excellent
Cassandra Jaramilo	5/19/2020	Dallas Morning News	Dallas, TX, police records	2	8	Satisfactory
Terry DeMio, Anne Saker, Cameron Knight	7/30/2020	Cincinnati Enquirer	Hamilton Co., OH, hotline contacts	2	-1	Poor
Patrick Lavery	5/27/2020	New Jersey 101.5	NJ, CPS reports, emergency calls	2	2	Satisfactory
Jennifer Mascia and Katlyn Alo	5/29/2020	The Trace		1	0	Satisfactory
Joe Smith	4/12/2020	Times-West Virginian	Times, court cases, police reports	2	0	Satisfactory
Ruth Brown	3/18/2020	Idaho Statesmen	Idaho, court cases, police reports	1	1	Satisfactory
Carl Hessler Jr	4/16/2020	The Mercury	The, court cases, police reports	1	1	Satisfactory
Annie Knox	5/10/2020	Daily Herald	Salt Lake City, UT, court cases, hotline contacts	2	0	Satisfactory
Alyssa Dandrea	5/22/2020	Concord Monitor	NH, court cases, hotline contacts	2	4	Satisfactory
Arielle Avila and Cat Cardenas	5/19/2020	Texas Monthly		3	0	Satisfactory
Lillian Boyd	6/11/2020	San Clemente Times	San, court cases, police reports	3	0	Satisfactory
John Futty	7/12/2020	Columbus Dispatch	Columbus, OH, court cases	2	0	Satisfactory
Ambriehl Crutchfield	4/21/2020	WVXU	WVXU, court cases, police reports	1	0	Satisfactory
Holly Hayes	6/17/2020	Indianapolis Times	Indianapolis, IN, hotline contacts	1	-2	Poor
	4/9/2020	CBS San Francisco	San Francisco, CA, hotline contacts	2	0	Poor
	5/9/2020	Economist	NY, police reports	1	-1	Poor
Deanna Paul and Zusha Elinson	5/13/2020	Wall Street Journal	Wall, court cases, CPS reports, emergency calls, hotline contacts	1	-1	Poor
Emily Eaton	4/7/2020	San Antonio Express News	San, court cases, police reports	2	-1	Poor
Bob Egelko	6/5/2020	San Francisco Chronicle	San, court cases, police reports	1	-1	Poor
Michael Cabanatuan	4/9/2020	San Francisco Chronicle	San, court cases, police reports	1	-1	Poor