

Domestic Violence During COVID-19

Evidence from a Systematic Review and Meta-Analysis

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Summary

- + The findings presented here are based on a systematic review of multiple domestic and international studies that compared changes in the number of domestic violence incidents before and after jurisdictions began imposing pandemic-related lockdowns in early 2020.
- + The review found that domestic violence incidents in the U.S. increased by 8.1% following the imposition of stay-at-home orders.
- + The studies included in this review draw on a wide range of data, from logs of police calls for service to domestic violence crime reports, emergency hotline registries, health records, and other administrative documents.
- + While evidence to support the findings is strong, it is unclear precisely which factors drove the 2020 spike in domestic violence. The authors believe lockdowns and pandemic-related economic impacts may have exacerbated factors typically associated with domestic violence, such as increased unemployment, stress associated with childcare and homeschooling, and increased financial insecurity.
- + The authors also note that by isolating parents and children in their homes, the pandemic separated potential victims from the network of friends, neighbors, teachers, and other individuals capable of reporting signs of abuse and helping those at risk escape a dangerous environment.

Overview

In March and April of 2020, as the coronavirus pandemic was wreaking havoc on the lives and economies of nations worldwide, government leaders began to institute stay-at-home or shelter-in-place orders.

These orders, while intented to help stop the spread of the virus, could be associated with certain adverse outcomes, including child abuse and domestic violence, in particular. Stayat-home orders and the pandemic's economic impacts exacerbated factors that tend to be associated with such violence: increased male unemployment, stress associated with childcare and homeschooling, increased financial insecurity, and poor coping strategies, including the increased use of alcohol and other substances. In addition, COVID-19 left parents and children confined to their homes, cut off from friends, neighbors, colleagues, and others capable of reporting signs of abuse and violence and intervening to help potential victims escape violent situations. These and other pandemic-related dynamics increased the risk of abuse, and potentially its severity.

Concerns about a possible rise in victimization prompted 21 leaders of prominent worldwide organizations, including the World Health Organization, UN Women, and UNICEF, to release a <u>joint statement</u> calling for action to protect children from violence Media reports also have sounded the alarm, calling attention to the links between COVID-19, lockdown orders, and increases in domestic violence worldwide (A New COVID-19 Crisis: <u>Domestic Abuse Rise Worldwide - The New York Times</u>).¹

Since the first quarter of 2020, researchers have moved rapidly to examine the impact of the coronavirus and policies designed to stop the spread of the virus on a wide array of outcomes. These include criminal activity (Rosenfeld & Lopez, 2020), substance use and abuse (Engel et al., 2020), and educational (Organization for Economic Co-operation and Development, 2020) and employment (Fana et al., 2020) outcomes, among others. In this report, we contribute to the growing body of research by moving beyond narrative reviews of domestic violence trends (e.g., Petermen & O'Donnell, 2020) to conduct a systematic review and meta-analysis of the effect of COVID-19-related restrictions on reported incidents of domestic violence.

¹ To be sure, there are reasons to believe that reported incidents of domestic violence could have both decreased and increased with COVID-19-related policies. With respect to the former, it is possible that potential victims may feel scared to call for help because their aggressor is in the household and could instill further harm. With respect to the latter, individuals are now confined in their homes, which could exacerbate the stress and anxiety that was already being caused by the coronavirus and lockdown orders. That, in turn, may lead to escalating anger and potential violence. Our belief is that the latter is likely a more accurate representation of reality, especially since there is corroborative evidence that increases in calls to domestic violence shelters and providers have coincided with reports of increases in domestic violence (Wood et al., 2020).

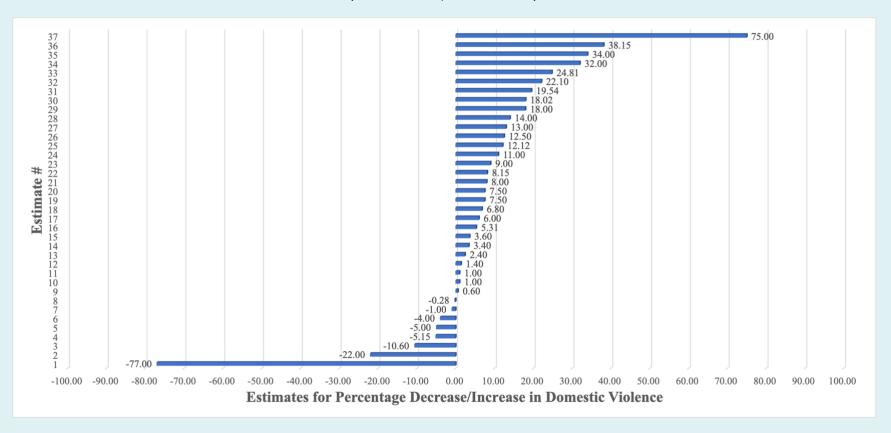
RESULTS

A detailed explanation of our methodologies can be found in Appendix A. Following standard systematic review protocols, our initial research started with over 22,000 records identified through database searches as potentially eligible for inclusion. After eligibility criteria were imposed, 18 studies emerged as suitable to include in the systematic review, 12 in the U.S. and six in other countries. The studies relied on data derived from administrative/official records from police crime/incident reports, police calls for service, domestic violence hotline registries, and health records.

Figure 1A illustrates the study-specific estimates of the changes in domestic violence that occurred following the emergence of the COVID-19 pandemic. According to the 37 estimates available from the included studies of the United States and other countries, eight of the study estimates reported a decrease in domestic violence incidents while 29 study estimates reported an increase. By calculating an overall percentage difference from the period of time before and after lockdowns were implemented, our results, our results show that the average amounts to a 7.9% increase in domestic violence. Figure 1B reports these same results for the 12 U.S.-based studies alone: six estimates reported a decrease in domestic violence incidents while 25 reported an increase. The resulting average equates to an 8.1% increase in domestic violence during the pandemic.

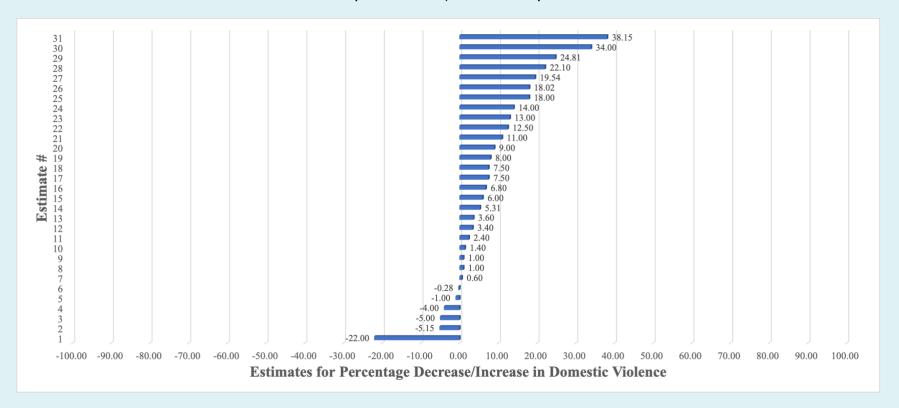
² The study estimates outnumber the number of included studies because some of the studies provided a range (low/high) of estimates (for example, Bullinger et al., 2021) and some studies reported estimates separately for different locations/jurisdictions (for example, Ashby, 2020; Nix & Richards, 2021).

US and International: Change in Domestic Violence During Pandemic (n=18 studies; 37 estimates)



Note: Analyses evaluated the change in domestic violence pre- and post- implementation of lockdowns. Please see Appendix A for a legend of estimates.

US Only: Change in Domestic Violence During Pandemic (n=12 studies; 31 estimates)



Note: Analyses evaluated the change in domestic violence pre- and post- implementation of lockdowns. Please see Appendix A for a legend of estimates.

NOTE ON EFFECT SIZES

In the final stage of the analysis, effect sizes were generated for those included studies that reported sufficient information for an effect size to be calculated, which is not always the case when collating studies to include for meta-analyses. An effect size is a measure of the magnitude of an experimental effect when compared to a control. In a general sense, it is a measure of the strength of the relationship between two comparisons. The larger the effect size, the stronger the relationship, with 0.20 conventionally considered a small effect, 0.50 considered a medium effect, and 0.80 and above considered a large effect.

Figure 2A illustrates the distribution of the effect sizes with their corresponding 95% confidence intervals and related weights for the 12 studies (17 effect sizes). As can be seen, the majority of the effect sizes are positive (15 out of 17) and significant (12 out of 17) indicating that "the treatment" (i.e., the emergence of the COVID-19 pandemic and COVID-19-related restrictions) increased domestic violence. The overall mean effect size generated from a random effects restricted maximum likelihood model was 0.66 (95% CI: 0.08 - 1.24; z = 2.24, p<.05), representing a medium effect. Figure 2B provides the same analysis for the US-based studies. Among those studies (7 studies, 12 effect sizes), the vast majority of the effect sizes are positive (11 out of 12) and significant (10 out of 12), with a mean effect size of 0.87 (95% CI: 0.14 - 1.59), representing a large effect.

In addition to the primary effect size reported for the full sample, a second overall weighted mean effect size was estimated from a random effects restricted maximum likelihood model after removing the two outlier effect sizes (Nix & Richards: Phoenix, 2021 and Gerell et al., 2021) as a sensitivity analysis. The results were similar (positive and significant) with the overall mean effect size being 0.28 (95% CI: 0.17 - 0.39; z=5.04, p<.05). As such, we opted to retain these two studies in the overall mean effect size as presented in the text and main analysis. In addition, publication bias/small study effects were formally evaluated with the Begg test (Begg & Mazumdar, 1994), and the result from this test did not detect any significant publication bias/small study effects (Begg: z=-0.37, p=0.77).

Figure 2A: US and International: Distribution of Effect Sizes (n=12; 17 effect sizes)

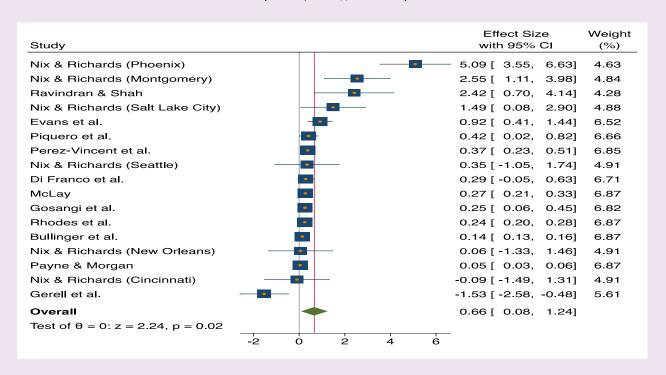
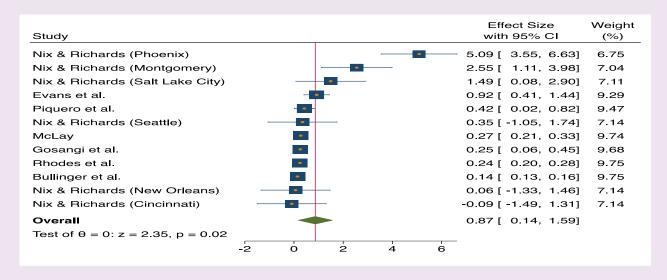


Figure 2B: US Only: Distribution of Effect Sizes (n=7 studies; 12 effect sizes)



DISCUSSION

Across the 37 estimates available from the 18 included studies, our results indicate an average 7.9% increase in officially reported domestic violence during the coronavirus pandemic internationally, with an average 8.1% increase across studies performed in the U.S. Our effect size estimates showed an overall medium effect size of .66, but a large effect size of .87 in the U.S. studies. In short, the evidence is strong that officially reported incidents of domestic violence increased during the coronavirus pandemic and its associated sheltering policies, and this finding is based on multiple studies from different cities, states, and seven countries.

While the evidence of increased domestic violence during the pandemic is convincing, the factors driving the increase remain unclear. Data showing increased reporting to the police, along with emergency rooms and other healthcare settings, may reflect more victimizations, as well as an increase in the number of neighbors who overhear domestic disturbances and phone for help. It's important to note, however, that the rise in reported violence might also reflect an increase in the proportion of victims who decide to seek criminal justice interventions.

In addition, our results rely on the available research that met our inclusion criteria and accessible at the time we undertook this work – continued follow-ups are needed to augment and update our database going forward. Our work also relies mainly on U.S. studies, in large part because those are the studies that fit the criteria outlined in our search parameters. Lastly, the findings presented here depend on official records that can suffer from a variety of reporting challenges. That said, other sources of domestic violence data, such as self-reports, have tended to show the same increases.

Research and Policy Implications

The results of this study confirm the concerns raised by public health leaders, victim/survivor advocates, women's and children's groups, activists, and policymakers around the world about the potential for a pandemic-related spike in domestic violence (see e.g., the Lancet Commission on Gender-Based Violence and Maltreatment of Young People, Knaul et al., 2020). Our findings highlight the need for additional resources for domestic abuse prevention and victim services. In particular, Galea, Merchant, and Lurie (2020) note the need to direct resources to historically marginalized groups and those likely to be disproportionately isolated during the pandemic, including older adults, women, and children with past experiences with violence and abuse, as well as those with ongoing mental illness and chronic health conditions.

While the findings in this study note increases in officially reported domestic violence, future research should include joint analyses of estimates from police agencies, shelter-based and clinical data, and self-report victimization data before, during, and after the

COVID-19 pandemic to estimate the diverse types of domestic violence and the various contexts in which it occurs. Chandan, Taylor, Bradbury-Jones, Nirantharakumar, Kane, and Bandyopadhyay (2020) note that the selection bias associated with police, healthcare, and other administrative datasets consistently underestimates the extent and impact of domestic violence, a well-established finding in research before the pandemic. These researchers conclude that without ongoing data collection and surveillance, it will not be possible to estimate the total burden of domestic violence both during and after the pandemic.

Developing a complete understanding of the pandemic's effects also will require an examination of the impact of the increase in domestic violence on children, given the well-established research on the diverse impacts of family violence on children, and the literature pointing to the intergenerational transmission of violence (Spatz-Widom, 1989). Finally, researchers and policymakers will need to identify both the short- and long-term implications of the COVID-19 pandemic on the risk for domestic violence and subsequent consequences.

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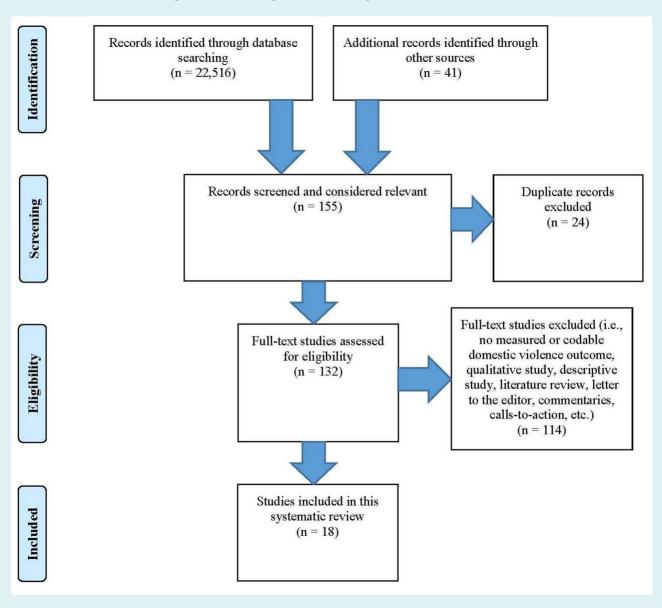
^{*}Indicates that the study was included in this systematic review.

Appendix A - Methodology and Notes

This systematic search of the extant literature was carried out based on conventional scientific standards that are outlined in the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P; Moher et al., 2015; Shamseer et al., 2015) and with those that are consistent with guidelines and best practices established in previous systematic reviews and meta-analyses (Piquero et al., 2009; 2010; 2015; 2016a,b). First, keyword searches using terms such as "domestic violence," or "intimate partner violence," or "violence against women," and "COVID-19" or "SARS-CoV-2" or "2019-nCoV," or "coronavirus" were performed across the following seven databases: (1) SocINDEX; (2) Scopus; (3) PubMed; (4) JSTOR; (5) ScienceDirect; (6) Google Scholar; and (7) Dissertation Abstracts. Second, hand searches were carried out on leading journals in criminology to identify additional sources. Third, the reference lists of the identified and eligible studies were consulted. Fourth, experts in this area of research identified through their lead authorship on publications on this topic and/or media or social media mentions of their research on this topic were consulted for their knowledge of any relevant studies, particularly those that were not yet published. Finally, existing and authoritative reviews of the literature on the topic were also consulted (Mittal & Signh, 2020; Pentaraki & Speake, 2020; Sánchez et al., 2020). The PRISMA flow chart (Moher et al., 2015; Shamseer et al., 2015) that illustrates the funnel by which we filtered and identified the relevant studies included in the systematic review and meta-analysis is displayed in Figure A1.

The criteria utilized to determine the eligibility of studies for this systematic review are outlined here. First, the study must have had a measurable and codable domestic violence outcome that was assessed prior to and after the emergence of the COVID-19 pandemic and COVID-19-related restrictions (i.e., stay-at-home orders, lockdowns, etc.). Second, the domestic violence data must have been derived from administrative/official pre-post records (i.e., not retrospective self-reports; see e.g., Hamadani et al. (2020) and Morgan and Boxall (2020)). Third, although there was no geographic restriction to the location of the study, the study must have been published in English. Fourth, both published and unpublished studies were considered. Finally, qualitative studies, descriptive studies, and studies that were not empirical (i.e., literature reviews, letters to the editor, commentaries, calls-to-action, etc.) were not included because they do not provide necessary information for our analyses.

PRISMA Flow Diagram Outliniing the Funneling and Identification of Relevant Studies



The systematic literature search that was performed in accordance with the steps outlined above was carried out between December 15, 2020 and January 27, 2021. Beginning with over 22,000 records identified at the outset of the search, the penultimate (for study analyses) search yielded 18 empirical studies that met the general inclusion criteria, and details for these studies including the study number, author/s, publication year, study site, time frame of the study, and the domestic violence outcome measurement are displayed in Table A1.

Given the short time frame that has occurred since the emergence of the COVID-19 pandemic on January 30, 2020 (according to the World Health Organization) and the search of eligible studies (December 15, 2020 - January 27, 2021), all of the studies were either published in 2020 or 2021, in press/forthcoming in 2021, or in progress in 2020/2021 (non-peer-reviewed, unpublished manuscripts). There was a wide geographic representation among the studies, with 12 studies based in the United States and representing many cities and counties (Ashby, 2020; Bullinger et al., 2021; Campedelli et al., 2021; Evans et al., 2021; Gosangi et al., 2021; Hsu & Henke, 2021; Leslie & Wilson, 2021; McLay, 2021; Mohler et al., 2020; Nix & Richards, 2021; Piquero et al., 2020; Rhodes et al., 2020) and other study sites representing countries around the world, including Mexico (de la Miyar et al., 2021), Italy (Campedelli et al., 2021), Sweden (Gerell et al., 2021), Australia (Payne & Morgan, 2021), Argentina (Perez-Vincent et al., 2021), and India (Ravindran & Shah, 2021).

The 18 studies frequently focused on a short time frame (i.e., weeks or months) for the pre- and post-COVID-related restrictions domestic violence outcome data, although many studies included pre-COVID-related restrictions data from the prior year or years (i.e., pre-2020) (Bullinger et al., 2021; Campedelli et al., 2021; de la Miyar et al., 2021; Evans et al., 2021; Gerell et al., 2021; Gosangi et al., 2021; McLay, 2021; Nix & Richards, 2021; Payne & Morgan, 2021; Perez-Vincent et al., 2021; Ravindran & Shah, 2021; Rhodes et al., 2020). In addition, the domestic violence pre-post COVID-19-related restrictions data was derived from administrative/official records from police crime/incident reports, police calls for service, domestic violence hotline registries, or health records.

Description of Studies Included in this Review (n=18)

STUDY	AUTHOR/S	PUBLICATION YEAR	SITE OF STUDY	TIME FRAME OF STUDY	DOMESTIC VIOLENCE MEASUREMENT
1	Ashby	2020	16 large cities in the USA	January 13, 2020 - May 4, 2020	Official police-recorded domestic violence crimes
2	Bullinger et al.	In progress, 2021	Chicago, IL, USA	January 1, 2019 to April 14, 2020	Domestic violence police calls for service and domestic violence crimes
3	Campedelli et al.	In press, 2021	Los Angeles, CA, USA	January 1, 2017 to March 28, 2020	Official domestic violence crime reports
4	de la Miyar et al.	In press, 2021	16 Districts of Mexico City, Mexico	January to May of 2019 and January to May of 2020	Administrative data from Mexico City's Attorney General's Office for domestic violence crimes
5	Di Franco et al.	2020	Sicily, Italy	January 1 to June 2, 2020	Emergency room admissions for domestic violence
6	Evans et al.	In press, 2021	Atlanta, GA, USA	Weeks 1-31 of 2018, 2019, and 2020	Official domestic violence police crime data
7	Gerell et al	In press, 2021	Sweden	2019 and Weeks 3-21 of 2020	Administrative Swedish police data for domestic violence crimes
8	Gosangi et al	2021	Northeastern USA	March 11 to May 3, 2017- 2019 and 2020	Administrative health records for domestic violence
9	Hsu & Henke	In press, 2021	35 cities, 1 county in 22 states in the USA	January 1 to May 24, 2020	Official domestic violence police incidents, calls for service, and crimes
10	Leslie & Wilson	In progress, 2021	14 large metropolitan cities in USA	March to May, 2020	Official domestic violence calls for service
11	McLay et al.	In progress, 2021	Chicago, IL, USA	March 2019 and March 2020	Official domestic violence police reports
12	Mohler et al.	2020	Los Angeles, CA, USA; Indianapolis, IN, USA	Los Angeles, CA: January 2 to April 18, 2020 Indianapolis, IN: January 2 to April 21, 2020	Official domestic violence police calls for service
13	Nix & Richards	In press, 2021	6 large cities in the USA	January 1, 2018 to December 27, 2020	Official domestic violence police calls for service
14	Payne & Morgan	In progress, 2021	Queensland, Australia	February 2014 to March 2020	Official domestic violence offense rates from the Queensland Government Open Data Portal
15	Perez- Vincent et al.	In progress, 2020	Buenos Aires, Argentina	January 1 to April 30, 2017- 2020	Administrative government records of calls to a domestic violence hotline
16	Piquero et al.	2020	Dallas, Texas, USA	January 1 to April 27, 2020	Official police domestic violence incident reports
17	Ravindran & Shah	In progress, 2021	577 out of 640 Districts in India	January 2018 to May 2020	Administrative records of domestic violence complaints received by the National Commission for Women
18	Rhodes et al.	2020	Trauma Center in South Carolina, USA	March 16 to April 30, 2019 and 2020	Administrative health records on domestic violence

LEGENDS FOR FIGURE 1 ESTIMATES

Figure 1A

- 1. de la Miyar et al. (Study #4);
- 2. Ashby (Study #1; Baltimore, MD);
- 3. Gerell et al. (Study #7);
- 4. McLay (Study #11);
- 5. Ashby (Study #1; Nashville, TN);
- 6. Campedelli et al. (Study #3; 1st posttest);
- 7. Nix & Richards (Study 13; Cincinnati,
- OH; 1st post-test);
- 8. Campedelli et al. (Study #3; 2nd posttest);
- 9. Rhodes et al. (Study #18);
- 10. Nix & Richards (Study #13; New
- Orleans, LA; 1st post-test);
- 11. Nix & Richards (Study #13; New
- Orleans, LA; 2nd post-test);
- 12. Nix & Richards (Study #13;
- Cincinnati, OH; 2nd post-test);
- 13. Nix & Richards (Study #13;
- Montgomery County, MD; 2nd post-test);
- 14. Nix & Richards (Study #13; Seattle,
- WA; 1st post-test);
- 15. Nix & Richards (Study #13; Seattle,
- WA; 2nd post-test);
- 16. Hsu & Henke (Study #9);
- 17. Ashby (Study #1; Phoenix, AR);
- 18. Bullinger et al. (Study #2; DV 911

- calls; low estimate);
- 19. Bullinger et al. (Study #2; DV 911
- calls; high estimate);
- 20. Leslie & Wilson (Study # 10);
- 21. Ashby (Study #1; Los Angeles,
- California);
- 22. Payne & Morgan (Study # 14);
- 23. Ashby (Study #1; Austin, TX);
- 24. Evans et al. (Study #6);
- 25. Di Franco et al. (Study #5);
- 26. Piquero et al. (Study # 16);
- 27. Ashby (Study #1; Dallas, TX);
- 28. Gosangi et al. (Study #8);
- 29. Ashby (Study #1; Louisville, KY);
- 30. Nix & Richards (Study #13; Phoenix,
- AZ; 2nd post-test);
- 31. Nix & Richards (Study #13; Salt Lake
- City, UT; 1st post-test);
- 32. Nix & Richards (Study #13;
- Montgomery County, MD; 1st post-test);
- 33. Nix & Richards (Study #13; Salt Lake
- City, UT; 2nd post-test);
- 34. Perez-Vincent et al. (Study #15);
- 35. Ashby (Study #1; Montgomery
- County, MD);
- 36. Nix & Richards (Study #13; Phoenix,
- AZ; 1st post-test);
- 37. Ravindran & Shah (Study # 17).

Figure 1B

- 1. Ashby (Study #1; Baltimore, MD);
- 2. McLay (Study #11);
- 3. Ashby (Study #1; Nashville, TN);
- 4. Campedelli et al. (Study #3; 1st posttest);
- 5. Nix & Richards (Study 13; Cincinnati, OH; 1st post-test);
- 6. Campedelli et al. (Study #3; 2nd posttest);
- 7. Rhodes et al. (Study #18);
- 8. Nix & Richards (Study #13; New
- Orleans, LA; 1st post-test);
- 9. Nix & Richards (Study #13; New
- Orleans, LA; 2nd post-test);

- 10. Nix & Richards (Study #13;
- Cincinnati, OH; 2nd post-test);
- 11. Nix & Richards (Study #13;
- Montgomery County, MD; 2nd post-test);
- 12. Nix & Richards (Study #13; Seattle,
- WA; 1st post-test);
- 13. Nix & Richards (Study #13; Seattle,
- WA; 2nd post-test);
- 14. Hsu & Henke (Study #9);
- 15. Ashby (Study #1; Phoenix, AR);
- 16. Bullinger et al. (Study #2; DV 911 calls; low estimate);
- 17. Bullinger et al. (Study #2; DV 911 calls; high estimate);
- 18. Leslie & Wilson (Study # 10);
- 19. Ashby (Study #1; Los Angeles, California);
- 20. Ashby (Study #1; Austin, TX);

- 21. Evans et al. (Study #6);
- 22. Piquero et al. (Study # 16);
- 23. Ashby (Study #1; Dallas, TX);
- 24. Gosangi et al. (Study #8);
- 25. Ashby (Study #1; Louisville, KY);
- 26. Nix & Richards (Study #13; Phoenix,
- AZ; 2nd post-test);
- 27. Nix & Richards (Study #13; Salt Lake
- City, UT; 1st post-test);
- 28. Nix & Richards (Study #13;
- Montgomery County, MD; 1st post-test);
- 29. Nix & Richards (Study #13; Salt Lake
- City, UT; 2nd post-test);
- 30. Ashby (Study #1; Montgomery
- County, MD);
- 31. Nix & Richards (Study #13; Phoenix,
- AZ; 1st post-test).