


#DomesticViolence During the COVID-19 Global Pandemic: An Analysis of Public Commentary via Twitter

Digital Health
Volume 8: 1–12
© The Author(s) 2022
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/20552076221115024
journals.sagepub.com/home/dhj


Gabriela López¹ , Katherine W Bogen², Richard J Meza-Lopez³,
Nicole R Nugent⁴ and Lindsay M Orchowski^{3,4}

Abstract

The current study sought to characterize commentary regarding intimate partner violence during the COVID-19 (SARS-CoV-2) pandemic via the Twitter hashtags #DomesticAbuse and #DomesticViolence. A sample of 481 original, English-language tweets containing the hashtag #DomesticAbuse or #DomesticViolence posted across five consecutive weekdays from March 22 to March 27, 2020—during which many places were enacting lockdown mandates—was examined using thematic content analyses. Overall, Twitter users commented on potential increased rates of IPV, while adding details about abuse tactics that could be employed by perpetrators during the pandemic. Additionally, Twitter users disclosed personal experiences of IPV victimization. Four themes were identified, including (1) *type of domestic violence* (i.e. whether the violence was COVID-specific or general domestic violence), (2) *commentary about IPV* (i.e. general reflections, decentralizing and centralizing survivorhood), (3) *perpetrator tactic* (i.e. abuse tactic used by the perpetrator), and (4) *institutions responsible* (i.e. institutions responsible for providing services to survivors). Overall, the commentary on Twitter reflected an effort to raise awareness and share informational aid for potential victims/survivors of IPV. Data highlight the potential of social media networks in conveniently facilitating the sharing and spreading of useful resources to other users. Future research should examine whether resources shared via Twitter reach individuals who need them and empower individuals to garner support.

Keywords

Domestic violence, intimate partner violence, social media, COVID, twitter commentary

Submission date: 18 November 2021; Acceptance date: 5 July 2022

Intimate partner violence (IPV) is a serious public health concern. IPV is defined as abuse or aggression that occurs within a romantic relationship and may include physical, verbal, and sexual tactics.^{1,2} Although anyone can experience or engage in IPV, and some relationships include bi-directional engagement in aggression, men engage in higher rates of physical IPV against women.³ Women also report high rates of physical and sexual IPV victimization.⁴ Approximately, 30% of ever-partnered women will experience IPV in their lifetime.⁵ Experiencing IPV is associated with numerous negative consequences including changes in psychosocial functioning (i.e. missing work, responsibilities), physical injuries, emotional distress, and suicidal thoughts and attempts.⁶ Global crises such as conflict and natural disasters have the potential to increase IPV.^{7–10} In the current study, the term IPV is used instead of domestic violence to be more inclusive of violence

occurring between romantic partners who may or may not be living in the same household.

Scholars examining the gendered impact of pandemics have highlighted the potential for increased IPV risk among women during global health crises.¹¹ In March of

¹Center for Alcohol and Addiction Studies, Brown University, Providence, RI, USA; Department of Behavioral and Social Sciences, Brown School of Public Health, Providence, RI, USA

²University of Nebraska-Lincoln, Lincoln, NE, USA

³Rhode Island Hospital, Providence, RI, USA

⁴The Warren Alpert Medical School of Brown University, Providence, RI, USA

Corresponding author:

Gabriela López, Department of Behavioral and Social Sciences, Center for Alcohol and Addiction Studies, Brown University, Box G-S121-5, Providence, RI 02912, USA.

Email: Gaby_Lopez@brown.edu



2020, the COVID-19 (SARS-CoV-2) pandemic resulted in numerous changes in the daily routines of individuals across the globe. Early in the pandemic, many countries—including the United States, United Kingdom, Canada, and Australia—suggested that individuals remain at home to slow the spread of the virus. Globally, governmental bodies issued mandatory “lockdowns,” recommending that individuals only leave their homes for necessities (i.e. groceries, medical appointments). Public health researchers quickly raised concern that increased time within the home, coupled with increased stress and prohibitions from leaving the home, could increase risk for IPV,^{12–15} and raised a call for research to understand the impact of movement related restrictions on the occurrence of IPV.¹⁶

Data on the prevalence of IPV during COVID-19 is still accumulating. Boserup and colleagues estimate a 10–20% increase in domestic violence in areas such as New York City and San Antonio and a larger than 20% increase in domestic violence in Portland, Oregon, and Jefferson, Alabama. A survey conducted by Jetelina et al.¹⁷ among 2,411 adults in the United States found that 54% of respondents who reported IPV indicated that the severity of the experience remained the same during the pandemic, whereas 17% indicated that it worsened. Gosangi et al.¹⁸ also found that there was an increase in the severity of physical IPV during COVID-19 relative to IPV severity across three prior years. Moreover, results from a systematic review and meta-analyses revealed a moderate to strong increase in domestic violence between pre- and post-lockdown periods.¹⁹ This increase in domestic violence was also observed in other countries including Belgium, Bulgaria, France, Ireland, Spain, and the United Kingdom.²⁰

Whereas other studies report comparable rates of IPV prior to the pandemic and during the pandemic,^{21,22} experts also raise concern that limitation in movement during the pandemic would result in difficulties linking victims of IPV with support services.^{23,24} For example, Lindberg et al.²⁵ indicate that 33% of women who reported experiences of IPV in early 2020 had difficulty seeking services in response to an experience of IPV. This is concerning, given data collected by Buttell et al.²⁶ over 10 weeks in April of 2020, which found that individuals experiencing IPV during this time period reported significantly less resilience and greater perceived stress than those not experiencing IPV during this early time in the pandemic.

In response to growing concern regarding the intersection of COVID-19 and IPV, several countries launched IPV prevention measures which might be useful to mitigate the increased risk for harm.^{27,28} Medical professionals also articulated ways that providers could proactively screen for IPV and link victims to care during the pandemic.²⁹ For example, in a commentary discussing methods for addressing IPV screening challenges within populations in Veteran Affairs in the United States, Rossi et al.³⁰ highlight

the potential for using social media as a means for reaching out to individuals who might be impacted by IPV to ensure that individuals have access to education on increased risk as well as available resources. Nair and Banjeree³¹ also call attention to the utility of digital media as a means for raising awareness regarding IPV resources during the pandemic.

Twitter is a social media platform in which users can tweet original messages as well as retweet (i.e. share) other users’ messages. Approximately 24% of adults in the US have a Twitter account, and nearly 50% of adults in the US ages 18 to 24 use Twitter.³² Twitter is used as a platform to communicate, pose open-ended questions, and discuss ideas with others. Further, Twitter enables users to connect with others who share similar concerns, garner emotional support, and communicate with individuals who may be facing similar life challenges.³³ Notably, about 26% of Twitter users frequent the social media website several times a day and 20% report visiting at least once a day, meaning that information on Twitter can be disseminated widely and quickly across networks.³³ Researchers use the content of tweets posted on Twitter to gain an understanding of public sentiment surrounding current events, such as COVID-19.³⁴

Twitter may be an especially important platform for examining public sentiment regarding sensitive experiences, such as sexual assault or violence. Commentary regarding IPV and other forms of violence against women is particularly prevalent on Twitter.³⁵ Several studies now exist that utilize Twitter commentary as a way to characterize public sentiment surrounding interpersonal violence, including studies of the hashtags #MeToo,³⁶ #UsToo,³⁷ #ChurchToo,³⁸ #NiUnaMenos,³⁹ #MaybeHeDoesntHitYou,⁴⁰ #MenAreTrash,⁴¹ and #NotOkay.^{42–44} Across these studies, researchers describe the ways in which Twitter users employed each hashtag to comment on disclosure of sexual assault (#MeToo), discuss the prevalence of sexual assault among men (#UsToo), raise awareness about sexual assault within religious institutions (#ChurchToo), draw attention to femicide in Argentina (#NiUnaMenos) and South Africa (#MenAreTrash), debunk myths pertaining to IPV (#MaybeHeDoesntHitYou), and raise concern about Donald Trump’s disclosure of engaging in unwanted sexual contact towards women (#NotOkay). Notably, a recent longitudinal analysis of surveys assessing sexual assault over a period of 3 years among undergraduate women, which overlapped with the onset of the #MeToo movement, found evidence for an association between the #MeToo movement and recognition of unwanted sexual experiences as a form of sexual assault.⁴⁵ These findings suggest that individuals may use Twitter to rapidly gain support pertaining to sensitive topics, such as violence and victimization. Social media activities via Twitter may also facilitate change in how individuals conceptualize, label, and process experiences of violence.⁴⁵ The growing number of studies examining discussions of interpersonal violence via

Twitter highlight the utility of examining sentiment regarding violence on social media.

Examining the Twitter commentary relating to IPV during the COVID-19 is a useful strategy for gaining a conceptual understanding of the context of IPV during this time in history. Notably, prior analyses by Xue et al.^{46,47} emphasize Twitter users' concerns regarding the ways in which the global COVID-19 pandemic increased risk for family violence (including IPV, child abuse, and elder abuse), as well as rates of homicide, suicide, and mental health concerns. Additionally, Al-Rawi et al.⁴⁸ found significant differences in public discourse around COVID-19 on Twitter based on gender. Specifically, Al-Rawi and colleagues⁴⁸ found that while men mostly tweeted about COVID-19 death rates, women largely tweeted about the increased risk of domestic violence perpetrated towards women and girls due to lockdown mandates. It follows that analysis of tweets addressing IPV during the COVID-19 pandemic can be useful in understanding the types of IPV occurring during the pandemic, public sentiment regarding IPV during the pandemic, the tactics perpetrators utilize to engage in IPV, as well as strategies for holding perpetrators accountable for acts of violence.

Purpose of the current study

Whereas research addressing public commentary regarding interpersonal violence in general on Twitter is growing, additional research is needed in order to better understand the ways in which individuals utilized social media to discuss IPV during the COVID-19 pandemic. A limited number of studies to date have specifically examined discussion of domestic violence during the COVID-19 pandemic using data gleaned from Twitter.⁴⁷ One study focused on assessing children's exposure to violence during the COVID-19 pandemic.⁴⁹ Research by Al-Rawi et al.⁴⁸ highlighted gender differences in how individuals used Twitter during COVID-19 to discuss risk of violence as well as other harms. The studies led by Xue and colleagues^{46,47} were limited by collecting data up to three months after the pandemic was declared a global emergency (April to July 2020). The studies focus globally on consequences of COVID-19 on family violence and less on placing Twitter commentary within the situational context of lockdowns at the time they were being announced. Having a greater understand of the Twitter commentary (i.e. what people on Twitter are discussing) pertaining to IPV during COVID-19 lockdowns can help researchers gain a better sense of how Twitter communication can be used to (1) disseminate important information for interpersonal violence survivors and (2) identify people who might be at risk of domestic violence and could benefit from online targeted interventions. The current study extends prior work by exploring the following research question: How did Twitter users reflect on the issue of IPV during the

early phases of the COVID-19 pandemic, when many places were enacting lockdown orders?

Methods

Data collection

Toward the goal of characterizing online discourse surrounding gender-based violence during a global pandemic, the present study explored Twitter data including the hashtags #DomesticAbuse and #DomesticViolence. These hashtags were "trending" during this time, and no other hashtags related to IPV appeared in the top 30 trending (i.e. widely used) hashtags at the start of data collection. Data were collected from Twitter's public application programming interface (API) via the Google Chrome addition NCapture, an extension of the qualitative coding software NVivo, at 2:30 PM ET across five consecutive weekdays (3/22/2020 to 3/27/2020). A five weekday timeline is commensurate with extant research on social media^{36–38,42,43} and enabled researchers to gather data during a period of acute risk for victims (i.e. the first two weeks of lockdown orders in many places). Consistent with established best practices in social media research, all potentially identifying information was removed from the dataset prior to coding,⁴² and example tweets were slightly re-worded to protect Twitter users from reverse-identification.⁵⁰ The study was considered exempt by the local Institutional Review Board.

Sample selection

Initial captures of Tweets including the hashtags #DomesticViolence and #DomesticAbuse resulted in a combined dataset of 63,793 tweets. To ensure that analysis highlighted the perspectives of a diverse array of Twitter users rather than celebrities, influencers, and politicians, all retweets—including all tweets that contained identical text, indicating that they had been copied and pasted—were removed from the dataset. The original content dataset consisted of 18,821 tweets. In-depth qualitative thematic analysis of Twitter data regarding gender-based violence have previously analyzed datasets ranging from 200 to 1000 tweets. Researchers thus selected a random sample by assigning each tweet a random value in Excel and retaining the 600 tweets with the smallest randomly assigned IDs. After removing tweets that were not written in English, did not include original user commentary (i.e. consisted of only a string of hashtags or a link), and were unrelated to conversations about violence, researchers retained 481 tweets for thematic analysis.

Collected tweets constitute a global dataset, originating from 39 countries. Overall, 38% of Tweets originated from the United States. In addition, 86% of Tweets originated from either the United States, Canada, Australia,

and the United Kingdom, each of which has a similar population rate of IPV and introduced lockdown orders within the same timeframe. The governments of the United States, United Kingdom, Australia, and Canada each announced the beginning of stay-at-home orders on March 23, 2020. The United States rolled out at-home directives on a state-by-state basis. By the end of data collection, 14 states had yet to issue formal stay-at-home directives. However, then United States President Donald Trump declared a national state of emergency on March 13th.⁵¹

Data analysis

The coding team consisted of two expert coders working in interpersonal violence prevention, a consensus coder with expertise in social media analysis and sexual violence, and two senior researcher practitioners in trauma prevention and treatment. Best practices in deductive thematic analysis⁵² and content analysis⁵³ guided our qualitative coding procedures. Researchers developed an a priori codebook based on what they expected to see in the data (guided by knowledge of literature and theory related to IPV and social media use), familiarized themselves with the data, assigned preliminary codes reflecting initial impressions of the content, and searched for patterns across the first 20% of tweets. After the initial review of the first 20% of tweets, coders acknowledged that the codebook required more complexity to accurately capture the data. As a result, emergent subcodes were generated to capture the data more precisely. This combined *a priori* and iterative approach to coding of social media data is consistent with extant research on Twitter discourse related to gender-based violence.^{36–38,42,43} During the coding process, the team met regularly to review themes; defined and named them based on the conventions in the interpersonal violence research; and compiled a report of findings (Table 1). Integration of both *a priori* and emergent coding (i.e. hybrid inductive and deductive procedures) have been demonstrated to be useful in previous analysis of Twitter data.^{36–38,41–43} The current procedure enabled coders to focus on a preestablished research question (“*How did individuals reflect on the issue of IPV during the early phases of the COVID-19 pandemic, when many places were enacting lockdown orders?*”), associate observed themes with extant theory, fill gaps in the present understanding of a phenomena (i.e. public discourse surrounding domestic violence during COVID-19), and identify emergent themes that may differ from and supplement existing research.^{52,53}

Consistent with examinations of social media commentary on gender-based violence,^{36,42} coders established an inclusion threshold of 4% ($n = 19$ tweets) for themes to be retained in the codebook. The cutoff enabled the coding team to retain critical commentary on institutional responses to domestic violence risk during the COVID-19 pandemic. Of note, Tweets were not coded mutually

exclusively, so a single tweet could be categorized within multiple subthemes.

Coding resulted in four major themes and ten subthemes. Based on conventions in establishing interrater reliability,⁵⁴ the consensus coder set a minimum kappa of 0.61 for themes and subthemes. If a theme or subtheme failed to meet a threshold rating of substantial (0.61), coders met as a group to discuss areas of disagreement, concretely operationalize a code, and review codes to resolve discrepancies. Resulting *kappas* thus ranged from 0.82 to 0.91 across major themes and 0.72 to 0.93 across subthemes (i.e. *substantial* to *almost perfect*). Descriptive analysis of emergent themes, presented in Table 1, include measures of frequency (count and percent) to standardize what constitutes a normative response.⁵⁵

Results

Among 481 tweets included across the #DomesticViolence and #DomesticAbuse datasets, four overarching themes emerged, including (1) *type of domestic violence* (i.e. described whether domestic violence was COVID specific or described general domestic violence), (2) *domestic violence commentary* (i.e. user’s commentary including general reflections, decentralizing and centralizing survivorhood), (3) *perpetrator tactic* (i.e. abuse tactic used by the perpetrator), and (4) *institutions responsible* (i.e. institutions responsible for providing services to survivors of domestic violence). The four major themes and ten emergent subthemes, as well as affiliated example Tweets, are described and operationalized in Table 1. It is important to note that tweets were not coded beneath mutually exclusive themes. Each tweet could include several of the emergent themes and subthemes. Additional tweets from each major theme are included in the text below. Of note, 60 of the full sample of 481 tweets were directed at another Twitter user. Consistent with best-practices in ethical web research, and to protect Twitter users from possible reverse-identification, all Tweets have been slightly edited to ensure Twitter user confidentiality.⁵⁰ Inter-rater reliability ranged from moderate to almost perfect, with a Cohen’s kappa of 0.82 to 0.91 across major themes, and a Cohen’s kappa of 0.72 and 0.93 across subthemes. Percentages included below indicate the proportion of tweets in the overall dataset characterized as a given theme.

Theme #1: type of domestic violence

The major theme of *type of domestic violence* (33.18%) addressed whether a user was describing COVID specific domestic violence (19.96%) or general domestic violence (14.61%). For example, one user shared, “#DomesticAbuse experts anticipate that rates & severity of abuse will increase as public officials & communities try to stop the spread of the novel coronavirus through imposing restrictions or asking

Table 1. Example tweets by major theme and subtheme.

Theme	Subtheme	Kappa	N	Description	Example Tweets
Type of domestic violence		0.82	479	Type of domestic violence described in the tweet	<i>"In your relationship why are you afraid?" #DomesticViolence #DomesticAbuse</i>
	COVID specific	0.84	288	Tweet described domestic violence specific to COVID	<i>"#UpdateCoronaVirus #COVID19 researchers have found that as people become restricted and workers forced to stay home 24/7 has accelerated #DomesticAbuse. If you are in this situation or know someone in trouble do not wait and act now. Start by talking to a close friend or doctor"</i>
	General domestic violence	0.78	211	Tweet described general domestic violence	<i>"I experienced #DomesticAbuse before. I was forced to stay at home and was not allowed to earn money. Thanks to the Women and Girls Centres, my life has changed. Now I fully realize my rights and become a useful person for my community"</i>
Domestic violence commentary		0.83	445	Users commentary on domestic violence	<i>"#Coronavirus has a huge impact on #domesticabuse: anxiety from the extended quarantine, economic strain on families etc. Meanwhile, support systems for survivors of domestic violence have weakened." #EndViolence"</i>
	General reflections	0.75	87	Reflection included general commentary	<i>"#DomesticAbuse experts anticipate that rates & severity of abuse will increase as public officials & communities try to stop the spread of the novel coronavirus through imposing restrictions or asking individuals to 'social distance' or 'self-isolate.'"</i>
	Decentralizing survivorhood	0.82	45	Commentary decentralized the experience of survivors	<i>"If men behaved the way feminists behave on the subject of gender impact of #COVID19 & in regard to #DomesticAbuse, feminists would call them 'entitled'. We are all fighting a common problem, and it's the virus not our fellow humans."</i>
	Distracting	0.93	25	Commentary distracted from domestic violence	<i>"Stop playing the victim card OK. #DomesticViolence is a gender-neutral crime. Do you know that out of all domestic violence sufferers 40% are males? You were laughing & enjoying when a girl said that she has beaten four boys. You are just a #pseudofeminist"</i>

(continued)

Table 1. Continued.

Theme	Subtheme	Kappa	N	Description	Example Tweets
	Egocentric	0.78	27	Commentary focused on the users own feelings and needs and not on the survivors'	"Covid-19 does not mean life stops. If you need any help or just someone to talk to, call my firm! Most importantly, if you are subjected to #domesticabuse while stuck at home, you are NOT ALONE. Pick up the phone and get good advice. #yougetonelifelife #MakeltHappen #divorce"
	Centralizing survivorhood	0.82	351	Commentary was positive	"#Coronavirus has a huge impact on #domesticabuse: anxiety from the extended quarantine, economic strain on families etc. Meanwhile, support systems for survivors of domestic violence have weakened. #EndViolence"
	Awareness raising	0.72	275	Commentary focused on raising awareness regarding domestic violence	"While home is widely considered the safest place to be for many, this is far from reality for victims of #domesticabuse. Here is why campaigners are warning about higher risk of #DomesticViolence during #COVID19 #self-isolation"
	Call to action	0.74	45	Commentary focused on calling other people to a specific actionable goal	"Seriously though, y'all-- check on your family & friends in a #toxicrelationship. With #Covid19, #DomesticViolence is ramping up. The torture is getting worse at home for victims of #DomesticAbuse. Offer support if you are able."
	Emotional support and gratitude	0.89	36	Commentary focused on providing support to others suffering from domestic violence	"My heart goes out to everyone suffering more #DomesticAbuse #DomesticViolence because of #COVID19 & the extra pressure on their domestic situation. #SocialDistanacing #SelfIsolation"
	Informational aid	0.85	115	Commentary focused on provided information aid to others	"Legally mandated lockdowns and quarantines present unprecedented challenges that domestic abuse advocates have never faced #Covid19. We are in uncharted territories in terms of what survivors are going to experience. #DomesticAbuse "
Perpetrator tactic		0.91	105	Abuse tactic used by the perpetrator	"I have experienced #DomesticAbuse before. I was forced to stay at home and was not allowed to earn money. Thanks to this center, my life has changed. Now I fully realize

(continued)

Table 1. Continued.

Theme	Subtheme	Kappa	N	Description	Example Tweets
					<i>my rights and become a useful person for my community.”</i>
	Isolation	0.91	76	Tactic used was isolating the survivor	<i>“Just putting this out there for consideration: stay at home. Yes, however at one point in my life that was the most dangerous place I could be & still is for many others. #domesticviolence is more terrifying than a virus for many people.”</i>
	Other abuse types	0.88	31	Tactics used besides from isolation	<i>“Does your significant other control who you see, or how you spend your money? Does he put you down in front of family and friends? Not all #DomesticViolence is physical, find out more about the signs”</i>
Institutions responsible for providing services		0.86	73	Institutions responsible for providing services to survivors of domestic violence	<i>“@User Thank you for raising awareness! It is a remarkably difficult time for those living in an abuse household. We work with men, women and children in the area who are victims and survivors of #DomesticViolence.”</i>
	Law enforcement and government	0.88	19	Law Enforcement and Government institutions	<i>“We applaud the WA Senate and House of Representatives for passing this brave legislation. Washington State is taking a stand against #DomesticAbuse, to protect survivors and their families. #DomesticViolence #DomesticAbuse”</i>
	Rape crisis center	0.91	30	Institutions responsible is a rape crisis center	<i>“Our statewide helplines are available 24/7. Survivors you are not alone during this difficult time. #Covid-19 #domesticAbuse #notalone”</i>
	Shelters	0.77	24	Institution responsible is a shelter	<i>“Safe House staff have helped survivors of #domesticabuse, #sexualassault, and #humantrafficking escape life-threatening situations since 1982. We will continue to offer services during #COVID-19 while practicing CDC cleaning and safety procedures. Thank you staff!”</i>

individuals to ‘social distance’ or ‘self-isolate.’” Tweets also included details on how IPV might increase due to mandatory staying at home orders. Some users described isolation being a common domestic abuse tactic, “The #COVID19 outbreak brings new challenges for people living through

#DomesticViolence. People who are self-isolating may not be able to escape abuse at times when they otherwise would be able to.” According to NVivo word frequency results, terms commonly included in Tweets coded under the COVID specific subtheme included home ($n = 85$),

people ($n = 84$), victims ($n = 75$), help ($n = 71$), support ($n = 68$), please ($n = 64$), women ($n = 56$), and survivors ($n = 53$).

Theme #2: domestic violence commentary

Reactions to others' domestic violence experiences also emerged as a major theme (30.83%)—subtheme reactions included (a) commentary on domestic violence (6.03%), (b) negative reactions decentralizing survivorhood (3.12%), or (c) positive reactions centralizing survivorhood (24.32%). The negative and positive reaction subthemes to domestic violence both included further reaction distinctions. For example, negative reactions included nested subthemes of *distracting* from domestic violence (1.73%) and *egocentric responses* focused on the users' own feelings and needs and not on the survivors' (1.87%). Word frequency results for tweets coded under the negative reaction subtheme included, men ($n = 3$), suffer ($n = 3$), feminists ($n = 2$), and hate ($n = 2$) suggesting that the responses were not centered on domestic violence but rather on other problems that were often distracting. One example tweet characterized as a negative reaction stated, “@User Another post today about #domesticviolence (in response to the advice about self-isolation) and again, the reader could assume it's only women who suffer! Check out my TED talk - I could write something more balanced?”

On the other hand, positive reactions included nested subthemes such as *awareness raising* (19.05%), *call to action*—commentary focused on calling other people to a specific actionable goal (3.2%), *emotional support and gratitude*—commentary focused on providing support to others suffering from domestic violence (2.49%), and *informational aid*—commentary focused on providing informational aid to others (7.97%). Word frequency results for positive reaction included help ($n = 52$), support ($n = 52$), please ($n = 36$), safe ($n = 30$), call ($n = 22$), family ($n = 21$), thank ($n = 18$), and resources ($n = 15$), indicating that responses in the subtheme were more focused on providing information and raising awareness. For instance, users shared, “#UpdateVirusCorona #COVID19 virus researchers have found that as people become restricted & workers forced to stay home 24/7 has accelerated #DomesticViolence. If you are in this situation or know someone in trouble don't wait to act. Act now. Start by talking to a close friend or doctor” and “Now more than ever we need to look out for the most vulnerable in our society; activists are calling on neighbors to be extra aware and vigilant of possible cases of domestic abuse.”

Theme #3: perpetration tactic

Perpetrator tactic emerged as a major theme (7.28%), with users sharing actual or expected strategies that perpetrators may use when perpetrating domestic violence. For example, one user tweeted, “*abusive and controlling*

partners often use 'loving' acts to manipulate their victims. Occasional acts of kindness are a grooming strategy to maintain control and make a partner stay in the relationship.” Subthemes nested beneath perpetrator tactic included (a) *isolation* (5.27%), and (b) *other abuse types* (2.15%). Of tweets that described perpetrator tactic involving *other abuse types* (tactics used besides from isolation), common words included control ($n = 11$), economic abuse ($n = 4$), money ($n = 4$), coercive control ($n = 3$), threatening ($n = 3$), indicating that emotional and financial abuse were highlighted as additional perpetrator tactics.

Theme #4: institutions responsible for providing services

Institutions responsible for providing services also emerged as a major theme (5.06%), with users raising awareness about certain institutions as well as calling to action other institutions responsible for providing services. For example, “@User has pulled together FAQs for survivors of domestic violence. Please see their resources guides in the link below.” There were three types of institutions responsible including (a) *law enforcement and government* (1.32%), *rape crisis centers* (2.08%), and *shelters* (1.66%). Of tweets that focused on *rape crisis centers*, common words included support ($n = 33$), available ($n = 13$), call ($n = 11$), helpline ($n = 10$), services ($n = 7$), and community ($n = 6$), suggesting that disseminating information about resources was one of the primary goals of user tweets focused on rape crisis centers.

Discussion

In the present study, tweets including the hashtags #DomesticAbuse and #DomesticViolence were extracted from Twitter in late March of 2020, during the first two weeks of countries such as the United States, Canada, Australia, and the United Kingdom enacting lockdowns. Tweets were collected as the #DomesticAbuse and #DomesticViolence hashtags began to “trend” (i.e. were widely used) on Twitter. Qualitative thematic analysis supported four overarching themes, including: (1) type of IPV (whether it was characterized as associated with COVID-19), (2) commentary regarding IPV (including general reflections, centralizing survivorhood, etc.), (3) perpetrator tactic (abuse approach), and (4) responsibility of institutions (institutions responsible for providing services for survivors). Advocacy and awareness raising were common in tweets across the four themes, with many tweets seeking to increase awareness of emergent risks, provide education and disseminate facts to inform the Twitter community, and mobilize the larger community and society toward minimizing risks and helping survivors.

Several notable findings were revealed in the thematic analyses. As expected, a third of the tweets captured were

focused on (1) information related to IPV or (2) information specifically related to IPV during COVID-19. Users pointed out the ways that COVID-related restrictions may increase risk for IPV, potentially exacerbating processes already known to increase abuse rates such as overall stress levels and economic strain. Indeed, past research following disasters and related events have tracked spikes in domestic violence following hurricanes, oil spills, earthquakes, and brushfires^{7–10} and early in the pandemic, researchers began to call for allocation of resources to front-line workers and for promotion of adherence to IPV guidelines.⁵⁶ Future research is needed to understand whether conversation on social media reflected the ways in which the context and consequences of IPV may have shifted because of the intrapersonal, interpersonal, familial, and community-level changes that occurred during the COVID-19 pandemic.

Perpetrator tactics, particularly as they may be enhanced by the circumstances of COVID-19, were also commonly discussed in sampled tweets. For example, tweets commented on ways that violent partners may use isolation (exacerbated by the pandemic and the stay-at-home orders in particular) to enhance control. Consistent with extant literature, users also commented on ways economic factors may be used to control domestic violence survivors. Economic abuse and financial approaches to coercive control are increasingly recognized factors in exacerbating domestic violence across the globe.^{57–59} The disproportionate impact of the pandemic on women's involvement in the workforce^{60–62} likely increased women's perceptions regarding the financial risks of leaving a violent relationship and may have increased the economic control that working partners were able to exert.

Nearly a third (30.83%) of the tweets involved commentary on current articles and events. It was notable that some tweets indicated that only men were perpetrators of IPV and only women victims of IPV. Findings suggest that it may be useful for public education campaigns to recognize ways in which individuals of all gender identities experience IPV. Additionally, some tweets sought to amplify the conversation regarding IPV and COVID-19, raise awareness, mobilize action, provide support and gratitude, and provide resources to those who might be experiencing IPV during the pandemic. Relatedly, calls to the police to address issues of IPV increased markedly during the spring of 2020^{20,63} with communities evidencing persistence in the increased call levels.⁶⁴ It is likely that calls to law enforcement would have increased in the absence of Twitter. However, it is worth considering how social media platforms may have amplified awareness and influenced behaviors of both survivors and bystanders across the globe.

Finally, Twitter users engaged in efforts to raise awareness related to service provision to address IPV, highlighting the role and responsibilities of law enforcement, government, rape crisis centers, and shelters. Messages

often focused on sharing resource guides and providing information about ways survivors might receive help, support, and services. Findings are notable considering research suggesting that consulting others may facilitate help seeking behavior among survivors of sexual assault.^{65,66} For example, an analysis of 435 rape victims found that consulting others about whether to report the experience is associated with increased likelihood of reporting to the police, even after controlling for other potential predictors of reporting.⁶⁷ More research is needed to examine the degree to which alternatives to law enforcement, such as crisis lines that involved mental health or medical support providers, have been used during the pandemic. Moreover, research should explore whether survivors who discuss their own experiences of IPV online consider that experience to constitute consultation. Research is needed to understand the impact that online social messaging may have on individuals, and whether they indeed benefit from the shared resources.

Limitations of the current research are generally related to reliance on publicly posted information. Due to the public nature of Tweets and best practices in Twitter research, we fully de-identified all tweets prior to coding. We were thus unable to draw conclusions about identities of individuals who shared the tweets described herein. However, future work can greatly benefit from taking an intersectional approach, as Black, Indigenous, and People of Color (BIPOC), poor, and rural women may be at particular risk for IPV during a pandemic due to aggravation of existing social inequities (for a related discussion, see West⁶⁸). Further, although NCapture does not enable collection of demographic information, certain social media analysis companies are indeed able to collect demographic data Twitter users share on public profiles. Moreover, latitude and longitude data may be mapped via GIS software to facilitate tweet "mapping," identifying areas with particular resource, treatment, and prevention needs (i.e. red line districts, communities closer to a higher concentration of liquor outlets, communities with more adherence to traditional gender roles).⁶⁹ For information on the utility of GIS mapping to assess risk for violence, see: Reidy et al.⁷⁰ Intersectional analysis of Twitter data could further include collecting and coding data in languages other than English. By limiting Twitter analysis to English language tweets, scholars may be further marginalizing the voices of individuals at increased risk for IPV, who already face limited access to culturally informed services and whose experiences may not be represented by Twitter users who choose to tweet in English. For example, it is possible that non-English speakers in the United States without access to a domestic violence shelter may face an even greater imperative to seek services and support online given the absence of formal community support and prevention resources. However, this is difficult to assess without collecting and coding multilingual tweets.

Moreover, as privacy limitations precluded us from following up with Twitter users directly, we were unable to draw conclusions about the experiences of both people who shared tweets themselves and of individuals who may have read but not responded to tweets. Twitter has a character limit (280 characters), and the limit has an influence on what users can communicate. Twitter users may feel pressure to include only the most brief and salient details of their experience rather than being able to explain their thoughts in detail. Character limitations do not lend itself to in-depth analysis that is characteristic of qualitative research. Additionally, Twitter does not allow the collection of users' demographic information. Although we generally know that Twitter users are younger, educated, and people of higher socioeconomic status,³³ we do not know any demographics information on the subset of users who Tweeted about issues related to IPV. As a result, we cannot draw any conclusions on the representativeness of users in the current study who contributed to tweets to the #DomesticViolence and #DomesticAbuse conversation. Future research should consider other social media platforms where survivors can garner support from others such as Reddit. Reddit offers users the ability to foster discussion among one another on topics such as public health⁷¹ and similarly to other platforms. Reddit users can engage with the platform anonymously under user-created pseudonyms⁷² although users can also create accounts in which they are identifiable.⁷³

It should also be noted that the hashtags #DomesticViolence and #DomesticAbuse were selected due to their popularity at the time. Other less popular hashtags were not included in the present analysis, and as a result, these data are not represented in the current analyses. Data collection occurred during the beginning stages of lockdowns across the country and thus lockdowns were not uniform across places. We did not track the specific location from each Twitter user and whether lockdown orders were in place at the time each Twitter user posted a tweet. For example, as of March 27, 2020 (final day of data collection) 14 states in the United States had still not issued mandatory lockdowns.⁷⁴ Data further included tweets from 38 countries outside the United States. Thus, not all tweets in the sample reflect the experience of someone living in a community that was impacted by lockdown restrictions. Lastly, since data was collected on weekdays, it is possible that we excluded users who would have tweeted about #DomesticViolence and #DomesticAbuse on weekends, evenings, or early mornings.

The present data highlight ways in which global stay-at-home orders related to COVID-19 increased the potential prevalence and impact of IPV. Findings from this investigation also highlight the manner in which individuals utilized Twitter to facilitate conversations, increase awareness, and disseminate information during the COVID-19 pandemic. Arguably, the use of social media

to connect with others, increase awareness regarding social concerns, and disseminate resources is even more vital during a pandemic, when individuals may lack access to other sources of information.

Acknowledgements: We would like to thank the participants in this study.

Conflict of interest: The authors have no conflicts of interest to declare.

Contributorship: GL, KWB, & LMO researched literature and conceived the study. GL and RJM were involved in qualitative coding. All authors reviewed and edited the manuscript and approved the final version of the manuscript.

Ethical approval: The study was considered exempt by the local Institutional Review Board.

Funding: The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the National Institute on Alcohol Abuse and Alcoholism; Training support was provided to Dr. Gabriela López (grant number T32 AA007459, PI Monti).

Guarantor: GL.

ORCID ID: Gabriela López  <https://orcid.org/0000-0001-8622-8935>

References

1. Breiding M, Basile KC, Smith SG, et al. Intimate partner violence surveillance: Uniform definitions and recommended data elements. Version 2.0. 2015.
2. Walby S. The cost of domestic violence: up-date 2009. 2009.
3. Romans SE, Poore MR and Martin JL. The perpetrators of domestic violence. *Med J Aust* 2000; 173: 484–488.
4. Rees S, Silove D, Chey T, et al. Lifetime prevalence of gender-based violence in women and the relationship with mental disorders and psychosocial function. *Jama* 2011; 306: 513–521.
5. Organization WHO. Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence. World Health Organization, 2013.
6. Ellsberg M, Jansen HA, Heise L, et al. Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. *Lancet* 2008; 371: 1165–1172.
7. Lauve-Moon K and Ferreira RJ. An exploratory investigation: post-disaster predictors of intimate partner violence. *Clin Soc Work J* 2017; 45: 124–135.
8. Parkinson D and Zara C. The hidden disaster: domestic violence in the aftermath of natural disaster. *Aust J Emergency Manage* 2013; 28: 28–35.

9. Schumacher JA, Coffey SF, Norris FH, et al. Intimate partner violence and Hurricane Katrina: predictors and associated mental health outcomes. *Violence Vict* 2010; 25: 588–603.
10. Serrata JV and Alvarado MH. *Understanding the impact of Hurricane Harvey on family violence survivors in Texas and those who serve them*. Austin (TX): Texas Council on Family Violence, 2019.
11. Davies SE and Bennett B. A gendered human rights analysis of Ebola and Zika: locating gender in global health emergencies. *Int Aff* 2016; 92: 1041–1060.
12. Anurudran A, Yared L, Comrie C, et al. Domestic violence amid COVID-19. *Int J Gynecol Obstetrics* 2020; 150: 255–256.
13. Boserup B, McKenney M and Elkbuli A. Alarming trends in US domestic violence during the COVID-19 pandemic. *Am J Emerg Med* 2020; 38: 2753–2755.
14. Hatchimonji JS, Swendiman RA, Seamon MJ, et al. Trauma does not quarantine: violence during the COVID-19 pandemic. *Ann Surg* 2020; 272: e53.
15. Malathesh BC, Das S and Chatterjee SS. COVID-19 and domestic violence against women. *Asian J Psychiatr* 2020; 53: 102227.
16. Evans DP. COVID-19 and violence: a research call to action. *BMC Women's Health* 2020; 20: 1–3.
17. Jetelina KK, Knell G and Molsberry RJ. Changes in intimate partner violence during the early stages of the COVID-19 pandemic in the USA. *Injury Prevent* 2021; 27: 93–97.
18. Gosangi B, Park H, Thomas R, et al. Exacerbation of physical intimate partner violence during COVID-19 pandemic. *Radiology* 2021; 298: E38–E45.
19. Piquero AR, Jennings WG, Jemison E, et al. Domestic violence during the COVID-19 pandemic-evidence from a systematic review and meta-analysis. *J Crim Justice* 2021; 74: 101806.
20. Mahase E. Covid-19: EU states report 60% rise in emergency calls about domestic violence. *BMJ: Br Med J* 2020; 369.
21. Tadesse AW, Tarekegn SM, Wagaw GB, et al. Prevalence and associated factors of intimate partner violence among married women during COVID-19 pandemic restrictions: a community-based study. *J Interpers Violence* 2020; 0886260520976222.
22. Peitzmeier SM, Fedina L, Ashwell L, et al. Increases in intimate partner violence during CoViD-19: prevalence and correlates. *J Interpers Violence* 2021; 08862605211052586.
23. Evans ML, Lindauer M and Farrell ME. A pandemic within a pandemic—Intimate partner violence during Covid-19. *N Engl J Med* 2020; 383: 2302–2304.
24. Connor J, Madhavan S, Mokashi M, et al. Health risks and outcomes that disproportionately affect women during the Covid-19 pandemic: a review. *Soc Sci Med* 2020; 266: 113364.
25. Lindberg LD, Mueller J, Kirstein M, et al. The Continuing Impacts of the COVID-19 Pandemic in the United States: Findings from the 2021 Guttmacher Survey of Reproductive Health Experiences. 2021.
26. Buttell F, Cannon CE, Rose K, et al. COVID-19 and intimate partner violence: prevalence of resilience and perceived stress during a pandemic. *Traumatology* 2021; 27: 20.
27. Ertan D, El-Hage W, Thierrée S, et al. COVID-19: urgency for distancing from domestic violence. *Eur J Psychotraumatol* 2020; 11: 1800245.
28. Mittal S and Singh T. Gender-based violence during COVID-19 pandemic: a mini-review. *Front Global Women's Health* 2020; 4.
29. Matoori S, Khurana B, Balcom MC, et al. Addressing intimate partner violence during the COVID-19 pandemic and beyond: how radiologists can make a difference. *Eur Radiol* 2021; 31: 2126–2131.
30. Rossi FS, Shankar M, Buckholdt K, et al. Trying times and trying out solutions: intimate partner violence screening and support for women veterans during COVID-19. *J Gen Intern Med* 2020; 35: 2728–2731.
31. Nair VS and Banerjee D. “The cries behind the closed rooms”: domestic violence against women during COVID-19. *A Crisis Call. Editorial Board* 2020; 36.
32. Smith A and Anderson M. Social media use in 2018. 2018.
33. Moorhead SA, Hazlett DE, Harrison L, et al. A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *J Med Internet Res* 2013; 15: e1933.
34. Sinnenberg L, Buttenheim AM, Padrez K, et al. Twitter as a tool for health research: a systematic review. *Am J Public Health* 2017; 107: e1–e8.
35. Xue J, Macropol K, Jia Y, et al. Harnessing big data for social justice: an exploration of violence against women-related conversations on Twitter. *Human Behav Emerging Technol* 2019; 1: 269–279.
36. Bogen KW, Bleiweiss KK, Leach NR, et al. #MeToo: disclosure and response to sexual victimization on Twitter. *J Interpers Violence* 2021; 36: 8257–8288.
37. Bogen KW, Mulla MMM, Haikalis M, et al. Sexual victimization among men: a qualitative analysis of the twitter hashtag# UsToo. *J Interpers Violence* 2022; 37: NPNP49.
38. Bogen KW, Haikalis M, Meza Lopez RJ, et al. It happens in# ChurchToo: Twitter discourse regarding sexual victimization within religious communities. *J Interpers Violence* 2022; 37: 1338–1366.
39. Belotti F, Comunello F and Corradi C. Femicidio and# NiUna Menos: an analysis of Twitter conversations during the first 3 years of the Argentinean movement. *Violence Against Women* 2021; 27: 1035–1063.
40. McCauley HL, Bonomi AE, Maas MK, et al. #MaybeHeDoesntHitYou: social media underscore the realities of intimate partner violence. *J Women's Health* 2018; 27: 885–891.
41. D'Avanzato C, Bogen KW, Kuo C, et al. Online dialogue surrounding violence against women in South Africa: a qualitative analysis of# MenAreTrash. *J Sexual Aggression* 2022; 28: 28–44.
42. Bogen KW, Bleiweiss K and Orchowski LM. Sexual violence is# NotOkay: social reactions to disclosures of sexual victimization on twitter. *Psychol Violence* 2019; 9: 127.
43. Bogen KW, Millman C, Huntington F, et al. A qualitative analysis of disclosing sexual victimization by# NotOkay during the 2016 presidential election. *Violence Gender* 2018; 5: 174–181.
44. Maas MK, McCauley HL, Bonomi AE, et al. “I was grabbed by my pussy and its# NotOkay”: a Twitter backlash against Donald Trump’s degrading commentary. *Violence Against Women* 2018; 24: 1739–1750.

45. Jaffe AE, Cero I and DiLillo D. The# MeToo movement and perceptions of sexual assault: college students' recognition of sexual assault experiences over time. *Psychol Violence* 2021; 11: 209.
46. Xue J, Chen J, Chen C, et al. The hidden pandemic of family violence during COVID-19: unsupervised learning of tweets. *J Med Internet Res* 2020; 22: e24361.
47. Xue J, Chen J, Chen C, et al. Abusers indoors and coronavirus outside: an examination of public discourse about COVID-19 and family violence on Twitter using machine learning. *medRxiv* 2020.
48. Al-Rawi A, Grepin K, Li X, et al. Investigating public discourses around gender and COVID-19: a social media analysis of Twitter data. *J Healthcare Inf Res* 2021; 5: 249–269.
49. Babvey P, Capela F, Cappa C, et al. Using social media data for assessing children's exposure to violence during the COVID-19 pandemic. *Child Abuse Negl* 2021; 116: 104747.
50. Ayers JW, Caputi TL, Nebeker C, et al. Don't quote me: reverse identification of research participants in social media studies. *NPJ Digit Med* 2018; 1: 1–2.
51. Control CfD, Prevention. CDC museum COVID-19 timeline. Centers for Disease Control and Prevention Retrieved November. 2021;21:2021.
52. Braun V and Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006; 3: 77–101.
53. Krippendorff K. Reliability in content analysis: some common misconceptions and recommendations. *Hum Commun Res* 2004; 30: 411–433.
54. Landis JR and Koch GG. An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics* 1977: 363–374.
55. Driscoll DL, Appiah-Yeboah A, Salib P, et al. Merging qualitative and quantitative data in mixed methods research: How to and why not. 2007.
56. Kofman YB and Garfin DR Home is not always a haven: the domestic violence crisis amid the COVID-19 pandemic. *Psychol Trauma, Theory Res Pract Policy* 2020; 12: S199.
57. Postmus JL, Hoge GL, Breckenridge J, et al. Economic abuse as an invisible form of domestic violence: a multicountry review. *Trauma, Violence & Abuse* 2020; 21: 261–283.
58. Sauber EW and O'Brien KM. Multiple losses: the psychological and economic well-being of survivors of intimate partner violence. *J Interpers Violence* 2020; 35: 3054–3078.
59. Singh S. Economic abuse and family violence across cultures: gendering money and assets through coercive control. *Criminalising Coercive Control: Springer* 2020: 51–72.
60. Calarco JM, Meanwell E, Anderson EM, et al. By default: how mothers in different-sex dual-earner couples account for inequalities in pandemic parenting. *Socius* 2021; 7: 237802312111038783.
61. Landivar LC, Ruppanner L, Scarborough WJ, et al. Early signs indicate that COVID-19 is exacerbating gender inequality in the labor force. *Socius* 2020; 6: 2378023120947997.
62. Sevilla A and Smith S. Baby steps: the gender division of childcare during the COVID-19 pandemic. *Oxford Rev Econ Policy* 2020; 36: S169–SS86.
63. Leslie E and Wilson R. Sheltering in place and domestic violence: evidence from calls for service during COVID-19. *J Public Econ* 2020; 189: 104241.
64. Nix J and Richards TN. The immediate and long-term effects of COVID-19 stay-at-home orders on domestic violence calls for service across six US jurisdictions. *Police Pract Res* 2021; 22: 1443–1451.
65. Patterson D, Greeson M and Campbell R. Understanding rape survivors' decisions not to seek help from formal social systems. *Health Soc Work* 2009; 34: 127–136.
66. Patterson D and Campbell R. Why rape survivors participate in the criminal justice system. *J Community Psychol* 2010; 38: 191–205.
67. Paul LA, Zinzow HM, McCauley JL, et al. Does encouragement by others increase rape reporting? Findings from a national sample of women. *Psychol Women Q* 2014; 38: 222–232.
68. West C. Battered, black, and blue: an overview of violence in the lives of Black women. *Violence Lives Black Women* 2014: 13–52.
69. Bogen KW and Orchowski LM. A geospatial analysis of disclosure of and social reactions to sexual victimization on twitter using# MeToo. *Women Ther* 2021; 44: 374–390.
70. Reidy DE, Huntington C, Smith IV HW, et al. Community-level risk & protective correlates of violent crimes. *Prev Med* 2021; 142: 106380.
71. Park A and Conway M. Tracking health related discussions on Reddit for public health applications. AMIA Annual Symposium Proceedings; 2017: American Medical Informatics Association.
72. Zirikly A, Resnik P, Uzuner O, et al. editors. CLPsych 2019 shared task: predicting the degree of suicide risk in Reddit posts. Proceedings of the sixth workshop on computational linguistics and clinical psychology; 2019.
73. Leavitt A. "This is a throwaway account" temporary technical identities and perceptions of anonymity in a massive online community. Proceedings of the 18th ACM conference on computer supported cooperative work & social computing; 2015.
74. Mervosh S, Lu D and Swales V. See which states and cities have told residents to stay at home. *The New York Times* 2020; 3.