

Knowledge Synthesis Grant Report: Youth and technologies: Computer-mediated communication, maltreatment, and exploitation of youth

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Executive Summary: Youth and technologies: Computer-mediated communication, maltreatment, and exploitation of youth

Background: The Issue

Recent research has found youth experience loneliness at a higher rate than other adult populations. Within the context of loneliness, the Coronavirus (COVID-19) pandemic has caused the enactment of physical distancing measures. As a result, many youth have experienced increased social isolation. Concurrent to this increase in youth loneliness is a rising dependence on technologies (i.e., computer-mediated communication) to support social connections (i.e., peer relations, extended families). Although computer-mediated communication (i.e., text messages, social media applications) has provided youth with the opportunity to engage socially, the potential for antisocial influences such as maltreatment and online exploitation (i.e., sexual communication and requests of youth by adults) through this form of communication has also become a great concern. The current scoping review highlights the role of computer-mediated communication in the disclosure of maltreatment and online sexual exploitation of youth.

Objectives

A scoping review of the literature was conducted to examine how youth's use of computer-mediated communication has (1) impacted upon youth's disclosure and reporting of maltreatment and exploitation, (2) impacted upon youth's disclosure as a result of the COVID-19 pandemic.

Methodology

Three internet search engines (i.e., PsycInfo, Scopus, MedLine) were searched for articles published between January 2010 and July 2022. Of 1365 articles found, 5 met the inclusion criteria of examining maltreatment disclosures made by youths online prior to COVID-19,

however 0 articles met the inclusion criteria of examining maltreatment disclosures made by youth during COVID-19. A second search was performed in three internet search engines (i.e., PsycInfo, Scopus, MedLine) for articles published between January 1997 and September 2022 to examine adult disclosures of abuse and maltreatment online. Of the 1454 articles found, 10 met the inclusion criteria of examining abuse and maltreatment disclosures made by adults online prior to COVID-19, and none met the inclusion criteria of examining abuse and maltreatment disclosures made by adults online during COVID-19.

Results

Researchers have yet to examine or publish the use of computer-mediated technologies in the disclosure of child and youth maltreatment. However, adults have been documented in the literature in terms of disclosures of abuse (i.e. sexual abuse).

Key Messages

Further research is required to examine the use of computer-mediated technologies in the disclosure of abuse by children and youth. Adults do appear to be using technologies during the pandemic to communicate and disclosure instances of sexual abuse.

Full Report: Youth and technologies: Computer-mediated communication, maltreatment, and exploitation of youth

Background

Loneliness is an epidemic being experienced globally and is seminally described as the persistent feeling of isolation in one's life (Hawkley & Capitanio, 2015). Contrary to popular belief, recent research has found youth experience loneliness at higher rates than other adult populations. For instance, Barreto et al.'s (2021) survey of youth and adult populations found 40% of youth (i.e., 16-24 years old) reported often feeling lonely, compared to 27% of those 75 years or older. Within the context of loneliness, the Coronavirus (i.e., COVID-19) pandemic has caused Canada's Provincial governments to declare public health emergencies, resulting in the closure of schools and non-essential services and the enactment of physical distancing measures (Government of Canada, 2020). These measures have affected over 5 million Canadian youth (Statistics Canada, 2019) and resulted in a reduction in services directed towards families (Government of Canada, 2020). During this time of unprecedented change many youths have experienced increased social isolation because of containment measures enacted during the COVID-19 pandemic (i.e., school closures, virtual learning; Best et al., 2021).

Concurrent to this increase in youth loneliness is a rising dependence on technologies (i.e., computer-mediated communication) to support social connections (i.e., peer relations, extended families; Favotto et al., 2019) and academic learning (i.e., online schooling; Marani et al., 2020). Specifically, Loades et al.'s (2020) rapid review of the effect of social isolation on youth throughout the COVID-19 pandemic has highlighted the need for continued support of youth after prolonged periods of enforced isolation to mitigate the mental health consequences (i.e.,

depression, anxiety) of lock-down and stay at home orders. Although computer-mediated communication (i.e., text messages, emails, social media applications) has provided youth with the opportunity to engage socially during the COVID-19 pandemic (Fudian et al., 2021), the potential for antisocial influences such as maltreatment and online exploitation (i.e., sexual communication and requests of youth by adults) through this form of communication has also become a concern (Babvey et al., 2021; Fore, 2021). Alarmingly, since the beginning of the COVID-19 pandemic, there has been an 106% increase in the reporting of online exploitation of youth (Cybertip, 2021), and nearly 25% of surveyed parents have reported inappropriate online behaviour aimed at their child (Public Safety Canada, 2020). Given that nearly 100% of Canadian youth use the internet daily (Statistics Canada, 2019) and 80% of these youth rarely or never have adult supervision while online (Steeves, 2014), Canadian youth are at great risk of online sexual exploitation and maltreatment.

In their analysis of the COVID-19 pandemic, UNICEF (2020) identified three main potential secondary impacts on children and their caregivers, including neglect and a lack of parental care, mental health and psychosocial distress, and increased exposure to violence including sexual violence, and physical and emotional abuse. Historically, after natural disasters, national emergencies, and times of economic upheaval, youth experience an increased risk of maltreatment (Seddighi et al., 2019; Brooks-Gunn et al., 2013), and the COVID-19 pandemic is no exception to this trend. Uniquely, however, the COVID-19 pandemic has propelled youth towards an increased focus on internet connectivity and social media usage. While researchers have found social media engagement amongst older adults to reduce social isolation and loneliness, youth who engage in higher uses of social media have reported greater levels of loneliness during the COVID-19 pandemic (Bonsaksen et al., 2021). This has contributed to not

only an increase in typical forms of maltreatment, but also concern regarding the potential for increases in forms of online child maltreatment and exploitation.

Contributors to all forms of maltreatment have been viewed as complex, with nested levels of influence aligned within ecological theory (Belsky, 19880, 1993). Maltreatment thus arises from individual-level (ontogenic), family-level (microsystem), community-level (exosystem), and societal-level (macrosystem) factors (Rodriguez et al., 2021). However, as a result of increases in computer-mediated communication tools leading up to and during the COVID-19 pandemic, the method by which these various systems impact upon the potential for maltreatment and online sexual exploitation of youth have shifted dramatically. During COVID-19, much like past national emergencies, maltreatment risk factors increased significantly (Conrad-Hiebner & Byram, 2020; Proulx et al., 2021; Rodriguez et al., 2020; Wu & Xu, 2020), including heightened unemployment rates and economic hardship (Lawson et al., 2020; Lamar et al., 2020), parental social isolation (Lee et al., 2021), parental stress (Lawson et al., 2020), and mental health issues (Russel et al., 2020).

Of particular importance to the current proposed research, previous literature has established a consistent link between social isolation and youth maltreatment (Ridings et al., 2017), a major public health concern brought on by COVID-19 stay-at-home orders. For example, social isolation may damage protective neighborhood exosystem factors such as collective efficacy and neighborhood cohesion (Coulton et al., 2007). These factors have been found to be associated with outcomes such as increased maltreatment rates (Molnar et al., 2016), decreased parenting competence (Davidson Arad et al., 2020), and decreases in youth's safety and wellbeing (Coulton et al., 2007; Maguire-Jack, 2014).

Social isolation and lack of access to support networks have also been identified as risk factors for maltreatment (Moncher, 1995). Thus, not only are parents and adults facing the effects of social isolation, but the suspension of schools placed an added burden on families, resulting in social isolation in children as well. Schools act as a principal component of children's daily routines (Letzel et al., 2020). They often provide a haven for children suffering from maltreatment at home (Bartholet, 2020), act as a place of support and connection, or even, a main source for a meal (Cardoso et al., 2019). Therefore, it has been argued that the prolonged social isolation and school closures of the COVID-19 pandemic have led to serious ramifications for children's wellbeing (Katz, 2021). Importantly, teachers are key recipients of disclosures of maltreatment, and studies have demonstrated that drops in reporting to child protection authorities by school personnel coincide with school closures (Baron et al., 2020). Specifically, during COVID-19 stay-at-home orders, child welfare agencies in Canada report the overall volume of suspected child maltreatment cases have dropped significantly (i.e., between 30 and 40 %; Powell, 2020). This data may be directly attributable to the drop in reports made by teachers and other school professionals, with 32% of all reports made to the Director of Youth Protection coming from school and daycare settings in 2019, versus only 8% for the same period in 2020 (Katz, 2021). As a result, it may be argued that youth during the COVID-19 pandemic have experienced increased risk for maltreatment and decreased avenues for disclosing maltreatment.

Computer-mediated communication also poses risks to youth, widening the opportunity for cyberbullying and other forms of online violence (Babvey et al., 2021), and is tied to growing concerns about the elevated risks of sexual exploitation of youth (International Criminal Police Organization, 2020). Supervision of children's online internet use is limited, with 80% of youth

reporting rarely or never being supervised by an adult while online (Steeves, 2014). Contributing to their vulnerability, as parents work from home, and the use of technology among younger children becomes the new norm. The ease of access to vulnerable children and the online availability of child pornographic material are of significant concerns (National Sexual Violence Resource Center, 2011). Online sexual exploitation and maltreatment is varied and should be considered a single form of maltreatment because of its online nature and can include grooming, sexual exploitation by strangers, sexual abuse by family members or acquaintances that is photographed or videoed, coercive sexual violence between peers, and trafficking of child abuse material online (May-Chahal & Kelly, 2020). Under these circumstances, with increased usage of social media and the internet as a form of connection, it is important to highlight the role of computer-mediated communication in facilitating youth exploitation and maltreatment. Importantly, youth facing additional adversities brought on or intensified by COVID-19, such as maltreatment, mental health issues, and loneliness, may be especially vulnerable to online exploitation tactics (Cohen & Bosk et al., 2020). However, there lacks a systematic review of empirical research to directly examine how the online maltreatment and sexual exploitation of youth has changed during the COVID-19 pandemic. Thus, to fill this knowledge gap within the research we proposed a scoping review of the literature to examine *how the use of computer-mediated communication amongst youth is linked to youth exploitation and maltreatment*. Moreover, we propose through such a synthesis of the research to identify promising policies and practices which reduce the likelihood of youth experiencing maltreatment and sexual exploitation because of computer-mediated communication.

To combat the social isolation of COVID-19, children have increasingly sought out other methods of connection with peers – with progressively greater numbers of youth engaging in

social activities through social media (World Childhood Foundation et al., 2020). Similarly, school closures and strict containment measures have caused more families to rely on computer-mediated communication for children to learn and connect with others (e.g., text messaging, social media; Babvey et al., 2021; UNICEF, 2021). Before the COVID-19 pandemic, social media usage was already increasing in youth, however, now, younger children are utilizing this form of technology to connect with others during a period of isolation. Furthermore, usage in children's help phone lines have increased, with the Kids Help Phone Line receiving a 400% increase in calls since the pandemic began (Haines & Jones, 2020). Child helplines and internet support communities are often an entry point for children to speak out, have their voices heard, and receive assistance, counselling, and referrals when needed (Petrowski et al., 2021). Before the pandemic, many individuals used the internet as a space to disclose about their own experiences, including experiences with mental health, and childhood maltreatment. A recent analysis of Reddit demonstrated that abuse-related subreddits were among those with the largest increase in activity after stay-at home restrictions began (Babvey et al., 2021). Growth in topics such as r/abuse, r/selfhelp, and r/survivorsofabuse increased, and increased even more than other sensitive topics such as mental health (Babvey et al., 2021), creating a space for individuals throughout the world to disclose about their experiences with exploitation and maltreatment. Specifically, Reddit saw an 94% increase in posts related to child abuse (Babvey et al., 2021). The power of online disclosure through social media has also been documented through the recent #metoo movement, which has shown to spur the disclosure of sexual abuse amongst youth and adults alike (Alaggia, R., & Wang, 2020). This should be considered in joint with other studies indicating that COVID-19 has inhibited the reporting of maltreatment in youth (Baron et al., 2020; Katz, 2021). Given the increased online presence of youth, service providers and child

welfare agencies should explore new ways through which we can utilize social media and other virtual platforms to identify victims of maltreatment, and how these platforms can act as entry points for the provision of support services, and referral mechanisms (Babvey et al., 2021).

However, to date there is limited systematic study of how computer-mediated communication tools have been used by youth to disclose and report maltreatment and exploitation. This is of particular importance, given social media use is likely contributing to increases in these experiences by youth. ***Thus, a knowledge gap within the research is a synthesis of how the use of computer-mediated communication is linked to the disclosure and reporting of maltreatment and sexual exploitation by youth. Specifically, how has youth disclosure of maltreatment and sexual exploitation changed with the advent of increased computer-mediated communication. What practices can be identified to assist youth in the disclosure of maltreatment and sexual exploitation through computer-mediated communication?***

Objectives

Methods: Search #1

Three databases were searched to obtain peer-reviewed articles published between January 1997 and July 2022 in English from a variety of fields: PsychInfo, MedLine, and Scopus. In collaboration with a social sciences librarian, the following combinations of search terms was used: (Crime Victim* OR Perpetrator* OR Child Abuse OR Emotional Abuse OR Physical Abuse OR Verbal Abuse OR Child Neglect OR Domestic Violence OR Failure to Thrive OR Munchausen Syndrome by Proxy OR Violent Crime OR Incest OR Sex Offenses OR child exploitation.ti,ab. OR Pornography) AND (Abuse Reporting OR Child Abuse Reporting OR conversation/or interpersonal communication/or verbal communication OR Narratives OR Self-Disclosure OR truth disclosure.ti,ab. OR Legal Confession OR False Confession OR Interrogation OR Legal Testimony OR Cross Examination OR Witnesses OR Privileged

Communication OR Interviewing OR Questioning OR Suggestibility OR disclosure.ti,ab) AND (Internet OR Internet Usage OR Computer Mediated Communication OR Electronic Communication OR Online Behaviour OR Online Dating OR Online Therapy OR Social Media OR Telemedicine OR Virtual Group Dynamics OR Digital Gaming OR Online Social Network* OR Smartphone Use OR Smartphone* OR Mobile Phone* OR Sexting OR Cybersex OR Mobile Devices OR Online Community OR Text Messaging OR Virtual Classrooms OR Teleconferencing OR Hotline Services OR chat room.ti,ab)

Articles were selected to be in the final analysis if: (1) sample included (but not limited to) children and adolescents, (2) included a quantitative measure of disclosure of abuse through compute-mediated technologies, and (3) published in English. Studies were excluded if they are: (1) review, (2) books, (3) full text not available in English, and (4) abstract only.

Figure 1 shows a summary of the study selection process. The authors identified a total of 1,452 articles, and 86 articles were removed through duplicate removal. In Phase 1 of the review, two of the authors independently reviewed the abstracts and titles using the prespecified eligibility criteria. 21 articles remained upon discussion and consensus. In Phase 2 of the review, full-text screening was performed and of the 21 articles, 4 met the full eligibility criteria. A hand search of the reference lists of the included articles was conducted, and 1 additional study was identified. Articles were excluded if the age of the disclosing individual cannot be specified (i.e., anonymous online posts) and if variables measured were not related to online disclosure of maltreatment. A total of 5 articles were selected and included in the review.

Data Extraction.

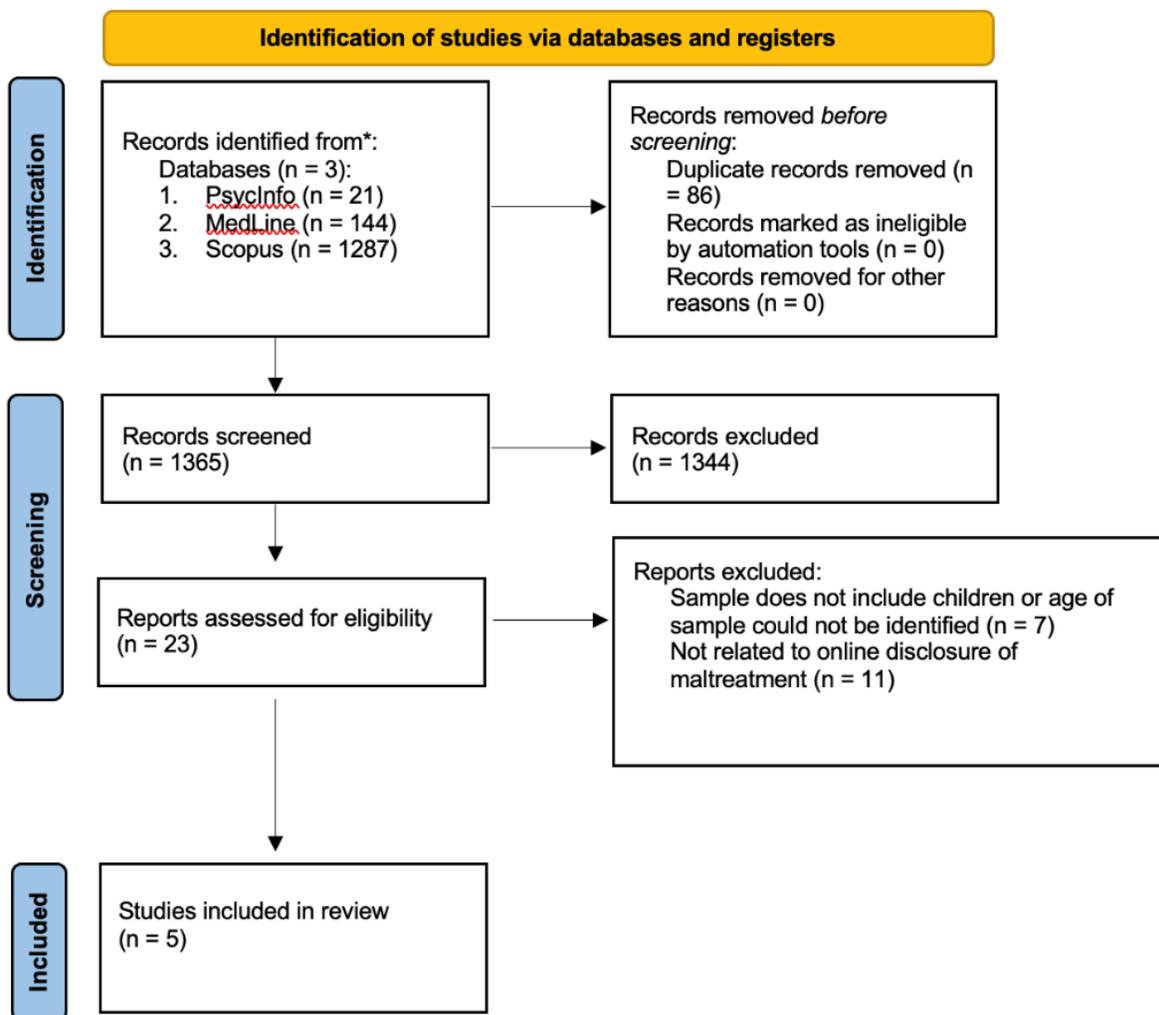
A data extraction table was developed. Each study was examined for its study design, sample characteristics, measure of online disclosure rate of child maltreatment, the type of

maltreatment disclosed, method of disclosure (i.e., Twitter, hot line, text message), the perpetrator of abuse disclosed, analytic methods, key results, and study strengths and limitations.

(Crime Victim* OR Perpetrator* OR Emotional Abuse OR Physical Abuse OR Verbal Abuse OR Domestic Violence OR Failure to Thrive OR Violent Crime OR Incest OR Sex Offenses)

Figure 1.

Preferred Reporting Items for Systematic Reviews and Meta-Analysis Flow Diagram Search #1.



Search Strategy: Search #2

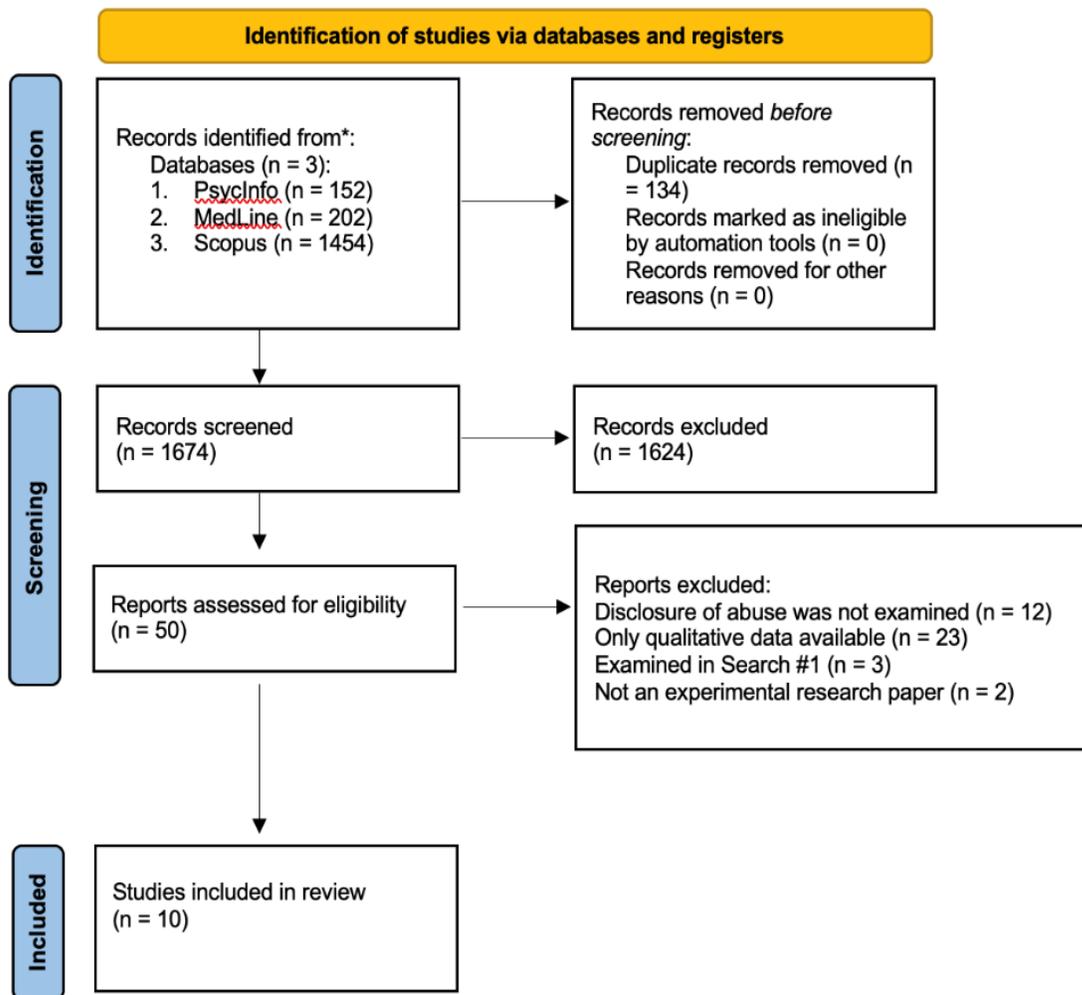
Three databases were searched to obtain peer-reviewed articles published between January 1997 and October 2022 in English from a variety of fields: PsychInfo, MedLine, and Scopus. In collaboration with a social sciences librarian, the following combinations of search terms was used: (Crime Victim* OR Perpetrator* OR Emotional Abuse OR Physical Abuse OR Verbal Abuse OR Domestic Violence OR Violent Crime OR Incest OR Sex Offenses) AND (Abuse Reporting OR conversation/or interpersonal communication/or verbal communication OR Narratives OR Self-Disclosure OR truth disclosure.ti,ab. OR Legal Confession OR False Confession OR Interrogation OR Legal Testimony OR Cross Examination OR Witnesses OR Privileged Communication OR Interviewing OR Questioning OR Suggestibility OR disclosure.ti,ab) AND (Internet OR Internet Usage OR Computer Mediated Communication OR Electronic Communication OR Online Behaviour OR Online Dating OR Online Therapy OR Social Media OR Telemedicine OR Virtual Group Dynamics OR Digital Gaming OR Online Social Network* OR Smartphone Use OR Smartphone* OR Mobile Phone* OR Sexting OR Cybersex OR Mobile Devices OR Online Community OR Text Messaging OR Virtual Classrooms OR Teleconferencing OR Hotline Services OR chat room.ti,ab)

Articles were selected to be in the final analysis if: (1) sample included (but not limited to) adults, (2) included a quantitative measure of disclosure of abuse through computer-mediated technologies, and (3) published in English. Studies were excluded if they are: (1) review, (2) books, (3) full text not available in English, and (4) abstract only. Figure 2 shows a summary of the study selection process. The authors identified a total of 1818 articles, and 134 articles were removed through duplicate removal. In Phase 1 of the review, two of the authors independently reviewed the abstracts and titles using the prespecified eligibility criteria. 50 articles remained upon discussion and consensus. In Phase 2 of the review, full-text screening was performed and

of the 50 articles, 10 met the full eligibility criteria. Articles were excluded if disclosures of abuse were not examined, data were analyzed qualitatively only (i.e., thematic analyses), and if the articles were already included in Search #1.

Figure 2.

Preferred Reporting Items for Systematic Reviews and Meta-Analysis Flow Diagram Search #2



Data Extraction.

A data extraction table was developed. Each study was examined for its study design, sample characteristics, measure of online disclosure rate of maltreatment/abuse, the type of

maltreatment, abuse disclosed, method of disclosure (i.e., Twitter, hot line, text message), the perpetrators of disclosed maltreatment/abuse, whether the disclosing party had contacted authorities prior, analytic methods, key results, and study strengths and limitations.

Results

Search #1

Of the five articles included from Search 1, four included sample from the U.S. and one included sample from Scotland. Regarding disclosure method, two studies examined data from crisis phonelines and three studies examined data from crisis text lines. All five studies included anonymized data collected by crisis responders or volunteers who spoke to children that contacted the centre, and all data analyzed are disclosures that resulted in mandatory reporting to the child protective services. The age of the children who disclosed abuse varied, ranging from under 5 to 18. All data were collected prior to the COVID-19 pandemic, one study collected data between 2000 – 2001 and the remaining collected data between 2015 – 2017. Only one study reported an overall rate of disclosure, with the center answering 207,107 calls in a one-year period (48% of attempted calls) and 217 calls in a two-week period. Please see Table 1 for a detailed summary.

The most common type of abuse disclosed varied across crisis centers. Sexual abuse was the most common type of abuse disclosed in one study, as data was collected from a sexual abuse hotline. In this study, 64% of callers are girls. Physical abuse remains the most common type of abuse disclosed in the remaining four studies which collected data from general crisis lines. The gender difference among callers in the remaining four studies are less pronounced. In one study, 56% of callers identify as a girl and 41% identify as a boy. The remaining three studies measured sex and gender as a variable, but it was not reported. The most common perpetrator across all

studies was a parent, followed by a sibling. Slightly more children disclosed abuse from their fathers (54.1% in three studies that examined the same sample, 29-33% in one study) than their mothers (50% in three studies that examined the same sample, 24% in another study). The remaining one study reported that 60% of perpetrators was a parent but did not specify whether abuse from a mother or a father was disclosed. Most children reported recent or ongoing abuse and more than one types of abuse. The centres received disclosures of mostly very serious abuse, children reported serious instances of physical abuse (i.e., threatened by a knife) and sexual abuse (i.e., rape).

There are also discrepancies regarding whether the crisis lines are children's first stop in their disclosure process. Four studies reported whether children who have contacted the crisis lines have reported their abuse to another party. Three studies which shared the same sample reported that 80% of the children who contacted their centres had sought help prior to contacting the centre, and 79% of the children who contacted the helpline for the remaining had already told someone about the abuse. Of the children who had already told someone about the abuse, the most common recipient were peers, followed by parents. Very little children reached out to more formal sources such as child protection services or the police (7-10%). Of the children who have reached out to formal sources, most reported the services being ineffective, they were not believed, and some even reported previous reports to child protection services led to escalated episodes of maltreatment. Those who did not seek help prior to reaching out to the crisis lines reported they were scared to do so.

It is important to note that the sample size of the current review is very limited due to the lack of research examining disclosures through technology. While there are five studies included in the review, three of the five studies utilize the same sample.

Table 1.

Characteristics of Included Studies from Search #1

Study	Sample	Timeframe	Disclosure Method	Types of Abuse Disclosed	Main Findings
Elliott et al. (2022)	Children who experienced intrafamilial abuse N = 224 children	June 1, 2015 to June 30, 2017	National Sexual Online Hotline (NASOH)	Sexual Assault (94%)	64% of children who contacted were girls. 73% of children received a negative reaction when disclosing to another party, especially from a family member. Most frequent perpetrator was a family member (66%), friends (17%), and formal support providers (12%).
Cash et al. (2020)	Youths (7 - 17 years of age, M = 14) who reported child maltreatment which resulted in mandatory reporting to CPS (N = 244).	October 2015 - July 2017	Text-based crisis service in the U.S.	Physical abuse (71%) Psychological abuse (57%) Sexual abuse (20%) Neglect (10%)	Most children reported violence by a mother (50%) or a father (46.7%). Usually report more than 1 type of abuse and concurrent abuse. Counsellors responded with sympathy and affirmation and encouraged mandatory reporting.
Schwab-Reese et al. (2019)	Youths (7 - 17 years of age, M = 14) who reported child maltreatment which resulted in mandatory reporting to CPS (N = 244).	October 2015 - July 2017	Text-based crisis service in the U.S.	Physical abuse (43.4% initial abuse disclosed) Psychological abuse (34% initial abuse disclosed) Sexual abuse (15.6% initial abuse disclosed) Neglect (6.1% initial abuse disclosed)	92.8% of disclosed abuse were concurrent or chronic. 44.3% of texters whose conversation resulted in mandatory report discussed abuse in the first response. Children used explicit disclosure language (e.g., using the word abuse) or an explicit description of the abuse. Young people are actively seeking a method to disclose rather than sharing this experience while discussing other issues.
Schwab-Reese et al. (2022)	Youths (7 - 17 years of age, M = 14) who reported child maltreatment which resulted in mandatory	October 2015 - July 2017	Text-based crisis service in the U.S.	Physical abuse (71%) Psychological abuse (56.6%) Sexual abuse (21%) Neglect (10.7%)	20% of children did not seek help. Of those who sought help, 49% to peers/a partner, 24% parents, 20% other family members.

reporting to CPS (N = 244).

About half had sought formal resources. (I.e., CPS and schools)
 Overall perception is poor, did not feel comfortable disclosing to school (I.e., not being believed, not staying confidential), the CPS (I.e., being ineffective, past interaction escalated their maltreatment), and law enforcement (I.e., not willing to help, not helpful).

Vincent & Daniel (2004)

Children (>5 - <16 years of age)

One year period: N = 23,907 calls

Two-week period: N = 217 calls

2000-2001 (general data collected)

November 5 – 18, 2001 (in-depth data and analysis collected)

ChildLine Scotland (confidential phoneline counselling service for children and young people)

One year:
 19% of new calls were disclosing abuse.
 Physical abuse (54%)
 Sexual abuse (40%)
 Neglect (1%)
 Emotional abuse (2%)
 Risk of abuse (4%)

Two-week:
 Physical abuse (49%)
 Sexual abuse (31%)
 Both (5%)
 Neglect (2%)
 Emotional Abuse (1%)

Of callers who called to disclose an abuse, 59% were females and 41% were male. Most callers are between 12 – 14.

Of the callers who discussed previous reporting, 31% didn't tell anyone, 69% told someone (44% friends, 22% parent, 9% authority).

Abuse disclosed was very serious (e.g., hit with baseball bats, rape). Most common perpetrator was father (37%) and mother (29%).

Search #2

Of the ten articles included in Search 2, six studies examined disclosures through social media platforms (i.e., 5 from Twitter, 1 from Reddit), two examined disclosures through other websites (i.e., 1 from the website of a newspaper, 1 from Yahoo Answers), one from a university support and advocacy centre phone and chat line, and the final one from an online STI screening service. Among the five studies which sampled from Twitter, two examined the hashtag “#metoo”, one examined “#ustoo”, one examined the hashtag “#whydidntireport”, and the last examined the Brazilian hashtag “#primeirossaedio”, which translates to the first assault. Those that examined #metoo collected data during the month the hashtag went viral (i.e., October 2017), whereas #primeirossadeio collected data in 2015, and the other two hashtags in 2018. Among the remaining articles, one collected data in 2018, one in 2020, one between 2018-2021, and two did not report the timeframe in which data was collected. As the article which collected data in 2020 completed their data collection prior to March 2020, only one article in the current sample collected data during the COVID-19 pandemic. However, this article did not report any influence the pandemic had on the online disclosures that were analyzed. Please see Table 2 for a detailed summary.

Eight studies reported exclusively disclosures of sexual assault. Of the remaining two studies, one reported exclusively intimate partner violence and the other reported physical and sexual violence. In contrast to the articles examined in Search 1, many of the articles in this search included anonymized disclosures through social media and other online platforms, rendering it more difficult to understand who was making the disclosures. Of the four studies that did report the demographics of those who disclosed abuse, an overwhelming number of female was reported (i.e., 54 – 89%). The most common perpetrator was men (reported in one study) and most perpetrator was someone close to or had a relationship with the victims (reported in

three studies). Apart from one study which only examined childhood sexual assault disclosure, two studies reported that the majority of disclosed abuse occurred in the disclosing party's childhood (i.e., 50 – 67%), and one reported a much smaller number of childhood abuse disclosed (i.e., 6.4%).

Very little data was reported regarding whether disclosing through social media and other computer-mediated technologies was preferred. Two studies reported whether victims disclosed the abuse to authorities prior to disclosing online and found that very little had sought help elsewhere (i.e., 2 – 12% spoke to police or a medical professional about the abuse).

The overall disclosure rate varied depending on the platform examined. For instance, around 12% of #metoo Tweets, in the first week of the #metoo movement, were self-disclosure of sexual assault. On the other hand, of the 63 questions in Yahoo Answers that included keywords such as sexual abuse, around half were self-disclosures of sexual assault. Comparative to the articles examined in Search 1, the one study which collected data from a crisis hotline in a university advocacy centre received 173 chat requests and 220 calls in a one-year period.

Table 2.

Characteristics of Included Studies from Search #2

Study	Sample	Timeframe	Disclosure Method	Types of Abuse Disclosed	Main Findings
Bogen et al. (2020)	English tweets, male only sample (N = 281)	August 3, 2018 to August 9, 2018	Twitter: #UsToo	Sexual victimization	<p>Categorized tweets as either a disclosure of victimization (N = 6) or a response to this hashtag (N = 275).</p> <p>Most men who disclosed personal experiences of sexual victimization described experiences of childhood sexual abuse.</p>
Day et al. (2021)	Unique adult users who requested STI screening kit online (N = 45,841)	January 1, 2020 to February 18, 2020	Sexual Health London (SHL), online STI screening service	Sexual assault	<p>Between 1.1.20– 8.2.20, 0.5% (242/45841) (54% female, 45.6% male) of adults disclosed a recent SA when ordering an online STI testing kit.</p> <p>Of these adults who disclosed SA and were called back by the SHL team, 45% (87/192) users confirmed a SA had occurred and 53% (101/242) users denied an assault (particularly men) stating they had reported this in error.</p> <p>SA occurred within the previous week in 17.6% (12/68), within one month in 44.1% (30/68) and within three months in 64.7% (44/68).</p> <p>The perpetrator(s), were: casual acquaintance/partner 22.5% (9/40), stranger 27.5% (11/40), work colleague 15% (6/40), known partner 27.5% (11/40), and other 7.5% (3/40).</p> <p>18% (16/87) users had already reported their SA to the police/sexual assault centre, and one user accepted an onward referral.</p>

Drewett et al. (2021)	English tweets (N = 10,546)	October 27, 2018 to unknown	Twitter: #MeToo	<p>The majority of disclosure tweets detailed experiences of sexual assault (44%), experiences that occurred during childhood (29.4%), and experiences of sexual harassment (27%).</p> <p>18.4% of the tweets mentioned experiences occurring in a work environment 9.1% of tweets detailed experiences occurring in an educational environment</p>	<p>#MeToo Facilitated Self-Disclosure 5,243 tweets.</p> <p>Of these tweets 1,318 were implied experiences, 1,658 were detailed disclosures, and 155 described their experiences of reporting the sexual harassment or abuse.</p>
Fornari et al. (2018)	Tweets (N = 214), female only sample	October 22 to November 22, 2015	Twitter: #primeiroassedio	<p>Childhood Sexual Abuse (occurred between the ages of 4 and 9 years of age)</p>	<p>Approximately one quarter (27.57%) of the participants stated that the situation of violence had occurred at the age of eight; 21.02%, at nine years of age; 16.82%, at seven years of age; 15.88%, at six years of age; 10.74%, at five years of age; and 7.94% at four years of age.</p> <p>48.13% of the participants reported the abuse took place at home and 13.55% in the street.</p> <p>97.66% of perpetrators were male and 77.58% of the perpetrators were known people (i.e. family members, and friends of the family)</p> <p>Five categories emerged from the narratives: Sexual abuse in the aggressors' discourse; The child as the object of sexual pleasure; Violated childhood;</p>

Guidry et al. (2021)	Tweets (N = 1,000) Individual: male 21.1% (n = 211) Individual: female 63.7% (n = 637)	September 2018	Twitter: #WhyIDidntReport	47.6% mentioned a specific form of violence. Of those, 95.6% referred to sexual violence and 40.5% referred to rape	Victims' guilty feelings; and Repercussions of sexual abuse experienced in childhood. 68.7% of posts mentioned a specific reason for not reporting; of these, 24.1% referred to the perpetrator being in a position of power, 36.3% feared not being believed, and 20.6% mentioned that others invalidated the assault.
Mishra (2021)	Online articles that discuss self-disclosure of sexual abuse N = 24	April 1, 2018 - May 31, 2021	Indian News website (<i>LiveWire</i>)	Sexual Abuse Adulthood (67%) Childhood (25%) Both (8%)	71% of authors were female and majority are students. Themes that were highlighted include poor support from family due to cultural values, ongoing trauma, and poor portrayal of abuse in the media.
Modrek & Chakalov (2019)	English Tweets with #metoo (N = 11,935)	October 14 – 17, 2017	Twitter: #metoo	Sexual Assault	11.4% of new Tweets disclosed poster's experience of sexual assault and abuse. 5.8% were from childhood. 89% were from women, 90.7% were Caucasian, 25.5% were between 20 – 25. Tweets reached 6 to 34 million Twitter users.
Moors & Webber (2012)	Yahoo Answers that included "sexual assault", "rape", and "incest" from Australia (N = 63)	Unknown	Yahoo Answers	Sexual Assault	49% of questions were self-disclosure. Of these, the most common perpetrator was someone close (55%) followed by associates (26%) and strangers (13%). Most occurred in the past (41%), others are ongoing or current (39%).
Moylan et al. (2021)	Web-based chat sessions (n = 173) and hotline calls (n = 220, total contacts, N = 393)	October 2018 to Sept 2019	Support and Advocacy Centre in a large, public university in the USA	Sexual assault/abuse and intimate partner violence	Responders mostly urged askers to take actions (I.e., counselling, report to police), but many responders also self-disclosed sexual assault in the answers. In 37.6% of chats and 40.8% of hotline calls, the user was referred to a victim service organization for additional services, which includes the SAC's

(24-hour hotline call and web chat)

Chats were initiated by survivors (66.9%), and friends or family of the survivor (14.0%).

counseling and advocacy services. Other kinds of referrals, such as homeless shelters and suicide hotlines, were made in 17.3% of chats and 24.8% of hotline calls.

59.5% of chatters had experienced sexual assault as an adult, 6.4% experienced sexual abuse as a child, and 5.8% experienced domestic violence as an adult.

Sivagurunathan et al. (2021)

Reddit posts and their associated comments (N = 12 (posts), n = 569 (comments), male-only sample

February 2019 Reddit

Intimate partner violence

10 (83%) of the perpetrators of the abuse were female, and 2 (17%) were male.

8 of the disclosures (67%) were disclosures of personally experienced abuse, while 4 disclosures (33%) were disclosures of abuse experienced by others.

Overall, 68.7% of posts mentioned a specific reason for not reporting; of these, 24.1% referred to the perpetrator being in a position of power, 36.3% feared not being believed, and 20.6% mentioned that others invalidated the assault

47.6% of respondents reported a specific form of violence including: harassment (7.1%), physical violence (7.6%), rape (40.5%), sexual violence (95.6%).

Implications

Search #1

Overall, the searches provided many insights into the use of computer-mediated technologies for the disclosures of abuse. Notably, many boys contacted these crisis line in our review of the literature. This increase in reporting through computer-mediated technologies may represent a potential solution to the underreporting in boys in the literature. A second important finding from our review is that many abuse victims had previously disclosed to someone, however, they still chose to contact crisis line. The disclosure to crisis lines may represent an important step in the disclosure process and an alternative to third party recipients (i.e., friends and parents) as well as formal resources. We also found a decrease or lack of reporting of cases of neglect, highlighting the need for further education of youth regarding the condition for neglect. Finally, review of our literature searches highlighted those children are calling during active abuse episodes (many are experiencing current/ongoing abuse), which may represent an important opportunity for intervention in these cases.

The current results highlight an important need in terms of support for computer-mediated platforms for disclosure of abuse. Many centers are unable to accommodate the volume or needs they are experiencing and as a result policies and government funding should be directed towards these potential sources of disclosures.

Search #2

The second search examined the disclosure of abuse by adults and the importance of technology in these disclosures. Results of the search found that disclosures made by adults are mostly sexual assault or retrospective disclosures of sexual abuse. Overall, women were found to be the most likely disclosures of abuse using internet-based disclosure methods. Additionally, social media platforms (i.e., Twitter) were found to be a rising area of disclosure for survivors to disclose assault. Notably, many adults do not choose to disclose to authorities such as law enforcement compared to anonymous online platforms. Another important result of the scoping review is that most studies examining online disclosures are thematic in nature, and as a result, we have very little quantitative data on the disclosing parties and the details to their abuse. Most important, empirical research has yet to examine disclosures during the COVID-19 pandemic specifically in relation to children and youth's disclosures of abuse using computer-mediated technologies. Overall, results of the scoping review found that qualitative analyses (violence during COVID) are an important area of future thematic research within the area.

Conclusion

Further research is required to examine the use of computer-mediated technologies in the disclosure of sexual abuse and online sexual exploitation of children and youth. Adults do appear to be using computer-mediated technologies, further research should focus on minors experiencing similar forms of violence.

Knowledge mobilization activities

To date, the current research has been submitted for publication in a special call of an empirical journal and a book chapter. The current research will also be provided on the websites of the PI and Co-I for dissemination.

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