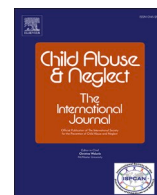




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Capacity, confidence and training of Canadian educators and school staff to recognize and respond to sexual abuse and internet exploitation of their students

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ABSTRACT

Background: Sexual exploitation of children online is an issue of growing public concern. This form of exploitation typically involves adults using the internet to communicate with children for sexual purposes or to distribute sexually explicit material involving children. To date, there is no research on the knowledge and skills of educators to recognize online sexual exploitation. This research is urgently needed since educators are well-positioned to detect, identify and report sexual exploitation of their students.

Objective: The study was conducted to understand the confidence and capacity of grade school educators to recognize and respond to online child sexual exploitation.

Participants and setting: This cross-sectional study surveyed 450 educators in Alberta, Canada between April and December 2018.

Methods: Vignettes were used to obtain experiences and attitudes surrounding four categories of exploitation or abuse: grooming, luring, sexual abuse, and sexual abuse imagery (also known as child pornography).

Results: Among school district staff, 28 % reported working with a student affected by sexual abuse in the last year, as compared to 25 % for grooming, 17 % for luring and 14 % for sexual abuse imagery. A minority of respondents expressed confidence in their ability to recognize if the internet was being employed for grooming (35 % of staff), luring (46 %) or sexual abuse (45 %) of their students.

Conclusions: Educators encounter issues of online sexual exploitation of their students almost as often as contact sexual abuse. Child protection efforts in schools should be modernized to incorporate training in online safety of children and adolescents.

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1. Introduction

The global prevalence of child sexual abuse is estimated at 10–20 % in most countries, with females being 2–3 times more likely to be victims than males (Barth, Bermetz, Heim, Trelle, & Tonia, 2013; Pereda, Guilera, Forns, & Gómez-Benito, 2009; Stoltenborgh, van IJzendoorn, Euser, & Bakermans-Kranenburg, 2011). This represents a major public health crisis since sexual abuse is linked with increased health and mental health problems as well as reduced academic achievement and employment (Affi et al., 2014; Boden, Horwood, & Fergusson, 2007; Copeland et al., 2018; Fergusson, McLeod, & Horwood, 2013). In terms of physical health, child sexual abuse is associated with increased rates of sexually-transmitted diseases, obesity, self-injurious behaviour, suicidality and premature death (Brown et al., 2009; Letourneau, Eaton, Bass, Berlin, & Moore, 2014). Child sexual abuse is linked to depression, anxiety, post-traumatic stress disorder and substance use disorders (Fergusson, Boden, & Horwood, 2008; Klonsky & Moyer, 2008; Letourneau et al., 2014; Maniglio, 2009; Molnar, Buka, & Kessler, 2001). Fergusson et al. (2013) through the use of a longitudinal design demonstrated that individuals with experiences of sexual abuse (ranging from non-contact to sexual penetration) were more likely to leave school prematurely, become reliant on social assistance and obtain lower overall income. From a social perspective, those who have experienced child sexual abuse are more likely to experience inter-personal problems later in life, including sexual dysfunction, parent-child relational problems, and a lack of confidence in parenting skills (DiLillo, 2001; Fergusson et al., 2008; Roberts, O'Connor, Dunn, & Golding, 2004).

Sexual abuse or exploitation of children has been further complicated with the dawn of the digital age. A recent meta-analysis of international literature found that 20 % of adolescents had been exposed to unwanted sexual content online while 12 % received a direct sexual solicitation online (Madigan et al., 2018). Likewise, the proliferation of child sexual abuse imagery (also known as child pornography) on the internet has increased substantially according to the two international agencies that track such data (Note: “Child pornography” is the legal term, while “child sexual abuse imagery” is the term preferred by victims and victim-advocates. Pornography often denotes the recording of legal, sexually explicit content involving consenting adults. However, any sexually explicit activity initiated by an adult and involving children is illegal and considered sexual abuse; so, recording of this activity is more accurately referred to as “sexual abuse imagery”). The Canadian Centre for Child Protection received 37,352 reports of child sexual abuse imagery in 2015, an increase of 476 % since 2008 (Canadian Centre for Child Protection, 2016). The Internet Watch Foundation documented 132,739 webpages containing child sexual abuse imagery on the internet in 2019, which is a 26 % increase since 2018 and a 324 % increase since 2014 (Internet Watch Foundation, 2020).

Similar to child sexual abuse, girls are more likely than boys to be the subject of child sexual abuse imagery (Canadian Centre for Child Protection, 2016; Internet Watch Foundation, 2020). The Canadian Centre for Child Protection (2016) found that 78 % of child sexual abuse images and videos on the Internet depicted children under the age of 12, with 63 % being under the age of eight. As the age of the child decreases, these images become increasingly violent and contain more explicit sexual acts (Canadian Centre for Child Protection, 2016). Notably, a majority of child sexual abuse imagery is produced by offenders known to the child, particularly family members or close family friends, especially in cases where the victim is under 12-years-old (ECAPT International, 2018; Mitchell, Finkelhor, & Wolak, 2005; Quayle, Jonsson, Cooper, Traynor, & Svedin, 2018). In their review of the Interpol Child Sexual Exploitation Image Database, Quayle et al. (2018) note that the instances of self-taken images have increased in recent years, although the majority of these images are classified as coercive and solicited by adults.

Grooming and luring are important processes of child sexual abuse in general, and child sexual abuse imagery specifically. Grooming refers to a process in which a child, significant adult in the child's life, or environment, are prepared for the abuse of a child (Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013). Luring refers to a perpetrator's use of online technology to facilitate or engage in sexual activity (Loughlin & Taylor-Butts, 2009; Ly, Murphy, & Fedoroff, 2016). Adolescents may be more at risk to grooming or luring as they have more autonomy online, may engage in more risky online behaviors, might be seeking out sexual information as part of normal adolescent development, and desire to develop romantic relationships (Wurtele & Kenny, 2016; Wurtele, 2012). Once child sexual abuse images enter cyberspace, they become next to impossible to permanently destroy, contributing to the ongoing victimization of affected children (Binford, 2015; Martin, 2014).

Early detection of signs that a child is being victimized online is of paramount importance. Any initiatives aimed at identifying child abuse should include a strategy for mobilizing educators to recognize and respond to child exploitation. Educators are a major source of referrals to child protection authorities. For example, in Canada, educators account for 24 % of all child abuse referrals in Canada (Trocme et al., 2010). However, they may under-report sexual abuse relative to physical abuse since Canadian educators provide 45 % of physical abuse referrals but only 19 % of sexual abuse referrals (Trocme et al., 2005). Although educator's rate sexual abuse as more serious than physical abuse (O'Toole, Webster, O'Toole, & Lucal, 1999; Reyome & Gaeddert, 1998), they may be less likely to report sexual abuse because they are uncertain whether the abuse is actually occurring (Crenshaw, Crenshaw, & Lichtenberg, 1995; Shakeshaft, 2004). Indeed, a lack of evidence or a fear of being wrong appears to be the most significant barrier for educators in reporting of all types of child maltreatment (Feng, Huang, & Wang, 2010; Goldman, 2007; Kenny, 2001; Márquez-Flores, Granados-Gómez, & Márquez-Hernández, 2016).

Numerous initiatives have been launched that are aimed at training educators to recognize and respond to concerns about child sexual abuse (Baginsky, 2003; Gushwa, Bernier, & Robinson, 2019; Hawkins & McCallum, 2001; Kleemeier, Webb, Hazzard, & Pohl, 1988; Randolph & Gold, 1994; Rheingold et al., 2015; Walsh, Farrell, Bridgstock, & Schweitzer, 2006). In general, these programs, which include *Enough!* and *Stewards of Children*, increase knowledge about the symptoms of child sexual abuse and confidence in reporting to child welfare authorities (Gushwa et al., 2019; Rheingold et al., 2015). However, uptake of these programs is limited and there appears to be a desire among educators for more training in child protection. For example, an American study found that only 36 % of teachers rated their training in sexual abuse as adequate (Kenny, 2001) while a similar study in Taiwan found that only 19 % of

teachers rated their training in child abuse as adequate (Feng et al., 2010). Likewise, a recent study in Spain found that only 35 % of teachers had received any training at all in sexual abuse (Márquez-Flores et al., 2016). Even though sexual exploitation of youth is increasingly occurring online (Canadian Centre for Child Protection, 2016; Internet Watch Foundation, 2020), the authors could not identify any systematic evaluations of the effectiveness of online child protection training targeted towards educators.

Any attempt to modernize and appropriately train educators respond to child sexual abuse will need to account for the rapidly evolving digital landscape. The present study aimed to identify the perceptions of educators and other school staff regarding their capacity, confidence and training in responding to varying forms of child maltreatment including online exploitation and child sexual abuse imagery.

2. Methods

2.1. Study design and participants

Five school boards in Alberta, Canada agreed to participate, representing 872 school district employees. These employees came from 21 schools as well as two district-level teams that operate across multiple schools. The final analysis includes data from $n = 12$ schools, $n = 2$ district-level teams and $n = 450$ respondents.

2.2. Data collection

We administered surveys online via SimpleSurvey (OutSideSoft Solutions, Montreal, QC, Canada) to all participants except for those at two schools whose administrators expressed a preference for using paper copies. The survey questions were identical in both modalities. All surveys were conducted between April and December of 2018. The Conjoint Faculties Research Ethics Board at the University of Calgary and review boards at all five participating school districts approved this research.

Grooming

In your current professional role in your school, you have worked in some capacity as an educator with a 13-year-old girl named "Riley". You and your school-based colleagues have noticed recent changes in Riley's presentation at school and her interactions with peers. You have noticed that Riley often talks about not feeling good about her physical appearance, and feeling lonely. Riley has shared with her peers that she has a special connection with her dad's best friend (age 35) who understands her better than anyone else including her parents. Riley has been wearing expensive clothes and jewelry. When you comment directly on Riley's new clothes and jewelry, she shares with you that her dad's best friend bought her these gifts. She also shares that he takes her to "fun" places like concerts, the swimming pool, and sometimes even over to his place late at night to watch movies. Riley mentions that her dad does not know about this. Her dad's best friend wants her to keep their relationship secret to make it "more special". You and your colleagues suspect that Riley is being groomed.

Luring

It has come to your attention either from direct discussions with Riley or conversations that you have overheard with Riley and her peers the following: Riley shares that she and her dad's friend (age, 35) communicate extensively online. She shares that she and this friend text throughout the night. Riley shares that this person always makes her feel special and beautiful. She explains that she thinks this man cares about her and that she has feelings for him. She says that he asks a lot of questions about her love life. He also asks other personal questions like if she has started menstruating. Riley says that he asked her to send some photos of her in her pajamas. You suspect that Riley is being lured.

Sexual Abuse

Riley (13 years old) begins referring to her dad's best friend (age 35) as her "boyfriend". She says that she is really excited because this is her first boyfriend, but she is afraid her parents will be mad if they ever found out about their relationship. Riley does not want her parents to know about this relationship. Riley shares that they have been "hooking-up" a lot, and she thinks they may go "all-the-way" soon. She likes the way it feels when he touches her but sometimes she feels embarrassed and ashamed by the things he makes her do.

Child Sexual Abuse Imagery

It has been brought to your attention that Riley has been showing pictures of herself that have been taken by her "boyfriend" (her dad's best friend, 35 years old). She has also shown pictures that he has sent to her where they are kissing and touching each other. Riley has told others that her boyfriend has done a photo shoot of her and told her she could be a lingerie model. He told Riley that he has sent the pictures to a few of his friends in the modeling industry.

Fig. 1. Vignettes provided to survey participants. Each section of the survey began with one of the four vignettes, followed by questions about a participant's experience, confidence and training in dealing with similar situations.

We developed the survey in collaboration with the Canadian Centre for Child Protection, which is a non-profit agency focused on preventing child sexual exploitation online. We also worked with an education advisory committee composed of school district employees to ensure that the questions and contents were appropriate for educators and other school staff. The survey began with questions about demographics and experience. Participants were also asked “Do colleagues come to you to consult about disclosures or concerns about child abuse?”. Next, the survey contained four sections relating to child sexual exploitation: grooming, luring, sexual abuse and child sexual abuse imagery. Each of these four sections had a repetitive structure, beginning with a definition of the activity and a vignette to illustrate an example (see Fig. 1 for vignettes). Grooming was defined as a process by which a person prepares a child for exploitation, including gaining access to the child, ensuring the child’s compliance and maintaining the secrecy of the relationship. Luring was defined with reference to the Canadian Criminal Code (section 172.1), which specifies that child luring is the use of a digital device to facilitate a sexual offense involving a child. Sexual abuse was defined as sexual contact or activity involving a child and a person significantly older than them. Child sexual abuse imagery was defined as audio or video recordings of the sexual abuse or sexual exploitation of a child.

It is important to note that luring and child sexual abuse imagery were defined for participants in a way that they must include the use of digital technology or the internet. By contrast, sexual abuse was defined to require in-person contact. The vignette for grooming did not include the use of technology although grooming often involves online contact (Finkelhor, Walsh, Jones, Mitchell, & Collier, 2020), so it is unclear whether participants interpreted grooming as involving electronic communication.

After reading the definition (of grooming / luring / sexual abuse / child sexual abuse imagery) and the corresponding vignette, participants were asked to respond to a series of questions. First, participants were asked to think about the students they dealt with directly and whether they “suspected or confirmed” any of their students had experienced grooming / luring / sexual abuse / child sexual abuse imagery in the last year. Next, participants were asked who they would contact to share their concerns about grooming / luring / sexual abuse / child sexual abuse imagery (the answers to these questions are not included in this manuscript but the most common response was to talk to the school principal). Third, they were presented with an open response question asking “Are there any reasons why you may hesitate to speak to someone about your concerns regarding ... (grooming / luring / sexual abuse / child sexual abuse imagery)?” The goal of this question was to determine why people may fail to report a suspicion of abuse, but the question was phrased in an indirect manner because education staff in Canada are “mandatory reporters” of child abuse, and could face penalties for failing to report suspected abuse. Fourth, respondents were asked how *confident* they would be in responding to a concern about grooming / luring / sexual abuse / child sexual abuse imagery. Six questions were asked about confidence regarding grooming / luring / sexual abuse whereas three questions were asked about child sexual abuse imagery. Confidence was rated on a 4-point scale (not at all confident, not very confident, confident, or very confident). Finally, participants were asked whether they had received *formal training* in the last five years on a specific topic related to grooming / luring / sexual abuse / child sexual abuse imagery. Six questions were asked about training in grooming / luring / sexual abuse while two questions were asked about training in child sexual abuse imagery. Participants were explicitly told that their responses would remain anonymous and that they could skip any questions they didn’t want to answer. A similar survey covering the topic of child sexual abuse imagery was administered to healthcare providers and municipal police in Alberta. These data are being prepared for publication.

2.3. Data analysis

We analyzed the quantitative data using SPSS (IBM; Armonk, NY, USA) and visualized the data using Prism (GraphPad Software, San Diego, CA, USA). We used “heat maps” to display data on level of experience, confidence and training. A heat map is similar to a table in that an individual value is reported for each cell. The color of the cell corresponds to the number in the cell: in this case, the higher the number in the cell, the more deeply the cell is shaded in red. Proportions and their corresponding 95 % confidence intervals (CIs) are reported for data in text and tables, but CIs are not shown on the heat maps for the sake of clarity. After examining the results, comparisons of interest were made using independent samples t-tests or paired-samples t-tests. Alpha was set at 0.05 and was not adjusted for multiplicity, since the comparisons are not considered independent and were designed post hoc.

We analyzed the qualitative data using summative content analysis (Hsieh & Shannon, 2005). We began this process by reading all answers multiple times. We then grouped answers into categories and summed the number of responses in each category. We report the five most common categories of responses for grooming / luring / sexual abuse / child sexual abuse imagery.

3. Results

3.1. Response rate

A total of $n = 446$ participants completed the entire survey (51 % of those invited). The completion rate varied greatly between schools and system-based teams (from 4 % to 98 %). Prior to examining the response rates or results, the investigators decided that an individual school (or system-based team) would need to achieve a 25 % survey completion rate for their data to be included in the final analysis. This decision was made to control for selection biases that can be introduced with low response rates. After applying this threshold, data were retained from $n = 12/21$ schools and $n = 2/2$ system-based teams. Among data included in the final analysis, the lowest completion rate for a school / system-based team was 38 %. The overall survey completion rate was 72 % ($n = 405$ of 561).

Additionally, data were retained from participants who partially completed the survey, assuming that they answered at least one question after the introductory section on demographics. This resulted in the inclusion of 45 partially-complete surveys. Some of these 45 individuals likely quit voluntarily, although the researchers are aware of an incident at one school where 31 respondents were

disconnected from the online survey platform in the middle of the survey and were unable to reconnect to finish the survey. Including partially complete surveys, the overall participation rate was 80 % (450 of 561). Demographic data are provided in Table 1.

3.2. Experience

Overall, 44 % (95 % CI: 39 %–49 %) of staff dealt with at least one category of exploitation or maltreatment in the last year (Table 2). More staff reported dealing with students affected by sexual abuse than either luring ($t_{399} = 4.76$, $p < .001$) or child sexual abuse imagery ($t_{389} = 5.85$, $p < .001$). Likewise, staff were significantly more likely to report encountering grooming than either luring ($t_{419} = 4.06$, $p < .001$) or child sexual abuse imagery ($t_{394} = 4.31$, $p < .001$). However, staff were equally likely to report encountering grooming versus sexual abuse ($t_{400} = 1.11$, $p = .269$) or luring versus child sexual abuse imagery ($t_{391} = 1.76$, $p = .080$).

Certain professions were more likely to encounter at least one category of exploitation in the last year. Guidance counsellors, social workers and principals were all more likely to report working with a student facing exploitation than were teachers or educational assistants (Fig. 2; all $p \leq .028$). The relatively high level of experience among guidance counsellors, social workers and principals in responding to sexual exploitation may be caused by the fact that nearly all of these respondents said that their colleagues come to them to consult about concerns over child abuse (Table 3). Given the vast differences in the proportion of staff of encountering grooming, luring, sexual abuse and child sexual abuse imagery, we decided to analyze the proportion reporting formal training individually for each profession.

3.3. Training

Comparing between categories of exploitation or maltreatment, all professions had more training in sexual abuse than grooming, luring or child sexual abuse imagery (Fig. 3). For instance, more teachers had formal training in recognizing sexual abuse than had formal training in recognizing signs of luring ($t_{170} = 5.70$, $p < .001$) or grooming ($t_{172} = 3.97$, $p < .001$). In general, professions with less formal training in sexual exploitation or maltreatment (teachers and educational assistants) encounter these issues less frequently than professions with more formal training in sexual exploitation or maltreatment (guidance counsellors and social workers). One

Table 1
Demographics of participants.

	n = 450 (%)
Gender	
Female	84
Age	
18–24	4
25–34	23
35–44	29
45–54	32
55 and older	12
Years in Education	
5 or less	22
6–10	21
11–15	19
16–20	18
21 or more	21
Years in Current Position	
5 or less	55
6–10	19
11–15	12
16–20	6
21 or more	8
Education	
High school	3
Non-university certificate or diploma	11
Bachelor's degree	43
Graduate degree	43
Job Title	
Guidance Counsellor	5
Social Worker	4
Principals (including vice or assistant)	5
Psychologist	7
Teacher	42
Educational Assistant	14
Other	24
School Type (multiple responses possible)	
Elementary	85
Junior High	61
High School	31

Table 2

Proportion of staff who “suspected or confirmed” they encountered different categories of child sexual exploitation or maltreatment in the past year.

	Percent (95 % CI)
Category Encountered	
Grooming	25 (21–29)
Luring	17 (14–21)
Sexual Abuse	28 (24–33)
Child Sexual Abuse Imagery	14 (11–18)
Number of Categories Encountered	
0	56 (51–61)
1	23 (19–27)
2	9 (7–12)
3	6 (4–8)
4	7 (4–9)

Table 3

Answer to “Do colleagues come to you to consult about disclosures or concerns about child abuse?”.

Job Title	Yes / Total	% Yes (95 % CI)
Guidance Counsellor	22/22	100 (N/A)
Social Worker	15/16	94 (74–99)
Principal (plus vice or assistant)	20/22	91 (74–98)
Psychologist	22/29	76 (58–89)
Educational Assistant	34/62	55 (43–67)
Teacher	77/188	41 (34–48)

notable exception is principals where the proportion reporting formal training is relatively low (Fig. 3C), but the proportion encountering abuse and exploitation is relatively high (Fig. 2). For example, fewer principals reported formal training in recognizing signs of sexual abuse than guidance counsellors ($t_{39} = 2.46$, $p = .018$) or social workers ($t_{33} = 2.31$, $p = .027$).

3.4. Confidence

Self-reported confidence was relatively similar across the different professional roles. For instance, most staff were confident in their ability to recognize sexual abuse: including 75 % (95 % CI = 41 %–94 %) of guidance counsellors; 92 % (95 % CI = 69 %–99 %) of social workers; 79 % (95 % CI = 57 %–92 %) of principals; 96 % (95 % CI = 81 %–100 %) of psychologists; 62 % (95 % CI = 54 %–69 %) of teachers; and 52 % (95 % CI = 38 %–66 %) of educational assistants. Thus, we chose to collapse all confidence data into a single graph to enhance clarity (Fig. 4).

Staff reported higher levels of confidence in responding to sexual abuse than grooming, luring or child sexual abuse imagery

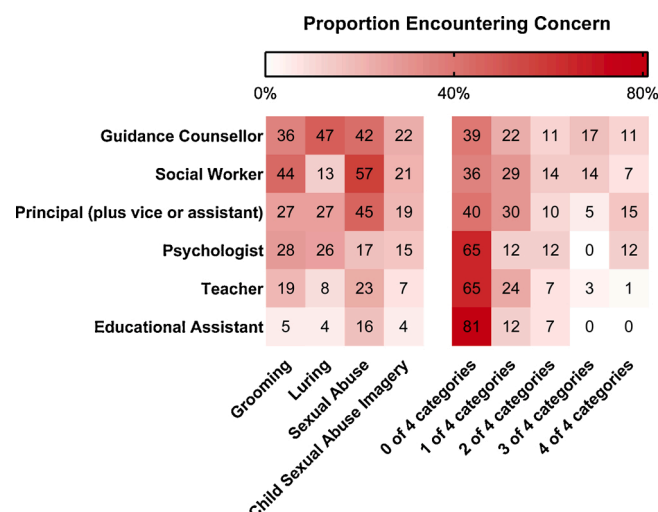


Fig. 2. Proportion of staff encountering concerns about sexual maltreatment or exploitation in the previous year, based on a staff member's role within the school district. Percent of staff who report suspecting or confirming that one of their students was a victim of grooming, luring, sexual abuse or child sexual abuse imagery and the total number of categories of sexual maltreatment or exploitation encountered by staff.

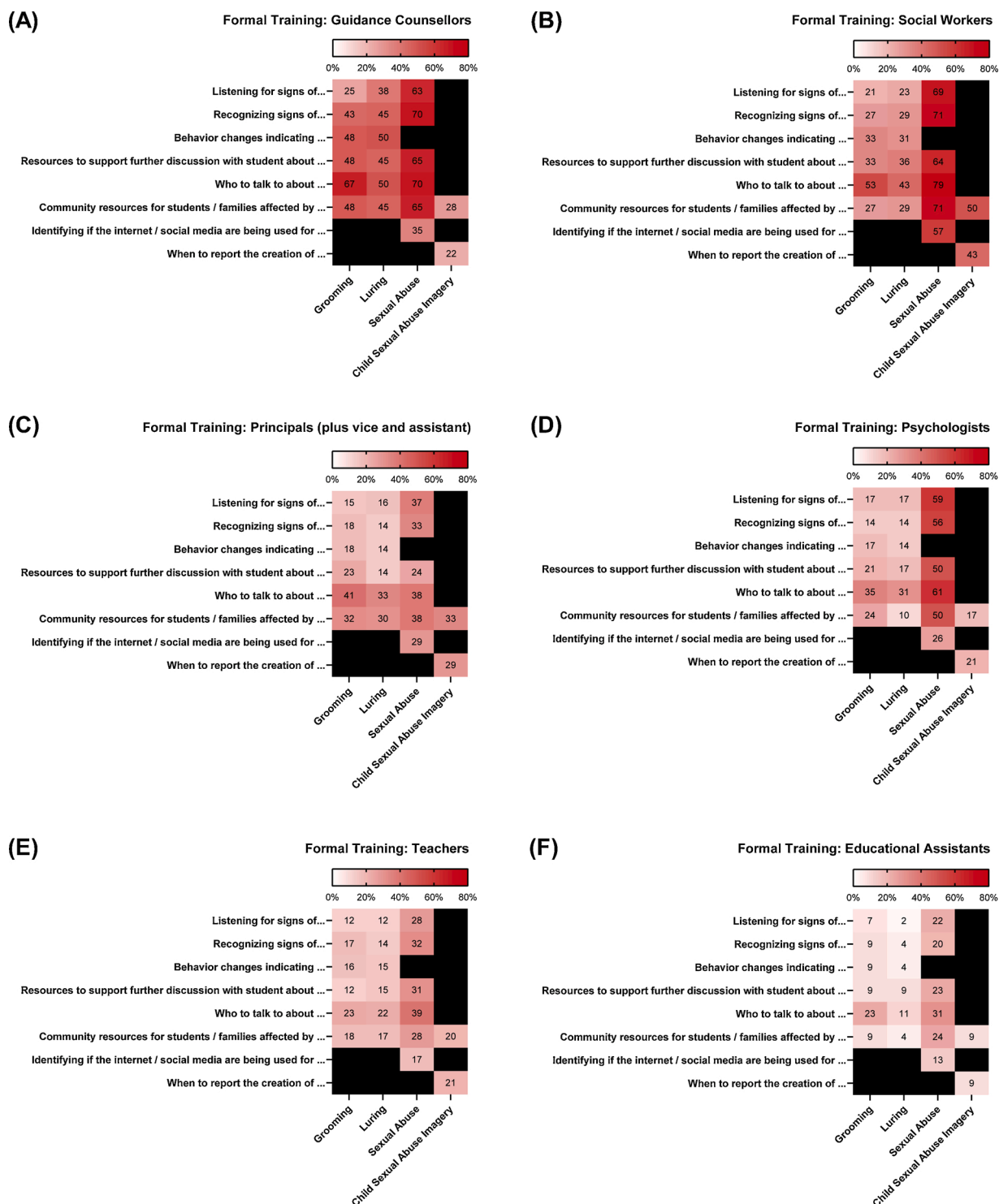


Fig. 3. Percent of staff reporting formal training in an activity in the last 5 years, as a function of their role with the school district. A black square indicates that a given question was not asked for that category of maltreatment or exploitation.

(Fig. 4). For instance, when staff were asked about their knowledge of community resources to support affected students, confidence was higher if the concern was about sexual abuse versus child sexual abuse imagery ($t_{349} = 3.92$, $p < .001$), higher for child sexual abuse imagery versus grooming ($t_{349} = 3.37$, $p = .001$) or luring ($t_{349} = 3.75$, $p < .001$), and equal for grooming and luring ($t_{367} = 0.00$, $p = 1.000$).

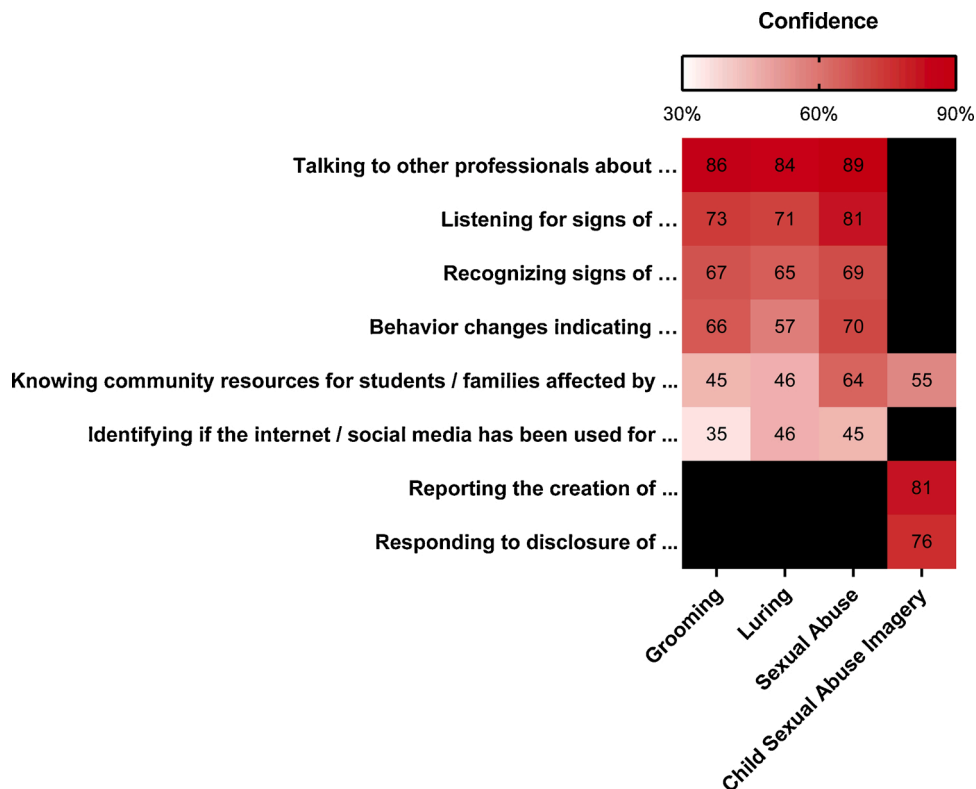


Fig. 4. Percent of staff expressing confidence in an activity. Confidence was rated on a four-point scale (not at all confident, not very confident, confident, or very confident), and coded as expressing confidence if the answer was confident or very confident. A black square indicates that a given question was not asked for that category of maltreatment or exploitation.

Within a category of exploitation, staff expressed more confidence in certain activities than others. For example, when thinking of grooming, staff were more confident in talking to professionals about their concerns than noticing behavior changes ($t_{381} = 8.06$, $p < .001$) and more confident in noticing behavior changes than identifying if the internet or social media had been used for grooming ($t_{384} = 12.06$, $p < .001$).

3.5. Hesitation to respond

Factors that may influence a staff member's decision about whether to report a concern are listed in Table 4. As this was an open response question, the same participant could report multiple factors (or none at all). Fear of making an incorrect report was the most commonly cited reason for not taking any action based on a suspicion of abuse. Uncertainty about how the parent / caregiver will react was the number two concern when responding to grooming or luring. Lack of evidence to support the child's claim was the number two issue when responding to sexual abuse or child sexual abuse imagery.

4. Discussion

The present study sought to examine the experience, capacity and confidence of school staff to recognize and respond to concerns about disclosures of child abuse including online sexual exploitation of their students. To the best of our knowledge, this is the first study on perceived confidence and capacity of school staff to intervene if they have a suspicion or when there is a disclosure of online sexual exploitation. Sexual abuse was the most commonly encountered concern (Table 2). Staff were more likely to report formal training in sexual abuse than in grooming, luring or child sexual abuse imagery (Fig. 3). Mental health professionals working within the school system were more likely to encounter all types of abuse or exploitation than teachers or educational assistants (Fig. 2). All school staff reported relatively low levels of training and confidence in identifying when the internet or social media is being used for sexual abuse or exploitation of a student (Fig. 4). The most frequently cited reason for a staff member hesitating to respond to a concern was a fear of filing an incorrect report (Table 4). Given the evolving digital landscape of child protection, school staff may require additional skills to adequately respond to online threats to their students.

Guidance counsellors, social workers and principals were the most likely to encounter sexual maltreatment (Fig. 2), likely because other educational staff seek consultations from them regarding child abuse (Table 3). In part, our results echo those of Bryant (2009) who found that school counsellors dealt with child abuse cases far more frequently than their school-based peers. However, even the

Table 4

Top five answers (including ties) to: “Are there reasons why you may hesitate to speak to someone about your concerns regarding ... grooming / luring / sexual abuse / child sexual abuse imagery?”.

<i>Grooming</i>	Number	Statement
	41	Worried I am wrong or misinterpreting situation
	25	Concerned how parent or caregiver will react
	13	Lack of evidence to support child's claim
	12	Concerned that reporting may increase risk to child
	12	Wondering if I am over-reacting or being judgmental
<i>Luring</i>	Number	Statement
	33	Worried I am wrong or misinterpreting situation
	10	Concerned how parent or caregiver will react
	5	Lack of evidence to support child's claim
	5	Unsure what is legally considered “luring”
	4	Possible harm to child or family from false accusations
	4	Possible harm to falsely accused person
<i>Sexual Abuse</i>	Number	Statement
	21	Worried I am wrong or misinterpreting situation
	5	Lack of evidence to support child's claim
	4	Concerned how parent or caregiver will react
	3	Possible harm to child or family from false accusations
	3	Concerned that reporting may increase risk to child
<i>Child Sexual Abuse Imagery</i>	Number	Statement
	16	Worried I am wrong or misinterpreting situation
	6	Lack of evidence to support child's claim
	3	Topic is uncomfortable one to discuss
	3	Concerned that reporting may increase risk to child

The question was open response with multiple responses possible for the same respondent. The top five answers are shown (including ties), except for child sexual abuse imagery because there were only four statements that were given by multiple respondents.

group in the present study that was least likely to deal with sexual maltreatment (educational assistants) still had a 19 % chance of encountering suspected or confirmed grooming, luring, sexual abuse or child sexual abuse imagery in the previous year (Fig. 2). Thus, a strong argument could be made for making sure that all school staff are prepared to respond to concerns about sexual exploitation.

Increasing child maltreatment reporting among school staff is important since evidence suggests that the majority of child maltreatment suspicions are not reported by school staff (Ayling, Walsh, & Williams, 2020; Kesner & Robinson, 2002). At present, the majority of educators do not report having any formal training in responding to child maltreatment at any point in their career and perceive themselves as inadequately prepared to identify or report child sexual abuse (Ayling et al., 2020; Feng et al., 2010; Goldman, 2007; Kenny, 2004; Márquez-Flores et al., 2016). The present data set provides additional nuance by showing that most guidance counsellors, psychologists and social workers have some formal training in sexual abuse or exploitation, but that such training is far less common among principals, teachers and educational assistants (Fig. 3).

Simply increasing the rate of formal training in sexual exploitation may not improve reporting of concerns by school staff. Training appears effective at increasing knowledge about legislation and policies (Walsh, Mathews, Rassafiani, Farrell, & Butler, 2014). However, there is mixed literature on whether training increases the likelihood of school staff to actively respond to child protection concerns. When asked directly, educators have cited a lack of training in the child welfare reporting process as a barrier to reporting child maltreatment (Dinehart & Kenny, 2015). However, several studies have failed to find a relationship between the level of training an educator has in child maltreatment and their history of reporting child maltreatment or their intention to report future child maltreatment (Goebbels, Nicholson, Walsh, & De Vries, 2008; Walsh, Mathews, Rassafiani, Farrell, & Butler, 2012).

Even though the relationship between child protection training and child welfare reporting is opaque, it is clear that the level of certainty a school staff member has in their suspicion of abuse is a strong predictor of their past history or future intention to report their concern (Dinehart & Kenny, 2015; Feng et al., 2010; Goebbels et al., 2008; Kenny, 2001; Walsh, Bridgstock, Farrell, Rassafiani, & Schweitzer, 2008). In our study, educators reported relatively high levels of confidence in recognizing and responding to all four categories of exploitation or maltreatment (Fig. 4). Confidence was relatively consistent between grooming, luring, sexual abuse and child sexual abuse imagery even though formal training was much more common with sexual abuse (cf. Figs. 3 and 4). This is surprising because previous research suggests that training in sexual abuse increases educators' subjective confidence and objective competence to respond to sexual abuse concerns (Hawkins & McCallum, 2001; Randolph & Gold, 1994; Walsh et al., 2014; Walsh, Zwi, Woolfenden, & Shlonsky, 2015). Future research should investigate whether specific training in sexual abuse provides a general set of skills for recognizing and responding to grooming, luring or child sexual abuse imagery.

Although staff were relatively equally confident in their skills across categories of abuse or exploitation, they expressed more confidence in performing specific activities within those categories. For example, they were more confident in recognizing signs that abuse was occurring than in their knowledge of community resources available to support affected students (Fig. 3). Staff were least confident in their ability to identify the role of the internet or social media in facilitating abuse and exploitation, which may be caused

by a lack of training on this topic. Online technology may be an area where ongoing training is required since the digital landscape is constantly evolving and the online habits of youth differ significantly from those of adults. Many teachers already advise students about online safety, although the level of involvement by teachers varies greatly between countries (Livingstone, Haddon, Gorzig, & Olafsson, 2011). One study of a cyber-safety program run by the Ministry of Education in Singapore found that trained teachers could be more effective than parents in providing advice to youth in how to reduce high-risk behavior online (Shin & Lwin, 2017).

When asked why they may hesitate to report a concern about abuse or exploitation, participants frequently cited a fear that they were filing an incorrect report or a lack of evidence to support the claim (Table 4). Previous studies have shown that teachers are often hesitant to report sexual abuse if the allegation cannot be confirmed, but the present data shows that this finding extends to a broader population of educators and concerns about sexual manipulation or exploitation online. For example, Kenny (2001) found that fear of being wrong was the number one reason that teachers did not report sexual abuse. Another study found that 11 % of teachers admitted that they had not reported a suspicion that one of their students was experiencing child abuse (Feng et al., 2010). When asked why they did not report suspected abuse, 74 % cited a lack of certainty about the evidence while 21 % cited an absence of trust in the legal system (Feng et al., 2010). Another survey found that just 58 % of teachers would file a report with local authorities if they “only suspected sexual abuse” (Márquez-Flores et al., 2016). Even though these statements appear to contradict teachers’ role as “mandatory reporters” of suspected child maltreatment, it may be that there is individual variation in how mandatory reporters interpret whether a situation meets the threshold for reporting to child welfare authorities. For example, in a study of childcare providers in the USA, 61 % of respondents felt that they would only meet the threshold to have a “reasonable suspicion” of abuse if they were more than 50 % confident that abuse was occurring (Levi, Crowell, Walsh, & Dellasega, 2015). This finding is striking given that any hypothesis that is true more than 50 % of the time is the most likely scenario and should be well above the threshold of a “reasonable suspicion”. It is notable that 86 % of participants in the study by Levi et al. (2015) answered the survey in a mathematically inconsistent way, suggesting that the study population struggled with understanding or interpreting probabilities. At the very least, it seems reasonable to conclude that differences in how people interpret vague phrases in child protection laws such as “reasonable suspicion” contributes to inconsistent reporting of child welfare concerns.

Even if a clear and unambiguous disclosure is made, some educators may still doubt the veracity of the story: one study found that 19 % of teachers felt that children are likely to make up stories about sexual abuse and 4 % felt that the majority of sexual abuse claims made by minors are false (Márquez-Flores et al., 2016). While this is an unfortunate situation, it is understandable since most teachers lack sufficient training in child protection (Ayling et al., 2020) and in the absence of specific training, teachers are likely to internalize and even endorse many of the same myths about sexual abuse as are commonly believed by members of the general public (Gewirtz-Meydan, Lahav, Walsh, & Finkelhor, 2019).

In the present study, the reporting system was not perceived as a barrier to filing a report about sexual abuse or exploitation. This is noteworthy because other research has shown that teachers may not report suspected abuse because the reporting process is too confusing or time-consuming (Feng et al., 2010; Walsh et al., 2006). Likewise, a teacher’s confidence in the effectiveness of the child welfare reporting system is a strong predictor of the intention to report child maltreatment (Choo, Walsh, Chinna, & Tey, 2013; Walsh, Rassafiani, Mathews, Farrell, & Butler, 2012). There is also evidence that child welfare authorities do not take reports from educators as seriously as reports from other frontline professionals, which may be due to the fact that abuse substantiation rates are lower for educators than for those employed in social services, medicine or law enforcement (Kesner & Robinson, 2002). However, differences between jurisdictions in terms of the child welfare system and reporting requirements may contribute to differences in educators’ attitudes towards the reporting system.

4.1. Limitations

The primary limitation of this study is that we cannot ascertain the extent to which the schools sampled are representative of schools within the region of analysis (Alberta, Canada). This is because every team leader / school principal had discretion as to whether their team / school would participate in the study. So, even though the high response rate (80 %) means that the answers are considered representative within the teams / schools themselves, we cannot guarantee that the teams / schools sampled were representative of the broader region. Additionally, this study over-sampled elementary school staff, with 85 % of school-based respondents being at schools that included elementary-age students (i.e. children 12 and under; Table 1). Study participants were overwhelmingly female (84 %) although a large gender gap is common in studies of educators and it is not clear whether there is a gender difference in child protection attitudes or behaviours (e.g. O’Toole et al., 1999 finds women less likely to report suspected abuse but Walsh, Mathews et al. (2012) finds no gender difference in reporting intention).

4.2. Future directions

Under-reporting of child maltreatment is common among all childcare professionals (Ayling et al., 2020; Kesner & Robinson, 2002). Future research should focus on how to increase the reporting of online child exploitation by school staff. One place to start would be qualitative interviews with educators to understand why they are less confident in recognizing online threats to their students relative to offline threats. This is important since there is clear evidence that mandatory reporters often fail to act when they are not confident in their suspicion of maltreatment (McTavish et al., 2017). Therefore, training for educators that specifically focuses on how the internet is used to facilitate sexual offenses involving children may increase confidence to detect exploitation, which would likely increase reporting of concerns.

Suggestions for developing training in online child protection were recently made by Finkelhor et al. (2020). Among these are

suggestions to clarify that most adults who use the internet to communicate with minors online for sexual purposes know the child offline in some capacity and are using the internet as way to facilitate interactions with the child. Finkelhor et al. (2020) also emphasize that we can adapt evidence-based practices from studies of offline child protection since many of the threats are similar but there is a large existing literature in offline child protection. Finally, the authors emphasize the importance of co-developing training materials with input from end-users, so that their needs and perspectives are taken into account.

4.3. Conclusion

The present work has identified a clear knowledge gap in educational systems by demonstrating that educators and other school staff frequently encounter online exploitation of their students despite having little knowledge or training in how to handle these situations. The concerns that lead to under-reporting of sexual abuse in other studies are similar to the concerns that the present study identified as leading to under-reporting of online sexual exploitation: namely, a lack of certainty and a concern that reporting may cause harm to the child or family. Given the global economic and mental health burden of child sexual abuse and the critical role that school districts play in reporting this abuse, efforts to increase the confidence and capacity of staff to respond may pay dividends over a lifespan.

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Author contributions

- Provided funding: GD.
- Designed Study or Study Materials: DL, OC, RP, RLD, GD.
- Conducted Study: DL, OC, RP, RLD, GD.
- Analyzed Data: DL, AB, SBP, GD.
- Wrote Manuscript: DL, OC, AB, SBP, GD.

Declaration of Competing Interest

The authors report no declarations of interest.

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