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Identification of red flag child sexual grooming behaviors[☆]

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ABSTRACT

Background: Sexual Grooming is the deceptive process wherein a would-be perpetrator prepares a child for sexual abuse (CSA) and prevents disclosure and detection. It is often difficult to detect sexual grooming because some grooming behaviors resemble normal adult-child interactions. To prevent CSA, it is vital to identify sexual grooming behaviors that can be considered “red flag” behaviors.

Objective: This study compared reported sexual grooming behaviors between adults who experienced CSA and those with no CSA history to identify which behaviors differed between the two groups. Further we explored whether the relationship to the adult male in the Non-CSA group impacted reported behaviors.

Participants and setting: Participants were recruited online through Prolific and included adults who experienced CSA ($n = 411$) and those with no CSA history ($n = 502$).

Methods: Participants who reported CSA completed the *Sexual Grooming Scale – Victim Version (SGS-V)* about their CSA experience. Those with no CSA history were randomly assigned to one of three conditions (family member/non-family member/community member) and completed a modified version of the *SGS-V* about an adult male with whom they had the most interpersonal contact before age 18.

Results: Numerous sexual grooming behaviors that differentiated the behaviors of adults who engaged in CSA and those who did not were identified. The relationship to the adult was an important consideration.

Conclusions: Red flag sexual grooming behaviors, specifically those related to desensitizing the child to physical contact and sexual content, can be identified in cases of CSA and have an important role in prevention.

Child sexual abuse (CSA) is a serious global problem, and it is estimated that one in four girls and one in 13 boys will experience CSA by the time they reach adulthood ([Centers for Disease Control \[CDC\], n.d.](#)). Children frequently do not report CSA, and if they do, it may be many years after it happened ([Hébert et al., 2009](#)). It has been hypothesized that CSA is often undetected as the perpetrator may use sexual grooming behaviors as a means of reducing the likelihood the victim will disclose, and avoiding recognition by others ([Craven et al., 2006](#); [McAlinden, 2012](#); [van Dam, 2001](#)). Importantly, research has shown it is hard to identify sexual grooming behaviors before the abuse occurs ([Spenard & Cash, 2022](#); [Winters & Jeglic, 2016, 2017](#)). It has been suggested this difficulty is since

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many sexual grooming behaviors are analogous to normal adult/child interactions, however the underlying intention behind them is deviant in nature (Bennett & O'Donohue, 2014; Craven et al., 2006; Lanning, 2010). Despite this, it remains unclear as to how sexual grooming behaviors may be similar, or dissimilar to healthy and normative interactions between an adult and child. It is crucial to draw this distinction to better identify sexual grooming behaviors before the abuse occurs (Bennett & O'Donohue, 2014). To this end, this study aims to examine whether there are "red-flag" sexual grooming behaviors employed in cases of CSA that differentiate them from non-abusive adult/child interactions.

1. Child sexual grooming

While there have been varied definitions of sexual grooming proposed over the past several decades (see Bennett & O'Donohue, 2014 and Winters et al., 2021 for a discussion), the term generally refers to the process by which a person seeking to commit a sexual offense creates a situation in which the CSA can be more easily enacted and remain undetected. To bring consensus to the field and enable empirical analysis of the construct, Winters and colleagues (2021) proposed to define sexual grooming as:

"the deceptive process used by sexual abusers to facilitate sexual contact with a minor while simultaneously avoiding detection. Prior to the commission of the sexual abuse, the would-be sexual abuser may select a victim, gain access to and isolate the minor, develop trust with the minor and often their guardians, community, and youth-serving institutions, and desensitize the minor to sexual content and physical contact. Post-abuse, the offender may use maintenance strategies on the victim to facilitate future sexual abuse and/or to prevent disclosure" (p.933).

Based on a content-validated model of sexual grooming (Sexual Grooming Model [SGM]; Winters et al., 2020), this process involves five stages: 1) selecting a vulnerable child to target for the abuse; 2) gaining access and isolating the child from others; 3) deceptively developing trust with the child and those around the child; 4) gradually desensitizing the child to sexual content and physical touch; and 5) after the abuse occurs, using post-abuse maintenance behaviors to facilitate the likelihood of continued abuse and/or reduce the likelihood of detection and disclosure. As identified by experts in the field, the SGM further includes 42 specific behaviors that may be observable within each of these five stages (see Winters et al., 2020 for a full review of the model development and validation).

The process of sexual grooming is believed to be a very complex and nuanced process, that may differ on a case-by-case basis (Bennett & O'Donohue, 2014; Craven et al., 2006; Winters et al., 2020). Generally speaking, research has shown sexual grooming behaviors are relatively common in cases of CSA (Canter et al., 1998; Groth & Birnbaum, 1978). More recent data using the *Sexual Grooming Scale -Victim Version* (SGS-V; a self-report scale based upon the 42 behaviors identified in the SGM; Winters & Jeglic, 2021) showed that 99 % of adults who reported experiencing CSA endorsed that they experienced at least one sexual grooming behavior, with an average of 15 out of 42 possible sexual grooming behaviors reported per participant (Winters & Jeglic, 2021).

2. Identifying sexual grooming behaviors

Importantly, it has been hypothesized that sexual grooming behaviors, although commonly employed in cases of CSA, are not easily recognized and are more easily identified retrospectively once the abuse has already been detected (Bennett & O'Donohue, 2014; Craven et al., 2006; Lanning, 2010). One experimental study examined whether there is a hindsight bias (i.e., the tendency to overestimate one's ability to have foreseen an outcome) in cases of CSA involving sexual grooming (Winters & Jeglic, 2016). Using a sample of 525 undergraduate students who were randomly assigned to read a vignette containing sexual grooming behaviors, with or without the outcome knowledge that the person committed CSA, Winters and Jeglic (2016) found that participants who did not receive outcome information (i.e., that sexual abuse occurred) overestimated the likelihood they would have predicted that the individual would have sexual abused the child. Additionally, they found that those who read vignettes that contained sexual grooming behaviors were significantly more likely to indicate that the person would go on to perpetrate CSA (~30 % compared to ~20 %, out of a possible 100 % [definitely true]), showing there was some ability to detect potentially predatory behaviors, although the percentages were toward the "definitely not true" anchor of the scale. Lastly, the authors explored what types of sexual grooming behaviors were most easily recognized as worrisome and found that participants were most concerned about behaviors involving the isolation and physical touch of the child. Recently, Spenard and Cash (2022) replicated Winters and Jeglic (2016) findings using a sample of 156 undergraduate students. They found evidence of a hindsight bias for both same and opposite-sex cases of CSA, and participants had some ability to recognize sexual grooming.

In a follow-up study to Winters and Jeglic (2016), Winters and Jeglic (2017) randomly assigned 393 undergraduate participants to read one vignette (one vignette contained no sexual grooming behaviors, while the remaining five vignettes contained behaviors from one or all of the first four stages of the SGM stages) and respond to outcome questions about the likelihood that the individual in the vignette committed CSA. The responses to outcome questions did not differ between those who read a vignette without sexual grooming behaviors compared to those that contained sexual grooming tactics. Contrary to the findings of Winters and Jeglic (2016) and Spenard and Cash (2022), the authors concluded that this showed that individuals have a hard time recognizing sexual grooming behaviors across the stages of the SGM process (Winters & Jeglic, 2017). Overall, these studies showed that sexual grooming is more easily identified retrospectively, and people may have a difficult time recognizing certain potentially predatory behaviors. Of note, these studies (Spenard & Cash, 2022; Winters & Jeglic, 2016, 2017) only examined recognition of the broad stages of the SGM, as opposed to individual behaviors.

3. Why is it difficult to recognize sexual grooming?

It has been suggested that many sexual grooming behaviors, especially the ones not related to sexual content or touch, are difficult to recognize beforehand in large part due to the seemingly innocuous nature of some of these tactics. Many of the actions considered to be sexual grooming can also be indicative of a normal, healthy adult relationship with a child. As Craven et al. (2006) state, sexual grooming is “not dissimilar to innocent behavior intended to broaden a young person’s experiences. The only difference may be the motivation underlying the behaviour.” (p. 292). In fact, it is likely a person seeking to commit a sexual offense will want to appear to engage in normative behavior so as not to be detected (Bennett & O’Donohue, 2014). For example, it is not necessarily worrisome for an adult to give a child a gift or play childlike games with them – yet these are behaviors that are also considered to be sexual grooming strategies (see Winters et al., 2020 for a list of sexual grooming behaviors and tactics).

It is crucial for the detection and prevention of CSA to be able to distinguish between innocuous caring behaviors and behaviors and tactics indicative of sexual abuse. Winters et al. (2020) hypothesized that there may be several ways to identify which sexual grooming behaviors may differ from appropriate interactions between a child/adult. First, there may be certain behaviors that are more concerning and are thus more indicative of sexual grooming (i.e., more *severe* or “*red flag*” behaviors). This would likely include behaviors found in the desensitization to sexual content and physical contact stage such as showing a child pornography, undressing around a child, or using inappropriate sexual language with a child (Winters & Jeglic, 2016). Second, the behaviors may be used in *high frequency* with the child. High frequency behaviors can further be broken down to include employing many different sexual grooming behaviors (*high number of behaviors*) or using select behaviors often, such as frequently doing activities with a child away from other adults, giving a child many compliments or gifts, or texting or communicating with a minor often (*high occurrence*). Third, there may be certain combinations of behaviors (*clusters*) that are ultimately more concerning, such as using various behaviors across each of the five SGM stages (e.g., spending a lot of time with a vulnerable child without other adults around).

Importantly, these above-noted hypotheses have yet to be empirically examined. Thus, in order to develop prevention methods to identify sexual grooming before the abuse occurs, it is necessary to better understand how these sexual grooming behaviors may differ from ordinary adult interactions with children. To this end, the present study aims to explore differences in sexual grooming behaviors endorsed by those who experienced CSA compared to individuals who were never abused, using the SGS-V. More specifically, we aimed to explore a) whether there are certain red flag behaviors that are more common in cases of CSA compared to Non-CSA (*severe or red flag behaviors*), and whether these vary depending on relationship to the child (family, non-family, community member), and b) whether there are more sexual grooming behaviors used in cases of CSA compared to Non-CSA (*high number of behaviors*).

4. Method

4.1. Participants and procedure

Participants were individuals who were recruited through the online survey-taking website, Prolific. Prolific allows adult volunteers to complete research studies in exchange for monetary compensation and has a more diverse population to sample from than other similar platforms (e.g., MTurk, university participant pools; Palan & Schitter, 2018). Prolific users were able to sign up for the study (“An Analysis of Behaviors”) through postings on the website. To be eligible for participation, individuals had to be aged 18 or older, reside in the United States (U.S.) and speak/write English. Out of 978 individuals who completed the informed consent, 913 (93.4 %) participants completed the full survey and passed validity and attention checks; 411 (45.02 %) endorsed experiencing CSA

Table 1
Demographics of participants.

Variable	Response options	Total sample	CSA	Non-CSA	χ^2	<i>p</i>
Sex at Birth	Male	285 (31.22)	79 (19.22)	206 (41.04)	50.18	<0.001
	Female	600 (65.72)	318 (77.37)	282 (56.18)		
	Other	24 (2.63)	12 (2.92)	12 (2.39)		
	Prefer not to Answer	4 (0.44)	2 (0.49)	2 (0.40)		
Self-identified Gender	Man	275 (30.12)	73 (17.76)	202 (40.24)	58.18	<0.001
	Woman	581 (63.64)	305 (74.21)	276 (54.98)		
	Transgender (male-to-female)	3 (0.33)	1 (0.24)	2 (0.40)		
	Transgender (female-to-male)	9 (0.99)	5 (1.22)	4 (0.80)		
	Non-binary	37 (4.05)	23 (5.60)	14 (2.79)		
	Questioning	0 (0.00)	0 (0.00)	0 (0.00)		
	Other	4 (0.44)	3 (0.73)	1 (0.20)		
	Prefer not to answer	4 (0.44)	1 (0.24)	3 (0.60)		
Race/Ethnicity	White/Of European Descent	646 (70.76)	292 (71.05)	354 (70.52)	12.04	0.10
	Black/African American	64 (7.00)	30 (7.30)	34 (6.77)		
	Hispanic or Latino	70 (7.67)	28 (6.81)	42 (8.37)		
	Asian/Pacific Islander	66 (7.23)	22 (5.35)	44 (8.76)		
	Multiracial	28 (3.07)	18 (4.38)	10 (1.99)		
	Biracial	24 (2.63)	11 (2.68)	13 (2.59)		
	Other	5 (0.55)	4 (0.97)	1 (0.20)		
	Prefer not to answer	10 (1.10)	6 (1.46)	4 (0.80)		

(sexual abuse before age 18), while 502 (54.98 %) did not report a history of CSA. Table 1 includes the demographic information for all participants. The mean age of participants was 33.52 years (range = 18–79; CSA *M* = 34.01, Non-CSA *M* = 33.12). Chi-square analyses showed there were significant differences between the CSA and Non-CSA groups in terms of sex at birth and self-identified gender, while there were no differences for race/ethnicity. All methods were approved by the first author’s institutional review board.

Those who met eligibility criteria first completed an informed consent form, and if they agreed to participate, they proceeded to the full survey. Participants who reported CSA responded to demographic questions (i.e., age, race/ethnicity, sex, gender identity), items related to their CSA experience, and completed the SGS-V (described below). Those who did not report a history of CSA completed demographic questions and were randomly assigned to one of three conditions: Non-CSA Family (e.g., parent or step-parent, sibling or step-sibling, grandparent, uncle, cousin; *n* = 169; 33.67 %), Non-CSA Non-Family (e.g., current or former romantic partner, friends, friend of a family member or friend, acquaintance; *n* = 168; 33.47 %), and Non-CSA Community (e.g., coach, teacher, religious leader; *n* = 165; 32.87 %). The participants were asked to “select an adult male [family member/non-family member/community member, depending upon the condition] with whom you had the most interpersonal contact with before the age of 18 and respond to the sets of questions regarding that individual.” They then completed a modified version of SGS-V (*SGS -Non-CSA [SGS-NC]*; see description below) in response to the individual they selected. Given that the majority of CSA is perpetrated by adult males (Basile et al., 2011; World Health Organization, 2012), we requested individuals respond regarding an adult male in their life. To maintain data quality, there were three attention check questions interspersed in the survey for all participants; all participants accurately responded to the attention check questions. Participants were provided a debriefing form following completion of the survey, including contact information for the researchers and emergency contact information should they have experienced distress because of participating in the study. Participants were compensated \$4.00 for the 20-minute survey through Prolific where they were identified only by an ID number. No personally identifying information was gathered.

4.2. Materials

4.2.1. Sexual Grooming Scale – Victim Version (SGS-V)

The SGS-V is a self-report survey for adult victims of CSA to identify the sexual grooming behaviors they experienced during their abuse process. The SGS-V is based on the content-validated SGM that describes five stages of the sexual grooming process (i.e., Victim Selection, Gaining Access and Isolation, Trust Development, Desensitization to Sexual Content and Physical Contact, Post-Abuse Maintenance) and 42 specific behaviors that fall under these stages. The SGS-V asks individuals who experienced CSA to indicate whether they experienced each of the 42 behaviors (Yes, No, Prefer not to say) and if they endorse the behavior, they are asked to describe it qualitatively. The measure also includes five “other” behavior items after each stage for respondents to identify any additional sexual grooming behaviors they may have experienced. The SGS-V was pilot tested on 115 adults who experienced CSA, demonstrating support for the feasibility of the measure (Winters & Jeglic, 2021).

4.2.2. Sexual Grooming Scale – Non-CSA (SGS-NC)

The SGS-V was modified so that it could be completed by individuals who did not experience CSA – the SGS-NC. All of the individual items on the scale remained the same except that the instructions changed. Participants in the Non-CSA groups were asked: “Please select the adult male with whom you had the most interpersonal contact with before the age of 18 (family member/non-family

Table 2
SGS-V and SGS-NC stage prompts.

SGM stage	SGS-V	SGS-NC
Victim selection	“There are many reasons that an individual may select a victim for their sexually abusive behavior. Please select <i>all</i> the reasons you believe the individual who abused you may have selected you.”	There are many reasons that an adult may choose to spend time with a child. Please select <i>all</i> the reasons you believe the adult spent time with you.”
Gaining access and isolation	“There are many ways that an individual may gain access to and isolate a victim. Please select <i>all</i> the behaviors the individual who abused you may have done to gain access or isolate you.”	“There are many ways that an adult can meet and spend time with a child. Please select <i>all</i> the behaviors that apply to the way that adult met and spent time with you.”
Trust development	“There are many ways that an individual may develop trust with the victim or other people around the victim. Please select <i>all</i> the behaviors the individual who abused you may have done to develop trust with you or those around you.”	“There are many ways that an adult may develop trust with a child or other people around the child. Please select <i>all</i> the behaviors the adult engaged in to develop trust with you or those around you.”
Desensitization to sexual content and physical contact	“There are many ways that an individual may try to get the victim used to physical touch or sexual content before the abuse. Please select <i>all</i> the behaviors the individual who abused you may have done to get you used to physical touch or sexual content.”	“There are many ways that an adult may talk with the child or physically touch them. Please select <i>all</i> the behaviors the adult talked with you or physically touched you.”
Post-abuse maintenance	“There are many ways that an individual may try to prevent the victim from disclosing the abuse or to continue the abuse over time. Please select <i>all</i> the behaviors you believe the individual who abused you may used to try to prevent disclosure or continue the abuse.”	“There are many behaviors that an adult may use after spending time with a child. Please select <i>all</i> the behaviors you believe the adult used to after spending time with you.”

member/community member) and respond to the sets of questions regarding that individual.” They were then given a list of possible examples from the condition for which they were assigned and asked to describe their relationship with the individual:

1. Non-CSA Family: Immediate family or extended family member (parent, sibling, step-parent, step-sibling, grandparent, uncle, aunt, cousin, other [specify])
2. Non-CSA Non-Family: Non-family member (romantic partner, ex-partner, friend, friend of family, friend of friend, acquaintance, other [specify])
3. Non-CSA Community: Community Member (coach, teacher, religious leader, other [specify])

The instructions for the five stages were also modified. See Table 2 for a description of the instructions prompts for the SGS-V

Table 3
Endorsement of SGS-V/SGS-NC items by the CSA and non-CSA groups.

	CSA N (%)	Non-CSA N (%)	χ^2	OR
Victim Selection				
Compliant/trusting	258 (65.48)	372 (77.02)	13.71***	0.57 [†]
Low self-esteem	251 (62.75)	169 (34.99)	66.50***	3.13
Lonely/isolated	157 (39.75)	108 (22.13)	31.42***	2.32
Troubled	114 (29.01)	66 (13.64)	30.48***	2.58
Needy	63 (15.91)	42 (8.68)	10.16**	1.99
Unwanted/unloved	167 (42.49)	86 (17.66)	64.28***	3.44
Parents not resources	154 (39.09)	70 (14.55)	67.16***	3.76
Single mother/need "father figure"	73 (18.16)	70 (14.34)	2.10	1.32
Lack of supervision	135 (33.83)	42 (8.55)	86.72***	5.46
Gaining Access and Isolation				
Involvement in youth-serving organizations	35 (8.62)	203 (41.51)	121.27***	0.13 [†]
Manipulate family	99 (24.75)	39 (8.01)	45.59***	3.77
Activities alone with children	228 (58.61)	141 (29.31)	74.39***	3.41
Overnight stays/outings	60 (15.19)	50 (10.33)	4.26*	1.55
Separate child from peers and family	114 (29.38)	10 (2.08)	128.64***	19.54
Trust Development				
Charming/nice/likable	285 (72.15)	355 (74.74)	0.61	0.88
Insider status/good reputation	82 (20.87)	143 (30.3)	9.43**	0.61 [†]
Affectionate/loving	213 (55.04)	180 (38.71)	22.01***	1.94
Giving the child attention	226 (57.65)	138 (29.61)	67.38***	3.23
Favoritism	125 (33.42)	76 (16.17)	33.22***	2.6
Compliments	193 (51.19)	186 (39.91)	10.26**	1.58
Spending time with child	185 (47.8)	159 (33.97)	16.28***	1.78
Engage in childlike activities	140 (35.9)	144 (30.44)	2.64	1.28
Rewards/privileges	96 (24.43)	91 (19.16)	3.23	1.36
Provided drugs and/or alcohol	64 (16)	19 (3.96)	35.64***	4.61
Desensitization to Sexual Content and Physical Touch				
Ask about sexual experience/relationships	115 (29.11)	29 (6.05)	81.98***	6.36
Talk about sexual things they did	108 (27.69)	19 (3.97)	95.08***	9.25
Inappropriate sexual language	138 (35.94)	43 (9)	91.56***	5.66
Sexual education	90 (23.2)	34 (7.14)	43.52***	3.92
Accidental touching	143 (37.63)	13 (2.71)	171.86***	21.6
Watch the child undressing	78 (20.74)	11 (2.3)	74.91***	11.11
Exposing naked body	169 (44.71)	14 (2.94)	216.28***	26.64
Show child pornography	46 (11.7)	8 (1.66)	35.91***	7.82
Seemingly innocent contact	182 (48.79)	49 (10.34)	153.7***	8.24
Increasing sexual touching	156 (42.39)	10 (2.09)	211.99***	34.37
Post-Abuse Maintenance				
Told not to tell anyone	168 (44.21)	8 (1.67)	232.78***	46.46
Encouraging secrets	118 (31.98)	15 (3.14)	128.68***	14.47
I love you/you're special	140 (36.55)	77 (16.28)	44.9***	2.96
Rewards/bribes	44 (11.43)	8 (1.67)	34.23***	7.58
Persuaded it was acceptable behavior	134 (35.45)	53 (11.35)	69.02***	4.28
Misstated moral standards	98 (26.56)	3 (0.63)	130.06***	56.7
Victim made to feel responsible	52 (13.83)	7 (1.47)	47.88***	10.73
Threats of abandonment/rejection	57 (14.47)	9 (1.89)	46.85***	8.76

[†] = a significant item comparison in which the Non-CSA group had higher endorsement than the CSA group.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4
Comparison SGS-V/SGS-NC item endorsement by CSA and non-CSA groups/subgroups (N = 913).

	CSA (n = 411)				Non-CSA (n = 502)			Non-CSA (Family) (n = 169)			Non-CSA (Non-Family) (n = 168)			Non-CSA (Community Member) (n = 165)		
	M/Med	M/Med	U	r	M/Med	U	r	M/Med	U	r	M/Med	U	r			
TOTAL	13.68/14	6.78/6	20,264***	0.42	7.15/6	6887***	0.36	7.08/6	7355.5***	0.37	6.16/5	6022***	0.44			
Victim Selection	3.34/3	2.05/1	48,853***	0.30	2.09/1	16,581***	0.26	2.09/1	16,903***	0.26	1.96/1	15,370***	0.29			
Gaining Access and Isolation	1.35/1	0.91/1	68,084***	0.18	0.87/1	22,211***	0.19	0.83/1	21,763***	0.20	1.02/1	24,111**	0.12			
Trust Development	4.06/4	3.07/3	54,374***	0.18	3.25/3	18,282***	0.13	3.26/3	19,238**	0.13	2.73/2	16,855***	0.23			
Desensitization to Sexual Content and Physical Touch	3.16/3	0.44/0	19,031***	0.63	0.41/0	6112***	0.56	0.63/0	7664***	0.52	0.27/0	5256***	0.60			
Post-Abuse Maintenance	2.02/2	0.35/0	31,432***	0.48	0.53/0	11,788***	0.35	0.38/0	10,774***	0.42	0.15/0	8869***	0.50			

Note. Mann-Whitney *U* tests performed. Statistics reflect non-CSA group/subgroup compared against CSA group. Effect size (*r*) considered small = 0.10, medium = 0.30, large = 0.50.

**p* < .05.

***p* < .01.

****p* < .001.

Table 5
Endorsement of SGS-V/SGS-NC items by the CSA and Non-CSA subgroups.

	CSA			Non-CSA Family			Non-CSA Non-Family			Non-CSA Community		
	N (%)	N (%)	X2	OR	N (%)	X2	OR	N (%)	X2	OR		
Victim Selection												
Compliant/trusting	258 (65.48)	128 (77.11)	6.84**	0.56†	117 (72.67)	2.38	0.71	127 (81.41)	12.75***	0.43†		
Low self-esteem	251 (62.75)	58 (35.15)	34.8***	3.1	58 (36.25)	31.39***	2.96	53 (33.54)	37.79***	3.33		
Lonely/isolated	157 (39.75)	38 (22.89)	13.91***	2.22	37 (22.7)	14.04***	2.24	33 (20.75)	17.31***	2.51		
Troubled	114 (29.01)	27 (16.36)	9.18**	2.09	24 (14.81)	11.62***	2.35	15 (9.55)	22.58***	3.86		
Needy	63 (15.91)	14 (8.64)	4.51*	2	12 (7.41)	6.43**	2.36	16 (10)	2.80	1.7		
Unwanted/unloved	167 (42.49)	31 (19.02)	26.68***	3.14	32 (19.63)	25.22***	3.02	23 (14.29)	39.09***	4.42		
Parents not resources	154 (39.09)	24 (14.81)	29.97***	3.68	25 (15.43)	28.35***	3.51	21 (13.38)	33.06***	4.15		
Single mother/need "father figure"	73 (18.16)	20 (12.27)	2.51	1.59	30 (18.29)	0	0.99	20 (12.42)	2.34	1.56		
Lack of supervision	135 (33.83)	13 (7.83)	39.67***	6	14 (8.59)	36.57***	5.43	15 (9.26)	34.28***	5		
Gaining Access and Isolation												
Involvement in youth-serving organizations	35 (8.62)	38 (23.03)	20.57***	0.32†	58 (35.15)	58.64***	0.17†	107 (67.3)	205.94***	0.05†		
Manipulate family	99 (24.75)	14 (8.48)	18.31***	3.54	18 (11.04)	12.4***	2.65	7 (4.4)	29.34***	7.12		
Activities alone with children	228 (58.61)	57 (34.97)	24.77***	2.63	48 (29.81)	36.63***	3.33	36 (22.93)	55.61***	4.75		
Overnight stays/outings	60 (15.19)	30 (18.29)	0.61	0.8	10 (6.21)	7.58**	2.7	10 (6.29)	7.35**	2.66		
Separate child from peers and family	114 (29.38)	5 (3.07)	45.4***	13.11	3 (1.89)	49.08***	21.57	2 (1.26)	51.72***	32.55		
Trust Development												
Charming/nice/likable	285 (72.15)	92 (58.97)	8.39**	1.8	141 (87.04)	13.34***	0.39†	122 (77.71)	1.51	0.74		
Insider status/good reputation	82 (20.87)	28 (17.39)	0.66	1.25	49 (30.43)	5.28*	0.6†	66 (44)	28.15***	0.34†		
Affectionate/loving	213 (55.04)	94 (60.65)	1.20	0.79	55 (35.26)	16.62***	2.24	31 (20.13)	52.82***	4.84		
Giving the child attention	226 (57.65)	57 (37.5)	17.02***	2.27	44 (28.21)	37.55***	3.46	37 (23.42)	51.53***	4.44		
Favoritism	125 (33.42)	16 (10.26)	29.08***	4.38	27 (17.09)	13.73***	2.43	33 (21.15)	7.34**	1.87		
Compliments	193 (51.19)	54 (34.84)	11.16***	1.96	64 (41.03)	4.17*	1.51	68 (43.87)	2.07	1.34		
Spending time with child	185 (47.8)	61 (39.35)	2.86	1.41	59 (37.34)	4.55*	1.54	39 (25.16)	22.48***	2.72		
Engage in childlike activities	140 (35.9)	57 (35.85)	0.00	1	60 (37.97)	0.13	0.91	27 (17.31)	17.27***	2.67		
Rewards/privileges	96 (24.43)	57 (36.31)	7.3**	0.57†	24 (15)	5.41*	1.83	10 (6.33)	22.61***	4.77		
Provided drugs and/or alcohol	64 (16)	4 (2.47)	18.6***	7.51	13 (8.12)	5.33*	2.15	2 (1.27)	22.19***	14.82		
Desensitization to Sexual Content and Physical Touch												
Ask about sexual experience/relationships	115 (29.11)	5 (3.12)	43.86***	12.7	18 (11.18)	19.24***	3.26	6 (3.8)	40.85***	10.37		
Talk about sexual things they did	108 (27.69)	4 (2.48)	43.17***	14.99	12 (7.55)	25.67***	4.68	3 (1.89)	45.04***	19.85		
Inappropriate sexual language	138 (35.94)	14 (8.75)	40.12***	5.83	22 (13.84)	25.37***	3.49	7 (4.4)	55.53***	12.14		
Sexual education	90 (23.2)	16 (10.06)	11.62***	2.69	12 (7.5)	17.4***	3.72	6 (3.82)	27.59***	7.58		
Accidental touching	143 (37.63)	3 (1.88)	71.17***	31.45	4 (2.5)	68.38***	23.44	6 (3.75)	63.01***	15.43		
Watch the child undressing	78 (20.74)	4 (2.52)	27.22***	10.12	5 (3.12)	25.3***	8.09	2 (1.25)	32.08***	20.62		
Exposing naked body	169 (44.71)	3 (1.9)	91.75***	41.59	9 (5.66)	75.26***	13.42	2 (1.25)	95.93***	63.49		
Show child pornography	46 (11.7)	1 (0.62)	16.79***	21.29	7 (4.38)	6.23**	2.89	0 (0)	18.8***	Inf		
Seemingly innocent contact	182 (48.79)	18 (11.25)	65.73***	7.49	16 (10.19)	68.72***	8.37	15 (9.55)	71.18***	8.99		
Increasing sexual touching	156 (42.39)	1 (0.62)	92.16***	117.88	9 (5.66)	67.95***	12.22	0 (0)	93.2***	Inf		
Post-Abuse Maintenance												
Told not to tell anyone	168 (44.21)	1 (0.62)	97.46***	125.37	6 (3.75)	82.56***	20.26	1 (0.63)	96.91***	124.58		
Encouraging secrets	118 (31.98)	4 (2.52)	52.64***	18.16	11 (6.92)	36.45***	6.31	0 (0)	64.02***	Inf		
I love you/you're special	140 (36.55)	45 (29.41)	2.16	1.38	22 (13.75)	26.96***	3.61	10 (6.25)	50.33***	8.62		
Rewards/bribes	44 (11.43)	2 (1.25)	13.86***	10.17	1 (0.62)	16.13***	20.59	5 (3.16)	8.34**	3.94		
Persuaded it was acceptable behavior	134 (35.45)	22 (14.38)	22.3***	3.26	23 (14.65)	22.15***	3.19	8 (5.1)	50.88***	10.2		
Misstated moral standards	98 (26.56)	1 (0.63)	47.35***	56.93	2 (1.27)	44.4***	28.11	0 (0)	49.81***	Inf		
Victim made to feel responsible	52 (13.83)	4 (2.5)	14.21***	6.24	3 (1.89)	16.01***	8.33	0 (0)	22.51***	Inf		
Threats of abandonment/rejection	57 (14.47)	5 (3.18)	13.2***	5.13	3 (1.88)	17.4***	8.83	1 (0.63)	21.66***	26.65		

ORs of infinity ("Inf") reflect odds ratios in which there are no individuals endorsing sexual grooming behavior in the Non-CSA group (i.e., the denominator of the OR equation is zero).

† = a significant item comparison in which the Non-CSA group had higher endorsement than the CSA group.

**p* < .05.

** $p < .01$.
 *** $p < .001$.

compared to *SGS-NC*.

4.2.3. Analytic plan

First, the frequency and percentage of participants in the CSA group and Non-CSA subgroups (Family, Non-Family, Community) who endorsed each *SGS-V/SGS-NC* items were examined; the difference in percentage between the CSA and Non-CSA group was also calculated. Then, chi-squares were used to examine the difference between the endorsement of *SGS-V/SGS-NC* items for the CSA and the combined Non-CSA groups, as well as the CSA compared to each of the three Non-CSA subgroups. Moreover, odds ratios (ORs) were used to reflect the increasing odds of endorsing an item for participants in the CSA group compared to the Non-CSA groups.

5. Results

5.1. CSA versus non-CSA

5.1.1. Red flag behaviors

The frequency and percentages for the endorsement *SGS-V/SGS-NC* items by the CSA and Non-CSA groups are presented in [Table 3](#), along with the chi-square comparisons and ORs. For the CSA group, the endorsement of each behavior ranged between 8.62 % (involvement in youth-serving organization) to 72.12 % (charming/likable/nice). The Non-CSA groups ranged between 0.63 % (misstated moral standards) to 77.0 % (compliant/trusting child).

All but four (i.e., single mother/need “father figure”; charming/nice/likable; engaged in childlike activities; rewards/privileges) of the 42 chi-square analyses were significantly different when comparing endorsement of the sexual grooming behavior between the those who experienced CSA and those did not. An examination of the significant findings showed that in all but three of the comparisons, the CSA group endorsed the sexual grooming behavior more than the Non-CSA group. The three comparisons where the Non-CSA group endorsed the behavior more often was: compliant/trusting (77.02 % v. 65.48 %), involvement in youth serving organizations (41.51 % v. 8.62 %), and insider status/good reputation (30.3 % v. 20.87 %). When examining the ORs for the significant findings, 14 were indicated of large effects, 8 moderate effects, and 11 small effects; only five fell in the negligible effect. The largest ORs were for the behaviors of misstating moral standard about touch (56.7 %), telling the child not to tell anyone (46.46 %), increasing sexual touching (34.37 %), exposing naked body to a child (26.64 %), and use of accidental touching (21.6 %).

5.1.2. Number of behaviors

A series of Mann-Whitney *U* tests were performed to examine whether the total number of sexual grooming behaviors experienced by the CSA group differed from the Non-CSA group (see [Table 3](#)). Results showed the total sexual grooming score was significantly different between CSA ($M = 13.68$) and Non-CSA ($M = 6.78$) groups, which reflected a moderate effect size. Moreover, when examining each SGM stage, the CSA group had significantly more behaviors in each stage compared to the Non-CSA groups. These reflected small (gaining access/isolation; trust development), moderate (victim selection; post-abuse maintenance), and large (desensitization to sexual content and physical contact) effect sizes.

5.1.3. CSA versus non-CSA subgroups

In order to test if the sexual behaviors differed between the group who experienced CSA and those that did not based upon the relationship to the individual, the CSA group was compared to the three Non-CSA subgroups as described below.

5.1.4. Red flag behaviors

The frequency and percentage of the endorsement of *SGS-V* items by the CSA and the three Non-CSA subgroups, as well as the chi-square comparisons and ORs, are presented in [Table 5](#). When comparing the CSA group to the Non-CSA Family, Non-CSA Non-Family, and Non-CSA Community groups, there were 35, 39, and 38 significant differences, respectively, across the 42 comparisons. While most of the significant comparisons showed the CSA group endorsed the item more than the Non-CSA Subgroups, there were three items for the Non-CSA Family (i.e., compliant/trusting; involvement in youth-serving organization; rewards/privileges), three for Non-CSA Non-Family (i.e., involvement in youth-serving organizations; charming/nice/likable; insider status/good reputation) and three for Non-CSA Community (i.e., compliant/trusting; involvement in youth-serving organization; insider status/good reputation) that were higher for the Non-CSA Subgroup than the CSA group. When examining the ORs for the significant findings, the vast majority of ORs fell in at least the small effect range (32 of 35 for Non-CSA Family; 34 of 39 for Non-CSA Non-Family; 35 of 38 for Non-CSA Community).

5.1.5. Number of behaviors

A series of Mann-Whitney *U* tests were conducted to examine whether the total number of sexual grooming behaviors experienced by the CSA group differed from each of the Non-CSA subgroups (see [Table 4](#)). When examined the total sexual grooming score, results showed the CSA group ($M = 13.68$) reported significantly more sexual grooming behaviors compared to the Non-CSA Family ($M = 7.15$), Non-CSA Non-Family ($M = 7.08$), and Non-CSA Community ($M = 6.16$); these reflected moderate effect sizes. Each SGM stage was examined, which showed the CSA group had significantly more behaviors within every SGM stage compared to each Non-CSA

subgroup; the effect sizes ranged from small to large.

6. Discussion

Even though elements of sexual grooming appear to be involved in most cases of CSA, relatively little is known about these behaviors empirically. In recent years, there has been increased research on identifying and quantifying the specific behaviors involved in the sexual grooming process (SGM in Winters et al., 2020; SGS-V in Winters & Jeglic, 2021) which is pivotal for the prevention and detection of CSA. However, the biggest impediment to detection and prevention of sexual grooming is that it remains unclear which sexual grooming behaviors may differ from normal adult/child interactions. It is necessary to better understand this differentiation to determine which behaviors are more concerning and indicative of potential sexual abuse. This study was the first to compare victims' experiences of SGM behaviors to individuals who never experienced CSA. Overall, the results showed there were significant differences in the experience of sexual grooming behaviors between the CSA and Non-CSA groups, which revealed the extent to which each behavior serves as a red flag for adult male perpetrated CSA. The findings also supported the hypothesis that cases of CSA will involve more sexual grooming behaviors compared to Non-CSA relationships, suggesting it is important to consider the *number* of behaviors used from the SGM. Moreover, there were some interesting patterns that emerged when examining the specific Non-CSA Groups (Family, Non-Family, Community), suggesting there may be unique considerations for adult interactions with children based on the relationship to the child.

6.1. Sexual grooming versus normative interactions

The findings showed significant differences in 38 of 42 (90 %) of the sexual grooming behaviors experienced by victims of CSA and those who did not experience CSA. These "red flag" behaviors fell into all five stages of the SGM. Based on the results of the first four SGM stages, we compiled a list of "Red Flag" grooming behaviors (see Supplemental Fig. 1), which designates the behaviors that showed ORs that were in the small (yellow; "enhanced risk"), moderate (orange; "moderate risk"), and large (red; "high risk") effect size range. The behaviors reflect those found in the pre-abuse stages of the SGM to assist in identifying sexual grooming *before* the actual abuse has occurred (i.e., post-abuse maintenance is not included), which were two to 34 times more likely to occur in cases of CSA.

We also found that cases of CSA included a higher number of different sexual grooming behaviors than cases not involving abuse suggesting that when an increased variety of sexual grooming behaviors are present, it could be indicative of possible CSA. In this study we found that on average, those who experienced CSA endorsed twice as many sexual grooming behaviors as those who did not report CSA, with those experiencing CSA reporting approximately 14 sexual grooming behaviors. This is similar to Winters and Jeglic's (2021) study where they found that on average, undergraduate students who reported CSA endorsed 15 sexual grooming behaviors. Therefore, while there have been 42 identified sexual grooming behaviors, on average only about one third of them are experienced by those who experience CSA and depending upon the behaviors experienced, sexual grooming may look quite different across cases.

6.2. Victim selection

In line with previous research, several victim characteristics differed between individuals who reported CSA and those that did not. In particular, a lack of supervision or parents who were not resources for the child was identified to occur more frequently (5.5 and 3.75 times, respectively) among those experiencing CSA as compared to those who did not experience CSA. This has important implications for prevention as a lack of supervision is something that can be addressed through policy and education. Efforts should be made to ensure parents/guardians are aware of supervision as a necessity throughout childhood and adolescence and assistance should be provided to those parents/guardians who are unable to provide comprehensive supervision. Policies can be proposed to fund programs that provide free or low-cost childcare and summer camps for those that cannot afford it or are incapable of providing it. This is important because one study found that most CSA was happening in the afterschool hours and summer months when it is more likely that children may not have had adequate adult supervision if, for example, their parents are working (Colombino, 2017). Feeling like parents were not resources also falls in line with inadequate parental supervision. While this characteristic is arguably more relevant to the psychological neglect of children, it still suggests that children not feeling their parents' emotional presence may also be a risk factor that those who want to abuse children may exploit (Finkelhor & Baron, 1986). Talking to their children and keeping open lines of communication with their children has been recommended as a way parents can protect their children from sexual abuse (See Jeglic & Calkins, 2018).

The psychological vulnerability of the child themselves, such as having low self-esteem, feeling lonely or isolated, being troubled (i.e., having psychological or behavioral problems), and feeling needy, unwanted, and unloved, was also identified as differentiating those who were abused as children from those who were not. It has long been known that those who perpetrate sex crimes seek out vulnerable victims, such as children who are socially isolated or have emotional issues (see Finkelhor & Baron, 1986; Fleming et al., 1997). This is important in prevention efforts as children and teens who are struggling emotionally and socially can be identified and additional protections put in place to help them such as school counseling, family counseling, and on-line monitoring. Additional training and resources can be provided to those who work with youth such as teachers, coaches and childcare workers help identify vulnerable youth and make appropriate referrals. Research suggests that teens who are vulnerable may be more likely to seek support through on-line forums (Wells & Mitchell, 2008) and so having trained moderators or artificial intelligence to flag at risk individuals and provide referrals and on-line resources can be helpful.

Historically, it has been believed that coming from a single parent home increased a child's vulnerability as the person perpetrating the abuse may seek to fill the "father figure" role (Finkelhor, 1984; Radhakrishna et al., 2001). In this study, coming from a single parent home was not identified as being a red flag behavior, and was the only characteristic identified in the victim selection stage that did not differ between those who experienced CSA and those that did not. This is similar to recent studies looking at victim selection characteristics used in the sexual grooming of minors by Catholic Clergy (Winters et al., 2022) and the Boy Scouts (Winters & Jeglic, in submission). The finding in those youth-serving contexts was derived from archival cases wherein the abuse took place many decades earlier when divorce was not as commonplace in the U.S.; Goldstein, 1999), and in the case of the clergy study, the families were Catholic and divorce was frowned upon (Gray, 2013). Thus, in the research examining historical cases of CSA it was not surprising that coming from a single parent home was not found to be a risk factor for sexual grooming because there were few children in those samples that came from single parent homes. However, this study, which represented a range of CSA cases within and outside youth-serving organizations, suggests that it may not be that the child comes from a single parent home that serves as a risk factor, but rather that it is inadequate supervision and poor parental relationships regardless of the parents' marital status that causes vulnerability.

6.3. *Gaining access and isolation*

The biggest red flag behavior that was identified in this stage was separating the child from peers and family (20 times more likely in cases of CSA). This can mean both physically separating them but, perhaps more importantly, psychologically separating them so the child feels they do not have social supports outside the abusive relationship. This can further exacerbate the feelings of parental alienation and isolation described in the victim selection stage, making the child more vulnerable to abuse. Other key behaviors include spending time with the family to gain access to the child (3.8 times more likely) and doing activities alone with the child without other adults present (3.4 times more likely). Spending time with the family to gain access to the child is a strategy known as familial grooming (McAlinden, 2006, 2012) wherein the person hoping to perpetrate the abuse befriends the family to gain their trust so that they can have access to the child without suspicion. This tactic was particularly salient when the group who was assigned to the community member (coach, teacher, religious leader) was compared to those who experienced CSA. This suggests that a community member seeking to spend time with the family should be closely monitored around children and all activities should be done as a family unit. This monitoring should be facilitated by the organization through which the community member is employed (e.g., through policies and procedures to prohibit certain contact outside of the position), as well as parents and caregivers who the perpetrator may also try to groom to gain access to the child.

While overnight stays and outings were found to significantly differ between those in the overall Non-CSA condition and those who experienced CSA, and then specifically between the Non-CSA Non-Family and Non-CSA Community conditions and those who experienced CSA, this difference was not observed when the group assigned to the Non-CSA Family condition was compared to the CSA group. This makes sense as children will often have sleepovers or outings with family members and this is not necessarily indicative of sexual grooming; however, such behaviors when engaged in by non-family and community members may be more worrisome.

6.4. *Trust development*

While several of the trust development behaviors differed significantly between the CSA and Non-CSA groups, this was the stage that demonstrated the smallest effect size between groups. When combined, only providing the child with drugs and/or alcohol emerged as a moderate risk behavior, while being affectionate/loving, giving the child attention, favoritism and spending time with the child emerged as enhanced risk behaviors (see Supplemental Fig. 1). It was in this stage that the relationship with the individual became particularly relevant. For example, behaviors thought to be indicative of grooming, such as engaging in childlike behaviors and giving the child rewards and privileges, did not differ between the CSA and Non-CSA groups overall, but when broken down by relationship it was found that giving rewards and privileges and engaging in childlike activities could be indicative of sexual grooming when it involves a non-family member or community member, respectively. This underscores the need to consider context when examining potential grooming behaviors and that loving, caring behaviors may be normative with a family member, but should be regarded with caution when exhibited by a non-family member or community member. It also stresses the importance of not over-pathologizing normal healthy adult/child interactions involving trust development, as these may involve mentoring or developing a close relationship with the child. A recent meta-analysis of 70 youth mentoring programs found that youth who were mentored by non-parent adults were more likely to have improved academic performance and less likely to have behavioral and psychosocial problems because of their participation in the mentoring program (Raposa, 2019). This suggests that developing trusting relationships with non-parent adults can be important for youth success, but that these mentoring relationships must be monitored and follow guidelines for the prevention of CSA as described by the Centers for Disease Control (CDC; Saul & Audage, 2007).

6.5. *Desensitization to sexual content and physical touch*

As hypothesized, the most high and moderate risk behaviors were identified in this stage of the SGM, which is consistent with prior literature (Winters & Jeglic, 2016). In this sample, behaviors in the desensitization to sexual content and physical touch stage were four to 34 times more likely to be present in cases of CSA. This is the stage likely to immediately precede the actual CSA and the one in which the individual who perpetrates the abuse is pushing the physical comfort and sexual content limits of the child, testing whether they will be able to engage in the abuse without the child reporting it. Importantly, these boundary violation behaviors are significant regardless of the relationship between the child and the male adult. As such any sexual touching, exposing of the adult's nude body,

excessive touching of the child, exposure to sexual content such as pornography or discussion of sexual behaviors should be considered red flags and investigated immediately. As most of these behaviors are objective and readily observable it is important for all parents, guardians, and supervisory adults to be able to identify these red flag behaviors and know how to respond should they observe a male adult engaging in them with a child.

6.6. Post-abuse maintenance behaviors

Along with the desensitization stage, most behaviors in the post-abuse maintenance stage had large effect sizes ($n = 6$). For example, telling a child not to tell anyone and misstating moral standards were respectively 46 and 57 times more likely to be observed in the CSA condition compared to the Non-CSA conditions. Other red flag behaviors also emerged including encouraging secrets, giving the child rewards or bribes, making the child feel like the abuse was their fault and threats of abandonment and rejection. This intuitively makes sense, as these behaviors technically happen after the abuse has occurred according to the SGM and thus, it is understandable this category would likely differentiate those who were abused from those who were not. Also, it should be considered that the observed differences emerged because the prompt for the Non-CSA condition read: "There are many behaviors that an adult may use after spending time with a child" and therefore behaviors such as misstating moral standards and making a child feel responsible would not necessarily make sense in this context. However, the theme of secret keeping is an important one. In a study by Elliott et al. (1995) in which they interviewed individuals convicted of CSA about how they committed the abuse and what could be done to prevent it, one individual stated "secrecy and blame were my best weapons. Most kids worry that they are to blame for the abuse and that they should keep it a secret." (p. 590). Consequently, the authors recommended that "parents should emphasize openness and a 'no secrets' attitude throughout their children's upbringing" (p. 590), advice that has been echoed in other sexual violence prevention strategies for parents (see Jeglic & Calkins, 2018). Given Supplemental Fig. 1 highlighted only the pre-offense behaviors that can prevent abuse before it occurs, in Supplemental Fig. 2, we present the red flag post-abuse maintenance behaviors that may be observed in cases where a child is suspected of having been abused; these behaviors were between four and 57 times more likely in cases of CSA than Non-CSA.

6.7. Limitations

This study is not without limitations. First, the study is both retrospective and subjective in nature. As has been documented, memory of events that happen in childhood, particularly those that are traumatic, may change over time (Goodman et al., 2019); thus, there may be retrospective bias in responding to the questions. Second, some of the behaviors and tactics are subjective. While it is easy to determine if a child lived in a single parent home, identifying that a child is compliant and/or needy and vulnerable is more subjective and may vary based upon the person responding. As such, future studies can seek corroborative/collateral information to verify the accounts of CSA. Furthermore, as we continue to gain empirical information on the behaviors and tactics used in sexual grooming, it is our goal to make the behaviors more specific and objective so that they can be more easily identified.

As noted earlier, in this study we made a conscious decision to use adult males as the Non-CSA comparison group. This was done because the majority of sexual abuse perpetrated against children is perpetrated by an adult male (Basile et al., 2011; World Health Organization, 2012). However, recent research suggests that as many as 11.6 % of all perpetrators of sexual abuse are women (Cortoni et al., 2017), and approximately one third are minors themselves (Finkelhor et al., 2009). The SGM and SGS-V were developed based upon the existing sexual grooming literature which did not separate behaviors by the gender of the perpetrator and this study represents an overall summary of how these behaviors may differ for those that experience CSA and those who do not, but will not account for variability in tactic selection based upon the gender and age of the individual perpetrating the abuse. Furthermore, the sample size and presence of missing data (e.g., related to age of the perpetrator) did not allow for a more nuanced investigation of how sexual grooming may differ based upon the characteristics of the victim and individual perpetrating the abuse (e.g., age, gender, race/ethnicity; Kaylor et al., 2022). We are planning future studies using females, minors, and individuals from different cultural, ethnic, and racial backgrounds to address this limitation.

Additionally, the sample of participants in the present study was not particularly diverse, with the majority (71 %) identifying as White. It may be that race/ethnicity of the individual could impact their experience and relationship with others, given varied cultural norms. Another limitation of the sample was the CSA group had more woman in the sample than the Non-CSA group (74 % versus 55 % based on self-identified gender), which was a statistically significant difference. Although it should be noted that more girls than boys experience CSA (CDC, n.d.). Relationships between adults and boys or girls could vary, so some of the endorsements (or lack thereof) of certain behaviors could be a product of the gender of the individual.

Caution should also be taken in interpreting the findings of this study as these results are cross-sectional in nature and we are only presenting reported behaviors that differ between groups. Thus, while we believe that the identified red flag grooming behaviors are indicative of CSA, especially given the large and moderate effect sizes between the groups that experienced CSA and those that did not, a longitudinal study would be important to identify which behaviors predict CSA. However, such a study would be next to impossible to conduct for multiple logistic and ethical reasons and thus the findings of this study may be the best proxy that we can access.

6.8. Conclusions and implications

This study represents a big step forward in the identification of red flag grooming behaviors. One of the key criticisms of the sexual grooming research to date has been that many of the identified sexual grooming behaviors are similar to normal adult-child

interactions and thus it was not possible to identify sexual grooming behaviors until after the CSA occurred. We now have specific behaviors that are identified as red flags that are indicative of high, moderate, and enhanced risk for CSA, meaning that those who experienced CSA were between two to 34 times more likely than those who did not experience to report them. Moreover, the findings have shown that cases of confirmed CSA involved a higher number of sexual grooming behaviors than those that represented non-offending relationships, showing that caution should be taken when more of these behaviors are observed. The findings of this study have multiple implications for the prevention and detection of CSA as listed below.

1. First and foremost, these behaviors can be used for prevention education. Using the infographic included in [Supplemental Fig. 1](#), parents, guardians, and those involved in youth-serving organizations can be educated on the identification of these red flag sexual grooming behaviors and what to do if they should be observed or reported. [Supplemental Fig. 1](#) can be an important educational tool for these individuals to better identify and intervene before the abuse has occurred. Of course, none of these behaviors together or in combination can 100 % predict that abuse will occur, but these serve as important red flags that should raise concern and further inquiry/action taken if they are observed. While the emphasis of CSA prevention should fall to adults and not children ([Rudolph & Zimmer-Gembeck, 2018](#)), it is not always possible for parents to always supervise their children personally. In line with legislation such as Erin's Law, child sex abuse prevention education can also focus on sharing these red flag behaviors with children and let them know what they should do if they experience them.

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2. These red flag behaviors can also be used for the detection of CSA. If an adult is observed or reported to be engaging in one or more of the identified red flag behaviors with a minor, action should be taken immediately. The action taken will depend upon a multitude of factors including but not limited to the nature, type, and frequency of the behavior, as well as situational and contextual factors. Based on an evaluation of the aforementioned factors, action could involve contacting authorities, preventing contact between the adult and child, monitoring a situation more closely, providing documented oral/written feedback to the adult and/or conducting an internal investigation. If a child is identified to be vulnerable, then depending upon the identified vulnerability, interventions such as increased supervision, counseling or family intervention may be warranted.
3. These red flag sexual grooming behaviors can be used for the investigation of CSA. Those investigating allegations of CSA, such as law enforcement or social services, can use these red flag behaviors when they are interviewing the child and those around them. While the *SGS-V* has been designed to be used with adults who have experienced CSA, we are currently working on adapting the tool for use with children so that the grooming behaviors can be probed in a non-suggestive manner in line with recommendations for child forensic examiners ([U.S. DOJ, 2001](#)).
4. Finally, these red flag sexual grooming behaviors can be used in the prosecution of cases of CSA. Few cases of sexual abuse result in conviction ([RAINN, n.d.](#)) and because many of the sexual grooming behaviors take place when the child is isolated from others and there may not be physical signs of abuse, cases often come down to the credibility of the child's report ([U.S. DOJ, 2001](#)). Having documented or reported evidence of these red flags behaviors and how they align with child sexual grooming may help the prosecution make a stronger case. Importantly, as noted above, the presence of sexual grooming cannot prove that abuse occurred but may be helpful in gathering information about the context leading up to the abuse and how certain behaviors may impact victim responses (e.g., delayed disclosure). Of note, further validation is needed on the *SGM* to further understand and identify sexual grooming, although the research to date provides a basis for empirical data in understanding this construct.

The empirical identification of red flag sexual grooming behaviors is major advancement in the protection of children from sexual abuse. This study is a first step and additional research can further our knowledge of how to differentiate sexual grooming from normative adult-child interactions. For example, it may be there are certain clusters or constellations of behaviors that are particularly worrisome and thus, deserve greater caution and concern. Additionally, research should seek to examine whether there are differences across populations in terms of what behaviors are more worrisome (e.g., males versus female perpetrators, juveniles versus adult perpetrators, child versus adolescent potential victims). Taken together, for these findings to be meaningful, it is integral that they be integrated into existing CSA prevention policies and procedures.

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chiabu.2022.105998>.

Data availability

Data will be made available on request.

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