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Evaluation of second step child protection videos: A randomized controlled trial

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ABSTRACT

This randomized controlled trial (RCT) examined the effects of the Second Step Child Protection Unit videos on parents' knowledge, motivation, and self-reported communication with their child about personal safety and childhood sexual abuse prevention. Parents of children between the ages of 3–11 years were randomly assigned to the intervention (watching the *Second Step* videos) or the control (watching videos on child obesity) groups. They completed measures assessing their knowledge of child sexual abuse (CSA), motivation to discuss CSA, self-reported discussions of CSA, child history of victimization, parent exposure to CSA, and comparable measures on topics of health and nutrition at pre-test. Participants viewed the videos one week later and immediately completed post-test 1, and then two months later completed the measures again. Multivariate Analyses of Covariance (MANCOVAs) and serial mediation analyses were conducted with the final sample of 438. The intervention group, compared to the control group, had significant increases in knowledge (specifically, less restrictive stereotype beliefs about CSA) and motivation to talk with their children about CSA both immediately after the intervention and at the two-month follow-up. Although the intervention did not have a direct effect on parent self-reported conversations with their children about CSA, it had a mediated effect. The intervention increased knowledge regarding CSA, which then predicted motivation, which in turn predicted conversations. The most pronounced effect was the intervention's direct effect of increasing motivation immediately after the intervention, which then increased self-reported conversations with children about personal safety and CSA two months later.

Child sexual abuse (CSA) is a significant social problem, affecting about 1 in 4 girls and 1 in 20 boys in the United States by late adolescence (Finkelhor, Shattuck, Turner, & Hamby, 2014). Victimization has serious long-term consequences for children, including re-victimization, substance abuse, and poor mental and physical health (Badmaeva, 2011; Hamby, Finkelhor, & Turner, 2012; Lown, Nayak, Korcha, & Greenfield, 2011; Messman-Moore & Long, 2003). The purpose of this study was to (a) evaluate the effectiveness of a video intervention designed to educate and promote parent discussion of CSA, and (b) identify moderating and mediating mechanisms through which the intervention works.

Traditionally, CSA prevention efforts have educated children about CSA and the disclosure of abuse. Such efforts may be helpful in reducing risk and helping children respond to CSA (Finkelhor, 2007), but including parents as partners may further enhance prevention. Parents are in an optimal position to reduce their children's risk of CSA through limiting exposure to potential perpetrators, reinforcing messages regarding personal safety, and responding appropriately to children's disclosure of abuse

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(Burgess & Wurtele, 1998; Mendelson & Letourneau, 2015; Wurtele & Kenny,2010). Research has shown that parent involvement in educating children about CSA is a successful way to protect children (Babatsikos, 2010; Brassard & Fiorvanti, 2015; Carroll, Miltenberger, & O'Neill, 1992; Daro, 1994; Fuchs, & Fegert, 2014; Renk, Liljequist, Steinberg, Bosco, & Phares, 2002). Despite the potential benefits, many parents do not talk to their children about CSA (Babatsikos, 2010).

Protection Motivation Theory (PMT; Floyd, Prentice-Dunn, & Rogers, 2000) provides a useful framework for understanding parents' decisions about whether or not they talk to their children about CSA (Burgess & Wurtele, 1998; Campis, Prentice-Dunn, & Lyman, 1989). PMT's theoretical underpinnings are grounded in the Health Belief Model (developed by public health service social psychologists in the 1950s), transactional stress models (e.g., Lazarus & Folkman, 1984), which emphasize the importance of beliefs and appraisals with regard to stress and other health problems, and fear communications in relation to preventive practices (Leventhal, 1965). According to PMT, people are motivated to engage in protective behavior based on their cognitive appraisal of perceived threats and available coping responses. Perceived threats are evaluated in terms of vulnerability (i.e., how likely is it to occur) and severity (i.e., how bad would it be), and are weighed against the benefits of engaging in protective behavior. As part of this process, the individual considers: (a) response efficacy (i.e., whether the proposed protective behavior will be effective in reducing or eliminating the threat); and (b) self-efficacy, the belief that one is able to take the necessary action to protect self or others.

There are a number of factors that affect the appraisal process and keep parents from talking with their children about CSA. First, parents often lack the knowledge and skills needed to help protect their children from abuse or respond to disclosures (Babatsikos, 2010; Burgess & Wurtele, 1998; Elrod & Rubin, 1993; Wurtele & Kenny, 2010). Ignorance about the prevalence of CSA, the circumstances under which is it perpetrated, and by whom, may lead parents to conclude that their children are not vulnerable and that there is no need for discussion (Babatsikos, 2010; Elrod & Rubin, 1993). Even when the threat is acknowledged, parents may feel uncomfortable or ill equipped to protect their children, thereby reducing self-efficacy. On a practical level, interested parents may be unable to attend a CSA prevention program due to lack of programs, childcare, scheduling, or transportation constraints (Babatsikos, 2010). Overcoming these barriers is critical to the development of effective parent-based intervention to reduce CSA.

One way of addressing the need for parent involvement in teaching children about CSA is through videos that can be viewed at a time and place convenient for parents. Viewing educational videos increases knowledge and influences behaviors (Adams, Shih, Stuffel, & Robinson, 2006; Cairns, Styles, & Leichner, 2007; Gagnon, Hadjistavropoulos, & Williams, 2013), and parents have demonstrated knowledge acquisition and behavior change as a result of viewing educational videos on issues related to child abuse (Golub, Espinosa, Damon, & Card, 1987; Jinich & Litrownik, 1999). Evaluation of such programs is often neglected, and there is a need to assess both outcomes and mediating mechanisms of parent-focused CSA prevention (Mendelson & Letourneau, 2015).

The Committee for Children's (2014) *Second Step* Child Protection Unit includes family videos created to empower parents to communicate with their child about CSA. The videos are designed to overcome barriers by providing parents with accurate knowledge and skills for discussing CSA with their child. To enhance motivation and self-efficacy, the videos emphasize the importance of having such discussions and model how to begin conversations and what to do and say in the event that a child discloses abuse. Finally, the videos are designed to overcome time and convenience barriers associated with participating in child protection workshops by making them available online in a series of short, easy-to-follow segments that can be viewed by parents at a convenient place and time. Research on delivering parenting programs online has revealed that this format is perceived positively by high-risk parents for convenience and comfort, although this may be limiting for parents who do not own computers or have easy access to the Internet, and for those who are not comfortable with this technology (Love, Sanders, Metzler, Prinz, & Kast, 2013). There are also ethno-cultural, literacy, and language barriers that can limit accessibility to online interventions for parents.

1. Present study

The overall goals of the study were to evaluate the effectiveness of the videos in increasing knowledge, motivation, and self-reported conversations about CSA, and to assess moderating and mediating mechanisms of the intervention. We hypothesized that compared with control families, parents who viewed the CfC family videos would demonstrate greater knowledge of CSA (and endorse fewer myths) and increased motivation (self-efficacy about sexual abuse education and intentions to talk to their children about CSA) both directly following the intervention and at the 2-month follow up. We further predicted that there would be no differences between the control and intervention parents on pre-test levels of CSA communication; however, relative to controls, parents who viewed the CfC videos would report engaging in more communication about CSA with their child at post-test 2. We predicted that the child's experience with CSA would moderate the relationship between the intervention and knowledge, motivation, and self-reported discussion of CSA, with effects being greater for families of non-victimized children than for those whose children have been previously victimized. We further hypothesized that parents' exposure to CSA (both personal and knowing someone) would serve as a moderator, with those having more exposure having a greater response to the intervention. Consistent with PMT, we hypothesized that viewing the CfC videos (relative to control videos) would result in increased knowledge and motivation for self-reported discussing CSA at post-test 1, which in turn would predict increased self-reported discussion of CSA at post-test 2.

2. Method

2.1. Participants and recruitment

The final sample included 438 parents of children between the ages of 3 and 11 years. Upon approval from the Institutional Review Board, advertisements about the study were posted through Facebook, Craigslist, and personal and organizational contacts

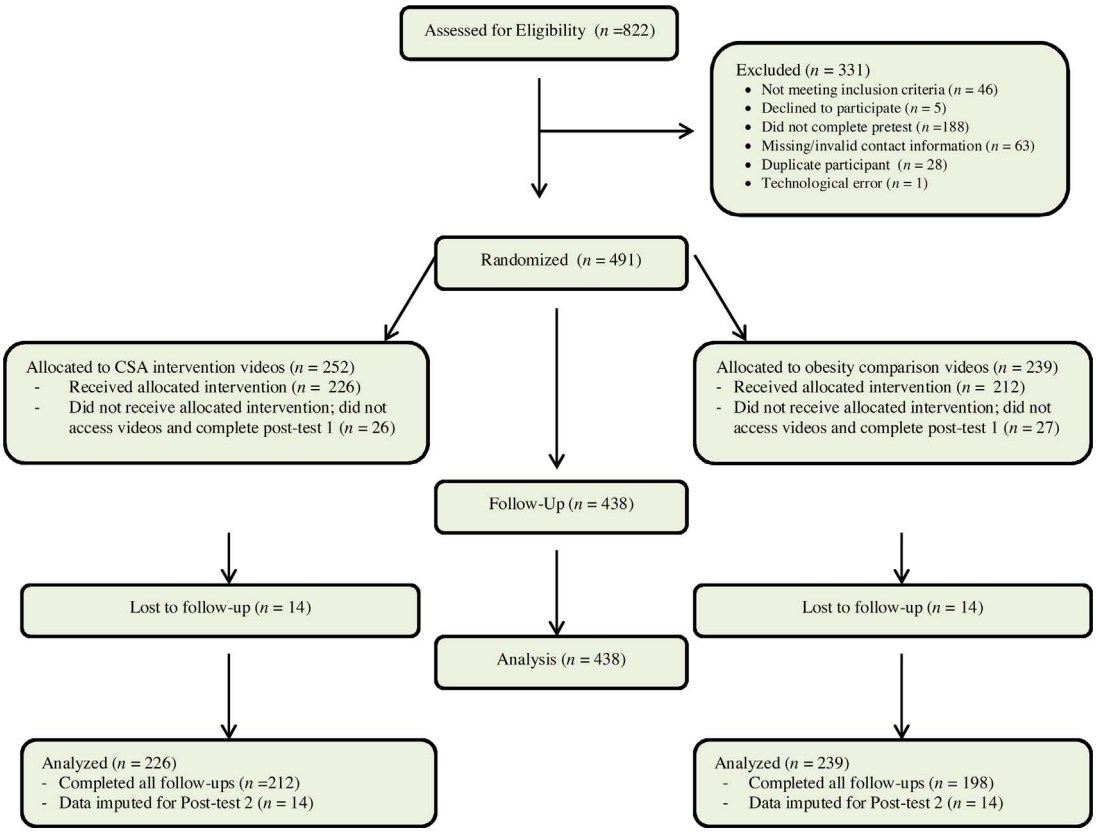

Fig. 1. CSA Prevention randomized controlled trial CONSORT flow diagram.

related to parents and families (e.g., parent-teacher associations of schools, school psychologist groups, parenting organizations) across the country. Recruitment efforts targeted underrepresented groups in research by selecting locations, settings, and demographics for online advertising most likely to reach fathers and members of racial and ethnic minority groups (Kapp, Peters, & Oliver, 2013; King, O'Rourke, & DeLongis, 2014). The advertisements featured photos of racially and ethnically diverse families (2-parent, mother and child, and father and child). Potential participants clicked on a link in the advertisement that took them to a website describing the study and containing a brief screening questionnaire.

To be eligible, individuals were required to: (a) be at least 18 years of age and the parent or guardian of a child between the ages of 3–11 years, (b) be living with that child (to ensure opportunities and access for conversations), (c) speak and read English at a minimum of a 6th grade level, and (d) have Internet access to view videos and complete surveys in a private setting. Those meeting eligibility criteria were then asked to provide contact information including name, address, phone number and e-mail address. The RCT consisted of three phases: (a) pre-test; (b) video viewing and post-test 1, and (c) post-test 2, all of which were conducted online.

As shown in Fig. 1, a total of 822 individuals completed the screening questionnaire. Of the 822, 46 were excluded for not meeting eligibility criteria (39 were not an adult parent or guardian of a child between the ages of 3–11, three did not speak and read English at a 6th grade level, and one did not have Internet access), five declined, 188 did not complete the pre-test, 63 had missing or invalid contact information, 28 were duplicate entries, and one was a technological error, leaving 491 to participate. Eligible participants were automatically randomized to the control or intervention condition using a computer-generated randomization program through SPSSMR. Participants and research technicians administering the intervention and assessments were blind to the study conditions. Links to the pre-test were sent to all eligible participants. Of these 491 participants, 438 viewed the videos and completed post-test 1 before the elapsed time, and 410 completed the post-test 2 within the elapsed time, for an overall retention rate from pre-test to post-test 2 of 83.5%.

2.1.1. Intervention

The intervention consisted of a series of four videos, each no more than 3–4 min in length from *Second Step* Child Protection Unit: Family Materials (Committee for Children, 2014). The videos include an overview of CSA, as well as information about who abusers are likely to be and how they go about gaining access to children. The videos also address the importance of talking to children about safety and not keeping secrets, the discomfort parents feel when talking about the subject, and how parents can handle disclosures of sexual abuse. Actors in the videos model conversations about child safety and abuse disclosure.

2.1.2. Control

The control group viewed a series of three videos from Child Obesity in America (Public Interest Channel, 2009). The videos focused on causes of obesity, fighting obesity at school, and how to keep children fit. They were selected because they were of comparable length and they provided guidance on a relevant and important public health topic.

2.2. Measures

Several measures were used to assess the primary constructs of interest in the study. In order to keep participants blind to their assignment in the treatment or comparison condition, several measures were also included to assess parent practices regarding nutrition and physical activity, although we do not include details as they are not relevant for analyses for this study. Except where otherwise noted, all measures were completed at pre-test and post-test 1 and 2.

2.2.1. Knowledge of CSA

The CSA Myth Scale (Collings, 1997) was used to assess parental knowledge of CSA. This scale includes 15 items that assess attitudes, myths, and stereotypes about CSA rated on a Likert-type scale (from *strongly agree* to *strongly disagree*). Three subscales, demonstrating good convergent and divergent validity, include blame diffusion (6 items), denial of abusiveness (5 items), and restrictive abusive stereotypes (5 items). The CSA Myth Scale has good test–retest reliability (r = 0.87 for one month) and internal consistency (α = 0.76 in Collings, 1997; α = 0.77 in Wurtele, Moreno, & Kenny, 2008; α = 0.88 in Rheingold et al., 2007). In the present study, α ranged from 0.85 to 0.88 for the total scale, 0.84–.88 for blame diffusion, 0.54–.61 for denial of abusiveness, and 0.70–.75 for restrictive abuse stereotypes.

2.2.2. Motivation to discuss personal safety/CSA

This measure was adapted from Burgess and Wurtele's (1998) 13-item questionnaire. Four items that assessed opinions about CSA (e.g., "most sexually abused children are not harmed by their experience") instead of motivation were excluded, and the original 14-point Likert scale was changed to a 7-point Likert scale (*1 = strongly disagree*; *7 = strongly agree*). The final 9-item measure included items assessing parents' self-efficacy or perceived ability to talk to their child about sexual abuse (e.g., "I can effectively discuss sexual abuse with my child"), response-efficacy beliefs that educating children about sexual abuse is an effective intervention ("Educating children about sexual abuse is a good way to prevent their victimization"), and intentions to talk about sexual abuse ("I will tell my child not to keep secrets about touching"). Internal consistency was good across time points (α's ranged from 0.85 to 0.88).

2.2.3. Parent-child communication about CSA

The 10-item Preventive Behaviors Questionnaire (PBQ; Wurtele et al., 2008) was used to assess parent-child communication about CSA. The PBQ asked parents how often they have done certain preventive actions over the past month (e.g., "How many times have you…. talked with your child about the dangers of child sexual abuse?"; "…told your child never to keep secrets about touching?"). Responses are coded as *never* (0), *sometimes* (1–5 times a month), and *often* (6–10 times a month). The PBQ was administered at pre-test (α = 0.90) and post-test 2 (α = 0.90).

2.2.4. Family functioning

The general functioning scale (GFS) of the McMaster Family Functioning Device (Epstein, Baldwin, & Bishop, 1983) consists of 12 items assessing positive and negative family relationships and interactions. Questions measuring negative family interactions were reverse coded and averaged with the positive items to create an overall family functioning measure. The GFS has established reliability and validity (Byles, Byrne, Boyle, & Offord, 1988), and has been used in several studies with clinical and non-clinical populations (e.g., Allen, Gibson, McLean, Davis, & Byrne, 2014 α = 0.90). For the current study, the measure also showed acceptable reliability (α = 0.88). The GFS scale was used as a covariate to control for family functioning and communication and was assessed at pre-test and post-test 2.

2.2.5. Child experience of CSA

Parents completed the 7-item sexual victimization module of the *Juvenile Victimization Questionnaire* at pre-test (Finkelhor, Hamby, Ormrod, & Turner, 2005). This module was used to examine the moderating role of child's prior victimization.

2.2.6. Exposure to CSA

On the pre-test only, participants were asked to indicate their experiences with child sexual abuse in a check all that apply format. Items included "I have a [close friend, neighbor or acquaintance, relative] who was sexually abused," "I know a child who was sexually abused," "I was sexually abused as a child," "My 3–11 year old child (identified for the study) was sexually abused," "One of my other children was sexually abused," "I know someone who has sexually abused children." Parents were not asked if they had perpetrated CSA. This scale was dummy-coded as no exposure to CSA (0) or exposure to CSA (1).

2.2.7. Parent's general information questionnaire

Demographic information such as age, sex, race, education attainment, and geographic location in the US was assessed at pre-test only.

2.3. Procedure

Upon enrollment, an e-mail containing a link to access the pre-test was sent to each eligible participant. Before beginning the pre-test, parents were presented with an electronic version of the consent forms and indicated their consent to participate by clicking on a button. All procedures were approved by the University at Buffalo Institutional Review Board. If participants had more than one child between the ages of 3 and 11, the survey was programmed to instruct them to answer the questions about the child whose birthdate was closest to the date that they enrolled in the study. Participants were given 30 days to complete the pre-test from the date when the link was originally sent. Research personnel emailed and/or texted a maximum of 5 times over the course of those 30 days to encourage completion.

One week after completing the pre-test, participants were e-mailed a link to the videos (CfC videos for intervention group, obesity videos for control group). They were instructed to watch the videos in their entirety and they were unable to proceed to the post-test 1 until they viewed all videos (by clicking on "next" after each video). Fast forward and rewind functions were disabled, although participants could pause and they could also watch the videos more than once. After watching the final video, parents proceeded to post-test 1. Participants were given 14 days from the time the link was sent to view the videos and complete post-test 1. They were reached out to an average of four times over the course of those 14 days, either by email or text, in order to try to encourage completion. Upon completion of both pre-test and post-test 1, a check in the amount of $30 was mailed to the participant.

To increase retention, one month after completing post-test 1, participants in both groups were sent an email reminder that in one month they would receive an e-mail containing the link for post-test 2. It also asked participants to notify the project if their contact information would change during that time. Two months after completing post-test 1, participants in both groups received an e-mail containing the link for post-test 2. Participants were again given 14 days to complete post-test 2, and they were contacted an average of 4 times over the course of those 14 days by email or text in order to try to encourage completion. Participants were compensated with a $20 check for completing post-test 2.

2.4. Analyses

All analyses were performed based on original treatment assignment (intent to treat). T-tests were used to assess any differences between the intervention and control groups on pre-test measures. For the analyses of the primary outcomes, Multivariate Analyses of Covariance (MANCOVA), using generalized linear mixed models for repeated measures, were used. Pre-test, post-test 1, and post-test 2 were used as repeated measures, group (intervention vs. comparison), and prior exposure to CSA were used as independent variables, and baseline scores on the GFS was used as a covariate. Separate MANCOVAs were performed to assess (a) knowledge, (b) motivation, and (c) parent-child communication about CSA. Main effects and interaction effects were tested both to assess changes in the outcomes over time by group and to assess the moderating effect of prior victimization. To examine the mediating mechanisms, a serial multiple mediation model was conducted using the PROCESS macro in SPSS (Hayes, 2012). Direct and indirect effects were assessed for group (intervention vs. comparison), knowledge, and motivation on parent-child communication about CSA.

Patterns of missing data were examined using Little's (1988) missing analyses, revealing that less than 10% of the data were missing and the pattern was missing at random. Given the amount of missing data and randomness at which they were missing, multiple imputation was used to allow for those who did not continue after post-test 1 to be included in the subsequent analyses (Kline, 2010). Preliminary analyses were conducted to suggest that the data were normal. Outliers were adjusted to 3 *SD* above the mean (Kline, 2010). Prior to conducting analyses, assumptions regarding equal error variance and sphericity were inspected for the MANOVAs. In cases where the assumptions were violated, corrections were used (e.g., Pillai's Trace vs. Wilks' Lambda when the assumption of equal error variances was violated, Greenhouse-Geisser correction when the assumption of sphericity was violated).

3. Results

Demographics for participants in the intervention and comparison conditions are summarized in Table 1. In addition, participants resided in 47 states (Northeast 33.2%, Midwest 13.1%, South 32.9%, and West 20.6%). Compared to the overall population in the U.S. (U.S. Census Bureau, 2016), participants in the present study were more likely to live in the Northeast (vs. 17.4% in U.S.) than in the Midwest (vs. 21% in U.S.) or South (vs. 37.9% in U.S.). There was also an overrepresentation of females in this study (vs. 50.8% in U.S.). Participants were also more likely to be White (vs. 61.3% White in U.S. population), have a Bachelor's Degree or higher (vs. 29.8% in U.S.), and have a higher household income than the median of $53,889 (U.S. Census Bureau, 2016). As shown in Table 1, the groups did not differ on any demographic characteristics except for marital status, with participants in the control group being more likely to be married than those in the intervention group. Independent samples *t*-tests showed that intervention and comparison groups were well matched and did not differ significantly in parental exposure to victimization, child exposure to victimization, pre-test knowledge of child sexual abuse, motivation, and self-reported discussions of CSA. Attrition analyses were conducted to compare those who did not participate in the intervention and follow-up assessments with parents who completed the intervention and follow-ups. Results revealed no significant differences between the two groups on demographic characteristics, outcome variables, or moderators.

Descriptive statistics and correlations of study variables are provided in Table 2. To understand the influence of child abuse victimization on parents' knowledge and motivation for talking about personal safety, the data were examined regarding children's experience of sexual abuse. The number of participants reporting that their child had experienced sexual abuse on the *Juvenile Victimization Questionnaire: Sexual Victimization Module* (Finkelhor et al., 2005) was too small to examine moderation effects ($n = 7$).

Table 1
Demographics for Intervention and Control Participants.

	Intervention (n = 226)		Control (n = 212)		Comparison Tests
	Frequency	%	Frequency	%	
Parent					
Gender					$\chi2(1) = 0.69$
Male	26	11.5	30	14.2	
Female	200	88.5	182	85.8	
Education					$\chi2(5) = 2.16$
HS Graduate or less	3	1.3	3	1.4	
Some College/Associate Degree	78	34.5	66	31.1	
College Graduate or more	145	64.1	143	67.5	
Race					$\chi2(5) = 8.82$
White/Caucasian	181	80.1	174	82.1	
Black/African American	25	11.1	24	11.3	
Native American	0	0.0	4	1.9	
Asian	9	4.0	7	3.3	
Multiracial	5	2.2	2	0.9	
Other	6	2.7	1	0.5	
Ethnicity					$\chi2(1) = 1.42$
Hispanic/Latino	22	9.7	14	6.6	
Not Hispanic/Latino	204	90.3	198	93.4	
Region					$\chi2(2) = 0.82$
Urban (city)	65	28.8	67	31.6	
Suburban (residential/outside of city	137	60.6	127	59.9	
Rural (mostly farmland/forest)	24	10.6	18	8.5	
Income					$\chi2(4) = 4.73$
Less than $10,000	14	6.2	8	3.8	
Between $10,000–$39,999	39	17.3	39	18.4	
Between $40,000–$79,999	82	36.3	65	30.7	
Between $80,000–$99,999	27	11.9	37	17.5	
$100,000 and over	64	28.3	63	29.7	
Marital Status					$\chi2(4) = 11.00$*
Married/living with spouse	157	69.5	169	79.7	
Single/never married	41	18.1	29	13.7	
Separated	8	3.5	2	0.9	
Divorced	20	8.8	10	4.7	
Widowed	0	0.0	2	0.9	
Age	*M*	*SD*	*M*	*SD*	
	39.01	6.57	38.25	6.63	$t(436) = 1.20$
Child					
Gender					
Male	112	49.6	98	46.2	$\chi2(1) = 1.23$
Female	114	50.4	114	53.8	
Age	*M*	*SD*	*M*	*SD*	
	6.62	2.55	6.30	2.62	$t(436) = 1.30$

Note. * $p < 0.05$; participants in the control group were more likely to be married or living with spouse than those in the intervention group.

As shown in Table 2, there was more variability in the Exposure to CSA measure ($M = 0.82$, $SD = 0.39$ where 0 = no exposure 1 = exposure to CSA). Therefore, the Exposure to CSA variable was used in the MANOVAs as a moderator.

3.1. Effects on knowledge, motivation, and parent-child communication regarding CSA

Three repeated measures MANCOVAs examining the effectiveness of the intervention were examined (see Table 3). Because general family functioning was associated with greater knowledge, motivation, and communication in both groups at pre-test, it was included as a covariate. Intervention group and exposure to victimization were included as independent variables for all three analyses. For the first repeated measures MANCOVA, knowledge of CSA was examined over time. Within the model, there were significant within-subject and between-subject effects. Between-subject effects show that family functioning predicted differences in knowledge of CSA, $F(1, 406) = 56.36$, $p < 0.001$, $\eta p^2 = 0.12$, with those with higher family functioning generally having more knowledge about CSA. Initial exposure to CSA also predicted differences in knowledge of CSA, $F(1,406) = 5.09$, $p = 0.03$, $\eta p^2 = 0.01$. Inspection of the data revealed that those who have personal experience with CSA (e.g., knowing someone who has experienced CSA, experiencing it oneself) showed significantly less knowledge about CSA regardless of intervention. Within-subject

Table 2
Descriptive Statistics and Correlations of Study Variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	Mean *(SD)*
1. GFF	–	−0.05	0.28**	0.26**	0.17*	0.30**	0.21**	0.24**	0.29**	0.16*	3.41 *(0.41)*
2. EXP	−0.07	–	−0.12^{+}	−0.04	−0.00	−0.09	0.02	−0.10	−0.07	−0.01	0.84 *(.36)*
3. Know Pre	0.32**	−0.13*	–	0.14*	−0.06	0.80**	0.10	0.79**	0.13	0.04	68.54 *(6.58)*
4. Mot Pre	0.29**	0.05	0.18**	–	0.40**	0.15*	0.74**	0.06	0.67**	0.48**	50.54 *(9.10)*
5. Com Pre	0.14*	0.07	0.12	0.45**	–	−0.03	0.41**	−0.00	0.36**	0.64**	16.32 *(4.57)*
6. Know P1	0.36**	−0.10	0.72**	0.28**	0.10	–	0.16*	0.80**	0.18**	0.06	68.02 *(7.05)*
7. Mot P2	0.25**	−0.05	0.23**	0.59**	0.31**	0.36**	–	0.09	0.78**	0.50**	57.68 *(9.82)*
8. Know P3	0.31**	−0.19**	0.77**	0.21**	0.03	0.1**	0.26**	–	0.17*	0.01	68.12 *(7.16)*
9. Mot P3	0.17*	−0.06	0.25**	0.58**	0.36**	0.23**	0.68**	0.22**	–	0.54**	57.91 *(9.91)*
10. Com P3	0.12	0.04	0.00	0.35**	0.57**	−0.04	0.31**	−0.07	0.43**	–	18.17 *(4.42)*
Mean (*SD*)	3.39 *(0.46)*	0.82 *(0.39)*	68.41 *(6.65)*	50.97 *(8.48)*	17.02 *(4.61)*	68.84 *(6.65)*	63.54 *(7.27)*	68.83 *(7.17)*	61.00 *(8.25)*	19.42 *(4.16)*	

Note. Below the diagonal is intervention, above the diagonal is control. GFF = General Family Functioning scale, Exp = Exposure to CSA; Know = Child Sexual Abuse Knowledge; Mot = Motivation; Com = Communication about CSA. Pre = Pretest, P1 = Posttest 1, P2 = Posttest 2, CSA = Child Sexual Abuse. *$p < 0.05$, **$p < 0.01$.

Table 3
Results of Repeated-Measures MANCOVAs.

			Knowledge			Motivation			Communication		
			F	*p*	ηp^2	*F*	*p*-	ηp^2	*F*	*p*	ηp^2
Univariate Results											
	Between-Subjects										
		Gfs	56.36	0.00	0.12	34.80	0.00	0.07	12.88	0.00	0.03
		Int	0.70	0.40	0.00	25.11	0.00	0.06	6.57	0.00	0.02
		Exp	5.09	0.03	0.01	12.60	0.00	0.03	14.62	0.00	0.03
		Int x Exp	0.22	0.64	0.00	1.22	0.27	0.00	0.46	0.50	0.00
	Within-Subjects										
			(Sphericity Assumed)			*(Greenhouse-Geisser Correction)*			*(Sphericity Assumed)*		
		T	1.93	0.15	0.01	16.04	0.00	0.04	4.47	0.04	0.01
		T x Gfs	1.89	0.15	0.00	1.49	0.23	0.00	0.39	0.53	0.00
		T x Int	2.77	0.06	0.01	29.13	0.00	0.06	2.77	0.10	0.01
		T x Exp	0.91	0.40	0.00	0.23	0.80	0.00	0.02	0.89	0.00
		T x Int x Exp	1.55	0.21	0.00	0.35	0.70	0.00	1.78	0.18	0.00
Multivariate Results											
	Within-Subjects										
			(Pillai's Trace)			*(Pillai's Trace)*			*(Wilks' Lambda)*		
		T	1.80	0.17	0.01	14.07	0.00	0.06	4.47	0.04	0.01
		T x Gfs	1.76	0.17	0.01	1.24	0.29	0.01	0.39	0.53	0.00
		T x Int	3.04	0.05	0.02	30.96	0.00	0.13	2.77	0.10	0.01
		T x Exp	0.96	0.39	0.01	0.25	0.78	0.00	0.02	0.89	0.00
		T x Int x Exp	1.49	0.23	0.01	0.36	0.70	0.00	1.78	0.18	0.00

results suggest that time was not a significant predictor of knowledge of CSA, $F(2,812) = 1.93$, $p = 0.15$, $\eta p^2 = 0.009$. Multivariate analyses revealed a significant interaction between time and intervention, $F(2,405) = 3.042$, $p = 0.05$, $\eta p^2 = 0.02$; however, univariate analyses suggested that this finding was just a trend, $F(2, 812) = 2.77$, $p = 0.06$, $\eta p^2 = 0.01$ (see Table 3). As shown in Table 4, parents in the intervention group increased their knowledge of CSA, whereas those in the control group showed decreased knowledge of CSA over time. Analyses were then conducted with the three subscales of the knowledge variable (i.e., blame diffusion, denial of abusiveness, and restrictive stereotypes of abuse; see Table 4). Only the restrictive stereotypes of abuse subscale showed a significant interaction between time and group, $F(2, 812) = 4.78$, $p = 0.01$, $\eta p^2 = 0.01$; the intervention group increased their understanding about abuse stereotypes, whereas the control group decreased in their understanding. These findings showed a quadratic trend, $F(1,406) = 5.60$, $p = 0.02$, $\eta p^2 = 0.02$, suggesting that parents who watched the CSA videos showed significant increases in their understanding of at post-test 1, but these effects dissipated at post-test 2.

A second repeated measures MANCOVA examining motivation to talk about CSA revealed a significant interaction effect of time and group (i.e., intervention vs. control), $F(1.91, 826.15) = 30.60$, $p < 0.001$. We examined the data graphically to better understand these findings (see Fig. 2) and found that, although motivation to talk about CSA increased among both intervention and control groups, parents in the intervention showed significantly more motivation to talk with their child over time. Within-subject results revealed that time was a significant predictor of motivation to talk about CSA, $F(1.91, 826.15) = 16.04$, $p < 0.001$, $\eta p^2 = 0.04$. Between-subject effects show that family functioning again was a significant predictor of differences in parents' motivation to talk with their child about CSA, $F(1, 433) = 34.80$, $p < 0.001$, $\eta p^2 = 0.07$, with higher family functioning being positively

Table 4
Time x Intervention Effects on Knowledge of CSA.

Scale	Pretest *M (SD)*	Posttest *M (SD)*	Posttest 2 *M (SD)*	*F*	*p*	ηp^2
Blame Diffusion						
Intervention	28.60 (2.41)	28.73 (2.60)	27.38 (5.76)	2.43	0.12	0.006
Control	28.68 (2.46)	28.60 (2.71)	27.06 (6.00)			
Denial of Abusiveness						
Intervention	22.48 (2.81)	22.44 (2.85)	22.66 (2.91)	0.61	0.55	0.001
Control	22.51 (2.85)	22.37 (3.01)	22.53 (2.91)			
Restrictive Abusive Stereotypes						
Intervention	22.21 (2.82)	22.50 (2.73)	22.66 (2.91)	4.78	0.01	0.01
Control	22.26 (2.51)	21.94 (2.80)	22.53 (2.91)			
Total Knowledge of CSA						
Intervention	68.51 (6.65)	68.84 (6.65)	68.83 (7.17)	2.77	0.06	0.01
Control	68.54 (6.58)	68.02 (7.05)				

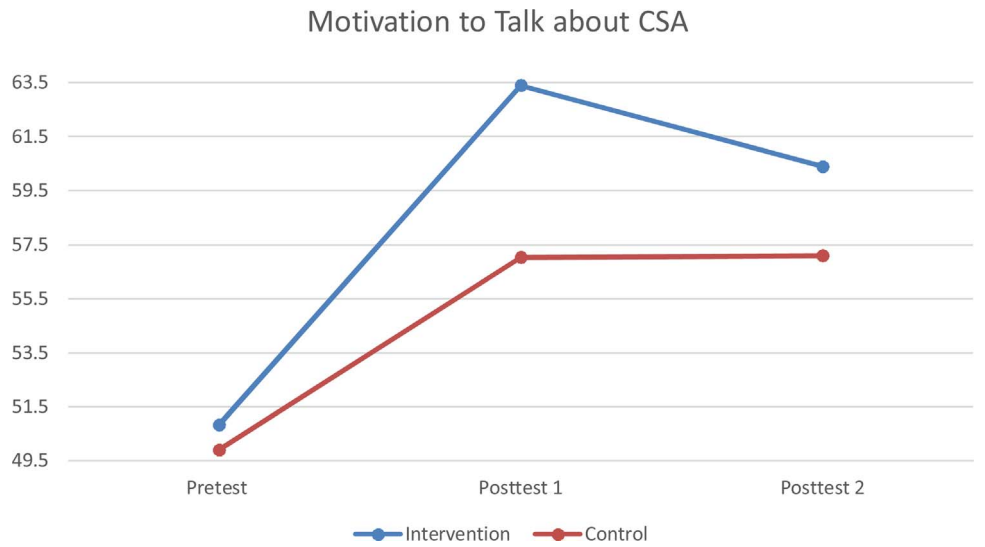

Fig. 2. Time x Intervention Effects on Motivation to Talk about CSA.

related to motivation. Initial exposure to CSA also predicted differences in motivation to talk about CSA, $F(1,433) = 12.60$, $p < 0.001$, $\eta p^2 = 0.03$; parents without exposure endorsed more motivation at post-test 2.

A third repeated measures MANCOVA was conducted to examine whether the intervention led parents to communicate with their child more about CSA. There was a nonsignificant interaction trend of time by group, $F(1, 433) = 2.77$, $p = 0.10$; the intervention group showed a nonsignificant trend toward more communication than the control group (see Fig. 3). There was a significant effect of time on communication about CSA, $F(1,433) = 4.47$, $p = 0.04$, suggesting that regardless of whether parents watched the obesity or CSA videos, they endorsed talking more with their children about CSA at post-test 2. Similar to previous findings, family functioning showed a significant between-subjects effect, $F(1,433) = 12.88$, $p < 0.001$, with higher family functioning predicting significant changes in communication about CSA. There was also a significant effect of group (e.g., intervention vs. control) in communication, $F(1,433) = 6.57$, $p = 0.01$, such that the intervention group endorsed communicating more with their children about CSA at both time points. There was also a significant difference in exposure to CSA, $F(1,433) = 14.62$, $p < 0.001$. Contrary to the previous findings, those with exposure reported more communication with their children about CSA than those without exposure.

3.2. Mediators of treatment effects

A serial multiple mediation model was conducted using the PROCESS macro in SPSS to examine whether knowledge and motivation were the mediating mechanisms contributing to parents' self-reported discussion of CSA (Hayes, 2012). Variables were

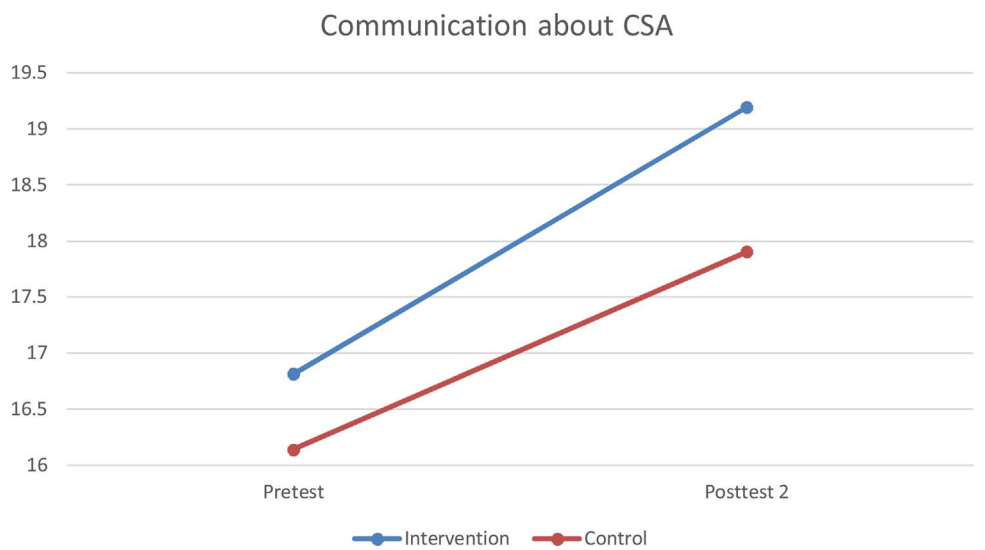

Fig. 3. Time x Intervention Effects on Communication about CSA.

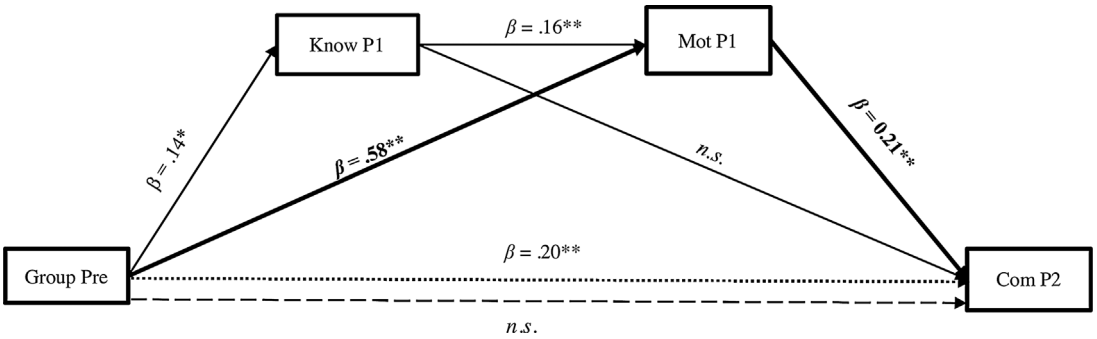

Fig. 4. Serial Mediation Model.

Note. Serial mediation model examining knowledge of CSA and Motivation to discuss CSA mediating the association between group (i.e., intervention vs. control) to communicating with child about CSA. Group (control = 0, intervention = 1), Know = Knowledge of CSA, Mot = Motivation, Com = Communication about CSA, Pre = Pretest, P1 = Posttest 1, P2 = Posttest 2; n.s. = nonsignificant, $^{*}p < 0.05$. $^{**}p < 0.01$. The dashed line represents the direct effect of group on communication. The dotted line represents the total effect of the overall model.

standardized for ease of interpretation. Within the model, there was a significant indirect effect through both mediators (see Fig. 4). Thus, there was a significant path from intervention to communication about CSA such that exposure to CSA videos significantly predicted more knowledge about CSA, which significantly predicted parent motivation, which then predicted increased communication [β = 0.01, CI(95%) = 0.004–0.02]. However, there was also a significant indirect effect through motivation alone [β = 0.12, CI(95%) = 0.05–0.21], suggesting that the intervention also had direct effects on parent motivation to talk about CSA. Using specific indirect effect pairwise comparisons, the latter indirect effect significantly explained the indirect effect from intervention to communicating about CSA above and beyond other significant indirect effects within the model. There was no direct effect of intervention on communication (β = 0.09, $p = 0.27$).

4. Discussion

Findings from this randomized controlled trial indicated that the *Second Step* Child Protection Unit family videos led to increased parent knowledge and greater motivation to talk with their children about CSA. Interestingly, both the intervention and control groups showed increases in their self-reported conversations with their children about sexual abuse, suggesting that answering questions about CSA alone may prompt parents to talk about it. Effects on knowledge were small, whereas the time x intervention group effect was moderate (Richardson, 2011). Consistent with the theoretical framework (PMT; Floyd et al., 2000), the intervention had an indirect effect on communication, through increasing knowledge regarding CSA, which then predicted motivation, which in turn predicted self-reported conversations. The most pronounced effect was through motivation; in other words, the intervention had a direct effect increasing motivation, which then increased self-reported conversations with children about personal safety and CSA. Higher family functioning also predicted more knowledge, greater motivation, and more reported communication about CSA. Although this finding is not surprising given the importance of healthy family functioning on positive outcomes for children and adolescents (Van Campen & Romero, 2012; Young et al., 2013), this adds to the scant research on the relation between family functioning and discussions of CSA with young children. Findings regarding exposure to CSA were more mixed; parents' personal experience or exposure to CSA was an inverse predictor of knowledge and motivation, but a positive predictor of communicating with their child about CSA. The finding that exposure to CSA was associated with more communication about the topic with their children is consistent with previous research indicating that parents with previous CSA experience or knowledge may be more sensitive to the deleterious effects of CSA on children and make more effort to address the topic with their children (Deblinger, Thakkar-Kolar, Berry, & Schroeder, 2010; Wurtele, Kast, & Melzer, 1992).

CSA programs and their evaluations are outdated and not accessible via the Internet (Babatsikos, 2010; Tutty, 2014; Walsh, Zwi, Woolfenden, & Shlonsky, 2015). The significant impact of this brief intervention on parental knowledge and motivation, and ultimately, their preventive behaviors through self-reported conversations with their children about CSA two months later, is promising from a public health perspective. The convenience of online viewing may help parents overcome many of the barriers associated with attending an in-person CSA prevention program (Love et al., 2013), and may facilitate more CSA education because of the ability to widely disseminate the materials. However, it should be noted that there may be cultural, economic, and linguistic barriers to accessing these videos and understanding and applying the content. This study adds to a growing body of research about the ability of educational videos to increase knowledge and influence behaviors (Adams et al., 2006; Cairns et al., 2007; Gagnon et al., 2013).

It should be noted that for some variables, there was a significant effect by time, meaning that outcomes improved for both the intervention and control groups. This has occurred in some other studies of CSA prevention with children (e.g., Telljohann, Everett, & Price 1997; Warden, Moran, Gillies, Mayes, & MacLeod, 1997), with researchers indicating that this may be due to the pretest assessment sensitizing participants to think about safety issues. Although this could be promising if it suggests that simply assessing these constructs may lead people to think about them and make changes, from a research perspective, it will be important to either rigorously control for this possibility (e.g., through a Solomon Four Group Design – see Kazdin, 2003) or to strategically employ them as part of the intervention (Topping & Barron, 2009).

One of the most important findings from this study was the insight into the processes by which the intervention was effective. Parents often lack accurate knowledge of CSA and endorse common myths (Wurtele & Kenny, 2010); however, in the suite of videos, key messages about the likelihood of perpetrators being someone known to the child and family, and statistics about the prevalence of the problem for both boys and girls, are communicated often to dispel myths. These key messages likely led to parents in the intervention condition having increased knowledge primarily through endorsing fewer myths about child sexual abuse, although these effects were small, likely to due to ceiling effects with the knowledge measure.

The strongest direct effects of the intervention, however, was on parents' motivation to address personal safety and CSA. Motivation involved both self-efficacy about the parent's ability to address the topic, their beliefs about the effectiveness of CSA education, and their intentions to talk about CSA with their children. The videos included repeated messages about the importance of parents talking to their children early and often about personal safety and CSA, such as not letting anyone touch their genitals and other private areas, and not keeping secrets. Our findings reveal that the video intervention was effective in motivating parents to engage in these conversations, which in turn led to increased self-reported conversations with children about CSA according to parent report. Unlike some interventions that focus explicitly on behavioral change, this research suggests that motivating parents is critical in leading to this action regarding CSA prevention. These findings about the mechanisms explaining how the intervention was successful in leading parents to communicate with their children about CSA are consistent with central tenets of PMT (Campis et al., 1989; Floyd et al., 2000), whereby people are motivated to engage in protective behavior based on both perceptions of threat and severity, as well as response efficacy and, perhaps most importantly, self-efficacy. Indeed, findings from focus groups about these videos indicated that part of the motivation appears to come from discomfort and realization that CSA is an unfortunate reality for many families, but that the simple, brief, and direct messages of the video helped to empower parents to start the conversation (Livingston, Nickerson, & Allen, 2016).

4.1. Limitations

Despite the extensive and targeted recruitment efforts, the sample was comprised primarily of mothers and the majority of the sample was White. This is a common issue; 94–97% of participants in prevention programs are mothers (Wurtele et al., 2008; Wurtele & Kenny, 2010). This may be because mothers traditionally bear most of the responsibility for communicating with their children about sensitive issues including CSA protection. Clearly, there is room for improvement for involving fathers in the prevention of child maltreatment (Scourfield, 2014). In addition, parents needed to have access to a computer and read English, which may have excluded individuals from ethnic and lingusitic minority and impoverished backgrounds, as well as those with low literacy levels, from our sample. This is an important limitation, especially considering that the online format for delivering the intervention was intended to overcome some of the barriers in involving parents from high-risk and diverse economic, cultural, and ethnic (Love et al., 2013). The rate of attrition from baseline to posttest 2 was about 16%. As a rule of thumb, attrition rates that are under 20% are acceptable (Dumville, Torgerson & Hewitt, 2006) and attrition analyses affirmed that non-completers did not differ significantly from completers on baseline characteristics.

Although results of this brief intervention are promising, it reflects a one-time, brief intervention. In addition, although the results were statistically significant, effect sizes were generally small, and all participants scored high on the knowledge measure, suggesting there may have been a ceiling effect. All measures were completed by parent self-report, so the conclusions are reflective of perception as opposed to actual observable behaviors, and could be influenced by social desirability. It is not possible to tell from these data whether risk of abuse was lowered among children of participants, a notable and prevalent limitation in studies of CSA prevention efforts (Davis & Gidycz, 2000; Rispens, Aleman, & Goudena, 1997). In addition, posttest 2 was only two months after the intervention, which may not have been a long enough time period to assess whether effects were maintained or extinguished. Future studies should assess optimal dosage effects to determine whether repeated viewings or booster sessions improve intervention effectiveness. More longitudinal research, using longer time periods after the intervention, is also needed to better understand the mediating and moderating mechanisms that contribute to the intervention's effectiveness. Lastly, we were unable to test hypotheses regarding the effectiveness of these videos for families in which children experienced CSA. Future work may seek to address this limitation to determine whether the role these videos play in increasing parent-child communication about CSA and the mediating roles that help explain these associations differ when a child has experienced CSA.

4.2. Conclusion

In sum, this study showed that an economical, efficient, self-directed intervention that is highly scalable can be effective in changing knowledge, motivation, and, ultimately, parent behavior with regard to CSA. An ecological approach to CSA prevention recognizes the importance of educating children, parents, professionals, and the public about CSA, and impacting policies, laws, and social norms (Kenny & Wurtele, 2012). Given the call for partnering with parents in CSA prevention (Wurtele & Kenny, 2010), this intervention holds promise as an accessible means for involving parents in beginning the conversations with their young children.

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