

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/315776343>

Typologies of Child Sexual Abuse: An Analysis of Multiple Abuse Acts Among a Large Sample of Danish Treatment-Seeking Survivors of Childhood Sexual Abuse

Article in *Psychological Trauma Theory Research Practice and Policy* · April 2017

DOI: 10.1037/tra0000268

CITATIONS

12

READS

289

5 authors, including:



Mark Shevlin

Ulster University

491 PUBLICATIONS 14,936 CITATIONS

[SEE PROFILE](#)



Siobhan Murphy

Queen's University Belfast

47 PUBLICATIONS 494 CITATIONS

[SEE PROFILE](#)



Ask Elklit

University of Southern Denmark

298 PUBLICATIONS 6,571 CITATIONS

[SEE PROFILE](#)



Jamie Murphy

Ulster University

166 PUBLICATIONS 3,909 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



World assumptions among child sexual abuse survivors: A longitudinal study [View project](#)



Factor structure of PTSD symptoms [View project](#)

Psychological Trauma: Theory, Research, Practice, and Policy

Typologies of Child Sexual Abuse: An Analysis of Multiple Abuse Acts Among a Large Sample of Danish Treatment-Seeking Survivors of Childhood Sexual Abuse

Mark Shevlin, Siobhan Murphy, Ask Elklit, Jamie Murphy, and Philip Hyland

Online First Publication, April 3, 2017. <http://dx.doi.org/10.1037/tra0000268>

CITATION

Shevlin, M., Murphy, S., Elklit, A., Murphy, J., & Hyland, P. (2017, April 3). Typologies of Child Sexual Abuse: An Analysis of Multiple Abuse Acts Among a Large Sample of Danish Treatment-Seeking Survivors of Childhood Sexual Abuse. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <http://dx.doi.org/10.1037/tra0000268>

Typologies of Child Sexual Abuse: An Analysis of Multiple Abuse Acts Among a Large Sample of Danish Treatment-Seeking Survivors of Childhood Sexual Abuse

Mark Shevlin
Ulster University

Siobhan Murphy and Ask Elklit
University of Southern Denmark

Jamie Murphy
Ulster University

Philip Hyland
National College of Ireland

Objective: The deleterious psychological effects of childhood sexual abuse (CSA) have been extensively documented in the research literature. A limitation of this research, however, has been a reliance on overly restrictive and limiting measurements of CSA. Researchers have most commonly referred to discrete instances of rape and molestation; however, evidence suggests that sexual abuse in childhood can include a wide array of acts and that individual survivors can endure many of these. **Method:** This study employed latent class analysis to identify homogeneous groups of adult CSA survivors characterized by similar typologies of sexual trauma within a large sample of Danish, treatment-seeking survivors of CSA and incest ($N = 454$). In total, 18 separate contact and noncontact abuse acts were modeled. Furthermore, the association between abuse-related variables (victim gender, the age at which the abuse started, duration of abuse, and perpetrator of abuse) and the resultant CSA groups, or classes, was estimated. **Results:** Four homogeneous CSA groups were identified: an intercourse group, a high-verbal/low-contact group, a high-sexual-contact group, and a sexual-touch group. Some of the groups were distinguishable from others in terms of the frequency of the abuse and the type of perpetrator identified. **Conclusions:** The results show that “typologies” of CSA may provide a useful way to describe complex patterns of abuse while also facilitating future investigations of CSA outcome and treatment need.

Keywords: childhood sexual abuse, latent class analysis, treatment-seeking sample, abuse-specific predictors

Childhood sexual abuse (CSA) is not a rare occurrence. A recent study based on a large representative sample of the U.K. population found that 7% of females and 2.6% of males, aged 11 to 17 years, reported experiencing childhood “contact” sexual abuse (Radford, Corral, Bradley, & Fisher, 2013). In the United States, data from the Department of Health and Human Services showed that 9.1% of children referred to Child Protective Services in 2011 had experienced sexual abuse (Negriff, Schneiderman, Smith, Schreyer, & Trickett, 2014). Lalor and McElvaney (2010) summarized the findings from many surveys of CSA across European countries and reported prevalence rates of 13.9% (Sweden), 15.8%

(Denmark), and 19% (Spain) for females, and 15.2% (Sweden), 6.7% (Denmark), and 15.5% (Spain) for males. Further, a recent meta-analysis estimated a global prevalence of CSA at 11.8% based on 217 studies (Stoltenborgh, van IJzendoorn, Euser, & Bakermans-Kranenberg, 2011). The variability in estimates of CSA may be the result of inconsistent definitions of what constitutes abuse, different sampling methods, and the varying types of data that are used, such as self-report or clinical/legal assessment (Stoltenborgh et al., 2011).

There has been increasing research interest in the underlying patterns of occurrence and co-occurrence of specific abusive acts. For example, Negriff et al. (2014) recruited 303 adolescents who had been referred to the Department of Child and Family Services for any type of maltreatment for which details of the characteristics of sexual abuse experiences were recorded. They reported a frequency of 11 different abuse acts under three distinct categories: noncontact (e.g., child exposed to pornography), nonpenetrative contact (e.g., kissing, fondling), and penetration (e.g., vaginal/anal intercourse). Nonpenetrative abuse was the most common form of CSA (76.7%), followed by penetrative abuse (40%), then by noncontact abuse (15%). The majority of the sample reported experiencing a single type of abuse, although 31.7% experienced multiple sexual abuse acts (noncontact, nonpenetrative contact, and/or penetration).

Mark Shevlin, Psychology Research Institute, School of Psychology, Ulster University; Siobhan Murphy and Ask Elklit, National Centre for Psychotraumatology, Institute for Psychology, University of Southern Denmark; Jamie Murphy, Psychology Research Institute, School of Psychology, Ulster University; Philip Hyland, School of Business, National College of Ireland.

Correspondence concerning this article should be addressed to Siobhan Murphy, National Centre for Psychotraumatology, Institute for Psychology, University of Southern Denmark, Campusvej 55, DK-5230, Odense M, Denmark. E-mail: smurphy@health.sdu.dk

Indeed, the research literature indicates that the experience of more than one type of sexual abuse is relatively common (McLean, Morris, Conklin, Jayawickreme, & Foa, 2014; Moore et al., 2010). An important challenge for researchers, therefore, is to accurately model and identify complex patterns of occurrence and co-occurrence of multiple abuse acts. This is an important objective, as it is known that polyvictimization seriously compromises psychological well-being (Finkelhor & Dziuba-Leatherman, 1994; Paolucci, Genuis, & Violato, 2001).

There are few studies that have modeled multiple sexual abuse acts using mixture modeling. These models have aimed to identify subpopulations of individuals, characterized by similar abuse profiles/histories, within samples. For example, Bennett, Hughes, and Luke (2000) employed cluster analysis to identify homogenous groups of participants, from a sample of 124 female college students who had similar profiles of sexual abuse experiences. The analysis was based on eight abuse indicators (familial status of perpetrator, age difference between victim and perpetrator, exhibitionism, clothed fondling, unclothed fondling, intercourse, multiple incidents, and use of force) and identified eight abuse clusters. Three of the clusters from the analysis represented different levels of incest severity. Three other clusters represented different levels of severity of extra familial abuse, and the remaining two clusters represented exhibitionism and inappropriate relationships.

Although early attempts to profile abuse history exploited cluster analysis to reveal the underlying pattern of sexual trauma within a sample, latent class analysis (LCA) has widely been considered to be a more sophisticated statistical approach for modeling categorical abuse data (Vermunt & Magidson, 2002). One study employed LCA to identify profiles of sexual abuse perpetration using a sample of 657 young people (age range from 14 to 26 years) recruited from high schools and university (French, Bi, Latimore, Klemp, & Butler, 2014). The variables modeled in their analysis related to the tactics employed by perpetrators to initiate abuse (verbal coercion, substance facilitated, physical force) and sexual behavior (kissing/fondling, attempted intercourse, and completed intercourse). A four-class solution was considered to be the best representation of the data. It included a polyvictimization class (9.5%), a forced fondling class (9.5%), a manipulated and forced fondling/intercourse class (27%), and a non-victim class (54%). The authors also attempted to predict membership of each class based on gender, self-esteem, psychological distress, and sexual risk taking.

Although abuse profiling has begun to receive greater research attention, to date, studies that have attempted to develop profiles or typologies of sexual abuse have been limited by a number of factors, such as the use of convenience samples, the employment of poor or inappropriate statistical methods, and a failure to comprehensively assess a full range of sexual abuse acts. Moreover, to date, no attempt has been made to establish whether the identity of a perpetrator (e.g., parent, relative, family friend, stranger) is predictive of the pattern or profile of abuse recorded. This study aimed to overcome some of these limitations. Using detailed abuse act data from a large group of treatment-seeking adult survivors of sexual trauma, it was hypothesized that multiple and distinct abuse groups or classes would be identified, that is, individual groups or classes within the sample would be characterized by a distinct pattern or profile of multiple sexual abuse acts. Furthermore, it was predicted that the identified classes would also be differentiated by

gender and a number of important abuse-related covariates, for example, age of abuse onset, duration of abuse, and perpetrator identity.

Method

Participants

All participants in this study were Danish CSA treatment center attendees ($N = 454$ across four treatment centers). All centers are supported by the Ministry of Social Affairs in Denmark. Exclusion criteria included (a) a current alcohol or drug problem, (b) a diagnosis of a psychotic disorder, (c) self-harming behavior, (d) engagement in treatment elsewhere, and (e) diagnosis of a personality disorder. Clients who met one or more of the exclusion criteria were referred either to specialized institutions or voluntary help groups. Most participants were female (85.5%), the mean age was 36.62 years ($SD = 10.74$), and most (50.9%) were either married or cohabiting. The average length of education was 13.30 years ($SD = 3.50$).

Procedure

All attendees presented with distress and impairment resulting from their traumatic abuse history and received individual psychotherapy of an eclectic nature that suited their needs. The treatment is carried out by psychologists under supervision. When clients initially attended the treatment center, they were asked to fill out a number of questionnaires during their first session (lasting approximately 1 hr), based on which the therapy would be planned. The therapist shared the findings with the client during the following session. This process is repeated every 6 months. All clients provided informed consent upon enrolment in the treatment program. There was no limit to the number of sessions and the treatment was free. Following the initial assessment, all clients received weekly therapy, most of them on an individual basis. Typically, clients stay in treatment for about 1.5 years.

Measures

Clients were asked to provide demographic information (age, gender, marital status, and education), information on the relationship with their perpetrator, information regarding the age of onset and duration of their abuse, and information regarding the types of abuse experienced. Eighteen individual acts of abuse were listed (see Table 1). These included noncontact sexual abuse acts (e.g., individual spoken to about sexual matters), nonpenetrative contact abuse acts (e.g., individual kissed or fondled in a sexual way), and penetrative sexual abuse acts (e.g., attempted or completed intercourse). Clients were asked if they had experienced any of the 18 abuse acts during childhood. Responses were limited to “yes” or “no.”

A list of perpetrator identities was also provided and clients were asked to identify who had perpetrated the abuse. This list included “mother,” “father,” “stepparent,” “sibling,” “other family member,” “other nonfamily adult,” and “more than one perpetrator.” The participants were also asked the frequency of the abuse (once, 2–15 times, more than 16 times).

Table 1
Frequencies and Percentages of Different Abuse Acts for Males and Females

Sexual abuse acts	Male (n = 66)	Female (n = 388)	Total	$\chi^2(df) p$
Spoken to about sexual matters	27 (40.9%)	188 (48.7%)	215 (47.6%)	1.373 (1).241
Questioned about own sexuality	19 (28.8%)	104 (26.9%)	123 (27.2%)	.104 (1).747
Teased about sexual development	5 (7.6%)	160 (41.3%)	165 (36.4%)	27.764 (1).000
Had to listen to other's sexual experiences	24 (36.4%)	135 (35.1%)	159 (35.3%)	.208 (1).901
Proposals or threats about taking part in sex acts	23 (34.8%)	139 (36.0%)	162 (35.8%)	.033 (1).856
Kissed or fondled in a sexual way	31 (47.7%)	251 (65.0%)	282 (62.5%)	7.134 (1).008
Had to watch someone present their genitals	48 (72.7%)	226 (58.4%)	107 (23.7%)	4.844 (1).028
Had to watch adult intercourse or pornography	21 (31.8%)	86 (22.3%)	107 (23.7%)	2.936 (1).230
Had to present own genitals to someone else	38 (57.6%)	163 (42.1%)	201 (44.4%)	5.458 (1).019
Was touched in a sexual way (nongenital)	41 (62.1%)	310 (80.3%)	51 (77.7%)	10.747 (1).001
My genitals were touched in a sexual way	46 (69.7%)	262 (67.9%)	308 (68.1%)	.086 (1).769
Had to touch/fondle the genitals of someone else	47 (71.2%)	196 (50.9%)	243 (53.9%)	9.346 (1).002
Had to masturbate while someone was watching	16 (24.2%)	22 (6.9%)	38 (9.8%)	18.595 (1).000
Reciprocal masturbation	20 (30.8%)	30 (9.4%)	50 (13.0%)	21.883 (1).000
Attempted intercourse	18 (27.3%)	141 (36.5%)	159 (35.2%)	2.118 (1).146
Oral intercourse	28 (42.4%)	100 (26.0%)	128 (28.4%)	7.501 (1).006
Anal intercourse	26 (39.4%)	47 (12.4%)	73 (16.4%)	30.004 (1).000
Genital intercourse	3 (4.5%)	109 (28.4%)	112 (24.9%)	17.122 (1).000

Note. *df* = degrees of freedom.

Analysis

LCA is a statistical method used to identify homogeneous groups or classes from multivariate categorical data. The current analysis involved two linked elements. First, an LCA was conducted to determine the number of abuse classes in the sample based on the 18 binary coded abuse variables. The fit of five models (two-class model through six-class model) was assessed. The models were estimated using robust maximum likelihood (Yuan & Bentler, 2000). To avoid solutions based on local maxima, 500 random sets of starting values were used initially and 100 final stage optimizations. The relative fit of the models were compared by using three information theory based fit statistics: the Akaike information criterion (AIC; Akaike, 1987), the Bayesian information criterion (BIC; Schwarz, 1978), and a sample-size adjusted BIC (ssaBIC; Sclove, 1987). The model that produced the lowest information criteria values was judged to be the best model. Evidence from simulation studies has indicated that the BIC is the more superior information criterion for identifying the correct number of classes (Nylund, Asparouhov, & Muthén, 2007). In addition, the Lo-Mendell-Rubin adjusted likelihood ratio test (LMRA-LRT; Lo, Mendell, & Rubin, 2001) and the bootstrapped likelihood ratio test (McLachlan & Peel, 2000) were used to compare models with increasing numbers of latent classes. When a nonsignificant value ($p > .05$) occurs, this suggests that the model with one less class should be accepted. All analyses were conducted using Mplus 7 (Muthén & Muthén, 2012).

Second, demographic variables (age at abuse onset and gender), variables representing the perpetrator's identity, and variables relating to the nature of the abuse (age abuse started, time abuse lasted [years], and the number of abusive acts experienced) were used to predict class membership using chi square tests of association.

Results

The average age that abuse started was 6.57 years ($SD = 4.70$, $Mdn = 6$, interquartile range [IQR] = 5). Mann-Whitney

U tests indicated no significant differences between males and females ($U = 7,550.50$, $z = -1.95$, $p > .05$). Abuse lasted for an average of 6.88 years ($SD = 6.39$, $Mdn = 6$, $IQR = 6$), and this did not differ significantly for males and females ($U = 5,046.50$, $z = -1.45$, $p > .05$). The number of abusive acts reported showed that multiple victimization was more common than experiences of single-abuse acts. Only 8.8% of the participants reported that they had experienced abuse once, 42.9% of the sample reported under 15 occurrences of abuse, and 48.3% reported 16 or more occurrences.

Gender Differences in Abuse Experiences

Table 1 shows the frequencies of occurrence of each of the sexual abuse acts. For the total sample, touching, either genital or nongenital, and having been kissed and fondled in a sexual way were the most common abuse acts that were experienced. Having to masturbate, reciprocal masturbation, and anal intercourse were the least prevalent abusive acts. There were also significant gender differences. Males were more likely than females to report experiences in which they had to watch someone present their genitals, had to touch the genitals of others, had to masturbate while someone watched, or in which they had to endure oral or anal intercourse. Females were significantly more likely report experiences in which they had been teased about sexual development, been kissed and fondled in a sexual way, been touched in a sexual way (nongenital), or in which they had experienced genital intercourse. The mean number of abusive acts experienced overall was 6.94 ($SD = 4.15$, $Mdn = 7$, $IQR = 6$), and there was no difference between males and females ($U = 11,976.50$, $z = -.81$, $p > .05$).

Perpetrator Status

Fathers were the most commonly identified family perpetrator (30.9%), followed by siblings (15.8%), stepparents (15.1%), and mothers (4.2%). Almost one third of the sample reported being abused by a nonfamily adult (32.7%), and 13.6% reported being

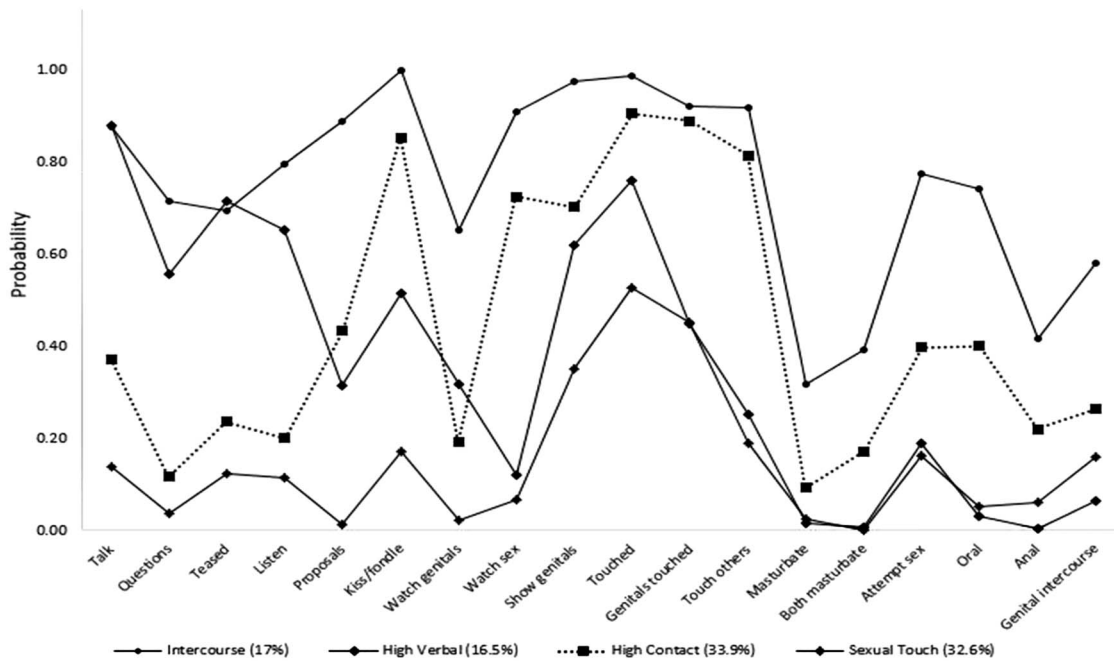


Figure 1. Profile plot of latent classes of different abuse acts.

abused by more than one person. Males were more likely than females to have been abused by their mothers, $\chi^2(1) = 11.88, p < .05$, whereas females were more like than males to have been abused by their fathers, $\chi^2(1) = 5.91, p < .05$, and other family members, $\chi^2(1) = 6.77, p < .05$. No significant sex differences were observed for other perpetrators.

The fit statistics for the LCA analyses based on the 18 sexual abuse acts are reported in Table 2. In order to determine the best-fitting model, a number of statistical indicators were assessed. Evidence from simulation studies have reported that the BIC is the superior information criteria for assessing model fit, which is determined when the BIC reaches its lowest value (Nylund et al., 2007). The BIC has the smallest value for a solution with four classes. The LMRA-LRT becomes nonsignificant for the four-class solution, which suggests that the three-class solution should also be considered. However, the LMRA-LRT probability value for the four-class model is small ($p = .11$). The AIC and ssaBIC continue to decrease with additional classes, although the relative magnitude of the decreases is smaller after four classes. It is common that inconsistencies among the statistical indicators for

determining model fit arise; therefore, the interpretability of each class should be inspected to facilitate the determination of which appropriate class solution is more consistent with theory and empirical research (Roesch, Villodas, & Villodas, 2010). The three-class solution has a large class that had experienced both verbal and nonpenetrative abuse, whereas the four-class solution separated these into high-verbal/low-contact and high-contact classes, with each class containing sizable proportions of the sample. This latter finding indicates an important distinction in sexual abuse experiences, and is consistent within the existing research findings given that low levels of noncontact sexual abuse are considered less severe and associated with lower risk of maladjustment (Fergusson & Mullen, 1999; Negriff et al., 2014). On the basis of these considerations, the four-class solution was selected.

Figure 1 shows the profile plot for the four-class solution. Class 1 ($n = 77; 17.0\%$) was characterized by a relatively high probability of having experienced all sexual abuse acts. This class is distinguishable from others by experiencing much higher probabilities of penetrative abuse experiences, and therefore was labeled

Table 2

Fit Statistics for Latent Class Analysis of Childhood Sexual Trauma

Classes	Log likelihood	AIC	BIC	ssaBIC	LMRA LRT	BS LRT
1	-4,756.889	9,553.778	9,636.140	9,572.667		
2	-4,223.080	8,528.159	8,697.001	8,566.881	1,059.373, $p < .001$	1,067.618, $p < .001$
3	-4,111.723	8,347.446	8,602.768	8,406.001	220.994, $p < .001$	222.714, $p < .001$
4	-4,006.854	8,179.708	8,521.510	8,258.097	208.118, $p = .11$	209.738, $p < .001$
5	-3,960.486	8,128.972	8,557.255	8,227.194	92.020, $p = .10$	92.736, $p < .001$
6	-3,916.063	8,082.126	8,596.888	8,200.181	88.160, $p = .43$	88.846, $p < .001$

Note. IC = Akaike information criterion; BIC = Bayesian information criterion; ssaBIC = sample-size adjusted BIC; LMRA LRT = Lo-Mendell-Rubin adjusted likelihood ratio test; BS LRT = Bootstrapped likelihood ratio.

the intercourse class. Class 2 ($n = 75$; 16.5%) was characterized by a relatively high probability of having experienced verbal types of sexual abuse. In particular, there was a high probability of having been spoken to about sexual matters, questioned about sexuality, teased about sexual development, and having had to listen to other's sexual experiences. The distinguishable features of this class were evident through the higher probabilities of experiencing noncontact abuse acts (e.g., verbal experiences), and therefore was labeled the high-verbal/low-contact class. Class 3 ($n = 154$; 33.9%) was characterized by a relatively high probability of having experienced sexual contact, in particular those involving genital contact. Specifically, there was a high probability of having been kissed or fondled in a sexual way, having presented one's own genitals to someone else, having genitals touched in a sexual way, and having had to touch or fondle the genitals of someone else. This class was labeled the high-sexual-contact class. Class 4 ($n = 148$; 32.6%) had the lowest overall probability of having experienced most of the sexual abuse acts. The highest probability was for having presented own genitals to someone else, having been touched in a sexual way (nongenital), having genitals touched in a sexual way, and having had to touch or fondle the genitals of someone else. This class was labeled the sexual-touch class.

Abuse Characteristics and Class Membership

Gender was not associated with class membership, $\chi^2(3) = 4.71, p > .05$. Kruskal-Wallis tests indicated that the rank means among the different sexual abuse typologies and age at abuse onset were nonsignificant. However, there were differences ($p = .04$) in the rank means for duration of abuse, with those in the intercourse class displaying elevated scores. The frequency of abuse acts was also significantly associated with class membership, $\chi^2(6) = 54.61, p < .001$. The intercourse class reported the highest occurrence of more than 16 abuse acts (78%), followed by the high-sexual-contact class (59.8%). The sexual-touch class had the highest occurrence of single abuse acts (14%) relative to the other classes and the lowest reports of more than 16 abuse acts. Further, six chi-square tests were conducted to test for associations between perpetrator identity and class membership. Two tests were statistically significant. The first indicated that there were more participants than expected in the high-verbal/low-contact class, $\chi^2(3) = 11.19, p < .05$, when the perpetrator was their mother. The second indicated that there were more participants than expected in the intercourse class, $\chi^2(3) = 27.00, p < .05$, when there was more than one perpetrator.

Discussion

The primary aim of this study was to use LCA to identify homogeneous subpopulations of a large group of treatment-seeking survivors of sexual trauma based on a comprehensive assessment of types of sexual abuse. Results indicated that a model with four latent classes was the most parsimonious representation of sexual abuse experiences. The four classes were labeled *intercourse*, *verbal/low-contact*, *high sexual contact*, and *sexual touch*. The symptom profiles observed in all classes suggest quantitative distinctions between types of sexual abuse experiences. The intercourse class comprised 17% of the sample, and individuals in this class had high probabilities of experiencing all types of sexual

abuse, particularly those involving penetrative contact. This class may be at particular risk for increased negative outcomes, as research has consistently found a strong relationship between CSA and sexual revictimization in later life (Classen, Palesh, & Aggarwal, 2005; Messman-Moore & Long, 2000), increased psychopathology, and suicidal ideation (Cutajar et al., 2010; McLean et al., 2014). The majority of survivors fell into the sexual-touch and high-contact abuse classes comprising two thirds of the sample, with the sexual-touch class endorsing the fewest different types of sexual abuse experiences. These findings support other studies that indicate the most common types of sexual abuse experiences are nonpenetrative, with being kissed and genital and nongenital fondling the more frequent reported experiences (Negriff et al., 2014).

The second aim of this study was to investigate the association between abuse-related variables (gender, age abuse started, length of time of abuse, and perpetrator) and the resultant latent classes. The current analyses revealed that gender did not significantly predict class membership. This finding supports a recent study that used a treatment-seeking sample of children and adolescents (Yancey, Naufel, & Hansen, 2013). Common to both studies, however, was that there were relatively few male participants, which may have impacted the analyses. This is a consistent problem within the sexual abuse research, with an overrepresentation of females within the samples. However, a possible explanation is that although sexual abuse is common in males, research suggests that males are less likely to disclose abuse experiences or to be asked about sexual abuse than females (Holmes & Slap, 1998; Negriff et al., 2014). The finding that the age of abuse onset did not significantly predict class membership is consistent with previous studies (Yancey et al., 2013); however, the number and duration of abuse acts did predict class membership with those in the intercourse and high-contact classes reporting more frequent occurrences. The results further found that when the perpetrator status was the survivors' mother they were more likely to be in the high-verbal/low-contact class. One possible explanation for this finding may relate to the particular item content that distinguishes this class. For example, individuals in this class reported higher levels of "being spoken to about sexual matters" and "being teased about sexual development." These particular items are more subjective and dependent on the individual's interpretation and subsequent level of discomfort. Therefore, replication of this finding using a standardized measure that includes uncomfortable sexual talk is clearly warranted. However, although less research has explored mothers as perpetrators, it is notable that this finding does, to a certain extent, support previous studies that found mothers are more likely to engage in noncontact sexual acts, such as pornography, rather than touching their child in a sexual manner (Negriff et al., 2014). Whatever the explanation, this finding has identified an important gap in knowledge and highlights the need for future research to explore whether this is a common pattern for female perpetrators, particularly biological mothers.

The results also indicated that individuals in the intercourse class were more likely to report more than one perpetrator, which has been noted in previous studies to be predictive of increased trauma-related symptoms (Briere & Elliott, 2003). The percentage of participants in this study reporting abuse by multiple perpetrators was 13.6%, which is lower than the 16.8% reported in a similar U.K. sample for CSA survivors in receipt of psychotherapy (Bak-Klimek et al., 2014). Concurrent multiple perpetrators has

also been associated with increased dissociative symptoms and psychological distress (Gold, Hill, Swingle, & Elfant, 1999; Steel, Sanna, Hammond, Whipple, & Cross, 2004).

The findings of the current study should be considered in light of several limitations. First, the sample was overrepresented by female participants, which may have accounted for the lack of gender differences in predicting class membership. Second, the data are based on retrospective accounts of sexual abuse, which can be subject to memory bias or under- or overreporting of experiences; however, research investigating recall of childhood traumatic memories has been found to be reliable (Read, Hammersley, & Rudegeair, 2007). Third, the sexual abuse items were not based on a standardized measure, which makes comparisons between studies difficult, and therefore the current findings should be interpreted in light of this limitation. Finally, there are two notable sampling considerations that limit the generalizability of these findings. The analysis was based on a treatment-seeking sample of Danish survivors of CSA, and is therefore limited to individuals who seek treatment and not the wider population of survivors of sexual abuse. In addition, individuals with mental health and personality disorders and substance misuse problems were excluded from the study, as they referred to more specialized centers that deal specifically with these types of outcomes. It is important that the findings are interpreted in light of this limitation as the current sample does not represent a comprehensive profile of CSA survivors that present with these difficulties. Therefore, replication of these findings using a more inclusive sample of CSA survivors is clearly warranted.

To conclude, the results of the current study revealed four typologies of CSA experiences that were distinguishable by certain abuse specific characteristics. Although replication using a more inclusive sample of CSA survivors is warranted to provide stronger support for the validity of the typologies, there were some important research and practical implications that emerged. First, the profiling of characteristics of sexual abuse experiences using multiple identifiers has notable analytic and conceptual benefits in terms of identifying differential typologies. By profiling the occurrence and co-occurrence of different types of sexual abuse, this permits the examination of outcomes associated with the different typologies and identifies more specific risk profiles. For example, extant research suggests that survivors of CSA are particularly vulnerable to developing a range of psychological outcomes, such as posttraumatic stress disorder, anxiety and depression, and difficulties in social and personal relationships (Briere & Elliott, 2003; Kendall-Tackett, 2012; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Importantly, however, evidence also suggests that psychological problems associated with CSA vary as a result of the severity, duration, and form of the abuse experiences (Bak-Klimek et al., 2014). Assessing the differences in outcomes and why some develop certain disorders and others do not is an important challenge in CSA research. This highlights the need to accurately model and identify patterns of occurrence and co-occurrence of abuse experiences rather than simply categorizing an individual as being sexually abused. Further, from a treatment perspective, the benefits of adopting an LCA approach also have important implications for treatment efficacy, as it permits investigation into whether there are differences between the identifies risk profiles and their response to treatment over time. Finally, identifying the mother as perpetrator as a predictor of membership

in the high-verbal/low-contact class highlights the need for more research and the effects this type of abuse may have on the victim. Overall, the current findings can provide valuable information that can be used to inform tailored interventions and subsequent treatment planning for the different subgroups of individuals based on their sexual abuse experiences.

References

- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, *52*, 317–332. <http://dx.doi.org/10.1007/BF02294359>
- Bak-Klimek, A., Karatzias, T., Elliott, L., Campbell, J., Pugh, R., & Laybourn, P. (2014). Nature of child sexual abuse and psychopathology in adult survivors: Results from a clinical sample in Scotland. *Journal of Psychiatric and Mental Health Nursing*, *21*, 550–557. <http://dx.doi.org/10.1111/jpm.12127>
- Bennett, S. E., Hughes, H. M., & Luke, D. A. (2000). Heterogeneity in patterns of child sexual abuse, family functioning, and long-term adjustment. *Journal of Interpersonal Violence*, *15*, 134–157. <http://dx.doi.org/10.1177/088626000015002002>
- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*, *27*, 1205–1222. <http://dx.doi.org/10.1016/j.chiabu.2003.09.008>
- Classen, C. C., Palesh, O. G., & Aggarwal, R. (2005). Sexual revictimization: A review of the empirical literature. *Trauma, Violence, & Abuse*, *6*, 103–129. <http://dx.doi.org/10.1177/1524838005275087>
- Cutajar, M. C., Mullen, P. E., Oglloff, J. R., Thomas, S. D., Wells, D. L., & Spataro, J. (2010). Psychopathology in a large cohort of sexually abused children followed up to 43 years. *Child Abuse & Neglect*, *34*, 813–822. <http://dx.doi.org/10.1016/j.chiabu.2010.04.004>
- Fergusson, D. M., & Mullen, P. E. (1999). *Childhood sexual abuse: An evidence based perspective*. Thousand Oaks, CA: Sage.
- Finkelhor, D., & Dzuiba-Leatherman, J. (1994). Children as victims of violence: A national survey. *Pediatrics*, *94*, 413–420.
- French, B. H., Bi, Y., Latimore, T. G., Klemp, H. R., & Butler, E. E. (2014). Sexual victimization using latent class analysis: Exploring patterns and psycho-behavioral correlates. *Journal of Interpersonal Violence*, *29*, 1111–1131. <http://dx.doi.org/10.1177/0886260513506052>
- Gold, S. N., Hill, E. L., Swingle, J. M., & Elfant, A. S. (1999). Relationship between childhood sexual abuse characteristics and dissociation among women in therapy. *Journal of Family Violence*, *14*, 157–171. <http://dx.doi.org/10.1023/A:1022076719138>
- Holmes, W. C., & Slap, G. B. (1998). Sexual abuse of boys: Definition, prevalence, correlates, sequelae, and management. *JAMA: Journal of the American Medical Association*, *280*, 1855–1862. <http://dx.doi.org/10.1001/jama.280.21.1855>
- Kendall-Tackett, K. (2012). The long-term health effects of child sexual abuse. In Paris Goodyear-Brown (Ed.), *Handbook of child sexual abuse: Identification, assessment, and treatment* (pp. 49–67). Hoboken, NJ: Wiley.
- Lalor, K., & McElvaney, R. (2010). Child sexual abuse, links to later sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. *Trauma, Violence, & Abuse*, *11*, 159–177. <http://dx.doi.org/10.1177/1524838010378299>
- Lo, Y., Mendell, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, *88*, 767–778. <http://dx.doi.org/10.1093/biomet/88.3.767>
- McLachlan, G. J., & Peel, D. (2000). *Finite mixture models*. New York, NY: Wiley-Interscience. <http://dx.doi.org/10.1002/0471721182>
- McLean, C. P., Morris, S. H., Conklin, P., Jayawickreme, N., & Foa, E. B. (2014). Trauma characteristics and posttraumatic stress disorder among adolescent survivors of childhood sexual abuse. *Journal of Family Violence*, *29*, 559–566. <http://dx.doi.org/10.1007/s10896-014-9613-6>

- Messman-Moore, T. L., & Long, P. J. (2000). Child sexual abuse and revictimization in the form of adult sexual abuse, adult physical abuse, and adult psychological maltreatment. *Journal of Interpersonal Violence, 15*, 489–502. <http://dx.doi.org/10.1177/088626000015005003>
- Moore, E. E., Romaniuk, H., Olsson, C. A., Jayasinghe, Y., Carlin, J. B., & Patton, G. C. (2010). The prevalence of childhood sexual abuse and adolescent unwanted sexual contact among boys and girls living in Victoria, Australia. *Child Abuse & Neglect, 34*, 379–385. <http://dx.doi.org/10.1016/j.chiabu.2010.01.004>
- Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1996). The long-term impact of the physical, emotional, and sexual abuse of children: A community study. *Child Abuse & Neglect, 20*, 7–21. [http://dx.doi.org/10.1016/0145-2134\(95\)00112-3](http://dx.doi.org/10.1016/0145-2134(95)00112-3)
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus: Statistical analysis with latent variables: User's guide* (4th ed.). Los Angeles, CA: Author.
- Negriff, S., Schneiderman, J. U., Smith, C., Schreyer, J. K., & Trickett, P. K. (2014). Characterizing the sexual abuse experiences of young adolescents. *Child Abuse & Neglect, 38*, 261–270. <http://dx.doi.org/10.1016/j.chiabu.2013.08.021>
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling, 14*, 535–569. <http://dx.doi.org/10.1080/10705510701575396>
- Paolucci, E. O., Genuis, M. L., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. *The Journal of Psychology, 135*, 17–36.
- Radford, L., Corral, S., Bradley, C., & Fisher, H. L. (2013). The prevalence and impact of child maltreatment and other types of victimization in the UK: Findings from a population survey of caregivers, children and young people and young adults. *Child Abuse & Neglect: The International Journal, 37*, 801–813. <http://dx.doi.org/10.1016/j.chiabu.2013.02.004>
- Read, J., Hammersley, P., & Rudegeair, T. (2007). Why, when and how to ask about childhood abuse. *Advances in Psychiatric Treatment, 13*, 101–110. <http://dx.doi.org/10.1192/apt.bp.106.002840>
- Roesch, S. C., Villodas, M., & Villodas, F. (2010). Latent class/profile analysis in maltreatment research: A commentary on Nooner et al., Pears et al., and looking beyond. *Child Abuse & Neglect, 34*, 155–160. <http://dx.doi.org/10.1016/j.chiabu.2010.01.003>
- Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics, 6*, 461–464. <http://dx.doi.org/10.1214/aos/1176344136>
- Sclove, S. L. (1987). Application of model-selection criteria to some problems in multivariate analysis. *Psychometrika, 52*, 333–343. <http://dx.doi.org/10.1007/BF02294360>
- Steel, J., Sanna, L., Hammond, B., Whipple, J., & Cross, H. (2004). Psychological sequelae of childhood sexual abuse: Abuse-related characteristics, coping strategies, and attributional style. *Child Abuse & Neglect, 28*, 785–801. <http://dx.doi.org/10.1016/j.chiabu.2003.12.004>
- Stoltenborgh, M., van IJzendoorn, M. H., Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: Meta-analysis of prevalence around the world. *Child Maltreatment, 16*, 79–101. <http://dx.doi.org/10.1177/1077559511403920>
- Vermunt, J. K., & Magidson, J. (2002). Latent class cluster analysis. In J. A. Hagenars & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89–106). Cambridge, UK: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511499531.004>
- Yancey, C. T., Naufel, K. Z., & Hansen, D. J. (2013). The relationship of personal, family, and abuse-specific factors to children's clinical presentation following childhood sexual abuse. *Journal of Family Violence, 28*, 31–42. <http://dx.doi.org/10.1007/s10896-012-9485-6>
- Yuan, K. H., & Bentler, P. M. (2000). Three likelihood-based methods for mean and covariance structure analysis with nonnormal missing data. *Sociological Methodology, 30*, 165–200. <http://dx.doi.org/10.1111/0081-1750.00078>

Received October 3, 2016

Revision received January 30, 2017

Accepted March 5, 2017 ■