The Relation of Childhood Abuse Experiences to Problematic Sexual Behaviors in Male Youths Who Have Sexually Offended

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ABSTRACT

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A thesis presented to the Department of Psychology

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Brandeis University
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Emotional abuse and sexual abuse, either alone or in combination, have been implicated as developmental antecedents of problematic sexual thoughts and behaviors in studies of sexually aggressive males (Knight & Sims-Knight, 2011). Recently, emotional abuse perpetrated by a male caregiver has emerged as a strong predictor of subsequent hypersexuality in adult male sexual offenders. In a study of 529 adult male sexual offenders, Kingston, Graham, and Knight (2017) found that male caregiver emotional abuse was the most prominent predictor of hypersexual thoughts and behaviors in adulthood, above and beyond the effects of other abuse types, such as physical abuse and sexual abuse. Consequently, we hypothesized that among juveniles who had sexual offended (JSOs) higher self-reported levels of childhood emotional and sexual abuse in contrast to other types of childhood maltreatment experiences would covary with higher subsequent levels of normophilic sexualized thoughts and behaviors. Consistent with Kingston et al. (2017), Male Caregiver Emotional Abuse emerged as a potent predictor of
subsequent reported hypersexuality in this juvenile sample. Furthermore, this factor also emerged as a strong predictor of deviant sexual behaviors and fantasies, such as paraphilic interests and pedophilic preference. Sexual Abuse was also found to be a significant predictor of hypersexuality. These findings provide additional support for the strong relation between male caregiver emotional abuse and subsequent problematic sexual thoughts and behaviors. These data are consistent with other research that suggests a parent-gender effect on the impact of parental discipline and the differential effect of male caregiver abuse on male children.
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Juveniles who sexually offend (JSOs) represent a diverse group, with backgrounds, offending histories, and psychological characteristics that differ meaningfully from both adult sexual offenders (Andrade, Vincent, & Saleh, 2006; Knight, 2004; Knight & Prentky, 1993) and from non-sexual juvenile offenders (van Wijk, van Horn, Bullens, Bijleveld, & Doreleijers, 2005; Wanklyn, Ward, Cormier, Day, & Newman, 2012; Zakireh, Ronis, & Knight, 2008). Failure to understand the unique features of JSOs and the developmental antecedents of these characteristics has led to negative consequences for the assessment, adjudication, and treatment of these individuals (Letourneau & Miner, 2005). Especially critical for these offenders is the understanding of their sexual behavior and fantasy.

**Role of Sexual Behavior and Fantasies in Juvenile Sexual Offending**

Previous research has implicated three core aspects of sexual behavior that are problematic areas of concern for JSOs: normophilic excessive thoughts and behaviors (which we have referred to as “sexualization”), paraphilic deviant thoughts and behaviors, and pedophilic preference. Although normophilic excessive sexualization and paraphilic deviance have been found to be highly correlated (Kafka, 2010; Knight & Cerce, 1999), all three domains capture different aspects of sexual behavior and are found more frequently in JSOs than comparable non-offender juvenile samples (MIDSA, 2011).

Normophilic excessive sexualization refers to sexual arousal and drive that is elicited by normative or socially-sanctioned preferences but which is excessive to the point of impeding
functioning or causing distress to the individual. It is conceptually similar to hypersexuality, although normophilic excessive sexualization may include elements of sexual preoccupation and sexual compulsivity that are contained in some but not all definitions of hypersexual thoughts and behaviors. In adult male sexual offender samples, hypersexuality has been identified as a strong predictor of recidivism (Hanson & Morton-Bourgon, 2005; Kingston & Bradford, 2013). Moreover, sexual preoccupation/hypersexuality is a core latent trait in etiological models of JSOs who offend against peer-age females (Knight & Sims-Knight, 2004), and Normophilic Excessive Sexualization has been found to be more prominent among JSOs in residential placement than other juvenile offenders, sexual and nonsexual (Zakireh et al., 2008).

Paraphilic deviant fantasies or behaviors involve sexual attraction to non-normative activities or preferences. Paraphilic sexual interests are typically intense and persistent, and the presence of more than one co-occurring paraphilia is common (Abel, Becker, Cunningham-Rathner, Mittelman, & Rouleau, 1988). Paraphilias are typically classified as either anomalous activity preferences—such as frotteurism, exhibitionism, voyeurism, and scatalogia—or as anomalous target preferences—such as tranvestism and fetishism (American Psychiatric Association, 2013). Paraphilias may take the form of activities against a non-consenting victim, such as in the case of frotteurism, exhibitionism, voyeurism, and scatalogia, or activities/preferences without a victim, such as in the case of transvestism and fetishism (APA, 2013). As previously mentioned, presence of paraphilias has been found to correlate with sexual drive, preoccupation, and compulsivity (Kafka & Hennen, 1999; Knight & Cerce, 1999). As with normophilic excessive sexualization, paraphilias appear to be more prevalent among juveniles who are in residential placement for serious sexual offenses than among nonsexual juvenile offenders or juveniles in outpatient sexual offender-specific treatment (Zakireh et al.,

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Moreover, although adult male sexual offenders and JSOs have been found to have similar levels of sexual drive and preoccupation, juveniles who have sexually offended appear to show higher rates of paraphilias than their adult counterparts, prompting Knight (2004) to posit paraphilic deviance as a potential risk factor for persistence of adolescent sexually coercive behavior into adulthood. Alternatively, there may be a reciprocal relation between paraphilic deviance and sex-specific residential treatment, such that underlying paraphilic fantasies may be exacerbated by treatment in juvenile facilities (Zakireh et al., 2008).

Although juveniles who offend against peers and those who offend against children have, until recently, been treated as more or less similar to one another, recent research suggests that pedophilic preference represents a distinct trait, associated with its own unique etiology and trajectory in juveniles (Daversa & Knight, 2007; Glowacz & Born, 2013; Knight & Prentky, 1993; Seto & Lalumière, 2010). In a European study of 67 juvenile peer-age offenders, child-molesters, and non-sexual offenders, juveniles who had sexually offended against younger children were more submissive and conforming and reported experiencing more anxious feelings (Glowacz & Born, 2013). The socially anxious juvenile who targets child victims may in fact be one of two child offending developmental trajectory types: the exploitative and aggressive child-molester type who scores high on measures of psychopathy or the fixated, high-contact-with-children type who scores high on measures of sexual inadequacy (Daversa & Knight, 2007).

Importantly, Daversa and Knight (2007) proposed that pedophilic preference in juveniles may in part be predicted by the juvenile's own experiences of having been abused in childhood.

**Developmental Antecedents of Sexual Problems in JSOs**

**Sexual Abuse.** Indeed, childhood abuse plays an important role in etiological models of all three aforementioned types of problematic sexual behavior. Much of the existent
research on the relation between abuse experiences and subsequent difficulties with sexual
problems has focused primarily on the effects of childhood sexual abuse. Meta-analyses have
found sexual abuse to be significantly more prevalent among both adolescents (Seto &
Lalumière, 2010) and adults (Jespersen, Lalumiere, & Seto, 2009) who sexually offend.
Furthermore, meta-analyses of research in adolescent and adult male non-offender samples have
identified a high correlation between childhood sexual abuse and excessive normophilic sexual
thoughts and behaviors, including sexual compulsivity, contact with multiple sexual partners,
and other high-risk sexual behaviors (Aaron, 2012; Abajobir, Kisely, Maravilla, Williams, &
Najman, 2017; Homma, Wang, Saewyc, & Kishor, 2012). Sexual abuse has also been
implicated as a prominent predictor of sexual preoccupation and compulsivity in adult sex
offender samples (Knight & Sims-Knight, 2011). Moreover, a history of childhood sexual abuse
has been identified as a potential risk factor for the development of other problematic sexual
characteristics, such as a preference for younger children (Awad & Saunders, 1991; Lee,
Jackson, Pattison, & Ward, 2002).

There are, however, limitations to a singular focus on sexual abuse. Research that
examines the developmental outcomes of a single abuse type but either disregards or does not
control for additional abuse experiences fails to account for the high levels of comorbidity
among different types of abuse (Edwards, Holden, Felitti, & Anda, 2003; Higgins & McCabe,
2000) and the possible additive or interactive effects of multiple maltreatment types. The
recognition that “sexual and physical abuse and neglect are intertwined in complex patterns in
the developmental histories of sexually aggressive juveniles” has fostered research on the
relations between sexualization and childhood abuse experiences other than sexual victimization
in sexually aggressive samples (Kingston et al., 2017; Knight & Prentky, 1993, p. 77).
**Emotional Abuse.** Emotional abuse, in particular, has emerged as another important developmental factor in etiological models of problematic sexual behavior. Childhood emotional abuse was found to be a common developmental risk factor for both pedophilia and paraphilias (e.g., exhibitionism) in an Australian study of 97 sexual and non-sexual adult male offenders (Lee et al., 2002). Similarly, Daversa and Knight’s (2007) etiological model of juvenile sexual offending against children explored combinations of physical abuse, sexual abuse, emotional abuse, and caregiver instability as predictors. Their findings suggest that both antipathy and neglect (two subtypes of emotional abuse) may play an important role in multiple pathways to sexual coercion against children. Furthermore, studies in adolescent community samples have suggested a possible interactive effect between childhood emotional abuse and other abuse types, such that emotional abuse may exacerbate the effects of sexual abuse (Bagley, Wood, & Young, 1994) and physical abuse (McGee, Wolfe, & Wilson, 1997) on psychopathology in adolescent males.

Most recently, Kingston et al. (2017) explored the relation between hypersexuality and childhood abuse (both cumulative abuse and distinct abuse types) in a sample of 529 adult male sexual offenders. Consistent with previous cumulative abuse literature, the accumulation of abuse experiences was associated with a monotonic increase in hypersexuality (Edwards et al., 2003; Masten & Wright, 1998; Teicher, Samson, Polcari, & McGreenery, 2006). More surprisingly, they found that emotional abuse *perpetrated by a male caregiver* was the most prominent predictor of hypersexual thoughts and behaviors in adulthood, above and beyond the effects of other abuse types, such as physical abuse and sexual abuse.

This finding not only complicates previous etiological models of problematic sexual behavior by highlighting the potency of maltreatment types other than sexual abuse, but it also
identifies the gender composition of the parent-child dyad as a potential moderator of the effects of childhood abuse. Other factors, such as timing in development (Grabell & Knight, 2009; Jaffee & Maikovich-Fong, 2011), severity of abuse (Bryant & Range, 1997), duration of abuse (Cicchetti, Cowell, Rogosch, & Toth, 2015), and closeness to perpetrator (Berman & Knight, 2015) have been implicated as moderators of the effects of different types and combinations of abuse, and these findings have indicated that the gender of the abuser may also play a moderating role. Given that Kingston et al.’s (2017) participants were all male, it is not apparent that male caregiver emotional abuse would prove equally potent for hypersexuality in females, because we cannot conclude whether the effect is driven by the perpetrator’s gender or by the gender symmetry of the paternal figure-son dyad. Existing research on the gendered effects of childhood abuse suggests, however, that it may be the child’s same-gender identification with the abusive caregiver which predicts stronger negative psychosocial outcomes (Chang, Schwartz, Dodge, & McBride-Chang, 2003; Moretti & Craig, 2013; Verlaan & Schwartzman, 2002). Kingston et al.’s (2017) findings, then, build on this previous work by suggesting that gender may moderate the effects of particular abuse types on subsequent characteristics related to offending in adults. Whether this effect holds in JSO samples—and whether it might extend to other aspects of problematic sexual behavior beyond hypersexuality—remain open questions and were the interests of the current study.

**Purpose of Study**

The purpose of the present study was to test the relation between childhood abuse and subsequent problematic sexual thoughts and behaviors in a sample of 307 male juveniles who had sexually offended. As in the Kingston et al. (2017) study, childhood abuse experiences were measured using responses in a contingency-based, computerized inventory, the Multidimensional
Assessment of Sex and Aggression (the MASA; cf. MIDSA, 2011). Consistent with Kingston et al. (2017), separate developmental factors for Male Caregiver Emotional Abuse and Sexual Abuse emerged from exploratory factor analysis. Scales contributing to these latent traits were used to predict specific, preselected sexual outcomes. Based on the sexual abuse literature and Kingston et al.’s (2017) findings, we hypothesized that (a) higher self-reported levels of Male Caregiver Emotional Abuse and higher self-reported levels of Sexual Abuse would each be associated with higher subsequent levels of Normophilic Excessive Sexualized thoughts and behaviors. We also predicted that (b) the effects of Sexual Abuse on Normophilic Excessive Sexualization would be exacerbated by the presence of Male Caregiver Emotional Abuse. Additionally, we expected that this relation would hold for other aspects of problematic sexual behavior, such that Male Caregiver Emotional Abuse and Sexual Abuse would also emerge as potent predictors of (c) Paraphilic Deviant fantasies and behaviors and (d) Pedophilic Preference.
METHODS

Participants

A total of 329 juvenile sexual offenders were sampled from inpatient treatment centers in Maine, Massachusetts, Minnesota, and Virginia. All participants had been adjudicated for at least one serious sexual crime (an assault that was sexually motivated and involved physical contact) against a victim of any age. Participants whose responses indicated random responding or false responding based on social desirability were excluded (N = 22), yielding a valid sample of 307 participants for the current study. Including their present offense, the juveniles had been arrested an average of 3.82 times, and the average age of first arrest was 10.32 years. Only 7% of the participants had never spent any time in a juvenile detention facility, 30% had spent at least 1 year, and 25% had spent at least 2 years. The mean age of the sample was 16.11 years (SD = 1.69, range = 11 to 22). All index offenses were committed before the age of 18. Given that only 6% of participants were older than the age of 18 at the time of testing, the sample was considered to be within the developmental boundaries of adolescence and under the legal and responsible age of adulthood. The sample was ethnically diverse (Caucasian = 57.9%, African American = 17.8%, Hispanic = 6.7%, Asian = 4.4%, Native American = 3.4%, Other = 9.8%). The average period of commitment was 1 to 2 years. This sample has previously been analyzed to address other issues (Berman & Knight, 2015; Daversa & Knight, 2007; Grabell & Knight, 2009). This is the first study to focus on this issue with these preselected variables.
Procedures

Institutional review boards (IRBs) at Brandeis University and at each of the sites where JSOs were tested approved both the participant selection and administration protocols.

Selection and administration procedures. Selection of juvenile participants involved a two-step process. First, on-site institutional personnel identified and approached potential volunteers and their parental or legal guardians. Parental consent and juvenile assent were obtained prior to testing. Second, the research team met with all interested participants in groups of 7 to 12 juveniles to inform them in greater detail about the (a) the nature of the questions they would be asked, (b) the confidentiality of their responses, as demonstrated by the writ of confidentiality awarded to the research team from the National Institute of Mental Health, and (c) the remuneration of $18 USD for their participation. Each participant was randomly assigned a research identification number. At the start of testing, the research team made a strong plea for honesty and explained the potential future benefits of the research for other juveniles who had sexually offended.

After informed consent had been obtained, each participant was seated at a computer programmed with the most recent version (Version 3, 4, 5, or 6) of the Multidimensional Assessment of Sex and Aggression (MASA; Knight & Cerce, 1999; Knight, Prentky, & Cerce, 1994). Each participant began by taking a computerized tutorial on how to answer the MASA, followed by a check to ensure that the participant understood the directions, followed by a brief reading test. The MASA is written for a fourth grade reading level. For participants who were unable to read or comprehend at that level, a member of the research team read the inventory questions aloud to the participant in a private room.
**The MASA.** The MASA is a contingency-based inventory that gathers information on developmental history, social, academic and sexual histories, and a number of other domains associated with sexually coercive behavior. Although originally designed as a pencil-and-paper test, the MASA has been administered exclusively by computer since Version 3. The strategy for creating and validating the MASA has been described in the clinical manual for the Multidimensional Inventory of Development, Sex, and Aggression (MIDSA, 2011). The MIDSA is the most recently revised clinical version of the MASA. The scales developed for the MASA, including those used in the present study, have shown adequate to high test–retest reliabilities in samples of juveniles; in their study of the appropriateness of the MASA Version 3 as an assessment tool for juveniles, Knight and Cerce (1999) found that 93% of the test-retest reliabilities for juveniles were greater than .60, and approximately 90% exceeded .70. Furthermore, 87% of the 53 scales yielded Cronbach’s alphas equal to or greater than .70, and 63% of the scales produced alphas equal to or greater than .80. None of the scales yielded alphas below .60 (Knight & Cerce, 1999; MIDSA, 2011). Samples of adults have comparably high test-retest reliability and internal consistency, and both juveniles and adults have shown considerable agreement in responding across domains (Knight, 2004; Knight et al., 1994). The MASA has been validated across samples of adults with sexual and nonsexual offenses, juveniles with sexual and nonsexual offenses, college students, and community samples (Berman & Knight, 2015; Daversa & Knight, 2007; Grabell & Knight, 2009; Knight, 2004; Knight & Cerce, 1999; Knight et al., 1994; Knight & Sims-Knight, 2003, 2004, 2011; Zakireh et al., 2008). The focus for the present study was on the sections of the MASA that assess developmental abuse histories, as well as the scales used to assess problematic sexual thoughts and behaviors.
Adverse childhood experiences. Childhood abuse, as well as other adverse childhood experiences (e.g., vicarious violence in the home and instability of caregiver attachments) were estimated using developmental scales. For these items participants were asked specifically about their experiences between the ages of 0 to 17. Each subscale discussed below was rationally-derived, with the exception of the subscales used to estimate Male and Female Emotional Abuse, which were factor-analytically derived.

Sexual Abuse. Sexual Abuse experienced by each participant was estimated using four subscales: number of sexual abusers, frequency of sexual abuse, degree of penetration, and degree of force used. Participants were asked about sexual contact with twenty-five possible caregivers: biological mother, biological father, stepmother, stepfather, adoptive mother, adoptive father, grandmother, grandfather, female babysitter, male babysitter, female friend of father, male friend of mother, female institutional caregiver, male institutional caregiver, female relative, male relative, relative (gender unspecified), female foster parent, male foster parent, foster parent (gender unspecified), female professional person, male professional person, professional person (gender unspecified), female stranger, and male stranger.

Number of Sexual Abusers. This scale is a measure of the number of persons who sexually abused the participant during the participant’s childhood. Participants were asked about sexual contact with each of the above potential sexual abusers.

Sexual Abuse Frequency. This scale is a measure of temporal frequency of sexual abuse experiences in childhood ($\leq 17$ years old). The items used for this scale range from 0 (never) to 5 (very often). The score for each participant was computed as the maximum frequency of abuse across all potential sexual abusers.
**Sexual Abuse Degree of Penetration.** This scale is a measure of the level of penetration involved in the sexual abuse experienced by the participant in childhood. The items used in the seven-point scale (0 to 6) included: no penetration, any sexual picture, any sexual touching, any oral sex, any attempted intercourse, object in rectum, and completed intercourse. Each item was posed for all identified sexual abusers and participants rated the temporal frequency of each item on a 0 (*never*) to 5 (*very often*) scale. Responses to each of these items were then dichotomized (*present/not present*), and the score for each participant was computed as the maximum degree of penetration across all abusers.

**Sexual Abuse Degree of Force.** This scale is a measure of the degree of force involved in the sexual abuse experienced by the participant during childhood. The items used in this four-point scale ranges from 0 (no sexual abuse) to 4 (being physically forced to have sex). Each item was posed for all identified sexual abusers and participants rated the temporal frequency of each item on a 0 (*never*) to 5 (*very often*) scale. Responses to these items were then dichotomized (*present/not present*), and the score for each participant was computed as the maximum degree of force across all abusers.

**Physical Abuse.** Physical Abuse was estimated using three variables: number of physical abusers, frequency of physical abuse, and severity of physical abuse. Information was gathered on eighteen potential physical abusers: biological mother, biological father, stepmother, stepfather, adoptive mother, adoptive father, grandmother, grandfather, female friend of father, male friend of mother, brother, stepbrother, sister, stepsister, other abuser, other relative, institutional caregiver, and foster parent.
**Number of Physical Abusers.** This scale is a measure of the number of persons who physically abused the participant during the participant’s childhood. Participants were asked about each of the above potential physical abusers.

**Physical Abuse Frequency.** This scale is a measure of temporal frequency of physical abuse experiences in childhood. The items used for this scale range from 0 (*never*) to 5 (*very often*). The score for each participant was computed as the maximum frequency of abuse across all potential physical abusers.

**Physical Abuse Severity.** This scale is a measure of the degree of severity involved in the physical abuse experienced by the participant in childhood. The items used in the seven-point scale (0 to 6) included: no abuse, hitting or spanking, hitting or spanking using anything else than a hand, punching or kicking, abuse requiring medical attention, burning, and breaking bones. Each item was posed for all identified physical abusers and participants rated the temporal frequency of each item on a 0 (*never*) to 5 (*very often*) scale. Responses to each of these items were then dichotomized (*present/not present*), and the score for each participant was computed as the maximum level of severity across all physical abusers.

**Emotional Abuse.** Emotional Abuse was estimated using four variables: significant female hostile control, significant female neglect, significant male hostile control, and significant male neglect. These variables were selected to examine the effects of caregiver gender. Participants were asked about each caregiver, and significant female hostile control and significant female neglect were each generated by concatenating the scores for the biological mother items and for any other significant female caregiver. Scores for the biological mother were given preference—where these scores were available, they were the ones used. Where scores for the biological mother items were not available, scores were computed based on items
asking about other significant female caregivers (e.g., grandmother, adoptive mother, female friend of father), if another significant female caregiver was present. A Female Caregiver Emotional Abuse score was then created by averaging across the significant female hostile control and significant female neglect scores. The same steps were taken to obtain scores on significant male hostile control, significant male neglect level, and Male Caregiver Emotional Abuse.

**Significant Female Hostile Control.** This scale measures the degree of hostile or controlling parenting experienced at the hands of the participant’s biological mother or other significant female caregiver. An example of an item from this scale is, “How often did your mother say that she didn’t love you?” The items used for this scale range from 0 (*never*) to 5 (*very often*). The internal consistency for this sample was .90.

**Significant Female Neglect.** This scale measures the level of neglect experienced at the hands of the participant’s biological mother or significant female caregiver. An example of an item from this scale is, “How often did your mother tell you that she was proud of you?” The items used for this scale range from 0 (*never*) to 5 (*very often*). Scores for this scale were then reverse-coded, with higher scores indicating a greater degree of neglect. The internal consistency for this sample was .90.

**Significant Male Hostile Control.** This scale measures the degree of hostile or controlling parenting experienced at the hands of the participant’s biological father or other significant male caregiver. The items used for this scale range from 0 (*never*) to 5 (*very often*), and were comprised of the same questions used to assess Significant Female Hostile Control. The internal consistency for this sample was .91.
Significant Male Neglect. This scale measures the level of neglect experienced at the hands of the participant’s biological father or significant male caregiver. The items used for this scale range from 0 (never) to 5 (very often), and were comprised of the same questions used to assess Significant Female Neglect. Scores from this scale were again reverse-coded, with higher scores indicating a higher level of neglect. The internal consistency for this sample was .95.

Vicarious Violence. Vicarious Violence refers to observed violence or abuse perpetrated between caregivers (sometimes called “domestic violence” or “intimate partner violence”). As with the Emotional Abuse scales, mother (or significant female caregiver) and father (or significant male caregiver) were assessed to create the following two variables:

Significant Female Vicarious Violence. This scale measures the level of observed vicarious violence perpetrated by the participant’s biological mother or other significant female caregiver. An example of an item from this scale is, “Did your mother ever call your father nasty names?” The items used for this scale range from 0 (never) to 5 (very often). The internal consistency among those with a present biological mother was .79. The internal consistency among those with another significant female caregiver was .84.

Significant Male Vicarious Violence. This scale measures the level of observed vicarious violence perpetrated by the participant’s biological father or other significant male caregiver. The items used for this scale range from 0 (never) to 5 (very often), and were comprised of the same questions used to assess Significant Female Vicarious Violence. The internal consistency among those with a present biological father was .87. The internal consistency among those with another significant male caregiver was .84.

Caregiver Instability. Caregiver Instability was estimated using three variables: total time with biological parent(s), longest time in one instance with any caregiver, and maximum
total time with a single caregiver. Information was gathered on biological mother, biological father, stepmother, stepfather, adoptive mother, adoptive father, grandmother, grandfather, foster parent, female friend of father, male friend of mother, other relative, and other caregiver.

*Total Time Bio Parents(s).* This scale measures the cumulative total time that the participant spent living with one or both biological parents. It was constructed by creating an algorithm that counted the total number of months spent living with each biological parent, and then manually corrected to avoid double-counting months when participants lived with both parents.

*Longest Time One Instance with Caregiver.* This scale measures the longest time in one particular instance that the participant lived with any given caregiver. It is meant to assess how frequently the participant experienced separations from caregivers. It was constructed by creating an algorithm that counted the maximum number of months spent living with each possible caregiver, and then selected the longest period of time based on those results.

*Max Total Time with Caregiver.* This scale measures the maximum total time spent living with any caregiver (including across multiple instances). It was constructed by creating an algorithm that calculated the total number of months spent living with each possible caregiver, and then selected the greatest number of months based on those results.

**Problematic sexual behavior.** Problematic sexual behavior captures three latent variables: Normophilic Excessive Sexualization, Paraphilic Deviance, and Pedophilic Preference.

**Normophilic Excessive Sexualization.** The three scales used to estimate the latent trait of Normophilic Excessive Sexualization were hypersexuality, sexual compulsivity, and sexual
preoccupation. Of these scales, sexual compulsivity and sexual preoccupation were factor analytically-derived, whereas hypersexuality was rationally-derived.

_Hypersexuality._ This scale was created using rational scale construction and measures the frequency of sexual behavior and strength of the participant’s sexual drive. An example of an item from this scale is, “I need to masturbate or have sex every day so that I feel less tense.” The internal consistency for this sample was .69.

_Sexual Preoccupation._ This scale measures the extent to which participants are consumed by sexual thoughts or fantasies. Participants who score high on these items report frequent thinking, dreaming, and daydreaming about sex. An example of an item from this scale is, “There have been times when I thought about sex all the time.” The internal consistency for this sample was .89.

_Sexual Compulsivity._ This scale measures the degree to which participants are unable to control their sexual urges. Participants who score high on these items report having difficulty resisting persistent and intrusive sexual urges. An example of an item from this scale is, “I have to fight sexual urges.” The internal consistency for this sample was .85.

_Paraphilic Deviance._ The five scales used to estimate the latent trait of Paraphilic Deviance address five possible paraphilic preferences: voyeurism, exhibitionism, transvestism, scatalogia, and fetishism.

_Voyeurism._ This scale measures the extent to which participants engage in voyeurism or report the urge to do so. Participants who score high on this scale report masturbating while watching someone. An example of an item from this scale is, “I think about secretly watching people having sex.” The internal consistency for this sample was .80.
Exhibitionism. This scale measures the extent to which participants exhibit themselves or report the urge to do so. Participants who score high on this scale report climaxing while exhibiting themselves. An example of an item from this scale is, “I have had sexual thoughts about exposing myself.” The internal consistency for this sample was .81.

Transvestism. This scale measures the extent to which participants report being aroused by the experience of wearing women’s clothes. An example of an item from this scale is, “When I have had sexual thoughts, I have thought about dressing as a woman.” The internal consistency for this sample was .86.

Scatalogia. This scale measures the extent to which participants make obscene phone calls (not to sex lines) or report the urge to do so. An example of an item from this scale is, “I have made obscene or ‘dirty’ phone calls (not including 900 numbers).” The internal consistency for this sample was .81.

Fetishism. This scale measures the extent to which participants report being sexually aroused by nonsexual body parts, such as feet or hair, or by a person’s smell or feel. An example of an item from this scale is, “I have gotten sexually excited while thinking about women’s shoes or feet.” The internal consistency for this sample was .63.

Pedophilic Preference. The three factor-analytically derived scales used to estimate the latent trait of Pedophilic Preference were child sexual arousal, child cognitive distortions, and child pornography use.

Child Sexual Arousal. This scale measures sexual arousal to children or fantasizing about sexual contact with children. Participants who score high on these items report higher levels of sexual arousal to children. An example of an item from this scale is, “I have become sexually
excited over thoughts of having sex with a child.” The internal consistency for this sample was .87.

*Child Molester Cognitive Distortions.* This scale measures distorted beliefs or ideals that are conducive to sexual offending against children, such as the belief that sexual behavior with children is appropriate and not harmful to the child. Participants who score high on these items endorse more of these cognitively distorted beliefs. An example of an item from this scale is, “Many children who are sexually assaulted do not have any major problems because of the assaults.” The internal consistency for this sample was .80.

*Child Pornography.* This scale measures the extent to which participants report using pornography depicting nude children or sex acts involving children. Participants who score high on these items report higher levels of child pornography usage. An example of an item from this scale is, “The kind of materials I looked at as a child (before my 13th birthday) included nude children.” The internal consistency for this sample was .95.

**Analyses**

To identify latent abuse factors, exploratory principal component (PC) analysis with OBLIMIN rotation was calculated on the developmental scales collected from responses on the MASA. In the initial analysis, in addition to the previously identified developmental variables, two additional variables had been included: Total Number of Separations from Primary Caregivers, and Total Time Living with Foster Parents. Based on this initial analysis, a six-factor solution emerged, which explained 68% of the variance. This solution involved multiple three-way cross-loadings, including a near even split on Total Number of Separations from Primary Caregivers across three components. There were also measurement issues that were associated with Total Time Living with Foster Parents; it was not clear if participants lived with
the same foster parent or set of foster parents over the course of their childhoods or if they cycled between foster families. For this reason both variables were dropped and the analysis was recalculated with the remaining 16 developmental scales.

In the final analysis a six-factor solution emerged, whose factors were shown to have eigenvalues greater than 1. These eigenvalues were consistent with the scree plot and the interpretability of the factors, all of which led us to accept this six-factor solution. Together, these factors accounted for 76% of variance. All items in this analysis had primary loadings over .5, with the exception of Significant Male Hostile Control, which cross-loaded on a component with male neglect (.433) and a component with variables related to physical abuse (.399). This cross-loading made logical sense, given that male caregivers who express verbal hostility towards a child may also express hostility through physical aggression. Because Significant Male Hostile Control had a higher loading with male neglect, we retained it as part of the Male Emotional Abuse factor. Significant Female Hostile Control had a high loading with Female Neglect (-.646) and a low cross-loading with both Male and Female Vicarious Violence (.320). Similarly, Significant Male Vicarious Violence showed a high loading with Female Vicarious Violence (.784) and a second low cross-loading with male neglect and hostile control (.327).

Again, these cross-loadings were conceptually meaningful, given that hostility directed towards the child (by either parent) may be more likely to occur in the context of a hostile environment characterized by verbal threats and physical violence between adult caregivers. All 16 variables were retained and grouped with their higher-loading factors. The factor loading matrix for this solution is presented in Table 1. Based on these results, we labeled these six adverse childhood experience factors as follows: Physical Abuse, Caregiver Instability, Sexual Abuse, Female Caregiver Emotional Abuse, Vicarious Violence, and Male Caregiver Emotional Abuse. It is
worth noting that the results of this factor analysis were close to and consistent with the factors identified by Kingston et al. (2017) using an adult sample.

An exploratory principal component (PC) analysis with OBLIMIN rotation was also calculated on the sexual outcome variables collected from the MASA. In the initial analysis, a three-factor solution emerged, which explained 65.3% of the variance. Examination of the scree plot, the number of eigenvalues larger than 1, and the theoretical cohesion of these factor loadings led us to accept this three-factor solution. The factor loading matrix for these outcome variables is presented in Table 2. We labeled these three sexual outcome scales as follows: Normophilic Excessive Sexualization, Paraphilic Deviance, and Pedophilic Preference.

In an attempt to equalize the amount of abuse assessed across the individual abuse scales, we transformed each abuse scale into an equivalent trichotomized ordinal scale [“no or low abuse” (0), “some or moderate abuse” (1), and “severe abuse” (2)]. This transformation process involved three steps: (1) we examined the distribution of the scores on each scale attempting to determine whether natural breaks in endorsements could be identified; (2) we chose natural breaks that equated as much as possible the frequencies of each level to reduce the problem of item skew; and (3) we examined the resulting level cutoffs for each scale to determine whether the theoretical meaning of the resulting levels matched the “low,” “moderate,” and “severe” description of the level created by Steps 1 and 2. In all instances, we achieved our goals. This trichotomization procedure has been successfully used in three prior studies (Kingston et al., 2017; Knight & Daversa, 2005; Krstic, Knight, & Robertson, 2015).

For each of the childhood abuse factors we calculated mean scores of the trichotomized scales that loaded greater than .5 on its respective factor. For example, a continuous factor score between 0 – 2 for Physical Abuse was computed for each individual by averaging across the 0, 1,
or 2 scores for Number of Physical Abusers, Physical Abuse Frequency, and Physical Abuse Severity. These factor scores were then standardized.

The three latent sexual outcomes were estimated by averaging across the standardized scores on each of the relevant subscales. For example, to obtain a Normophilic Excessive score for an individual, we averaged across the z-transformed scores for Hypersexuality, Sexual Preoccupation, and Sexual Compulsivity. Univariate analyses revealed a strong positive skew on Paraphilic Deviant scores; although a large number of participants scored as having no or low levels of Paraphilic Deviant interests, there were a small number of high, extreme scores. To normalize the distribution, a 90% winsorization was used. A strong positive skew was also identified on Pedophilic Preference, again indicating the presence of a small number of high, extreme scores. A 90% winsorization was again used to normalize the distribution.

Kingston et al. (2017) examined the relation of sexual, physical, and emotional abuse to subsequent sexualization. To test this relation in our juvenile sample and to explore the relation between abuse and other types of problematic sexual behavior, we computed a series of hierarchical regression analyses with sexual, physical, and emotional abuse factor scores used as the independent variables to predict the Normophilic Sexualization, Paraphilic Deviance, and Pedophilic Preference factor scores. In all analyses Sexual Abuse, Physical Abuse, Male Caregiver Emotional Abuse, and Female Caregiver Emotional Abuse were entered in Block 1. To test for an interaction between Sexual Abuse and Male Caregiver Emotional Abuse, the product of standardized Sexual Abuse x Male Caregiver Emotional Abuse was then entered in Block 2.
RESULTS

Rates of Abuse and Cumulative Abuse

The frequency of different abuse scales and levels of severity are presented in Table 3. Between approximately a quarter and a third of participants reported experiencing severe levels of physical abuse (number of physical abusers [36.2%], physical abuse frequency [33%], physical abuse severity [24.2%]). A similarly substantial percentage of the sample experienced a high degree of sexual abuse penetration (39.4%), sexual abuse force (32.1%), and number of sexual abusers (30.9%). A large number of missing values were apparent on the Male Hostile Control (Missing n=128) and Male Neglect (Missing n=125) subscales, due to the absence of a significant male caregiver in the participants’ lives. For those who had fathers or significant male caregivers in the home, substantial severe emotional abuse was reported (neglect [41.2%] and hostile control [28.5%]). Among those with mothers or significant female caregivers in the home, severe female caregiver neglect (13.8%) and hostile control (28.5%) was also evident. Participants who reported never experiencing a particular type of abuse received a score of (0) for that abuse factor. Participants who did not respond to questions related to a particular type of abuse were excluded from subsequent analyses.

Pearson correlations among the predictor and outcome variables are presented in Table 4. Sexual Abuse was significantly positively correlated with Physical Abuse ($r(303) = .22, p < .001$) and Female Caregiver Emotional Abuse ($r(246) = .14, p = .03$). Additionally, Physical Abuse showed significant positive correlations with Male Caregiver Emotional Abuse ($r(178) = .37, p < .001$) and Female Caregiver Emotional Abuse ($r(244) = .22, p < .001$).
As test of the well-documented relation between cumulative adverse childhood experiences and poor developmental outcomes (Edwards et al., 2003; Masten & Wright, 1998; Teicher et al., 2006), simple regression analyses were run using overall cumulative abuse experienced during childhood to predict each of our three problematic sexual outcomes of interest. A cumulative abuse score was the average of each participant’s trichotomized factor scores for Sexual Abuse, Physical Abuse, Male Caregiver Emotional Abuse, and Female Caregiver Emotional Abuse. Total scores on cumulative abuse ranged from 0, indicating no abuse of any kind, to 2, indicating a high level of all four kinds of abuse ($M = .94, SD = .447$). As expected, cumulative abuse level significantly predicted Normophilic Excessive Sexualization ($\beta = .255, p < .001$), Paraphilic Deviance ($\beta = .196, p = .001$), and Pedophilic Preference ($\beta = .169, p = .003$). Cumulative abuse accounted for a small amount of variance (2.9% – 6.5%) in the problematic sexual outcomes of interest.

**Normophilic Excessive Sexualization**

As shown in Table 4, Normophilic Excessive Sexualization was found to be significantly positively correlated with Sexual Abuse ($r = .235$), Male Caregiver Emotional Abuse ($r = .235$), and Female Caregiver Emotional Abuse ($r = .130$).

To determine the unique contribution of each factor to the prediction of Normophilic Excessive Sexualization, we computed linear regressions with Sexual Abuse, Physical Abuse, Male Caregiver Emotional Abuse, and Female Caregiver Emotional Abuse entered in Block 1. The relative Beta ($\beta$) weights of the abuse factors are shown in Table 5. As expected, Sexual Abuse contributed significantly to the prediction of Normophilic Excessive Sexualization, $\beta = .180, p = .018$. Furthermore, consistent with Kingston et al.’s (2017) findings, Male Caregiver Emotional Abuse also significantly contributed to the prediction of Normophilic
Excessive sexualization, $\beta = .219, p = .006$. The interaction term Sexual Abuse x Male Caregiver Emotional Abuse was entered in Block 2. This interaction was not significant and did not contribute to a significant $R^2$ change, so only Block 1 results are reported. Thus, consistent with our first a priori hypothesis (a), both Sexual Abuse and Male Caregiver Emotional Abuse were each found to be significant predictors of Normophilic Excessive Sexualization. However, as evidenced by the absence of a significant interaction effect, and in contrast to our second a priori hypothesis (b), Male Caregiver Emotional Abuse was not found to exacerbate the effects of Sexual Abuse.

**Paraphilic Deviant Fantasies and Behaviors**

We were also interested in exploring the question of whether Sexual Abuse and Male Caregiver Emotional Abuse might be significant predictors of other kinds of problematic sexual thoughts and behaviors in JSOs. As shown in Table 4, Pearson correlations revealed that Paraphilic Deviance was significantly positively correlated with Sexual Abuse ($r = .120$) and Male Caregiver Emotional Abuse ($r = .274$).

Once again, the contributions of each abuse factor to Paraphilic Deviance were computed using linear regressions (Table 5). Unlike Normophilic Excessive Sexualization, Paraphilic Deviance was not found to be significantly related to Sexual Abuse, $\beta = .094, p = .210$. Male Caregiver Emotional Abuse, however, did strongly predict Paraphilic Deviance, $\beta = .304, p < .001$. The interaction term Sexual Abuse x Male Caregiver Emotional Abuse from Block 2 was once again not significant, and only the results for Block 1 are reported.

**Pedophilic Preference**

Finally, we were interested in exploring the relation between abuse factors and Pedophilic Preference. Pearson correlations were computed between the independent variables...
and Pedophilic Preference (Table 4). Pedophilic Preference was found to be significantly positively correlated with Male Caregiver Emotional Abuse ($r = .197$) and Female Caregiver Emotional Abuse ($r = .247$).

In keeping with the previous regression analyses, all four abuse factors were entered in Block 1, and the interaction term Sexual Abuse x Male Caregiver Emotional Abuse was entered in Block 2 (Table 5). Again, the interaction term was not significant, and the only the results of Block 1 are reported. Although the main effect of Sexual Abuse was not a significant predictor of Pedophilic Preference, $\beta = -.054$, $p = .471$, the main effect of Male Caregiver Emotional Abuse was again a significant predictor of Pedophilic Preference, $\beta = .205$, $p = .010$. Interestingly, Female Caregiver Emotional Abuse also emerged as a significant predictor of Pedophilic Preference, $\beta = .246$, $p = .001$.

To explore these results further with increased power, post hoc analyses of the Pedophilic Preference subcomponents (i.e., Child Sexual Arousal, Child Molester Cognitive Distortions, and Child Pornography) were run on the full sample ($N=307$). Given the strong positive skew identified among each of the subcomponents, a 90% winsorization was used to normalize the distribution for each. These analyses revealed a significant correlation between Male Caregiver Emotional Abuse and Child Molester Cognitive Distortions, $r(182) = .173$, $p = .019$. Female Caregiver Emotional Abuse was also significantly correlated with Child Molester Cognitive Distortions, $r(248) = .189$, $p = .003$, as well as Child Pornography, $r(242) = .172$, $p = .007$. Although Sexual Abuse did not emerge as a significant predictor of Pedophilic Preference in the regression analyses, low-order correlations between Sexual Abuse and Child Sexual Arousal ($r(306) = .129$, $p = .024$) and between Sexual Abuse and Child Pornography ($r(301) = .119$, $p = .038$) emerged in the full sample.
DISCUSSION

Although much of the research on the developmental antecedents of sexual offending has focused on sexual abuse, Kingston et al.’s (2017) recent study found that emotional abuse perpetrated by a significant male caregiver was the strongest predictor of subsequent hypersexuality in a sample of adult males who had sexually offended. In the current study we explored whether the predictive potency of male caregiver emotional abuse would replicate in a sample of male juveniles who had sexually offended. The data supported our primary hypothesis, with sexual abuse and male caregiver emotional abuse emerging as the strongest predictors of excessive normophilic sexualization. Moreover, male caregiver emotional abuse also emerged as a significant predictor of paraphilic deviance and pedophilic preference. These findings suggest that, consistent with Kingston et al. (2017), male caregiver emotional abuse remains a potent predictor of both hypersexuality and other problematic sexual outcomes in a male juvenile sample.

Normophilic Excessive Sexualization

The current finding that sexual abuse emerged as a significant predictor of normophilic sexualization is consistent with previous literature linking childhood sexual abuse to the development of excessive normative sexual thoughts and behaviors in juvenile sexual and non-sexual offender samples (Berman & Knight, 2015; Grabell & Knight, 2009; Knight, 2004; Miner et al., 2010). In a meta-analysis of male adolescent samples in the United States and Canada, Homma et al. (2012) found that males with a history of sexual abuse were significantly more likely to have engaged in a variety of risky sexual behaviors, including behaviors related to
hypersexuality, such as having sex with multiple partners. Multiple researchers (Burton, Miller, & Shill, 2002; Felson & Lane, 2009) have applied Bandura’s (1986) social learning theory and the notion of “modeling” to explain the relation between child sexual abuse and subsequent sexualization, arguing that children who are sexually abused may learn about and imitate sexual behaviors.

It is worth noting that recent work suggests that hypersexuality as a construct may comprise two related but distinct subcomponents (Kingston et al., 2017). Within the first component, individuals may engage in excessive sexual behaviors as a means of coping with dysphoric mood states (Kafka, 2010). Accordingly, individuals who have experienced childhood abuse—sexual or otherwise—may be more prone to negative affect, and sexuality may serve to up-regulate that affective state (Bancroft & Vukadinovic, 2004). Alternatively, within the proposed second component, excessive normative sexual behaviors may be symptomatic of self-centered impulsivity and reward-seeking traits (Knight & Graham, 2015). Indeed, in diverse samples administered the MASA or MIDSA, high sexualization has consistently been found to covary with a Callous/Manipulative trait (Knight & Sims-Knight, 2003, 2004, 2011), and etiological models of sexual offending in male juveniles have, in turn, found emotional abuse to be the strongest predictor of callousness and impulsivity (Daversa & Knight, 2007).

In keeping with Kingston et al.’s (2017) findings, male caregiver emotional abuse also emerged as a prominent predictor of excessive normophilic thoughts and behaviors, suggesting a possible gender-symmetry effect between emotionally abusive fathers and their sons. Although there is a well-documented scarcity of research on child maltreatment perpetrated by fathers (Phares, 1992; Phares, Fields, Kamboukos, & Lopez, 2005; Smith, Duggan, Bair-Merritt, & Cox, 2012), there is evidence that negative parenting by the same-gender parent may be more harmful
than negative parenting by the opposite-gender parent. In a sample of Chinese children and their parents, Chang et al. (2003) found that fathers’ harsh parenting was related more strongly to sons’ aggression than to daughters’ aggression. Similarly, in a community sample of Canadian families, Verlaan and Schwartzman (2002) found that the link between fathers’ coercive parenting styles and children’s problematic externalizing behaviors was stronger for boys than for girls. Hoeve et al. (2009) also identified this gender symmetry effect in their meta-analysis exploring the association between parenting styles and juvenile delinquency. In an analysis of 161 studies, they found that poor paternal support was more strongly related to child delinquency than poor maternal support, and that this relation was particularly applicable to male children.

These findings align with earlier work in the social learning literature suggesting that imitation and modeling are facilitated by gender identification, and that discipline by the same-gendered parent may have a greater effect on the child (Deater-Deckard & Dodge, 1997). It may be that, if the father figure displays difficulty regulating his emotions, the male child may go on to model that poor emotion regulation, which in turn may contribute to excessive sexualization through the mechanism previously described. There is some support for the notion of emotional dysregulation as the mediator between paternal abuse and problematic child outcomes. In their longitudinal study of high-risk adolescents, Moretti and Craig (2013) found that sons exposed to male caregiver abuse reported more difficulties with affect regulation at subsequent time points, and that these affect regulation problems predicted depressive symptoms. As with previous studies, this pattern of findings held only for father-son dyads.

Although it remains a relatively unexplored factor in the abuse literature, sex-linked genetics may also help to account for the observed gender symmetry effects. A recent study of intergenerational transmission of psychopathy found that the effects of biological fathers’
psychopathy on the psychopathy of their children was significantly greater for sons than for daughters (Auty, Farrington, & Coid, 2015). Notably, this effect on sons did not vary as a function of the father’s presence or absence in the family home, suggesting a genetic rather than environmental link. Research using rodent models also corroborates the notion of a genetic or epigenetic underpinning to sex-specific maltreatment effects, with neglectful maternal behavior predicting increased sexual behavior in female offspring (Cameron et al., 2005; Cameron et al., 2008), and neglectful paternal behavior predicting increased aggression in male offspring (Frazier, Trainor, Cravens, Whitney, & Marler, 2006). Teasing apart the relative contributions of same-gender identification and sex-linked genetics to the development of problematic sexual outcomes will be a complex but necessary focus of future study.

**Paraphilic Deviance**

Although sexual abuse and emotional abuse by a male caregiver each emerged as a significant predictor of excessive normophilic sexualization, only male caregiver emotional abuse was found to be associated with deviant paraphilic interests in the current sample. Unlike sexual preoccupation or hypersexuality, which represent an excessive interest or engagement in normophilic sexual behaviors, paraphilic deviance represents an interest in anomalous sexual objects (e.g., transvestism and fetishism) or behaviors (e.g. voyeurism, exhibitionism, and scatalogia). Paraphilic interest has also been proposed as an important differentiator between adult sexual offenders and juveniles who have sexually offended, given the significantly higher rates of paraphilias identified in JSO samples, despite comparable levels of normophilic sexualization in the two groups (Knight, 2004).

Despite these distinctions, normophilic excessive sexualization and the presence of paraphilias have been found to correlate strongly (Kafka, 2010; Kafka & Hennen, 1999; Kafka &
Hennen, 2003; Knight & Cerce, 1999). In one such study comparing men seeking treatment for paraphilias to men seeking treatment for non-paraphilic sexual addictions, Kafka and Hennen (2003) found similarly high rates of hypersexual desire in both groups, with the only significant difference being an earlier age of onset of sexual activity among the paraphilic men. Similarly, in a recent study exploring the prevalence of paraphilic interests in a nonclinical sample of men and women, sex drive significantly and fully mediated the gender difference in paraphilic interest (Dawson, Bannerman, & Lalumière, 2016). These findings have led some to theorize that hypersexuality and paraphilic deviance may share common etiological roots, such as an overactive dopaminergic “reward” system (Kafka, 1997, 2003, 2010). It may be that male caregiver emotional abuse contributes to paraphilic deviance in male juveniles who have sexually offended by way of the same mechanisms through which it contributes to excessive normophilic behavior. As with normophilic excessive sexualization, the developmental pathways to paraphilic interests are likely varied and include both social learning as well as genetic and epigenetic neurodevelopmental factors. More work must be done not only on the etiology of paraphilias generally, but also on potential differences in the development and time-course of paraphilias in juveniles as compared to adults (Andrade et al., 2006).

**Pedophilic Preference**

Etiological models of pedophilic preference have tended to emphasize the dual roles of early developmental perturbations combined with environmental factors, such as childhood abuse. Developmental differences that have been found to be more prevalent among pedophilic sexual offenders—such as shorter height, lower IQ, early head injury, white matter differences, and nonright-handedness—may render some individuals vulnerable to a preference for prepubescent children (Blanchard et al., 2003; Cantor et al., 2004; Cantor et al., 2008; Cantor et
Childhood abuse experiences may then interact with these perturbations to strengthen or solidify pedophilic interests for individuals with early developmental vulnerabilities (Seto, 2017; Seto & Lalumière, 2010).

Given the prevalence of sexual abuse among both adults and adolescents who sexually offend against children (Awad & Saunders, 1991; Jespersen et al., 2009), sexual abuse has been linked to pedophilic preference through a variety of proposed mechanisms, including identification with the abuser, modeling, and conditioning stemming from the pairing of early abuse experiences to physiological arousal (Burton, 2003; Marshall & Marshall, 2000). In their path analysis of adolescent male sexual offending against children, Daversa and Knight (2007) identified a direct path from childhood sexual abuse to the sexual victimization of children, leading the authors to conclude that a subset of child molesters may select their victims based on the age at which they themselves were victimized. Notably, additional pathways to sexual offending against children also emerged, including indirect paths from emotional and physical abuse through psychopathy, sexual inadequacy, and sexual fantasy (Daversa & Knight, 2007).

The emergence of emotional abuse as the strongest predictor of pedophilic interests in the current study supports the notion that other forms of childhood maltreatment beyond sexual abuse may contribute to a preference for younger children. Although the initial regression analyses seemed to suggest that Male Caregiver Emotional Abuse and Female Caregiver Emotional Abuse were the only significant predictors of Pedophilic Preference, subsequent exploratory analyses revealed a significant but weak correlation between Sexual Abuse and the Child Sexual Arousal subscale, which was not correlated with any other abuse type. Although the conclusions that can be drawn from exploratory analyses are limited, this low-order correlation might suggest that, for some individuals, early experiences of sexual abuse contribute
to a conditioned sexual arousal response to younger children. Emotional abuse—perpetrated by a male or female caregiver—may, in turn, contribute to a tendency to justify and sustain a pedophilic arousal pattern through distorted thinking and use of child pornography. This distinction aligns with Hall and Hirschman’s (1992) quadripartite model of sexual offending against children, in which physiological sexual arousal and cognitive justification represent two of four separate motivational components, each with potentially distinct etiologies. These potential dual contributions of childhood sexual abuse and childhood emotional abuse to pedophilic preference are also consistent with Bagley et al.’s (1994) community survey of young adult males, in which the combination of sexual and emotional abuse in childhood emerged as the strongest predictor of sexual interest in or activity involving prepubescent children. The absence of a similar interaction effect between sexual and emotional abuse in the current study may be a function of the current study’s limited sample size or differences in the operationalization of sexual abuse.

**Study Limitations**

The current study is not without limitations. Information collected through retrospective self-report may be prone to various inaccuracies, including memory distortions and harsher reframing of earlier experiences based on subsequent adjustment problems (Widom, Raphael, & Dumont, 2004). The present study aimed to minimize these potential distortions by asking participants about discrete childhood events, as opposed to about their thoughts or feelings about their childhoods, which may be more vulnerable to memory errors (Henry, Moffitt, Caspi, Langley, & Silva, 1994). Participants were also assessed during adolescence, and were reporting on events that had occurred in the immediate or relatively recent past. Moreover, there is evidence to suggest that retrospective self-reports of childhood abuse experiences show adequate
stability across time (Paivio, 2001), and that, where discrepancies exist between retrospective and prospective measures, retrospective self-reports may be uniquely predictive of psychopathology in late adolescence (Shaffer, Huston, & Egeland, 2008). Thus, retrospective self-report represents an imperfect but important means of gathering information on childhood maltreatment (Kendall-Tackett & Becker-Blease, 2004).

One factor limiting the generalizability of the current findings is the large number of participants for whom data on male caregiver emotional abuse were unavailable, given the absence of a significant male caregiver. The potency of male caregiver emotional abuse can therefore only be ascribed to those individuals who have had paternal figures in their lives. Further research should explore whether other kinds and combinations of abuse become more salient in juvenile populations without male caregivers. Other challenges inherent to the data include the relatively small number of participants who reported paraphilic interests. Nevertheless, given the documented higher levels of paraphilic fantasy among JSOs in residential treatment for serious sexual offenses in comparison to juveniles who commit nonsexual offenses (Zakireh et al., 2008) and in comparison to adult sexual offenders (Knight, 2004), paraphilic interest remains a worthwhile topic of study, albeit an uncommon one.

Given the aforementioned body of literature linking sexual abuse to pedophilia, it is particularly surprising that sexual abuse did not emerge as a significant predictor of pedophilic preference in the present study. The current findings may have been skewed by the inclusion of the child pornography subscale. The low levels of self-reported child pornography usage may be less a function of low interest in pedophilic material than a reflection of the low availability of such material during the pre-high-speed internet timeframe in which the data were collected.
Furthermore, sexual abuse may not have emerged as a significant predictor of paraphilic deviance and pedophilic preference in part because our operationalization did not account for other aspects of abuse—beyond type and severity—that are related to the degree of subsequent dysfunction. Certain abuse experiences may be particularly potent at specific developmental epochs. For example, Grabell and Knight (2009) found that sexual abuse experienced between the ages of 3 and 7 predicted sexual fantasy during adolescence in this sample of JSOs. The nature of the abuser-victim relationship—and specifically the amount of time during which the abuser cohabitated with the victim—has also been found to predict higher levels of emotional dysregulation, callousness/manipulativeness, and sexualization in male JSOs who have been sexually abused (Berman & Knight, 2015). It would be particularly interesting to explore whether those male caregivers who were emotionally abusive also perpetrated physical or sexual abuse against the juveniles, and whether the effects of those abuse types might be moderated by perpetrator gender as well.

Given that the sample was obtained exclusively from male juveniles who were residing in sex-offender specific treatment facilities following adjudication for serious sexual offenses, the findings of the present study cannot be assumed to generalize to female JSOs, non-sexual juvenile offenders, outpatient male JSOs, or community samples. Although the present findings on the relation between male caregiver emotional abuse and hypersexuality replicate Kingston et al.’s (2017) findings with an adult sexual offender sample, further work must be done to determine whether the identified potency of male caregiver emotional abuse also extends to deviant paraphilic interests and pedophilic preference among adult SOs.

Finally, causal claims about the relation between parenting behaviors and child outcomes must be tempered by the possibility of evocative child-parent effects (Bell, 1979; Pardini, 2008;
Pettit & Arsiwalla, 2008). Much as parents’ actions impact their children’s development, children also exert influence over their environments by evoking particular responses from their social partners. It is probable that, although emotionally abusive parenting contributes to excessive or deviant sexual behavior in juveniles, a reciprocal dynamic may also be at play, such that children who display problematic sexual behaviors provoke harsher parenting from their caregivers (Brown, Granero, & Ezpeleta, 2017; Burke, Pardini, & Loeber, 2008). Future studies assessing the timing of abuse, onset of problematic sexual behaviors, and genetic relationship between abuser and child will be critical to disentangling the effects of environmental, genetic, and reciprocal influences.
CONCLUSION

When working with juveniles who have sexually offended, understanding which factors are most salient to the etiology of their offending behaviors is essential to informing treatment strategy and risk assessment. Despite the aforementioned limitations, our study contributes to this body of knowledge by shedding valuable light on the relation between abuse experiences in childhood and excessive normophilic, deviant paraphilic, and pedophilic sexual interests in adolescence. By replicating Kingston et al.’s (2017) findings from an adult sample to a juvenile sample, and by extending those findings to problematic sexual outcomes beyond hypersexuality, the current study lends further support for the strong contribution of male caregiver emotional abuse to the development of problematic sexual thoughts and behaviors among males who sexually offend. The present study also indicates the need for etiological models that attend not only to abuse type, but also to the gender of the perpetrator, as well as to the symmetry or asymmetry of the abuser-child gender dyad. Recognizing this pattern of male caregiver abuse potency represents the first step towards identifying the mechanisms through which this and other maltreatment experiences shape dysfunctional sexual development.
References


Table 1.

*Factor Loadings and Commonalities Based on Principal Components Analysis with Oblimin Rotation for 15 Developmental Subscales from the MASA (N=307)*

<table>
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<th></th>
<th>Physical Abuse</th>
<th>Caregiver Instability</th>
<th>Sexual Abuse</th>
<th>Female Caregiver Emotional Abuse</th>
<th>Vicarious Violence</th>
<th>Male Caregiver Emotional Abuse</th>
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<tr>
<td>Male hostile control</td>
<td>.399</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.433</td>
</tr>
</tbody>
</table>
Table 2.

*Factor Loadings and Commonalities Based on Principal Components Analysis with Oblimin Rotation for 11 Sexual Outcome Subscales from the MASA (N=307)*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Paraphilic Deviance</th>
<th>Normophilic Excessive Sexualization</th>
<th>Pedophilic Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scatalogia</td>
<td>.782</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transvestitism</td>
<td>.741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhibitionism</td>
<td>.614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fetishism</td>
<td>.609</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voyeurism</td>
<td>.519</td>
<td>-.470</td>
<td></td>
</tr>
<tr>
<td>Sexual compulsivity</td>
<td>- .933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual preoccupation</td>
<td>-.899</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypersexuality</td>
<td>-.826</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child pornography</td>
<td></td>
<td>.847</td>
<td></td>
</tr>
<tr>
<td>Child molester cognitive</td>
<td></td>
<td></td>
<td>.767</td>
</tr>
<tr>
<td>distortions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child sexual arousal</td>
<td>-.301</td>
<td>.390</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.

*Frequencies of Type and Severity of Abuse*

<table>
<thead>
<tr>
<th>Type of abuse</th>
<th>Severity of abuse</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Moderate</td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valid %</td>
<td>n</td>
<td>Valid %</td>
<td>n</td>
</tr>
<tr>
<td>Number of physical abusers</td>
<td>18.2</td>
<td>56</td>
<td>45.6</td>
<td>140</td>
</tr>
<tr>
<td>Physical abuse frequency</td>
<td>33.0</td>
<td>88</td>
<td>34.1</td>
<td>91</td>
</tr>
<tr>
<td>Physical abuse severity</td>
<td>23.2</td>
<td>70</td>
<td>52.6</td>
<td>159</td>
</tr>
<tr>
<td>Sexual abuse degree of penetration</td>
<td>39.1</td>
<td>118</td>
<td>21.5</td>
<td>65</td>
</tr>
<tr>
<td>Sexual abuse degree of force</td>
<td>33.8</td>
<td>102</td>
<td>34.1</td>
<td>103</td>
</tr>
<tr>
<td>Number of sexual abusers</td>
<td>40.7</td>
<td>125</td>
<td>28.3</td>
<td>87</td>
</tr>
<tr>
<td>Sexual abuse frequency</td>
<td>50.0</td>
<td>117</td>
<td>23.1</td>
<td>54</td>
</tr>
<tr>
<td>Female neglect</td>
<td>66.0</td>
<td>163</td>
<td>20.2</td>
<td>50</td>
</tr>
<tr>
<td>Female hostile control</td>
<td>33.1</td>
<td>80</td>
<td>38.4</td>
<td>93</td>
</tr>
<tr>
<td>Male neglect</td>
<td>39.0</td>
<td>71</td>
<td>19.8</td>
<td>36</td>
</tr>
<tr>
<td>Male hostile control</td>
<td>28.5</td>
<td>51</td>
<td>43.0</td>
<td>77</td>
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</tbody>
</table>
Table 4.

Correlations of Abuse Factors and Sexual Outcomes (N=307)

<table>
<thead>
<tr>
<th></th>
<th>Normophilic Excessive Sexualization</th>
<th>Paraphilic Deviance</th>
<th>Pedophilic Preference</th>
<th>Sexual Abuse</th>
<th>Physical Abuse</th>
<th>Male Caregiver Emotional Abuse</th>
<th>Female Caregiver Emotional Abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normophilic Excessive</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Excessive Sexualization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paraphilic Deviant</td>
<td>.585** (306)</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Pedophilic Preference</td>
<td>.456** (306)</td>
<td>.529** (306)</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>.235** (306)</td>
<td>.120* (306)</td>
<td>.079 (307)</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>.102 (304)</td>
<td>.066 (304)</td>
<td>.054 (305)</td>
<td>.222** (305)</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Male Caregiver Emotional Abuse</td>
<td>.235** (182)</td>
<td>.274** (182)</td>
<td>.198** (182)</td>
<td>.066 (182)</td>
<td>.371** (180)</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>Female Caregiver Emotional Abuse</td>
<td>.130* (247)</td>
<td>.101 (247)</td>
<td>.151* (248)</td>
<td>.137* (248)</td>
<td>.223** (246)</td>
<td>.138 (175)</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Number of scores correlated provided in parentheses. **p < .01, *p < .05.
### Table 5.

*Regression Models Predicting Problematic Sexual Behavior from Abuse Factors*

<table>
<thead>
<tr>
<th>Sexual Outcome</th>
<th>Predictors</th>
<th>$\beta$(SE)</th>
<th>$F(df_1, df_2)$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Normophilic Excessive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse</td>
<td>.180(.066)*</td>
<td></td>
<td>.098</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>-.031(.071)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male Caregiver Emotional Abuse</td>
<td>.219(.069)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Caregiver Emotional Abuse</td>
<td>.096(.666)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Paraphilic Deviant</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse</td>
<td>.094(.049)</td>
<td></td>
<td>.106</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>-.145(.053)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male Caregiver Emotional Abuse</td>
<td>.304(.052)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Caregiver Emotional Abuse</td>
<td>.112(.049)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pedophilic Preference</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse</td>
<td>-.054(.044)</td>
<td></td>
<td>.101</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>-.104(.047)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male Caregiver Emotional Abuse</td>
<td>.205(.046)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Caregiver Emotional Abuse</td>
<td>.246(.044)**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: **$p < .01$, *$p < .05$*