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Child Sexual Exploitation, Poly-victimisation and Resilience

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Abstract

Purpose: This research examined the prevalence of Child Sexual Exploitation (CSE) and factors connected in a young adult population, through a series of connected studies. Each study considered exposure to poly-victimisation. The series of studies focused on a number of factors felt to impact on vulnerability and protective factors toward CSE. Specifically caregiver bonds, resilience, and attachment style, adolescent risk taking, quality of caregiver bonds, level/type of supportive relationships and positive schemas, as well as the impact of CSE disclosure and links to attachment style and maladaptive schemas. **Design/methodology:** These studies looked at a young adult population, mainly female. Study one (n = 263), Study two (n = 138) and study 3 (n = 211), predominantly collected via a series of online measures. **Findings:** Findings demonstrated that around half of children under 16 years had been approached sexually by an adult, with approximately one in four children subsequently exploited. Various results were noted, such as experiencing a primary caregiver as lacking in warmth and affection was associated with those reporting CSE, with further exposure to poly-victimisation contributing to a less functional coping style and insecure attachments. CSE was not associated with higher levels of adolescent risk-taking, poor bonds with the primary caregiver, fewer important childhood relationships and positive schemas. **Originality:** Findings were combined to propose the Protect Against CSE model (PA-CSE), and the application of this to intervention and future research is acknowledged.

KEY WORDS: Child Sexual Exploitation; Poly-victimisation; Risk Factors; Protective Factors; PA-CSE

1. Introduction

There are numerous definitions of CSE in research and practice throughout the UK. In recent guidance for child care professionals, CSE is defined as *'A form of child sexual abuse. It occurs where an individual or group takes advantage of an imbalance of power to coerce, manipulate or deceive a child or young person under the age of 18 into sexual activity (a) in exchange for something the victim needs or wants, and/or (b) for the financial advantage or increased status of the perpetrator or facilitator. The victim may have been sexually exploited even if the sexual activity appears consensual. Child sexual exploitation does not always involve physical contact; it can also occur through the use of technology'* (HM Government. Working together to safeguard children, 2018, p. 104).

Across a number of existing definitions, the main factor that distinguishes CSE from CSA is the concept of an 'exchange', where a child or young person receives something as a result of them engaging in sexual activity. Some researchers have argued against using this term, as it overlooks the power imbalance inherent in the abuse (Eaton, 2019). This term is suggestive of a child or young person having agency in an exploitative encounter and furthermore, it moves the focus away from the perpetrator. This is a key issue to address, since many professionals have unhelpfully perceived children under the age of 16 to consent to their abuse (Bedford, 2015).

Due to the existence of various definitions of CSE, this has led to challenges in obtaining clear prevalence rates within the UK and internationally. This also places limitations on obtaining a sample sufficient in size to consider what characteristics promote vulnerability and what protects against CSE. Empirical research is lacking in this regard and to date there are only limited factors that may potentially increase CSE vulnerability, such as being in

residential care, and the presence of an intellectual disability (Brown, Brady, Franklin, Bradley, Kerrigan & Sealey, 2016). Researchers have begun to identify further possible vulnerabilities that relate to normative development. This includes risk taking behaviours and exploration of sexuality (Palmer, 2015), as this can expose children to perpetrators of CSE in the absence of supervision by a protective adult (Skubak Tillyer, Tillyer, Ventura Miller & Pangrac, 2011). Although there is some progress in exploring vulnerability in CSE, this requires further examination, and research is yet to capture protective factors.

The concept of protective factors has been increasingly recognised, with resilience as one such factor that has garnered attention in the victimology field. Resilience is defined as the ability to withstand adversity, adapt to it and recover (Traub & Boynton-Jarrett, 2017). The literature identifies a range of factors which contribute to resilience, where individual factors interact with social (e.g. a warm, supportive relationship with a caregiver and an authoritative parenting style) and community (e.g. role models and positive relationships outside of the family; Zolkoski & Bullock, 2012) factors, providing resources which support a child's wellbeing (Ungar, 2015). Individual resilience factors are examined in this study, and include positive appraisal, characterised by optimism and self-competence, and an adaptive coping style (Ungar, 2015).

Thus, resilience is systemic, rather than a personality trait, and conveys value in the inclusion of models such as the Ecological Systems Theory (EST: Bronfenbrenner, 1977, 2005). The EST is an exploratory model that draws from transactional, developmental and life-course theories to explain healthy and adverse development throughout the life span. It proposes five nested social systems surrounding an individual: 1.) Ontogenic factors, namely those relating to the individual and their personal history; 2.) Microsystem, the immediate family context; 3.) Mesosystem, namely the interconnections between elements of the microsystem; 4.) Exosystem, the larger social environment; and 5.) Macrosystem, which relates

to societal and cultural factors. The theory was further developed by Bronfenbrenner to incorporate the Person, Process, Context, Time model (Bronfenbrenner, 2005). Broadly, this emphasises the changes which occur over time and the reciprocal interactions between an individual and other people. EST has been widely adopted within child maltreatment research and therefore could be applied to CSE, to identify vulnerability and protective factors, and factors which shape long-term functioning among victims.

The key CSE vulnerability factors examined in this paper relate to quality of care and relationships in childhood, and which may be supported by findings within the CSA literature. A study in the US examined the link between poly-victimisation and quality of family relationships (Turner, Shattuck, Finkelhor & Hamby, 2016). Telephone interviews were conducted with adolescents aged between 10 and 17 years. Around 18% of the sample reported poly-victimisation. This group were reportedly more likely to have been abused in multiple settings and with multiple perpetrators. When compared to non-victims, they reported lower levels of perceived family support and the highest trauma symptom scores. The researchers suggested that low family support increases vulnerability for other adverse experiences, such as being victimised in other settings.

In further support of the above research findings, a UK qualitative study interviewed adult females who reported experiencing CSE during childhood (Dodsworth, 2014). The sample of 12 females were aged between 18 and 52 years, and they were asked to describe how they perceived the risk and protective factors in their lives prior to being sexually exploited. Five women described how negative care experiences such as abuse, neglect, rejection and local authority care, led them to search for approval and affection that was lacking. These individuals tended to present with dysfunctional coping methods. For example, they reported using substances to cope with pain. Whilst based on such a small sample, this study could provide further support for the presence of care needs among some individuals who experience

CSE. These care needs could be present due to a history of other forms of abuse, and difficult caregiver relationships, which may or may not be associated with abuse or maltreatment in the home.

The above hypothesis could be supported by Whittle and colleagues, in their review of literature relating to online grooming for CSE (Whittle, Hamilton-Giachrits, Beech & Collings, 2013). They argue that EST can explain both vulnerability for and resilience against online grooming. As part of their literature review, qualitative research is discussed, where perpetrators are asked to describe how potential victims are selected. Some perpetrators describe looking for vulnerabilities which include confusion over sexual orientation, being of minority ethnic background, female, and a perceived 'neediness'. The latter could indicate that care needs are evident in some children's interactions and which are exploited by perpetrators. Therefore, in this study, key factors such as poly-victimisation, caregiver bonding, other supportive relationships, and attachment, were examined. These factors comprise of several ecological systems which could interact to raise vulnerability for, or increase resilience against, CSE.

In the current paper, vulnerability for long-term difficulty is also examined from an EST perspective. Within the literature, it has been revealed that multiple forms of abuse and adversity, which take place throughout childhood and adolescence, affects long-term functioning. This was examined for 17,000 adults (Anda, Felitti, Bremner, Walker, Whitfield, Perry, Dube & Giles, 2006) in the adverse childhood experiences study (Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss & Marks, 1998). Individuals who experienced various forms of childhood abuse or adversity presented with a range of problematic health behaviours, as well as numerous health and social difficulties in adulthood. Problematic health behaviours included substance abuse, smoking and alcoholism. According to Anda et al.

(2006) these could have emerged as a dysfunctional means to cope with their experiences in childhood and then contributed to poor long-term health.

There are other individual processes that may be shaped by sexual exploitation and other forms of victimisation. Literature suggests that maltreatment shapes one's beliefs about the self, world and/or others. Where these beliefs are adversely affected, maladaptive schemas may arise (Young, 1999). It is argued that the ongoing interactions between the individual and their environment, are internalised, and this further shapes schemas (Lumley & Harkness, 2007). Within the abuse literature, it is perhaps understandable that much attention is given to adversity and difficulties in functioning. Yet, there is emerging literature in the area of positive schemas (e.g. Keyfitz, Lumley, Hennig & Dozois, 2013). Through considering positive schema development, this would enable researchers to incorporate resilience into current theory on abuse.

The EST may also account for why, following a victim's disclosure of abuse, a negative response from others can be damaging. The literature suggests that following a disclosure some victims are blamed for their own abuse, which can lead to self-blame (Campbell *et al.*, 2009). For victims of sexual abuse, self-blame is consistently associated with higher levels of dysfunction for a range of psychological and emotional difficulties (Yancey & Hansen, 2010). Perceived blame could be particularly relevant for CSE victims, since professionals have been found to attribute blame to some victims for their own abuse (Bedford, 2015).

To date, EST has not been considered in relation to CSE and nor has there been any attempt at integrating aspects of other criminological and psychological theories until recently (Franchino-Olsen, 2021; Pearce, 2019). Therefore, the following three studies explored a range of risk and protective factors within the ontogenic, micro-system and exo-system domains. Study one explored the role of the micro-system, examining associations between caregiver bond, and ontogenic factors such as resilience, coping style and adult attachment. Study two

addressed the influence of the exo-system, through examination of supportive relationships, and ontogenic factors such as adolescent risk taking and global positive schemas. Study three further explored the influence of the micro-system and exo-system, through examination of caregiver bond, the impact of CSE disclosures and ontogenic factors such as early maladaptive schemas and adult attachment. All studies considered the influence of poly-victimisation, which is considered to be an ontogenic factor, as this relates to the personal history of an individual.

It is important to note that in this paper, value laden terms were avoided, and CSE was described objectively. Participants were asked whether, during childhood, they were ever expected to engage in a sexual interaction with an adult, for tangible goods, or other intangible factors such as affection, attention, protection, or safety from physical harm, either at the hands of the perpetrator or another individual. Sexual behaviours would include direct physical contact with a perpetrator, or indirectly such as through technology, including the internet or mobile telephone.

Study one

This study examined whether poly victimisation and quality of bonding with a primary caregiver increased vulnerability for CSE. This study also examined whether these childhood experiences were associated with difficulties in adult functioning.

Predictions

1) Participants who experienced a low-quality bond with their primary caregiver in childhood, would have experienced CSE;
2) Childhood poly-victimisation is associated with an insecure attachment in adulthood;
3) Poly-victimisation and poor bonding with the primary caregiver is a stronger predictor for an insecure adult attachment than CSE;

4) Poly-victimisation and poor bonding with the caregiver, is a stronger predictor for poor coping and low resilience than CSE.

2. Method

Participants and Procedure

Participants (*n* = 258) aged 18 to 25 years (*M* = 20.87, SD = 2.29) were recruited from the general population and a British University. It was not possible to report how many participants were in each group because some participants (N = 69) did not report their student status when asked. The majority of participants were of White British origin (*n* = 167: 63.7%). As the sample was predominantly female *(n* = 224; 85.2%), gender comparisons could not be made. Participants were recruited online, on general research forums and support organisation websites aimed at supporting victims of sexual abuse. The study was also advertised on a professional online networking forum and a social media platform. Brief details of the study were provided, along with a hyperlink directing them to a consent and briefing page, followed by the online questionnaires. For University students, a poster was placed around the University campus with brief details of the study and the hyperlink. Across all studies participants were advised that if they chose to take part they would be presented with questions about non-consenting sexual experiences, and which may cause distress. Following completion of each study, participants were provided with contact details of the researchers and three specialist organisations for survivors of sexual abuse, if they required support for any issues relating to the research.

Measures

Child sexual exploitation (CSE) (Ireland *et al.,* 2015). This is a twelve-item checklist of information regarding the CSE circumstances when the participant was under the age of 16 years. Examples of questions are as follows:

(1) *Below the age of 16, did you ever feel you were expected to perform sexual acts as a result of someone you believed to be over the age of 18 giving you gifts (jewellery, mobile phone, clothes, money)?*

(2) *Below the age of 16, have you ever felt you were expected to perform sexual acts as a result of accepting accommodation from someone you believe was over 18?*

Poly-victimisation. This six-item checklist was designed specifically for study one, to examine whether participants had experienced any forms of non-sexual abuse in childhood; participants reported whether or not they had witnessed and/or been victim to physical and emotional abuse. The response format is yes/no. Examples of items include:

(1) Did you ever witness, or were you ever aware of any fighting or violence in your home when under the age of 16 (involving your carers)?

If YES, were you ever the victim of any physical violence (hitting with hand or object, shoving, punching, slapping or kicking)?

Parental bonding. The Parental Bonding Instrument (Parker, Tupling & Brown, 1979) is a 25-item measure that explores the perceived quality of parenting/care up to age 16 years. The four-point response scale ranges from very unlikely to very likely. Bonding is represented by two dimensions: parental care and over-protection, with higher scores indicating higher levels of care and over-protection from the primary caregiver. Internal consistency has been assessed, with coefficient alpha ranging from .92 to .94 for the care scale and .87 to .88 for the over-protection scale (Safford, Alloy & Pieracci, 2007). Examples of questions include:

(1) My caregiver spoke to me with a warm and friendly voice;

(2) My caregiver helped me as much as I needed.

Childhood resilience. The Coping Styles Questionnaire (Roger, Jarvis, & Najarian, 1993) is a 41-item measure that explores how individuals behave in response to stress. Two types of adaptive coping styles, indicating resilience (rational and detached) and two less helpful types (emotional and avoidant) are identified in this measure. The four-point response scale ranges from never to always, with no neutral response option. High scores indicate a higher degree of avoidance and rational coping. On the detached scale however, low scores indicate emotional coping, and high scores indicate detached coping. Participants were asked to indicate how they dealt with situations prior to the age of 16 and how they typically responded to stress during that period. Internal consistency has been previously assessed, with coefficient alpha of .85 for rational coping, .90 for detached, .74 for emotional and .69 for avoidance coping (Roger et al., 1993). Examples of questions include:

(1) I feel overpowered and at the mercy of a situation;

(2) I work out a plan for dealing with what has happened.

Resilience. The Connor Davidson Resilience Scale (Connor & Davidson, 2003) is a 10-item scale that measures participants' ability to cope with stress and adversity. The five-point response scale ranges from 'not true at all' to 'true nearly all the time', with no neutral response option. Resilience is represented by characteristics such as persistence/tenacity, strong sense of self-efficacy, emotional and cognitive control under pressure and ability to 'bounce back' from adversity. High scores on this scale indicate a higher degree of resilience. Internal consistency has been assessed, with coefficient alpha of .85. Examples of questions include:

(1) I am able to adapt when changes occur;

(2) I have at least one close and secure relationship that helps me when I am stressed.

Anxiety and avoidance. The Relationship Structures Questionnaire – Short Version (ECR-RS; Fraley, Niedenthal, Marks, Brumbaugh & Vicary, 2006) is a nine-item measure assessing relationship anxiety and avoidance in a variety of close relationships. The 7-point response scale ranges from 'strongly disagree' to 'strongly agree', with a neutral response option. High average scores on each sub-scale indicate high levels of relationship anxiety and avoidance. Participants were asked to consider a relationship during adulthood with a partner while responding. In line with the administration guidelines for this measure, if currently not in a relationship, they were advised to respond regarding a previous partner or a relationship they would like to have. Internal reliability has been previously assessed for this 9-item version, with Cronbach's alpha of between .83 to .87 on the anxiety subscale and between .81 and .92 on the avoidance subscale (Fraley, Heffernan, Vicary & Brumbaugh, 2011). Examples of questions include:

(1) It helps to turn to this person in times of need;

(2) I usually discuss my problems and concerns with this person.

Regarding the internal consistency of the above scales, while it is common for researchers to adopt a threshold of .70, for applied research a more stringent threshold of .80 is recommended (Nunnally, 1978). All of the above scales demonstrated an acceptable internal consistency of .80 and above except for the Avoidance ($\alpha = .78$) and Rational Coping scales ($\alpha = .79$), and the Parental Bonding Inventory ($\alpha = .79$). However, they were only marginally below the more stringent threshold, and therefore deemed to be acceptable for the study. The

emotional and avoidance coping subscales were unacceptable. The implications are considered within the discussion.

3. Results

In each study, the data was examined to check for data entry errors, missing values, and univariate and multivariate outliers. Two univariate outliers were identified from ungrouped data (Tabachnick & Fidell, 2007) and replaced with the Winsorised mean (Erceg-Hurn & Mirosevic, 2008; Kyu-Kwak & Hae Kim, 2017). Mahalanobis distance revealed five potential multivariate outliers, which were removed from the data set. This resulted in a total sample size of 258.

Tests were also performed to check that analyses met necessary statistical assumptions. In study one, multinomial logistic regression was undertaken to predict CSE based on the perceived quality of the caregiver bond during childhood. A series of hierarchical multiple regression analyses examined the relationship between childhood poly-victimisation, the quality of the caregiver bond and CSE, with the following outcome variables: childhood coping approach, adult attachment style and resilience.

Prevalence of CSE

Over half of the participants (*n* = 148: 57.4%) were approached sexually by an adult during childhood, around a third (*n* = 76: 29.5%) were ~~successfully~~ exploited when a perpetrator requested/demanded they engage in some form of sexual behaviour. Of those who were approached sexually, a further 28 participants were approached through use of technology, but no further requests/demands for sexual behaviours were made by the perpetrator. Technology was the most frequent method of CSE, with 108 participants reporting

that an adult made sexual suggestions or tried to engage them in sexual discussions by telephone, via text, or over the internet (102 females; six males). The number of CSE victimisation occurrences that participants were subjected to are presented in Table one.

-Insert Table 1 here-

Main analyses

Prior to analysis, in each study participants were separated into three groups: 1). had not been approached sexually by an adult; 2). were approached but were not exploited; and 3). were approached and then exploited. Participants were omitted from the main analysis if a sexual approach was made but a response was not requested or demanded by a perpetrator. For instance, where someone over the age of 18 sent pictures or video images of nudity, or someone performing a sexual act. This was to ensure that the participants in the exploited group had been forced or coerced to 'exchange' sexual behaviours for something, and in line with accepted definitions of CSE. In study one a total of 28 participants were omitted.

CSE victimisation - vulnerability

Multinomial logistic regression revealed that for the primary caregiver, a test of the full model with care and over-protection against a constant only model was statistically significant, χ^2 (4, n = 224) = 21.23, p<.001. Thus, participants subjected to CSE by adults differed in the quality of their bond with their primary caregiver, when compared with individuals who were never approached sexually. There was a good model fit χ^2 (360, n = 224) = 372.38, p =.31, using a deviance criterion, Nagelkerke R^2 = .10. Comparisons of log likelihood ratios showed a significant improvement with the addition of parental care χ^2 (2) = 19.88, p<.001, indicating that perceived level of care was reported as lower among CSE victims, compared with

participants who were never approached. Level of care ~~reliably~~ separated those who were never approached sexually and those who were approached then exploited b = -0.09, Wald χ^2 (1) = 16.9, p<.001.

CSE victimisation - individual characteristics

Adult attachment style

Multiple regression revealed at step one a significant bivariate relationship between poly-victimisation and relationship anxiety, R^2 = .11, F inc (1, 217) = 26.01, p<.001, and relationship avoidance, R^2 = .04, F inc (1, 217) = 9.28, p = .003. At step two, with the addition of caregiver relationship (care and over-protection) to relationship anxiety, R^2 = .18, F inc (1, 217) = 9.73, p<.001, increasing the variance from 11% to 18%. For relationship avoidance, R^2 = .15, F inc (1, 217) = 13.86, p<.001, increasing the variance from 4% to 15%. However, at step three the addition of CSE did not increase the amount of variance in relationship anxiety, R^2 = .18, F inc (1, 217) = 0.14, p = .873, or relationship avoidance, R^2 = .16, F inc (1, 217) = 0.96, p = .383. In terms of significant contributions to the models, participants who reported either greater relationship avoidance or anxiety in adulthood viewed their primary caregiver as lacking in affection and warmth.

Coping style in childhood

Multiple regression revealed at step one a significant bivariate relationship between poly-victimisation and scores for avoidance coping, R^2 =.10, F inc (1, 218) = 25.43, p<.001, rational coping, R^2 =.04, F inc (1, 218) = 9.14, p = .003, and detached coping, R^2 =.13, F inc (1, 218) = 33.58, p<.001. At step two, with the addition of caregiver relationship (care and over-protection) to avoidance coping, R^2 = .14, F inc (1, 218) = 4.61, p = .011, increasing the

variance in avoidance coping to 16%. For rational coping, $R^2 = .19$, F inc (1, 218) = 20.87, $p<.001$, the variance increased to around 19%. For detached coping, $R^2 = .25$, F inc (1, 218) = 18.14, $p<.001$, increasing the variance to 25%. At step three, however, the addition of CSE did not increase the amount of variance in avoidance coping, $R^2 = .15$, F inc (1, 218) = 0.92, $p = .40$, rational coping, $R^2 = .20$, F inc (1, 218) = 0.35, $p = .70$, or detached coping, $R^2 = .27$, F inc (1, 218) = 2.94, $p = .06$. Regarding significant contributions to the models, as perceived care increased (indicating a caregiver relationship involving warmth and affection) so too did rational and detached coping, whereas, avoidance coping decreased. This suggests that a warm and affectionate relationship with the primary caregiver may be associated with an adaptive style of coping when faced with problems in childhood or adolescence. As the number of victimisation types increased, detached coping decreased and avoidance coping increased, indicating that poly-victimisation may also be associated with a less adaptive style of coping during childhood, whereby an avoidant approach is adopted.

Resilience in adulthood

At step one, the relationship between poly-victimisation and resilience was not statistically significant, $R^2 = .01$, F inc (1, 218) = 1.22, $p = .27$. With the addition of caregiver relationship at step two, significance was achieved, $R^2 = .10$, F inc (1, 218) = 10.96, $p<.001$, but increasing the variance to only 10%. The addition of CSE did not increase the amount of variance in resilience, $R^2 = .10$, F inc (1, 218) = 0.96, $p>.05$. Regarding significant contributions, as perceived care increased, resilience scores increased. As perceived over-protection increased, resilience decreased. Thus, participants who reported greater resilience viewed their primary caregiver as warm and affectionate, while those who reported lower resilience had caregivers who exerted control rather than encouraging autonomy.

Study one: summary

Participants who reported CSE perceived their primary caregiver as lacking in warmth and affection in childhood. CSE was not associated with past or current resilience, or current attachment style. Instead, childhood poly-victimisation, in addition to poor primary caregiver bond may contribute to a less functional coping style in childhood, and an insecure attachment to others in adulthood.

Further, the quality of the caregiver bond, but not childhood poly-victimisation, predicted greater resilience in adulthood. Thus, greater primary caregiver warmth and affection may contribute to greater levels of adulthood resilience, whereas greater control or dominance may lead to lower resilience. A high level of perceived care consistently emerged as the strongest predictor in each regression model, yet the predictors examined in this study only accounted for up to 25% of variance in some of the outcomes measured. Clearly, other psychosocial factors may be associated with CSE, including adolescent risk taking and other supportive relationships, which will now be considered in studies two and three below.

Study two

Based on the findings in study one, study three progressed to explain a wider range of vulnerability factors for CSE, relating to adolescent risk-taking and the presence of supportive relationships outside of the family unit. This study also aimed to replicate the link between caregiver bond and CSE vulnerability, to establish whether study one findings were unique to that sample of young adults. Furthermore, study three examined in more detail the link between poly-victimisation, caregiver bond, CSE and another adult characteristic: positive schemas in adulthood.

Predictions

1) Participants who have experienced poor bonding with the primary caregiver, with fewer important childhood relationships and exhibit increased risk-taking, will have experienced CSE;
2) Increased anti-social and rebellious risk taking under the age of 16 is associated with CSE;
3) CSE will be associated with lower global positive schemas;
4) Childhood poly-victimisation and the number and quality of important relationships during childhood is associated with lower global positive schemas.

4. Method

4.1 *Participants and Procedure*

Participants (*n* = 135), aged 18 to 30 years (*M* = 22.4, SD=3.5), were recruited from the general population (20.3%) and students (78.3%). The sample was predominantly female (*n* = 113; 81.9%), White British (*n* = 86; 62.3%) and White other (*n*= 24; 17.4%). As with study one, participants were approached through online research forums, social media and sexual abuse support organisation websites, where a hyperlink was posted along with brief details of the study. If individuals accessed the weblink, they were required to review detailed information on the study and if consent was provided then participants were asked to complete the following questionnaires.

Measures

Child sexual exploitation (CSE) (Ireland *et al.*, 2015). The same measure that was used in study one was administered. In order to gather further information, an additional question required participants to state the sex of perpetrators, if known.

Adverse Childhood Experiences (ACE). The Adverse Childhood Experiences (ACE) checklist (Anda *et al.*, 2006) uses 21-items to assess the prevalence of a range of ACE events, including whether they experienced and/or witnessed physical, sexual and emotionally abusive behaviour by an adult and whether anyone they lived with had drug and/or alcohol misuse problems. Participants reported yes/no for each item on whether or not they had experienced these events under the age of 16. Total scores were used as a measure of ACEs. Examples of items include:

Did a parent or other adult in the household…

(1) Often or very often swear at you, insult you, or put you down?

(2) Sometimes, often, or very often act in a way that made you fear that you might be physically hurt?

Parental bonding. The Parental Bonding Instrument (Parker, Tupling & Brown, 1979) was the same instrument used in study one.

Schemas. The Positive Schema Questionnaire (Keyfitz, Lumley, Hennig & Dozois, 2013) is a 36-item measure that examines global positive schemas, with higher total scores indicating higher positive schema content. Scores can also be derived for four sub-scales, comprising of: self-efficacy, success, trust, worthiness and optimism. For study two, global scores were examined, as due to the limited exploration of positive schemas in the literature, there were no clear hypotheses regarding the role of individual sub-scales. The six-point response scale, ranges from 'completely untrue' to 'describes me perfectly' and with no neutral option. Internal consistency was assessed, with Cronbach's alpha of .93 (Keyfitz et al., 2013). Examples of questions include:

(1) I look at the bright side of things;

(2) I am close to other people.

Supportive Relationships. The Network of Relationships Inventory – Behavioural Systems Version, Short Form (Furman & Buhrmester, 2009) is an eleven-item scale that measures the quality of support and negative interactions with others. The five-point response scale ranges from 'little/none' to 'the most', with no neutral option. Higher average scores on each of the two subscales indicates greater support or more negative interactions. Participants were asked to complete this scale for an important adult in their lives (not a caregiver), a sibling, and/or an important friend who were available when participants were under the age of 16. Participants were asked to omit this measure if they did not have any of those individuals in their lives when under the age of 16. Internal consistency has been assessed, with coefficient alpha ranging from .94 to .96 on the support scale and .89 to .93 on the negative interaction scale (Furman & Buhrmester, 2009). Examples of questions include:

(1) How much did this person show support for your activities?

(2) How much did you and this person get on each other's nerves?

Risk taking. The Adolescent Risk-Taking Questionnaire – Behaviour Version (Gullone, Moore, Moss & Boyd, 2000) is a 22-item measure that asks participants to rate how frequently they engaged in a range of behaviours that involve an element of risk when under the age of 16. The five-point response scale ranges from 'never' to 'very often', with no neutral option. Higher total scores indicate a greater degree of risk taking. Scores can also be derived for four sub-scales comprising of different types of risk-taking behaviour: thrill-seeking, rebelliousness, recklessness and anti-social behaviours. For the purposes of study two, the sub-scales were calculated, in order to examine the role of specific types of risk-taking behaviours

in CSE vulnerability. Internal consistency has been assessed, with coefficient alpha ranging from .87 to .96 (Gullone et al., 2000). Examples of questions include:

Below is written a list of behaviours which some people engage in. Read each one carefully and tick the box in front of the word that best describes your behaviour:

(1) Smoking;

(2) Roller-blading.

5. Results

Multinomial logistic regression was undertaken to predict CSE based on the number of important relationships in childhood, the quality of caregiver bond, and degree and type of risk taking under the age of 16. A one-way ANOVA was performed to examine the link between CSE and global positive schemas in adulthood. Correlations were undertaken to examine the relationship between poly-victimisation and global positive schemas in adulthood. Finally, a series of hierarchical regression analyses examined whether supportive relationships predicted additional variance in global positive schemas, over and above poly-victimisation and the quality of caregiver bond.

The internal consistency of the Parental Bonding Inventory ($\alpha = .55$) suggested the care subscale was unacceptable in this sample ($\alpha = .22$), as was the Positive Schema Questionnaire ($\alpha = .61$ to $.72$). Additionally, out of the four Adolescent Risk-taking Questionnaire sub-scales, only the Rebelliousness scale demonstrated acceptable internal consistency ($\alpha = .85$). The implications of these results will be considered in the overall discussion.

Prevalence of CSE

Over half of the participants (*n* = 69; 51.1%) were approached sexually by an adult during childhood, of whom about one-fifth (*n* = 25; 18.5%) were exploited when a perpetrator requested/demanded they engage in some form of sexual behaviour. Of those who were approached, a further 17 participants were approached in a sexual way through the use of technology but no request for sexual behaviour was made. As in study one, these participants were omitted from some of the analyses in order that the CSE sample involved some form of exchange with a perpetrator. Participants reported that CSE perpetrators were male (*n* = 65) and female *(n* = 4), were unknown/stranger (*n* = 42), an acquaintance (*n* = 32), a family member (*n* = 5), or family friend (*n* = 4). Technology was again the most frequent method of CSE, with 47 participants reporting that an adult made sexual suggestions or tried to engage them in sexual discussions by telephone, via text, or over the internet.

Main analyses

As in study one, participants were separated into the same three experimental groups. In line with accepted definitions of CSE, participants were omitted prior to the analysis if a sexual approach was made but a response was not requested or demanded by a perpetrator. A total of 17 participants were omitted, leaving a final sample size of 118.

CSE victimisation - vulnerability

A test of the full model against a constant only model was not statistically significant, χ^2 (6, *n* = 118) = 12.20, p = .06, indicating that the predictors did not reliably distinguish between individuals who were approached sexually by an adult under the age of 16 and those who had not. Specifically, adolescent risk-taking, the quality of the bond with the primary caregiver and the number of important childhood relationships did not predict CSE.

Regarding the type of risk-taking (the anti-social and rebelliousness scales of the NRI) a test of the full model against a constant only model was not statistically significant, χ^2 (4, *n*

= 118) = 4.19, p = .38, indicating that the type of risk taking did not reliably distinguish between experience of CSE. This suggests that antisocial and rebellious behaviours do not predict CSE victimisation.

CSA, poly-victimisation and global positive schemas

A one-way ANOVA revealed there was no significant main effect of CSE victimisation on global positive schemas, F (2, 115) = 1.69, p = .19, suggesting there is no relationship between CSE and positive schemas in adulthood.

Pearson's correlation revealed a significant moderate negative relationship between the number of ACEs and global positive schemas, r = -.31, p (one tailed) < .001. This indicates that, as the number of ACEs increase, global positive schemas decrease.

Association between childhood relationship quality and adulthood global positive schemas

Multiple regression analyses revealed that in childhood, the presence of an important sibling (R^2 = .18, F inc (3, 106) = .06, p = .81), important adult (R^2 = .15, F inc (3, 72) = 0.45, p = .48), or important friend (R^2 = .16, F inc (3, 85) = 0.03, p = .48) was not associated with positive schemas in adulthood. Regarding significant contributions to each model, as perceived care increased (that is, a warm and affectionate caregiver relationship), so too did adulthood global positive schemas.

To examine how well the regression model predicts the scores of different samples from the same population,

Study two: Summary

Contrary to expectations, higher levels of adolescent risk taking, poor bonds with the primary caregiver and fewer important childhood relationships were not associated with CSE. This partially conflicts with findings in study one, where perceived quality of care with the

primary caregiver predicted CSE. Contrary to the hypotheses, anti-social and rebellious risk-taking behaviours were not associated with CSE. Together, these findings indicate that none of these factors increased vulnerability for CSE following a sexual approach by a perpetrator. This will be explored in the overall discussion.

There was no significant relationship between participants' CSE victimisation and adulthood positive schemas. Instead, and in line with study one findings, childhood poly-victimisation and caregiver bond quality were relevant. The quality of the primary caregiver bond accounted for between 15% and 18% of variance in global positive schema scores, thus suggesting that when this relationship is perceived to be warm and affectionate, global positive schemas increase. However, the amount of variance suggests that other factors are relevant in the development of positive schemas. Contrary to expectations, the number of other important relationships during childhood did not account for additional variance in global positive schemas over and above caregiver bond. Further, the quality of these relationships did not account for any additional variance. Taken together, these findings suggest that the number and quality of key relationships are not suitable protective factors, as they do not appear to influence positive schemas.

Study three

Study three built on study two by examining the link between poly-victimisation, CSE and maladaptive schemas. Furthermore, study four considered whether receiving a negative response to CSE disclosure was associated with adult functioning.

Predictions

1) Where participants have disclosed CSE, a more negative response from others (turning against) is associated with an insecure attachment during adulthood (anxiety and avoidance).

2) Individuals, who have experienced CSE, present with higher scores for maladaptive schemas in the disconnection/rejection domain compared with those who have not experienced CSE. Specifically: emotional deprivation, mistrust/abuse, emotional inhibition, defectiveness/shame and social isolation/alienation.
3) Poly-victimisation in the home is associated with greater maladaptive schemas.
4) Poly-victimisation accounts for a higher proportion of variance in adult attachment style scores, than childhood sexual exploitation.

6. Method

6.1 *Participants and Procedure*

Participants (*n* = 208), aged 18 to 30 years (*M* = 22.3; SD=2.8) were recruited from the general population (19.9%) and a British University (79.6%). As per study one and two, the sample was predominately female (*n* = 182; 86.3%), White British (*n* = 143, 68.8%) or White other (*n* =23, 11.1%). Due to a low response rate in study two, to obtain a sufficiently large sample for study three, two methods were used to recruit participants. In line with previous studies, the online method involved posting a link to the study on various websites, along with brief details. Participants were also approached by the researcher on the University campus. If individuals consented to participate, a copy of the questionnaire pack was provided. Completed packs were returned to the researcher at a secure designated location. To allow for anonymity, participants were not asked to record personal details on the questionnaires. All participants were provided with a debrief sheet at the end of the questionnaire pack.

Measures

Child sexual exploitation (CSE) (Ireland *et al.,* 2015). The same measure used in study two was administered.

ACEs (in the home). Due to its length, the 21-item ACEs used in study two was reduced to an 11-item checklist. For example, separate items that were contained in the ACE checklist relating to abuse directed to a mother or father were collapsed into single caregiving items. The checklist contained items that related to various forms of physical or emotional aggression by a parent or another adult in the home, and whether someone in the family home experienced substance and/or alcohol abuse problems or mental illness. Participants reported yes/no for each item, with the total score indicating the degree of exposure to ACEs within the home environment. Examples of questions are as follows:

(1) Did a parent or other adult in the home often or very often swear at you, insult you or put you down?

(2) Did a parent or other adult in the home often or very often push, grab, slap, punch, kick or throw something at you?

CSE disclosure responses. The Social Reactions Questionnaire - Shortened Version (SRQ-S; Ullman, Relyea, Sigurvinsdottir & Bennett, 2017) is a 16-item measure that examines the responses of other individuals following disclosure of abuse. Three sub-scales represent different types of response: turning against, unsupportive acknowledgment, and positive reactions. The five-point response scale ranges from ‘never’ to ‘always’, with no neutral option. Higher average scores indicate a greater degree of each response type. Participants omitted this scale if they did not experience CSE or if they were CSE victims but chose not to disclose their abuse. Internal consistency has been assessed, with Cronbach’s alpha ranging between .77 to .93 (Ullman, 2000). Examples of questions are as follows:

Please indicate how often you experienced each of the listed responses from people:

(1) Told you that you were irresponsible or not cautious enough;

(2) Reassured you that you are a good person.

Anxiety and avoidance. The Relationship Structures Questionnaire – Short Version (ECR-RS; Fraley *et al.*, 2006). This was the same nine item measure administered in study 1.

Schemas. The Early Maladaptive Schema Questionnaire - Short Form (EMS-SF; Young & Brown, 2014) is a 90-item measure that examines 15 early maladaptive schemas within four clusters: (1) disconnection and rejection, (2) impaired autonomy and performance, (3) impaired limits and (4) excessive responsibility and standards. This six-point response scale ranges from 'completely untrue of me' to 'completely true of me', with no neutral option. Higher average scores for each schema indicate a greater degree of maladaptive schemas. Internal consistency has been assessed, with Cronbach's alpha of .95 (Lumley & Harkness, 2007). Examples of questions include:

(1) I haven't had someone to nurture me, share him/herself with me or care deeply about everything that happens to me;

(2) I find myself clinging to people I'm close to because I'm afraid they'll leave me.

Each of the scales demonstrated good to excellent levels of internal consistency (α = .82 to .97), except for the Emotional Inhibition sub-scale of the YSQ-SV (α = .78) and the Positive reaction sub-scale of the SRQ-S (α = .76).

7. Results

Participants who participated online (n = 133) were analysed along with those who completed the paper version of the study (n = 75), as a MANOVA revealed no significant differences between these groups on each of the dependent variables. For participants who disclosed CSE, correlations were undertaken to examine whether there was an association between receiving a negative response from others and attachment style during adulthood. A MANOVA was performed to compare participants who were sexually exploited with those who were not, on schema scores within the disconnection/rejection domain. Discriminant function analysis was performed, to identify which combination of dependent variables, separate the independent variables. This is termed a canonical variable. In study three, a canonical variable would identify the specific schemas that maximally separates those who were exploited and those who were never approached.

Prevalence of CSE

In a similar pattern found in studies one and two, over half of the participants (n = 121; 58%) were approached sexually by an adult during childhood, of whom about one-quarter (n = 56; 27%) were exploited when a perpetrator requested or demanded they engage in some form of sexual behaviour. Of those who were approached, a further 19 participants were approached in a sexual manner through the use of technology, but no request for sexual behaviour was made. Therefore, these participants were omitted from some of the main analyses. Contrary to findings from studies one and two, the most frequent type of approach involved participants being introduced to an adult perpetrator by their friend. A total of 67 participants reported that a friend introduced them to another friend or acquaintance who was over the age of 18, who then made sexual advances towards them. Perpetrators were reported

to be male (*n* = 112), and female (*n* = 15), were either acquaintances (*n* = 66) or previously unknown to the participant (*n* = 58).

Main analyses

Response to CSE disclosure and adult attachment style

Pearson correlation revealed a significant, moderate relationship between response (turning against) and relationship anxiety r = -.34, p (one tailed) = .03. There was no significant relationship between response and relationship avoidance r = -.22, p (one tailed) = .13. Thus, where individuals disclose their CSE, if the other person appears to turn against them, this could contribute to an anxious attachment style within an adult partner.

CSE and maladaptive schemas

A MANOVA revealed a significant main effect between CSE and schemas within the disconnection/rejection domain, Pillais' Trace = .18, F (10, 366) = 3.52, p<.001. Participants' scores were significantly different depending on their CSE victimisation. The standardised discriminant function coefficients suggested that the three levels of the CSE victimisation were maximally differentiated by a canonical variate with greater weightings from the defectiveness/shame (.95) and mistrust (.80) subscales, followed by the emotional inhibition (.54) subscale. Furthermore, the correlations between the subscale scores and the canonically derived scores were all moderate to large in magnitude (range = .32 to .81). This meant that individuals who reported CSE reported higher scores on defectiveness/shame, mistrust and emotional inhibition when compared to individuals who were never approached sexually.

ACEs and maladaptive schemas

Pearson's correlation revealed a significant and moderate relationship between poly-victimisation and each of the schemas within the disconnection/rejection domain. The strongest relationship, or highest magnitude, was between poly-victimisation and emotional deprivation,

r = .43, p (one tailed) = .01. Correlations indicated that as the number of adverse experiences in the home increases, scores within the disconnection/rejection domain increase.

CSE prediction of insecure attachment styles in adulthood

Multiple regression revealed at step one a significant bivariate relationship between poly-victimisation and scores for relationship anxiety, $R^2 = .06$, F inc (1, 202) = 13.84, $p<.001$ and scores for relationship avoidance, $R^2 = .08$, F inc (1, 202) = 16.55, $p<.001$. At step two, with the addition of defectiveness/shame and mistrust schemas to relationship anxiety, $R^2 = .441$, F inc (2, 200) = 67.52, $p<.001$, increasing the variance from 6% to 44%. For relationship avoidance, $R^2 = .24$, F inc (2, 200) = 21.23, $p<.001$, increasing the variance from 8% to 24%. At step three, with the addition of the remaining three maladaptive schemas (emotional inhibition, emotional dependence and isolation/alienation), $R^2 = .49$, F inc (3, 197) = 5.68, p = .001, increasing the variance to 49%. For relationship avoidance, with the addition of the remaining schemas, $R^2 = .39$, F inc (3, 197) = 15.88, $p<.001$, increasing the variance to 39%. At step four, the addition of CSE did not increase the amount of variance in relationship anxiety $R^2 = .49$, F inc (2, 195) = 0.34, p = .713 or relationship avoidance, $R^2 = .39$, F inc (2, 195) = 0.96, p = .384. Therefore, in terms of significant contributions to the model, as mistrust, defectiveness/shame and emotional dependence increased, relationship anxiety increased. This suggests that those particular schemas may contribute to an anxious attachment style in a partner type relationship. Furthermore, as emotional dependence increased, relationship avoidance also increased. However, as isolation/alienation increased, relationship avoidance decreased, suggesting that isolation/alienation is associated with a more secure style of attachment.

Study 3: Summary

Partially confirming hypotheses, where individuals disclosed CSE victimisation, those who perceived a negative response reported greater relationship anxiety. However, contrary to expectations, no significant association was found between negative response and relationship avoidance. Thus, individuals who perceived that, following their CSE disclosure others turned against them, had an anxious attachment style. This could suggest that a negative experience following disclosure is one factor that can adversely affect a developing attachment style. Alternatively, it is possible that such individuals already presented with an insecure attachment style within their relationships prior to disclosing their abuse. This will be explored in the overall discussion. Findings suggest that poly-victimisation and maladaptive schemas are other factors that could be related to adult attachment style. However, maladaptive schemas (in the disconnection and rejection cluster) emerged as a stronger predictor than childhood poly-victimisation, accounting for between 39% and 49% of variance in adult attachment scores (both relationship avoidance and anxiety). Following a pattern of findings from studies 1 and 2, CSE did not account for any additional variance in the outcome variable. Findings indicated that the two schemas accounting for the greatest amount of variance in adult attachment were: defectiveness/shame and mistrust/abuse. This suggests that perhaps individuals with a greater degree of insecure attachment may believe themselves to be bad, unwanted, inferior or unlovable. Further, they might expect others to hurt, abuse, lie or take advantage of them. An unexpected finding was that, as isolation/alienation increased, relationship avoidance decreased, suggesting a more secure style of attachment.

In line with hypotheses, individuals who experienced CSE presented with higher scores in the disconnection/rejection domain. A particular combination of schema within that cluster differentiated this group: the defectiveness/shame and mistrust/abuse schema, followed by emotional inhibition. Poly-victimisation was also significantly associated with maladaptive schemas. As predicted, as the number of adverse childhood experiences increased, scores

within the disconnection/rejection domain increased. Overall, this suggests that with increasing forms of abuse and adversity, and if they experience CSE, individuals may develop an expectation that their needs for love, safety, nurturance, empathy and expression and sharing of emotions, will not be met.

8. Discussion

Across these three studies around half of the participants were approached sexually by an adult before they were aged 16 and around one in four who were approached, were sexually exploited. These prevalence rates are higher than noted elsewhere (e.g. ONS, 2016). This may be due to how CSE is defined here; the checklist devised for these studies did not label CSE as sexual abuse or exploitation, and instead used neutral language to describe different sexual acts in which a perpetrator might attempt to engage a child (Radford, 2018). For example, in this multi-study, participants were asked whether, under the age of 16 years, they were expected to perform sexual acts as a result of someone over the age of 18 providing gifts (jewellery, mobile phone, clothes, money). Thus, participants were not required to make a judgement as to whether they perceived their experiences as abusive. This is important, as some victims are reluctant to admit to being sexually exploited, or struggle to recognise their experiences as such (Palmer, 2015; Radford, 2018). Finally, the data was not reliant on professionals or other adults recognising CSE; existing prevalence studies are limited by the numerous barriers that prevent professionals from recognising CSE. It could be argued that, with the above considerations, this paper provides a more accurate picture of the nature and extent of CSE amongst children under 16 years of age in a general (mainly student) population.

Study one demonstrated that participants who reported CSE perceived their primary caregiver as lacking in warmth and affection during childhood. This is a key finding and could suggest that a poor bond increases vulnerability through creating an unmet need for care or

affection. This need could be exploited by a perpetrator, who may provide affection and attention if a child performs sexual acts. Alternatively, CSE could be one factor in a child's life that harms the quality of their caregiver bond. This has been suggested in the existing literature, as some perpetrators seek to create instability in the victims' relationships (Jago *et al.*, 2011). Arguably, this could maintain vulnerability for CSE, as this enables perpetrators to maintain access to the victim, and ensures victims are emotionally dependent on them (Jago *et al.*, 2011). However, contrary to expectations, in study two this association was not statistically significant. One explanation is that the sample in study one may have differed from participants in study two on a variable that was not examined, such as socioeconomic status. It is possible that the internal consistency of the psychometric measure was problematic in study two; the coefficient alpha suggested that around half of the variance was error variance. However, it is necessary to further explore the role of caregiver bond in CSE vulnerability, along with other factors that could act as sources of strain, including socioeconomic status.

Other vulnerability factors were examined in study two. Contrary to expectations, adolescent risk-taking and the number of important childhood relationships was not associated with CSE. Instead, the quality of these relationships could be important, as this might determine whether a child's psychological needs are met by individuals outside of the caregiver relationship. Furthermore, an increased propensity for risk-taking might only raise vulnerability in certain types of CSE. Specifically, that risk-taking behaviours such as substance and alcohol use, could raise vulnerability for commercial CSE. This is because when a child uses substances, this may be exploited by perpetrators who provide money or substances for sexual activity (Thrane et al., 2006). In time, this may lead to dependency on substances and further dependency on the perpetrator. Consequently, the role of adolescent risk-taking and supportive relationships remain unclear in regard to CSE vulnerability, and requires further exploration.

Key themes emerged from these studies regarding the long-term impact of CSE. Findings indicated that CSE was *not* associated with past or current resilience, current attachment style or positive schemas. Instead, childhood poly-victimisation and the quality of the bond with a primary caregiver emerged as key predictor variables. This is an important finding, as it challenges existing assumptions regarding the impact of CSE. It has been argued that CSE leads to a range of long-term difficulties for victims (Jay, 2014). However, this may be due to the cumulative effects of repeated adversity and abuse in victims' lives. For instance, study one revealed that the quality of the primary caregiver bond and poly-victimisation predicted a less adaptive coping style during childhood and an insecure attachment style in young adulthood. The quality of the primary caregiver bond, but not childhood poly-victimisation, predicted higher resilience in adulthood. As such, a warm and supportive caregiver may have been particularly important in shaping participants' ability to cope with stress in young adulthood. Alternatively, it is possible that there were other protective factors in their lives which buffered against the impact of poly-victimisation. Taken together, these findings suggest that CSE alone does not lead to difficulties in interpersonal functioning for victims.

In contrast with the other studies, study three identified a potential long-term outcome of CSE; participants who experienced CSE reported higher scores on schemas within the disconnection/rejection cluster when compared to participants who were never approached sexually. Discriminant function analysis revealed higher scores in three particular schemas: defectiveness/shame, mistrust/abuse and emotional inhibition (Young, 2014). This means that CSE victims may view themselves as defective or unwanted, they may experience difficulties in expressing thoughts and feelings, and expect others to hurt or abuse them. This finding has important implications for policy and practice, as research has implicated maladaptive schemas

in problems such as depression, anxiety and an insecure attachment to others (Cukor & McGinn, 2006; Lumley & Harkness, 2007; Simard, *et al.*, 2011).

Another factor that could influence long-term functioning, is how other people respond to a disclosure of CSE. There was a significant, moderate correlation between a negative response (blaming and stigmatisation) and relationship anxiety in adulthood. Two explanations were forwarded to account for this finding, due to the cross-sectional nature of the studies. First, it is possible that individuals who received a negative response to their CSE disclosure did not receive the care and support they desired from others. Along with their sexual abuse experience, this may have led to a belief that others will reject them, and which could communicate that they are unworthy or unlovable. Alternatively, since attachment style forms as a result of the early bonds between an infant and their caregiver, at the point of disclosure participants' attachment style is likely to have been sufficiently formed. Features of their attachment style may have influenced their perception of how the other person responded. For instance, anxiously attached individuals who have been exposed to CSE may have perceived the other person as having blamed or stigmatised them if they did not receive the reaction they expected. It suggests that professionals should respond carefully to disclosures of CSE, as victims may present with existing vulnerabilities which increase their sensitivity to signs of rejection and could further strengthen their insecure attachment style.

In summary, in terms of adult attachment style maladaptive schemas in the disconnection and rejection cluster emerged as a stronger predictor than poly-victimisation for relationship avoidance and anxiety. Together, findings from across the three studies suggest that factors relating to the self, termed ontogenic or person factors, interact with factors in the immediate family context, termed the microsystem. Arguably, these interactions are proximal processes which take place repeatedly over time and through different life stages. In line with EST, these interactions, over time, may continually shape an individual's attachment style and

cognitive schemas. As such, the Ecological Systems Theory (EST) (Bronfenbrenner, 1977, 2005) could account for why some CSE victims experience inter-personal difficulties in young adulthood. The findings in this paper suggest that CSE, as a single form of abuse, may not be sufficient to cause these difficulties. Instead, when CSE interacts with other factors within the ontogenic, micro and exosystems, this does appear to impact on long-term functioning. When CSE is experienced alongside multiple forms of abuse and adversity in childhood, where there is a poor bond with the primary caregiver, and/or where they perceive others to have responded negatively to their disclosure of abuse, this could be problematic.

Towards an explanatory model of CSE

Based on the findings of this paper and an extensive literature review, a preliminary model of CSE is proposed. This model attends to vulnerability and protective factors that relate to CSE and long-term functioning. It is informed by the theories discussed in this paper, the available research that informed such theories, and the research findings in this paper. It is a preliminary model that requires further testing. The proposed model is presented in Figure one.

-Insert Figure 1 here-

This model describes vulnerability and protective factors across each of the ecological systems. The model proposes that an individual's existing vulnerability and/or protective factors will interact with situational factors, to increase or reduce vulnerability to CSE. Protective factors may interact with vulnerability factors, and increase resilience for some individuals. Furthermore, the model describes how the presence of vulnerability and protective factors across the lifespan may shape long-term functioning.

Practical applications

It was discussed earlier in this paper that much of the existing CSE research lacks theoretical and empirical underpinning. Therefore, it could be argued that current CSE policies have an insufficient evidence base. While the existing empirical literature offers guidance on how to support victims of CSE, this is limited by an inherent tendency within a section of the criminology literature to blame victims. Arguably this occurs due to the use of biased language, where much of the focus has been on the individual characteristics or behaviour of victims, and using inappropriate terminology to describe sexual exploitation. Therefore, policy and practice which emerges from this literature is likely to place responsibility on victims to ensure their own safety. It is outside the scope of this paper to discuss this in depth. Further, there is a risk that the complex processes which increase vulnerability, as proposed in Figure one, are not fully understood. Researchers can fail to consider the reasons why some children engage in behaviours which expose them to danger. Consequently, it is important to address the function of these behaviours in order to reduce re-victimisation risk.

Regarding applications, this paper would argue that theories, such as EST, alongside the proposed Protect Against CSE Model in Figure one, could be utilised to structure individualised assessments for children who are deemed to be 'at risk' of CSE. Currently, professionals in children's services rely on checklist tools which contain a range of vulnerability factors and warning signs for CSE that have no empirical support (Brown *et al.*, 2016). The proposed model in Figure one could guide professionals to specific factors that could be examined for each child.

Limitations

This multi-study is not without limitations. Regarding the sample characteristics, in study one, some participants failed to report their student status. However, in study three, there were no significant differences between the student and the general population on each of the

outcomes that were examined. Therefore, this could indicate that findings in this paper could be generalised to both the student and general populations. Regarding the issue of generalisability, it is important to consider the effect size of the regression models in each study. Some predictor variables only accounted for a small amount of variance in the outcomes that were examined. Therefore, it is likely that there are other influential variables which contribute to individual characteristics such as resilience, cognitive schemas, coping and attachment style. Finally, this research is cross sectional. Consequently, the presence of significant associations in each study cannot permit conclusions to be drawn regarding the temporal order of variables. Alternative explanations for each finding were considered in this discussion. Furthermore, the cross-sectional nature of the research did not permit an examination of changes in CSE vulnerability over time (Wager et al., 2018). For example, whether there are vulnerability and protective factors that are unique to an individual's developmental stage.

Overall conclusion

Findings suggest that around half of children under the age of 16 will be approached sexually by an adult, and around one in four children approached may be ~~successfully~~ exploited. Regarding vulnerability, participants who reported CSE, perceived their primary caregiver as lacking in warmth and affection during childhood. This could lead to unmet needs that are exploited by a perpetrator and which requires further exploration. Childhood poly-victimisation and the quality of the bond with a primary caregiver also emerged as key factors in adult functioning. This paper suggests that long-term difficulties may emerge as part of an accumulation of adversity, which impacts on coping style, attachment style and cognitive schemas.

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Table 1

Frequency of CSE victimisation.

	N (% sample)	*N (% men)*	*N (% women)*
No victimisation experience:	93 (36%)	25 (67%)	68 (31%)
One form of victimisation:	95 (37%)	8 (22%)	87 (39%)
Two forms of victimisation:	38 (15%)	3 (8%)	35 (16%)
Three forms of victimisation:	32 (12%)	1 (3%)	31 (14%)

Figure 1

Protect and Vulnerability Model against CSE (PVM: CSE).