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Θεοδώρα Παπανικολάου

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Childhood abuse and suicidality in adult life: A systematic review

Θεοδώρα Παπανικολάου

Τεύχος 2014. \$ Αθήνα



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Η συγγραφέας είναι ψυχολόγος και ειδικευόμενη στο Λόγω Ψυχής - Ινστιτούτο Εκπαίδευσης και Έρευνας στη Συστημική Ψυχοθεραπεία.

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The current study constituted part of her academic work at the University of Warwick, United Kingdom, supervised by Dr Joy Mitra.

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1. Abstract

Introduction: A growing body of empirical research has linked childhood abuse and suicidality in adult life. However, the process by which childhood abuse is related to suicidality is not clear.

Aim: The present study aims to review the research on the relationship between each form of childhood abuse -sexual, physical and psychological- and subsequent suicidal thoughts and behaviours and to identify mediating variables of this relationship.

Results: A total of 14 studies were examined. There is evidence suggesting that each form of childhood abuse is significantly associated with suicidal thoughts and behaviours in adulthood. Hopelessness, clinical symptomatology, aggression and interpersonal risk factors were identified as mediators of this association in a small number of studies.

Discussion: Childhood abuse should be considered as a risk factor for the development of suicidal ideation and behaviours in adult life. Implications for clinical practice include the assessment of suicide risk in childhood abuse survivors and the implementation of appropriate interventions in order to prevent the development of suicidality in this population. Further research employing longitudinal designs, standardised measures and samples representative of the general population is needed in order to strengthen the link between childhood abuse and suicidality, ground it in theory and allow for the consideration of causality.

2. Introduction

A large body of empirical research has revealed an association between early experiences of abuse and suicidality in adulthood (Brodsky & Stanley, 2008). However, the mechanisms by which childhood abuse is linked to suicidal behaviours in adult life are not well understood (Maniglio, 2011). Much of this ambiguity can be partly attributed to the methodological limitations of the research on child abuse (Maniglio, 2011). Most studies are correlational (Santa Mina & Gallop, 1998) and, as a result, causality cannot be established. Many of these studies rely on retrospective reporting of childhood abuse (Neumann, Houskamp, Pollock, & Briere, 1996), which is susceptible to bias by the effects of memory distortion and psychological distress (Briere, 1992b, as cited in Neumann et al., 1996). Similar limitations exist with regard to the discrepancies in the definition and measure of abuse and suicidality across studies (Brodsky & Stanley, 2008).

Furthermore, specific characteristics of the abusive experience, such as duration and relationship with the perpetrator, have not been thoroughly examined (Brodsky & Stanley, 2008). The majority of studies on adverse childhood experiences have focused on sexual abuse; both physical and psychological abuse have received less attention and, as a result, the literature on these types of abuse is limited. It has been suggested that the difficulty of defining and assessing psychological abuse is the main reason why this area is under-researched (Claussen & Crittenden, 1991). Another limitation is raised by the fact that many studies treat childhood maltreatment as a homogeneous category and they do not examine the unique impact of each type of abuse on lifetime suicidality. Thus, the conclusions that can be drawn from these studies about the psychological effects of one type of abuse independent of the effects of other abusive experiences are constrained (Rogers, 2003).

2.1 Aim of the study

The purpose of the present study is to provide an overview of the existing literature on the relationship between each form of childhood abuse –psychological, physical and sexual– and suicidality in adult life. The findings will be grouped into three categories: *definitional issues*, where an investigation will be undertaken to explore the meaning and measurement of the relevant constructs in the identified studies, *childhood abuse and suicidality*, where the studies examining this relationship will be analysed, and *mediators*, which will include the consideration of studies examining the mechanisms through which childhood abuse is related to adult suicidality. Finally, consideration will be given to the limitations of this body of literature, suggestions for further research and clinical implications.

3. Method

3.1 Literature search

Unpublished studies were excluded from our consideration. The computerized database PsycINFO was searched for English-language articles using combinations of the keywords *child* abuse*, *child* maltreatment* and *suicid**, with adult in the age-group descriptor (See Appendix 1 for literature search terms and strategy). The reference sections from the articles retrieved were manually searched in order to identify additional relevant articles.

3.2 Criteria for study inclusion

The criteria for including studies in the review were the following:

1. Studies must have been designed to investigate the relationship between childhood abuse and suicide-related behaviours in groups of adults.
2. Results were based on empirical measures.
3. Individual studies that used control groups had to equate them with the research group on relevant subject selection variables.
4. The studies had to differentiate between the 3 types of abuse (sexual, physical, psychological), thus permitting the inference of conclusions about the relationship of each type with suicidality.

In line with the above, case reports, qualitative studies, reviews, theoretical discussions and editorials were excluded from the review. Studies that failed to control for the differences between the comparison and research groups were also excluded, in order to avoid over- or underestimating the association between childhood abuse and suicidality. The rationale underlying this decision was that certain subject-related variables, such as employment and marital status or mental state, potentially play a role in the prediction of suicidality.

The identified population for the examination of the relationship between childhood abuse and suicidality is adults (aged 18 years and older). Therefore, studies which were designed to examine adult reports of childhood abuse, but in which the participants' age ranged from 15 or 16 years old were excluded (e.g. Barker-Collo, 2001). A number of the articles retrieved reported findings on the relationship between childhood maltreatment as a homogeneous variable and suicidality (e.g. Brodsky et al., 2001). These studies were excluded, because they did not permit the investigation of the specific association of each form of abuse with suicidal behaviours. Finally, studies that did not distinguish between self-harm and suicidal behaviour were excluded, as well (e.g. Milligan & Andrews, 2005).

Following the aforementioned inclusion and exclusion criteria, 14 studies reporting findings on the relationship between childhood abuse and adult suicidality were examined in the review.

4. Findings

4.1 Definitional issues

4.1.1 Suicidality

For the purposes of this study, *suicidality* has been used as an umbrella term which encompasses a broad range of suicide-related behaviours, ranging from suicidal ideation (SI) to suicide attempts (SAs). The definitions and the assessment of suicidality varied extensively across the studies under examination. Most of them ($n=10$) did not clearly define suicidality. In the remaining studies ($n=4$) the key feature common to the definitions of suicidal behaviours was the intent to die. More specifically, SAs¹ were defined as self-injurious behaviours with subjective lethal intent and SI² was specified as recurrent thoughts of killing oneself.

The lack of consistency in the assessment of suicidality in this body of literature is evidenced by the fact that some researchers used author constructed items. Jeon and colleagues (2009), for example, assessed the presence of suicidal ideation with the general question: “Have you ever seriously thought about committing suicide?” (p.211) and the history of suicide attempts by asking participants: “Have you ever attempted suicide?” (p.211).

In contrast, a number of studies ($n=8$) utilized more standardised procedures to assess the presence and severity of suicide-related behaviours, including self-report questionnaires and clinician-administered measures. Finally, four studies provided no clear description of the strategies used to identify individuals with suicide attempt histories or suicidal ideation.

4.1.2 Psychological abuse

The terms *psychological* and *emotional* abuse have been used interchangeably in the literature (Moran, Bifulco, Ball, Jacobs, & Benaim, 2002). For the purposes of the present review, the term *psychological* abuse is preferred because it encompasses both the affective and cognitive aspects of maltreatment (Hart & Brassard, 1987).

Only one of the studies included provided a definition of psychological abuse. According to Moran and colleagues (2002) psychological abuse:

“is concerned with cruelty demonstrated by verbal and nonverbal acts, repeated or singular, intended or not, from a close other in a position of power or responsibility over the child. These have potential for damaging the social, cognitive, emotional, or physical development of the child and are demonstrated

^{1&2} See Appendix 2 for the list of abbreviations.

by behaviours which are humiliating/degrading, terrorizing, extremely rejecting, depriving of basic needs or valued objects, inflicting marked distress/discomfort, corrupting/exploiting, cognitively disorienting, or emotionally blackmailing” (p.220).

All the studies utilized formalized assessment measures to identify victims of childhood psychological abuse (CPsA). Three of them used self-report questionnaires, whereas another one used a semi-structured, investigator-based interview.

Across these studies, the upper age cutoff ranged from 15 to 18 years old. Abuse characteristics, such as severity, frequency, age at which it occurred and identity of perpetrator, were assessed in 2 of the studies (Bifulco et al., 2002, Gibb et al., 2001).

4.1.3 Physical abuse

Four of the studies examined in the review defined childhood physical abuse (CPhA) as involving attacks on the child intended to cause physical pain and harm, such as beating, kicking or punching. Two of them specified the identity of the perpetrator as being a household member, whereas the other two did not impose such a limitation on the definition. The remaining studies did not provide any definition of physical abuse.

The assessment of CPhA³ varied extensively in this body of literature. Some authors employed single-item measures to identify physical abuse victims. For example, in the study of Fuller-Thomson and colleagues (2012) the presence of CPhA history was established by the question: “Were you ever physically abused by someone close to you?” The authors acknowledged that the fact that the respondents subjectively defined physical abuse might have resulted in the underreporting of physical abuse cases. Most studies utilized standardised assessment measures. Five of them employed self-report questionnaires, whereas three others used semi-structured interviews.

In a number of studies ($n=6$) the subject age at the time of the abuse was not specified; the abuse was described subjectively as taking place in childhood. In studies that reported the subject age at the time of the abuse, the upper age cutoff ranged from 15 to 18 years old. Abuse characteristics, such as its frequency, were assessed in two studies.

³ See Appendix 2 for the list of abbreviations.

4.1.4 Sexual abuse

Most studies defined childhood sexual abuse (CSA) as involving single or repeated incidents of sexual contact ranging from fondling to completed intercourse ($n=7$). The key feature common to definitions of sexual abuse was the lack of consent in the sexual act. Only one study included noncontact sexual abuse (Gibb et al., 2001). The remaining studies did not specify contact or noncontact.

Across all studies examined in this review the predominant method of assessing a history of CSA⁴ was through self-report questionnaires. The Childhood Trauma Questionnaire (Bernstein et al., 1994) was the most commonly used measure of the frequency of abusive experiences during childhood in this body of literature. In contrast, Spokas and colleagues (2009) assessed CSA history with the single author constructed question: “Did you ever experience sexual abuse as a child?” allowing participants to subjectively define sexual abuse. Interestingly, Soloff, Feske, & Fabio (2008) did not provide the participants with a definition of CSA, considering the subjective perception to be more important in terms of the psychological effects of CSA.

In studies that reported the subject age at the time of the abuse, the upper age cutoff ranged from 13 to 18 years old. Only one study (Andover et al., 2007) defined the age difference between the victim and the perpetrator as 5 years or more. Abuse characteristics, including its severity and the relationship with the perpetrator, were assessed in a number of studies ($n=5$).

4.2 Childhood abuse and suicidality

4.2.1 Psychological abuse

The relationship between CPsA⁵ and lifetime suicidality was studied cross-sectionally by Bifulco and colleagues (2002). Their results indicated that the participants who had been psychologically abused as children were at increased risk for making suicidal plans or attempts compared to their non-abused counterparts (36% with CPsA histories and 18% with no such histories had suicidal behaviour, $p<.04$). However, CPsA failed to add to the prediction of lifetime suicidality once physical or sexual abuse were examined in logistic regression (Bifulco et al., 2002).

Another study examined the link between childhood maltreatment and current suicide attempt status in a sample of minority women. The authors classified participants as attempters or control. Consistent with the authors’ hypothesis, significantly higher levels of psychological abuse were reported by the suicide attempters’ group compared to their control counterparts ($F(1, 155)$

^{4&5} See Appendix 2 for the list of abbreviations.

=25.84, $p < .001$) (Twomey, Kaslow, & Croft, 2000). These findings should be interpreted with caution, though, due to their exclusive reliance on female participants.

In line with the above results, Gibb and colleagues (2001) found a positive association between CPsA and suicidal ideation in a sample of university students. Participants who reported more psychological abuse in childhood exhibited higher levels of suicidal ideation than those who experienced little or none psychological abuse ($t(293) = 3.71$, $p < .001$). Interestingly, only psychological, and not physical or sexual, abuse made a significant contribution to the prediction of suicidal ideation when all 3 forms of abuse were simultaneously entered in a regression model (Gibb et al., 2001).

Similar findings were reported by Jeon and colleagues (2009) who investigated the link between early abusive experiences and lifetime suicidality in a large sample of medical students. CPsA exhibited the higher odds ratios for lifetime suicidality (OR=3.6, $p < .0001$, 95%CI=2.9-4.4) when compared with sexual (OR=2.0, $p < .0001$, 95%CI=1.5-2.8) or physical abuse (OR=1.8, $p < .0001$, 95%CI=1.5-2.1). A continuously cold or uncaring parental attitude was the type of psychological abuse most strongly associated with suicidal behaviour (Jeon et al., 2009).

The results of the last two studies are consistent with the views of some theorists who suggest that the experience of psychological abuse in childhood may be related with more detrimental long-term effects than sexual or physical abuse (Hart & Brassard, 1987). Gibb and colleagues (2001) supported this notion saying that psychological abuse moulds the children's self-concept and leads them to blame themselves for the maltreatment, whereas sexual and physical abuse allow the child to make alternative attributions.

4.2.2 Physical abuse

The association between CPhA and lifetime history of suicide attempts was examined by Swogger, You, Cashman-Brown, & Conner (2011) in a sample of criminal offenders. Informed by prior research, the authors controlled for age, gender, marital status and education, which are well-known risk factors for suicide attempts. Their results indicated that CPhA was associated with lifetime suicide attempts ($B=0.34$, Wald=6.89, $p < .01$) (Swogger et al., 2011). Similar findings were reported by Twomey and colleagues (2000) who compared self-reported childhood maltreatment among minority women with and without a history of suicide attempts. Their study demonstrated a higher incidence of CPhA in the suicide attempters' group compared to their control counterparts ($F(1, 155)=22.13$, $p < .001$) (Twomey et al., 2000).

Another study expanded on previous research investigating the relationship between CPhA and suicidality by statistically controlling for a wide range of factors that potentially confound this

association. Based on a regionally representative sample of 6,642 Canadians, Fuller-Thomson and colleagues (2012) examined the relationship between CPhA and lifetime suicidal ideation by controlling for adverse childhood conditions, adult socioeconomic factors, adult health risk and protective behaviours, psychosocial stressors and chronic illnesses and mental health. The prevalence of suicidal ideation was 5 times higher in physically abused men (30.2%) and women (35.6%) compared to the nonabused male (6.0%) and female (6.5%) respondents ($p < .001$). When the potentially confounding variables were entered in the logistic regression analysis, the odds of suicidal ideation among physically abused participants decreased, but remained significant. These findings provided evidence for an independent association between CPhA and suicidal ideation in adulthood (Fuller-Thomson et al., 2012).

Joiner and colleagues (2007) differentially evaluated the link of violent versus non-violent forms of childhood abuse to lifetime history of suicide attempts. In line with Joiner's theory of suicide (2005, as cited in Joiner et al., 2007), the researchers tested the hypothesis that childhood physical and violent sexual abuse would be more strongly associated with the number of suicide attempts than molestation and verbal abuse. The results confirmed their hypothesis: CPhA related more strongly to lifetime suicide attempts than molestation and verbal abuse. These findings provided empirical support to the main facet of Joiner's (2005) theory, that exposure to physically painful experiences poses the individual at increased risk for suicidal behaviours through habituation to pain and fear (Joiner et al., 2007).

Andover and colleagues (2007) examined the relationship between CPhA and lifetime history of suicide attempts in a sample of patients diagnosed with Major Depressive Disorder. Replicating previous research, they found that 39.7% of non-attempters and 65.7% of attempters reported histories of CPhA ($\chi^2=5.93$, $p=.02$, $r_{effect\ size}=.25$). The relationship between CPhA and suicide attempts remained significant even after controlling for depression. The researchers tried to extend previous findings by investigating differences in reports of CPhA among single and multiple suicide attempters. However, no significant differences were found in reports of CPhA between single and multiple attempters (Andover et al., 2007).

All the studies examined so far in this section were based on cross-sectional data and were retrospective in nature. Brezo and colleagues (2008) assessed the relationship between childhood abuse and later suicidal behaviours using a prospective cohort design of over 1500 respondents. It was found that the prevalence of lifetime suicide attempts was higher among participants with CPhA histories compared to the non-abused group (11.7% and 6.0% respectively).

4.2.3 Sexual abuse

The association between CSA and adult suicidality is well established in the literature (e.g. Maniglio, 2011). Perez-Fuentes and colleagues (2013) investigated the psychiatric disorders related to a self-reported history of CSA in a large, nationally representative sample of the US population. Their findings suggested that individuals who had experienced CSA were significantly more likely to endorse a history of suicide attempts compared to those without CSA (14.32% of the CSA group and 2.05% of the non-CSA group had attempted suicide, Adjusted OR=2.60, 95% CI 2.13-3.17). It is necessary to note that this relationship remained significant after adjusting for sociodemographic characteristics, risk factors and other Axis I disorders, indicating that the link between CSA and suicide attempts is direct. In consensus with the above results, Twomey and colleagues (2000) found higher levels of CSA in a group of minority women with suicide attempt history compared to demographically similar women without such history ($F(1, 155)=8.33, p<.01$).

The study of Joiner and colleagues (2007), who examined the link of violent and non-violent forms of childhood abuse to lifetime suicide attempts, was described in the previous section. The unique contribution of this study was that it investigated this relationship in the context of Joiner's theory of suicide (2005, as cited in Joiner et al., 2007). According to this theory, exposure to physically painful experiences leads, through habituation to pain and fear, to the acquired capability to induce lethal self-injury, thus increasing the likelihood of attempting or completing suicide. In line with this idea, the researchers found that violent CSA was more strongly associated with lifetime suicide attempts than molestation and verbal abuse (Joiner et al., 2007).

The study of Bedi and colleagues (2011) provided empirical evidence for the existence of a direct link between CSA and adult suicidal behaviours. Based on cross-sectional data, the researchers found that a history of CSA was significantly associated with elevated risk of suicidal ideation and suicide attempts in a sample of adult men and women. This relationship remained significant after controlling for depression and PTSD, indicating an independent relationship between CSA and suicidality. This is particularly interesting when considered in conjunction with the findings of Spokas and colleagues (2009) who, comparing recent suicide attempters with a history of CSA to those without such a history, found that the relation between CSA and suicide ideation remained significant even after controlling for the effect of hopelessness, which is considered as one of the most robust predictors of suicide (Kuo, Gallo, & Eaton, 2004).

It is also noted that Spokas and colleagues (2009) analysed the data from men and women separately. They found that men who had experienced CSA reported more suicide ideation and they were more likely than women to have attempted suicide more than once. Their findings, therefore,

suggest that there is some merit in considering sex differences when examining the relationship between CSA and suicidality.

Another study (Andover et al. 2007) investigated the association between CSA and lifetime number of suicide attempts in a sample of adults diagnosed with Major Depressive Disorder. They found that the prevalence of self-reported CSA was higher among individuals with suicide attempt history, with 42.9% of attempters and 17.2% of nonattempters reporting CSA ($\chi^2=7.29$, $p=.007$, $r_{\text{effect size}}=.28$). Contrary to their hypothesis, no significant differences were found between single and multiple attempters in reports of CSA.

Finally, Brezo and colleagues (2008) examined the relationship between childhood abuse and suicide attempts longitudinally. They followed prospectively a school-based cohort of over 1500 respondents from childhood to early adulthood and they found that the prevalence of lifetime suicide attempts was higher among participants with CSA histories (14.8%) compared to the non-abused group (6.0%) and the physically abused group (11.7%).

4.3 Mediators

From the exploration of the literature so far it would appear that the relationship between the three forms of abuse and adult suicidality is well-documented, yet the mechanisms for this association have not been determined. Possible mediating variables identified in this body of literature will be examined in this section. As defined by Baron and Kenny (1986):

“...a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion. Mediators explain how external physical events take on internal psychological significance. Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur.” (p. 1176)

According to Baron and Kenny's conditions for mediation (1986), a variable is thought to mediate the relationship between childhood abuse and adult suicidality when significant associations are demonstrated between: a) childhood abuse, as the predictor variable, and suicidal behaviour, b) the putative mediator and suicidal behaviour, and c) childhood abuse and the hypothesized mediator. Once these conditions are met, a mediating effect is established if the association between childhood abuse and adult suicidality is either diminished or becomes non-significant when both childhood abuse and the putative mediator are used to predict suicidality.

The mediating variables examined in this body of literature are hopelessness, clinical symptomatology, aggression and interpersonal risk factors.

4.3.1 Hopelessness

A growing body of literature has demonstrated a strong association between hopelessness and the continuum of suicidal behaviours (e.g. Kuo et al., 2004). In consensus with previously existing findings, hopelessness was identified as a mediator of the relationship between childhood abuse and suicidality in three studies. Gibb and colleagues (2001) tested the ability of the hopelessness model of suicide risk to explain the link between childhood maltreatment and adult suicidality by prospectively following a sample of university students for 2.5 years. This model is derived from the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989, as cited in Gibb et al., 2001), which states that a negative cognitive style contributes to the development of hopelessness and the symptoms of depression. Following this theoretical model, the researchers assessed the participants' cognitive vulnerability to depression and allocated them either at the high or low cognitive risk for depression group. Their findings suggested that both the cognitive risk status and the levels of hopelessness were partial mediators of the relationship between CPsA and participants' suicidal ideation. Consistent with the logic of the hopelessness theory, the authors explained the findings saying that CPsA renders a person vulnerable to the development of a negative cognitive style which contributes to the development of hopelessness. Higher levels of hopelessness are, in turn, associated with elevated risk for suicidal ideation.

The mediating effect of hopelessness was studied by Meadows and Kaslow (2002) who employed a case control design. Following Beck and colleagues' conceptualisation of hopelessness as "a system of cognitive schemas whose common denomination is negative expectations about the future" (Beck, Weissman, Lester, & Trexler, 1974, p.864, as cited in Meadows & Kaslow, 2002), the authors found that the association between CSA and suicide attempt status was diminished to non-significant levels after controlling for hopelessness, suggesting full mediation. It is noted that in this study physical and psychological abuse were combined and measured by the Childhood Physical/Emotional Abuse subscale, limiting in this way the conclusions that can be drawn for the unique relation of each form of abuse with suicidality and hopelessness.

Spokas et al. (2009) tried to extend the findings of Meadows and Kaslow (2002) by examining the role of hopelessness along with psychiatric symptomatology, including depression, PTSD, BPD, and substance abuse/dependence. Only hopelessness was a significant mediator after controlling for the other variables. The relationship between CSA and suicidal ideation remained significant, though, suggesting partial mediation and not full, as indicated by the findings of Meadows and Kaslow (2002).

4.3.2 Clinical symptomatology

The findings regarding the mediating effect of clinical symptomatology were somewhat inconsistent. Spokas and colleagues (2009) examined depression, PTSD, BPD and substance abuse/dependence as potential mediators of the relationship between CSA and adult suicidal ideation, but the mediating effect of each of these variables was shown to be non-significant. In contrast, Bedi and colleagues (2011) demonstrated that when depression and PTSD were included in the regression analysis the association between CSA and suicidality was diminished, but remained significant, suggesting partial mediation. In considering the inconsistent findings regarding the mediating role of depression and PTSD, it is important to note that the sample in the study of Spokas and colleagues (2009) had 59 individuals who had experienced CSA. The study of Bedi and colleagues (2011), on the other hand, included 746 individuals with a history of CSA, thus providing greater power and more accurate estimates of risk.

It is also relevant to consider the study of Soloff and colleagues (2008) who examined the association between CSA and suicide attempts in individuals diagnosed with BPD. Psychotic symptoms, measured by the Diagnostic Interview for Borderlines, and schizotypal traits, assessed by the International Personality Disorder Examination, including paranoid ideation, derealization, depersonalization and unusual perceptual experiences, emerged as partial mediators of the link between CSA and suicide attempt status.

4.3.3 Aggression

Swogger and colleagues (2011) examined the mediating role of lifetime aggression in a sample of criminal offenders, in an attempt to clarify the mechanisms by which CPhA leads to increased risk for suicide attempts. It was found that when lifetime aggression was entered in the regression analysis the association between CPhA and suicide attempts was reduced to non-significant levels, indicating full mediation.

4.3.4 Interpersonal risk factors

The study of Twomey and colleagues (2000) investigated object relations as a mediating variable of the association between childhood maltreatment and suicide attempt history. Object relations are a multidimensional concept derived from the psychoanalytic theory and refer to the capacity for relatedness (Twomey et al., 2000). The dimensions examined by the researchers were alienation (lack of basic trust), insecure attachment, egocentricity (mistrust of others), sense of social incompetence and differentiation-relatedness. The results indicated that the object relations

dimensions fully mediated the link between childhood maltreatment and suicide attempt status differentially depending on the form of abuse examined and the object relations dimensions controlled for. Interestingly, alienation was the only object relations dimension that fully mediated the relationship between all three forms of childhood abuse and suicide attempt history. It appears that the violation of basic trust is a core aspect in every form of childhood abuse and the consequent lack of trust in later relationships should be considered as a mechanism which links childhood abuse and adult suicidality.

4.4 Summary

In considering the overall findings, it appears that there is empirical evidence supporting the unique relationship between each form of childhood abuse and suicidality. In an attempt to extend previous findings, some studies compared the differential link of the three forms of abuse to suicidality. For example, Jeon and colleagues (2009) found that CPsA exhibited higher odds ratios for lifetime suicidality in comparison with sexual and physical abuse. However, because of the small number of these studies no definite conclusions can be drawn about which form of childhood abuse is most strongly linked to adult suicidality.

This body of literature identified four mediating variables: hopelessness, clinical symptomatology, aggression and interpersonal risk factors. The mediating role of hopelessness was shown to be significant in three studies. Alienation, the lack of basic trust in interpersonal relationships, was the only variable which was found to mediate the association between all three forms of abuse and suicidality. However, only a few studies were found to support each mediator and, therefore, more investigations are needed before drawing any conclusion. Also, the results of this body of literature should be interpreted in the context of its limitations, which will be discussed in the following section.

Table 1
Study Characteristics

Author, year	N (Research group - Control group)	Description	Study design	Form(s) of childhood abuse	Suicide-related behaviour	Mediating variables	Outcome
Andover et al., 2007	93 (35 attempters, 58 non-attempters)	Participants were patients with a diagnosis of Major Depressive Disorder, recently admitted to a psychiatric inpatient or partial hospital unit Males 26.9% Females 73.1% (USA)	Cross-sectional	Childhood physical (before age 16) and sexual abuse (before age 13) <ul style="list-style-type: none"> Clinician administered interview 	Suicide attempts (lifetime) <ul style="list-style-type: none"> Personal interview 		Significantly more reports of both CPhA and CSA were found in the group of attempters compared to non-attempters No significant differences were noted in reports of CPhA and CSA between single and multiple attempters
Bedi et al., 2011	2,559 (746 abused, 1813 non-abused participants)	Data were derived from the Childhood Trauma Study, a family study for which participants were recruited from an adult twin sample on the basis of twins' reports of childhood maltreatment Males 37.7% Females 62.3% (Australia)	Cross-sectional	Childhood sexual abuse (before age 18) <ul style="list-style-type: none"> Self-report questionnaire 	Suicidal ideation, persistent suicidal thought, suicidal plan, suicide attempts, multiple suicide attempts <ul style="list-style-type: none"> Diagnostic interview conducted by trained interviewers 	Posttraumatic Stress Disorder (PTSD) and Major Depressive Disorder (MDD) <ul style="list-style-type: none"> Diagnostic interview conducted by trained interviewers 	A history of CSA was associated with elevated risk for suicidal ideation, persistent suicidal thoughts, suicide plans and suicide attempts The association between CSA and suicide attempts was diminished, but remained significant after controlling for PTSD and MDD, indicating partial mediation
Bifulco et al., 2002	204	Community-based, women selected by questionnaire from registered general practitioner physician lists (UK)	Cross-sectional	Childhood psychological abuse from parents (before age 17) <ul style="list-style-type: none"> Semistructured childhood interview 	Suicide attempts and suicidal plans (lifetime) <ul style="list-style-type: none"> Personal interview 		Participants with CPsA histories were at significantly increased risk for making suicidal plans or attempting suicide compared to participants with no such histories

Brezo et al., 2008	1,684	Community-based, a school-based cohort was prospectively followed (multistage sampling procedure) Males 52.5% Females 47.5% (Canada)	Longitudinal	Childhood physical and sexual (before age 18) abuse <ul style="list-style-type: none"> • Self-report questionnaires 	Suicidal ideation and suicide attempt history (lifetime) <ul style="list-style-type: none"> • Self-report questionnaires 		Participants with CPhA histories had higher odds of suicidal behaviours compared to individuals with no history of childhood abuse and individuals with CSA histories had higher odds of suicidal behaviours compared to individuals with CPhA histories
Fuller-Thomson et al., 2012	6,642	Population-based, the data were retrieved from the 2005 Canadian Community Health Survey Female 56.8% Male 43.2% (Canada)	Cross-sectional	Childhood physical abuse <ul style="list-style-type: none"> • Self-report, single-item measure: "Were you ever physically abused by someone close to you?" 	Suicidal ideation <ul style="list-style-type: none"> • Self-report, single-item measure: "Have you ever seriously considered committing suicide or taking your own life?" 		The prevalence of suicidal ideation was 5 times higher in physically abused men and women compared to the nonabused male and female respondents Evidence for an independent association between CPhA and suicidal ideation in adulthood
Gibb et al., 2001	297	Undergraduate students assigned to the high or low cognitive risk for depression group following initial screening Male 31.6% Female 68.4% (USA)	Longitudinal, 2.5-year prospective follow-up	Childhood psychological, physical and sexual abuse committed by peers and adults <ul style="list-style-type: none"> • Self-report questionnaire 	Suicidal ideation across the 2.5-year follow-up <ul style="list-style-type: none"> • Self-report questionnaire • Diagnostic clinical interview Lifetime history of suicidal ideation and/or attempts <ul style="list-style-type: none"> • Self-report questionnaire 	Cognitive vulnerability to depression <ul style="list-style-type: none"> • Self-report questionnaire Hopelessness <ul style="list-style-type: none"> • Self-report questionnaire 	Psychological, but not sexual or physical, abuse was positively related to suicidal ideation across the 2.5-year follow-up Cognitive risk status and levels of hopelessness partially mediated this relation

Jeon et al., 2009	6,986	Nationwide sample of Korean medical students Male 62.5% Female 37.5 % (Korea)	Cross-sectional	Childhood sexual, psychological and physical abuse • Self-report questionnaire	Suicide ideation, suicide plan and suicide attempt (lifetime) • Self-report questionnaire		CPsA exhibited the higher odds ratios for lifetime suicidality when compared with sexual or physical abuse
Joiner et al., 2007	5,838	Household-based, data were retrieved from the National Comorbidity Survey (multistage sampling) Male 50% Female 50% (USA)	Cross-sectional	Childhood physical abuse, sexual abuse, molestation, verbal abuse • Semistructured interview	Suicide attempts (lifetime) • Semistructured interview		CPhA and violent CSA related more strongly to lifetime suicide attempts than molestation and verbal abuse
Meadows & Kaslow, 2002	361 (176 attempters, 185 non-attempters)	Socially disadvantaged African American women were recruited from a public hospital following a suicide attempt (attempters) or a nonemergent medical problem (controls) (USA)	Case-control study	Childhood sexual abuse and childhood physical and emotional abuse (combined) • Self-report measure	Suicide attempt status	Hopelessness • Interviewer administered measure	The relationship between CSA and suicide attempt status was fully mediated by hopelessness
Perez-Fuentes et al., 2013	34,653	A nationally representative sample from the National Epidemiologic Survey on Alcohol and Related Conditions (USA)	Cross-sectional	Childhood sexual abuse (before age 17) • Interviewer administered measure	Lifetime history of suicide attempts • Diagnostic interview conducted by trained interviewers		Individuals with CSA were significantly more likely to endorse a history of suicide attempt compared to those without such a history

Soloff et al., 2008	151	Participants were individuals with Borderline Personality Disorder (BPD) and were recruited from outpatient treatment clinics and the surrounding community Males 23.8% Females 76.2% (USA)	Cross-sectional	Childhood sexual abuse • Semistructured interview	Attempter status and lifetime number of suicide attempts • Interviewer-administered measure	Major Depressive Disorder, Posttraumatic Stress Disorder, substance abuse/dependence, antisocial personality disorder, schizotypal personality disorder, psychosocial functioning	Psychotic and schizotypal symptoms and poor social adjustment partially mediated the relationship between CSA and suicidal behaviour
Spokas et al., 2009	166	Participants were recruited from psychiatric or medical emergency departments following a suicide attempt Males 43.4% Females 56.6% (USA)	Cross-sectional	Childhood sexual abuse • Single-item, self-report measure	Current suicidal ideation, lifetime history of suicide attempts • Clinician-administered measures	Hopelessness • Self-report measure Major depressive disorder, PTSD, alcohol and drug use disorders • Structured clinical interview	Men with CSA experienced more suicidal ideation and were more likely to endorse a history of multiple suicide attempts than women with CSA The relationship between CSA and suicidal ideation remained significant after accounting for the mediators Only hopelessness emerged as a significant mediator

Swogger et al., 2011	266	Criminal offenders in a jail diversion programme Males 74.8% Females 25.2% (USA)	Cross-sectional	Childhood physical abuse (before age18) • Self-report, single-item measure: “How often did a parent, step-parent or adult living in your home hit you so hard that you had marks or were injured?”	Suicide attempts (lifetime) • Self-report, single-item measure: “Have you ever tried to kill yourself or attempted suicide?”	Lifetime aggression • Self-report questionnaire	Childhood physical abuse was significantly associated with lifetime suicide attempts Lifetime aggression fully mediated the relationship between CPhA and suicide attempts history
Twomey et al., 2000	159 (53 attempters, 106 non-attempters)	Low-income, African American women who presented for medical treatment at a public hospital following a suicide attempt (attempters) or a nonemergent medical problem (controls) (USA)	Case-control study	Childhood sexual, psychological and physical abuse • Self-report questionnaire	Suicide attempt status	Object relations: alienation, insecure attachment, egocentricity, social incompetence, self- and other descriptions • Self-report questionnaire • Semistructured interviews	Suicide attempters reported significantly higher levels of all three forms of abuse compared to non-attempters Object relations dimensions mediated the association between each type of childhood abuse and suicide attempt status

5. Discussion

5.1 Limitations of this body of literature

The current review suggests that across methodologies, samples and measures there is a statistically significant association between each form of childhood abuse and adult suicidality. However, the studies examined do not establish whether suicidality arises from the experience of childhood abuse or simply correlates with it. A number of limitations identified in this body of literature impede the inference of causality.

The majority of the studies relied on cross-sectional data and were correlational in nature. Only two studies employed a longitudinal design (e.g. Brezo et al., 2008). This means that the primary focus of the researchers was to investigate the co-occurrence of childhood abuse and suicidality by identifying individuals with childhood abuse histories and inquiring about suicidal behaviours or by identifying suicidal individuals and inquiring about childhood abuse histories (Maniglio, 2011). Causal inferences cannot be made from these results because of the presence of confounding variables (Maniglio, 2011). That is, suicidal behaviours may arise from other factors that are correlated with both childhood abuse and suicidality (Neumann et al. 1996). It has been suggested that in abusive families many dysfunctional features may be present, such as substance abuse, mental illness and marital conflict, which increase the risk of suicidal behaviours later in life (Maniglio, 2011).

Another constraint in this review was the reliance on retrospective self-reports. No attempts were made to validate the self-report with other forms of data. Given that childhood abuse is a sensitive topic, self-report may seem as the only way to investigate it (Rogers, 2003). One should be aware, though, of the problems associated with recall bias; that is, some individuals who were actually abused as children may deny it, thus leading to the underreporting of abuse histories (Neumann et al. 1996).

Another consideration that should be taken into account when interpreting the results of this review is sample selection. Five of the studies examined samples drawn from clinical populations. It has been suggested that the least well-adjusted survivors of childhood abuse tend to be overrepresented in clinical samples (Maniglio, 2011). This may lead to overestimations of the relationship between childhood abuse and negative psychological outcomes. On the other hand, two studies recruited university student samples, which tend to include more well-adjusted abuse survivors (Maniglio, 2011). Also, the lack of control groups was evident in this body of literature, since only four studies used a comparison group.

The lack of consistency in defining and measuring childhood abuse and suicidality was another concern, which constrained the comparability of results across studies. Many studies used

standardised measures to identify childhood abuse victims, whereas some others used author-constructed items, such as: “Were you ever physically abused by someone close to you?” leaving the definition of abuse up to the respondent. It has been argued that these measures may not be sensitive enough to identify abused individuals (Tyler, 2002).

Finally, only two studies examined the relationship between childhood abuse and suicidality within a theoretical framework (e.g. Joiner et al., 2007). The remaining studies did not attempt to test any theoretical model. Rogers (2003) has suggested that the research on childhood abuse and suicidality has followed an atheoretical and pragmatically based approach which has impeded the development of an understanding of this complex relationship.

5.2 Suggestions for future research

The aforementioned limitations could be addressed by future research. Prospective, longitudinal studies are required to identify the mechanisms through which childhood abuse is related to adult suicidality. Designs which control for a variety of confounding variables, such as family dynamics, would allow the consideration of causality (Rogers, 2003) and would lead to greater understanding of the association between childhood abuse and suicidality.

The concerns regarding sample selection could be addressed through the recruitment of samples representative of the general population. Control groups should be included when possible and be matched on critical subject-related variables, such as socioeconomic background. Following the findings of Spokas and colleagues (2009), who demonstrated the existence of sex differences in the relationship of childhood abuse and suicidality, researchers should include large enough numbers of males and females in their samples, in order to test for gender interactions.

Furthermore, there is need for more consistent measurement and development of standardised ways of assessing childhood abuse and suicidality (Tyler, 2002). This will make generalizing across studies and drawing conclusions from the literature easier.

The importance of theoretically-based explanations of the relationship between childhood abuse and suicidal behaviours should be recognised by researchers. Merely knowing that there is a link between childhood abuse and suicidality is not very helpful without considering why such a relation exists and which the mechanisms in operation are (Rogers, 2003). As Pedhazur and Schmelkin (1991, as cited in Rogers, 2003) have stated “It is the theory that gives coherence and integration to a set of hypotheses designed to explain a given phenomenon” (p.185). In line with this position, the research on childhood abuse and suicidality should be grounded in theory, leading, in this way, to the advancement of knowledge in this area.

Finally, through examining the literature on childhood abuse and suicidality it became evident that psychological abuse has received considerably less attention compared to sexual and physical abuse. There is evidence, though, suggesting that the association between CPsA and suicidal behaviours is significant and even stronger than the link between sexual or physical abuse and suicidality (Gibb et al., 2001; Jeon et al., 2009). This is particularly interesting when coupled with the position of Hart and Brassard (1987) that psychological maltreatment should be viewed as the core issue in all forms of abuse. It would, therefore, appear that future research should focus more on investigating the unique relationship of CPsA and suicidality.

5.3 Clinical implications

The results of this review may help to inform clinical work in three areas: assessment, prevention and intervention. Individuals reporting a history of childhood abuse should be screened for suicidal thoughts and behaviours. An accurate evaluation of suicide risk is an integral part of a mental health assessment and is necessary for clinicians in order to follow an appropriate action plan (Joiner et al., 2007). To the extent that childhood abuse is actually related to suicidal behaviours, it is expected that early interventions in cases where childhood abuse has occurred would result in decreased incidence of suicidality later in life (Neumann et al., 1996). The identification of mediators is particularly important for designing therapeutic interventions and preventing negative outcomes. For example, targeting feelings of hopelessness in childhood abuse survivors may help to prevent the development of suicidal ideation and behaviours.

5.4 Conclusion

The present review suggested that each form of childhood abuse -sexual, physical and psychological- is significantly associated to the development of suicidality in adulthood. Hopelessness, clinical symptomatology, aggression and interpersonal risk factors were identified as mediators of this relationship in a small number of studies. Further theory-based research employing longitudinal designs, standardised measures and samples representative of the general population will advance the understanding of this relationship and the mechanisms in operation.

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⁶ Items indicated with an asterisk (*) indicate studies examined in the review.

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Appendix 1

Literature search performed using the NHS Evidence Search

Database searched:

- PsycINFO 1806 to date

Terms searched:

	<i>AND</i>	<i>AND</i>
Child*	Abus* OR Maltreatment	Suicid*

Limits applied:

- Age group: Adulthood (age 18 years and older)
- Language: English

Following initial literature searches, abstracts were obtained and articles were screened for suitability. Those considered relevant were obtained in full-text. Additional literature searches were undertaken manually based on the reference sections of the articles retrieved in order to identify further studies.

Appendix 2

Abbreviations

CSA	Childhood sexual abuse
CPhA	Childhood physical abuse
CPsA	Childhood psychological abuse
SI	Suicidal ideation
SA	Suicide attempt(s)
