THE RELATIONSHIP BETWEEN CHILDHOOD MALTREATMENT AND CHILD-TO-PARENT VIOLENCE AND ABUSE

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Thesis Abstract

Background: Child-to-parent violence and abuse continues to be largely understudied and poorly understood. This phenomenon refers to any non-fatal act(s), by a child, that causes physical, psychological, and/or financial harm to one's parent(s). Several studies have explored the relationship between child-to-parent violence and abuse and childhood maltreatment. However, a consolidated understanding of this relationship is lacking. Research also tends to consider different types of abuse and neglect in isolation. Furthermore, the psychological mechanisms underlying the relationship remain largely theoretical. This thesis explored the relationship between five types of childhood maltreatment and three types of child-to-parent violence and abuse. Additionally, within these relationships, the explanatory roles of two symptoms of unresolved childhood maltreatment were clarified (i.e. PTSD symptoms and irrational beliefs). PTSD symptoms refer to intrusion, avoidance, and hyperarousal symptoms. Irrational beliefs refer to demandingness, low frustration tolerance, catastrophising, and depreciation beliefs.

Aims and Objectives: The main purpose of this research thesis was to expand the current knowledge base surrounding the relationship between childhood maltreatment and child-to-parent violence and abuse. Four research questions were explored in this thesis:

1. What is the relationship between experiencing childhood maltreatment and engaging in child-to-parent violence and abuse? (Chapter Two)
2. Which type(s) of childhood maltreatment predict(s) child-to-parent violence and abuse? (Chapter Four)

3. Will the experience of cumulative types of childhood maltreatment predict child-to-parent violence and abuse? (Chapter Four)
4. Do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and child-to-parent violence and abuse? (Chapter Five)

Methods: A systematic review and meta-analyses were conducted to consolidate existing findings regarding the relationship between childhood maltreatment and child-to-parent violence and abuse (Chapter Two). Thereafter, a cross-sectional, quantitative research was conducted; details of this research methodology were covered in Chapter Three. Female respondents, between ages 18 to 25, completed an online survey. It consisted of a demographic questionnaire, Adapted Adverse Childhood Experience-Revised, Impact of Event Scale-Revised, Abbreviated Attitudes and Belief Scale 2, and an Adapted Child-to-Parent Violence and Abuse questionnaire. This quantitative research consisted of two primary studies. The first primary study aimed to answer research questions two and three (Chapter Four). The second primary study aimed to answer the last research question (Chapter Five).

Results:

1. The meta-analyses results suggested that individuals who had experienced direct victimisation and/or were exposed to domestic violence were also more likely to have engaged in child-to-parent overall and physical violence and abuse. The narrative synthesis of the literature regarding child-to-parent psychological violence and abuse signalled a similar association between this type of child-to-parent violence and abuse and childhood maltreatment. (Chapter Two)

2. Primary study one results suggested that the likelihood of young female adults engaging in child-to-parent psychological violence and abuse increases with the experience of psychological abuse, psychological neglect, and more types of childhood maltreatment. The likelihood of young female adults engaging in child-to-parent physical violence and abuse was suggested to increase when the experience of psychological abuse or cumulative types of childhood maltreatment is present. No relationships were identified between child-to-parent financial abuse and specific or cumulative types of childhood maltreatment. (Chapter Four)

3. The results from primary study two found that, among young female adults, avoidance PTSD symptoms and catastrophising and depreciation beliefs were associated with the relationships between childhood maltreatment and child-to-parent psychological or physical violence and abuse. None of the mediators fully explained the five studied relationships. (Chapter 5)

Conclusion: The thesis reveals a complex interaction surrounding the experience of childhood maltreatment on an individual's risk of engaging in child-to-parent violence and abuse. There is value in researchers and practitioners recognising the role of unresolved trauma symptoms, to understand and address child-to-parent physical and psychological violence and abuse. Using a multifaceted approach would be beneficial too. Lastly, current initiatives and efforts to prevent and support victims of childhood maltreatment should be continued.

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Chapter 1: Introduction

1.1. Child-to-Parent Violence and Abuse (CPVA)

Child-to-parent violence and abuse (CPVA) is a social problem that is gaining the attention of practitioners and researchers globally (Contreras & Cano, 2016; Williams, Tuffin, & Niland, 2017). It is defined as any non-fatal act(s), by a child, that causes physical, psychological, and/or financial harm to one's parent(s) (Cottrell & Monk, 2004; Holt & Shon, 2018); a parent refers to any adult household member responsible for parenting and caring for an individual since childhood. This intriguing phenomenon of reversed power dynamics (Wilcox & Pooley, 2015) reflects a threatened and/or damaged affectional parent-child relationship (Evans & Warren-Sohlberg, 1988). Apart from suffering from a broken family relationship, parents were found to experience poor physical and mental health (Ibabe & Bentler 2016; Nock & Kazdin, 2002). Individuals engaging in CPVA also suffer, as their violent behaviours negatively impact a wide range of life domains (Bland, Lambie, & Best, 2018).

Due to varied definitions and study designs, the prevalence rate of CPVA differs in research. However, literature as a whole has reflected this phenomenon to be a relatively extensive problem. Its worldwide prevalence rate is estimated to be 18% (Martínez, Estévez, Jiménez, & Velilla, 2015). In the United Kingdom, it was estimated that at least one in ten families were affected by CPVA (Tew & Nixon, 2010). Furthermore, BBC (2019) reported that in the United Kingdom, the annual CPVA incidents recorded within 19 police forces doubled from 2015 to 2018 (i.e. 7,224 to 14,133). Additionally, more than half of the recorded 2009 to 2010 CPVA cases, engaged by adolescents, in London Metropolitan Units involved common assault or assault with injury (Condry & Miles, 2014). Despite the high numbers,

the United Kingdom's Home Office (2015) has speculated these statistical figures to be a gross under-representation of the true severity of CPVA. Due to society's poor understanding of this form of violence (Miles & Condry, 2015; Walsh & Krienert, 2007) and parents' strong reluctance to report the violence, for reasons including stigma, family loyalty, and feelings of shame or fear (Cottrell & Monk, 2004; Wilcox & Pooley, 2015), CPVA remains a largely hidden phenomenon.

At present, many practitioners encountering CPVA cases are seeking guidance and information regarding CPVA (Miles & Condry, 2015; Williams, Tuffin, & Niland, 2017). Parents are also at a loss and not receiving adequate help (Shanholtz, O'Hara, Duchschere, Beck, & Lawrence, 2020; Williams et al., 2017). With societies attempting to address CPVA (Home Office, 2015; Shanholtz et al., 2020) and the recent inclusion of the United Kingdom's Serious Crime Act (2015, p.5) Section 76 criminal offence of "controlling or coercive behaviour in an intimate or family relationship", it is important for policy frameworks and interventions to be based on informed understanding. After years of neglect, there is a pressing need to research CPVA, such as exploring the factors influencing its development.

1.2. Childhood Maltreatment

Cottrell and Monk (2004, p.1076) argued that "the most powerful influencing factor involves the connection between early childhood victimisation and the use of violence by that individual against others later in life". This thesis focused on childhood maltreatment, which refers to acts of abuse and neglect engaged by a parent on a child below the age of 18. Childhood maltreatment encompasses physical, psychological, and sexual abuse and physical and psychological neglect. Physical abuse is the use of physical means, such as hitting and kicking, by one's parent(s), to cause hurt and injury to a child (Juntunen, 2013). Sexual abuse is

the experience of being forced, by one's parent(s), to perform or witness a sexually explicit act (Deegener, 2001). Psychological abuse involves the harm of a child's development through a parent's use of psychologically or emotionally destructive attack(s) (Kaplan, Pelcovitz, & Labruna, 1999). Physical and psychological neglect refers to a parent's failure to meet a child's basic physical and psychological needs respectively, which could lead to serious disruption(s) in that child's development (HM Government, 2015). Using community, clinical, and judicial populations, studies have consistently established childhood maltreatment to increase the risk of CPVA (Calvete, Orue, Gamez-Guadix, & Bushman, 2015; Contreras & Cano, 2016; Cottrell & Monk, 2004). However, understanding regarding why this relationship exists and why only a portion of maltreated individuals eventually engage in CPVA are poor.

1.2.1. Complex Trauma

Bellis (2001) and Finkelhor et al. (2007a) argued that the impact of childhood maltreatment is more detrimental than any adulthood-related trauma, as it impacts an individual's multi-system development. In this thesis, trauma refers to an adverse event or experience that exposes the individual to actual or threatened serious harm (American Psychiatric Association, 2013). The extensive impact of childhood maltreatment may be due to betrayal trauma; this refers to the perpetration of harm by someone whom the individual physically and emotionally depends on (Freyd, 1996). Also, childhood maltreatment is usually chronic (Cicchetti & Barnett, 1991, as cited in Bellis, 2001), and victims often experience several types of childhood maltreatment (Wolfe, 2018). Lastly, childhood is the formative period, where one's internal systems have great plasticity and are still developing (Lawson, 2009).

The far-reaching damage of childhood maltreatment includes deleterious long-term consequences in adulthood (Herrenkohl, Hong, Klika, Herrenkohl, & Russo, 2013), such as an increased risk of suffering from mental illness, poorer clinical prognosis (Heim, Shugart, Craighead, & Nemeroff, 2010), and elevated stress reactivity (Gould et al., 2012). Also, the substantial impact of childhood maltreatment on the development of trauma symptoms was shown in Finkelhor et al. (2007b) study – regardless of age group and even after taking into consideration the impact of experiencing multiple forms of adverse experiences, childhood maltreatment significantly contributed to an increased likelihood of developing trauma symptoms. Because of the chronicity and its extensive contributions to a wide range of poor outcomes, childhood maltreatment is categorised as a complex trauma (van der Kolk, 2005), which is "the experience of multiple, chronic and prolonged, developmentally adverse traumatic events" (van der Kolk, 2005, p.402).

1.2.2. Post-Traumatic Stress Disorder (PTSD) Symptoms

As a preliminary exploration of the impact of complex trauma on the relationship between childhood maltreatment and CPVA, this thesis will focus on PTSD symptoms. These symptoms develop when an individual's adaptational process is overwhelmed and memories of the trauma remain unresolved (Wolfe, 2018; van der Kolk, 2005). Reactive aggression is strongly associated with PTSD symptoms (Crombach & Elbert, 2014). When an individual's mind and body are in a constant state of fight-or-flight, the individual may react violently against one's parents, to protect oneself from perceived threats and reminders of past childhood maltreatment (Shapiro, 2001; van der Kolk, 2005).

This thesis's focus on PTSD symptoms, among the broad range of complex trauma symptoms (Spinazzola et al., 2005), was in consideration that most service providers work within the medical model framework (Awena et al., 2013). Three symptoms – intrusion, avoidance, and hyperarousal – were explored in this thesis. They are overlapping symptoms listed in the Diagnostic and Statistical Manual of Mental Disorder, 5th Edition for PTSD (American Psychiatric Association, 2013), and the International Classification of Diseases-11 for PTSD and complex PTSD (World Health Organisation, 2018). Intrusion is the internal experience of trauma as if it was occurring at present (Weiss, 2004). Avoidance encompasses any behaviours or thoughts relating to withdrawal from or suppression of trauma-related stimuli (Weiss, 2004). Hyperarousal refers to one's state of significantly heightened arousal (Weiss, 2004).

1.2.3. Irrational Beliefs

Beliefs help people make sense of the world and themselves (DiGiuseppe, Doyle, Dryden, & Backx, 2014). Also, beliefs restore a sense of predictability and coherence (Fonagy, 2003). Due to limited prior experiences and a strong reliance and desire to connect with one's parents, a child's beliefs are strongly influenced by messages verbally and non-verbally communicated by one's parents (DiGiuseppe et al., 2014; Ellis, 1975). During childhood maltreatment, constant messages of unworthiness, helplessness, and danger are communicated by one's parent(s). Eventually, negatively biased beliefs of self, others, or the world become ingrained within the child (Briere & Jordan, 2009; Gould et al., 2012). These beliefs are used as templates to navigate the threatening family environment (Zulueta, 2003). Often, they are unhelpful, rigid, and distorted, and contribute to the development and maintenance of self-sabotaging behaviours and

unhealthy emotions (Ellis & Harper, 1975).

Among the various theories attributing the role of cognition in the precipitant and perpetuation of adverse outcomes is the Rational Emotive Behaviour Therapy model (REBT; DiGiuseppe 1996). Although REBT recognises the strong influence of the external world conditioning one's beliefs, it places the main responsibility of the maintenance of one's emotional and behavioural difficulties on the individual (Ellis, 1975). An irrational belief "is absolute, dichotomous, rigid, and unbending; it is not logical; it is not consistent with reality; it does not help to achieve one's goal; it leads to unhealthy emotions" (DiGiuseppe et al., 2014, p.33). The four main categories of irrational beliefs are demandingness, low frustration tolerance, catastrophising, and depreciation (David, 2014). Demandingness refers to unrealistic and inflexible absolute thoughts while catastrophising refers to high levels of disproportionate worries of the worst-case outcomes (DiGiuseppe et al., 2014). Low frustration tolerance refers to beliefs regarding one's inability to tolerate discomfort while depreciation refers to high levels of generalised negative evaluation of self (DiGiuseppe et al., 2014). This thesis adopts DiGiusepp's (1996) stance that all four irrational beliefs are independent of each other. The REBT model assumes the individual possesses the cognitive capacity to think logically; Ellis (1975) acknowledged the model's limitation in which biological or physiological impairments also contribute to one's emotional and behavioural difficulties.

The REBT model was thought to be able to capture the broad array of symptoms associated with complex trauma, as it focuses on the origin of unhelpfully intense emotions and self-sabotaging behaviours (Ellis, 1975; Najafi & Lea-Baranovich, 2014). Another reason for the strong fit of the REBT model for this thesis is the

argument that an individual's primary difficulties, due to that individual's evaluation of one's subjective reality, may result in secondary difficulties (DiGiuseppe et al., 2014; Ellis, 1975). Within this thesis's context, CPVA may be a primary difficulty, driven by an individual's experience(s) of childhood maltreatment (e.g. an individual hitting his/her mother to express his/her resentment for failing to protect him/her). Alternatively, it is a secondary difficulty, caused by symptoms that develop from the trauma (e.g. an individual believes that everyone is dangerous and has poor distress tolerance; he/she uses aggression against his/her parents as a coping strategy). Lastly, REBT is considered to be complementary to the other mediator; other than cognition, the two pathways – "sensorimotor processes (and) biophysical stimulation mediated through the tissues of the automatic nervous system and hypothalamus and other subcortical centres" (Ellis, 1975, p.39) - theorised to influence an individual's emotional and behavioural difficulties, are arguably strongly related to the PTSD symptoms studied in this thesis.

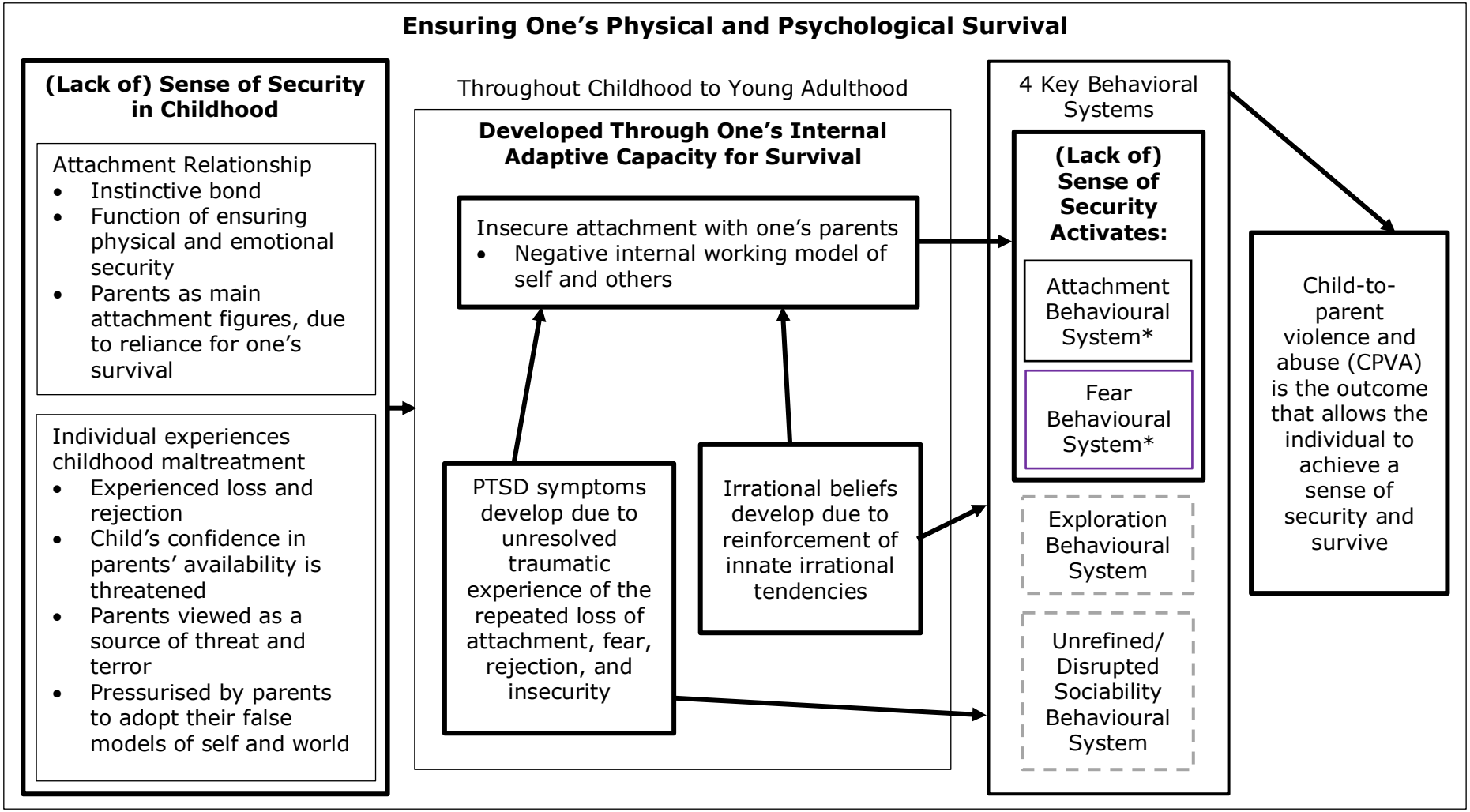
1.3. Conceptual Framework: Survival, Security and Attachment

A common theme among the studied factors is survival. Childhood maltreatment is commonly viewed as a life-threatening event (van der Kolk, 2005) while the development of PTSD symptoms is shown to be strongly reliant on one's subjective interpretation of being threatened or feeling helpless (Mcdonald, Borntrager, & Rostad, 2014; National Collaborating Centre for Mental Health, 2005). The REBT model, which encompasses irrational beliefs, proposed all humans to hold two main values – survival and enjoyment (DiGiuseppe et al., 2014). Lastly, CPVA may be conceptualised as an outcome of a maltreated individual trying to survive within one's family dynamics. In this thesis, the attachment model (Bowlby, 1969,

1982 as cited by Cassidy, 2016) is chosen as the bridge that connects the four studied factors (see Figure 1.1), as one's innate attachment system is theorised to be borne out of and driven by one's need to survive (Cassidy, 2016; Gillath, Karantzas, & Fraley, 2016).

When a parent abuses, neglects or fails to protect a child from maltreatment, the child develops an insecure attachment; the parent is viewed as unreliable and unpredictable, instead of a secure base (Gillath et al., 2016; Umemura, Lacinova, & Macek, 2014). Although these adverse experiences are enduring and influential on one's adulthood relationships, the impact of childhood experiences may decay over time (Gillath et al., 2016). One's internal working models, which are organised cognitions of self and others (Crowell, Fraley, & Roisman, 2016), can change because of post-childhood experiences (Kobak, Zojac, & Madsen, 2016) and based on how the individual makes sense of one's early life experiences (Siegel, 2003). PTSD symptoms and irrational beliefs are possible intervening factors that reinforce one's insecure attachments. They contribute to the development and maintenance of negative internal working models of self and others. The interactions of one's internal working models, PTSD symptoms, and irrational beliefs contribute to a perceived lack of safety and security, and the disorganisation and disequilibrium of the four key behavioural systems – attachment, fear, exploration, and sociability (Marvin, Britner, & Russell, 2016; O'Connor et al., 2003). The end-product is CPVA. (see Figure 1.1. for a visual representation)

Figure 1.1. Thesis Framework using the Attachment model



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1.4. Thesis Focus on Females

Trauma is experienced and its symptoms are expressed differently by males and females (Day, Hibbert, & Cadman, 2008; Heim et al., 2010). According to Briere and Scott (2006, as cited in Lawson, 2009), female trauma victims are at a greater risk of developing PTSD symptoms. Also, traumatised females are more likely to develop internalising symptoms while males frequently develop externalising symptoms (Day et al., 2008; Dulmus & Hilarski, 2006). Horwitz et al.'s (2001) study supported sex differences in the impact of childhood maltreatment (e.g. depression, alcohol use, and offending-related behaviours) while Finkelhor et al. (2009b) study highlighted differences in the types and severity of childhood victimisation experienced by males and females.

Although females were found to be as likely as males to engage in CPVA (Biehal, 2012; Boxer, Gullan, & Mahoney, 2009), there are gender differences in the acts of violence. Practitioners in Calvete et al. (2014) study spoke of females using more latent methods, such as engaging in self-defeating acts to cause psychological harm. The gender differences in the types of CPVA was highlighted by Nock and Kazdin (2002) and Eckstein (2004) too. Furthermore, Ibabe et al. (2013) and Loinaz et al. (2020) found that there were variances in the predictive abilities of factors, such as exposure to domestic violence, poor upbringing by mother, and social maladjustment, between males and females, engaging in CPVA.

1.5. Thesis Focus on Young Adulthood

Due to industrialisation and instability in one's life, the number of young adults remaining under their parents' care is growing (Arnett, 2000). This developmental stage is a period of identity formation, freedom, and autonomy, where specific roles and responsibilities held by adults are lacking (Arnett, 2000). These

individuals are usually between the age of 18 and 25 (MIT, 2008). Most CPVA-related studies are focused on adolescents (Holt & Shon, 2018). Therefore, clarity regarding the development and maintenance of CPVA during the stage of young adulthood is lacking. As the socio-legal ramifications and developmental characteristics are different for adolescents and young adults (Holt, 2016; Holt & Shon, 2018), this thesis aimed to gain a better understanding of the CPVA phenomenon among young adults.

1.6. Thesis Aim

An individual's self-concept, behaviours, and emotional well-being are greatly affected by disconnections (Dieten & King, 2013). As childhood maltreatment and CPVA signal damaged relationships, understanding the connection between childhood maltreatment and CPVA may help inform policies and services, and provide affected families with more opportunities to mend and develop meaningful relationships. Also, this thesis aimed to extend Nowakowski-Sims and Rowe's (2015) argument that childhood trauma contributes to an individual's risk of engaging in CPVA. Overall, the relationship between childhood maltreatment and CPVA among females in young adulthood was explored (see Figure 1.2.). Child-to-parent sexual violence and abuse was not included in this thesis, as it has a low prevalence rate (Chou and Chawke, 2018; Condry and Miles, 2014).

The thesis aimed to answer the following research questions:

1) What is the relationship between experiencing childhood maltreatment and engaging in CPVA?
2) In relation to young female adults, which type(s) of childhood maltreatment predict(s) CPVA?

3) In relation to young female adults, will the experience of cumulative types of childhood maltreatment predict CPVA?
4) In relation to young female adults, do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?

Chapter Two is composed of a systematic review and meta-analyses of the relationship between childhood maltreatment and CPVA.

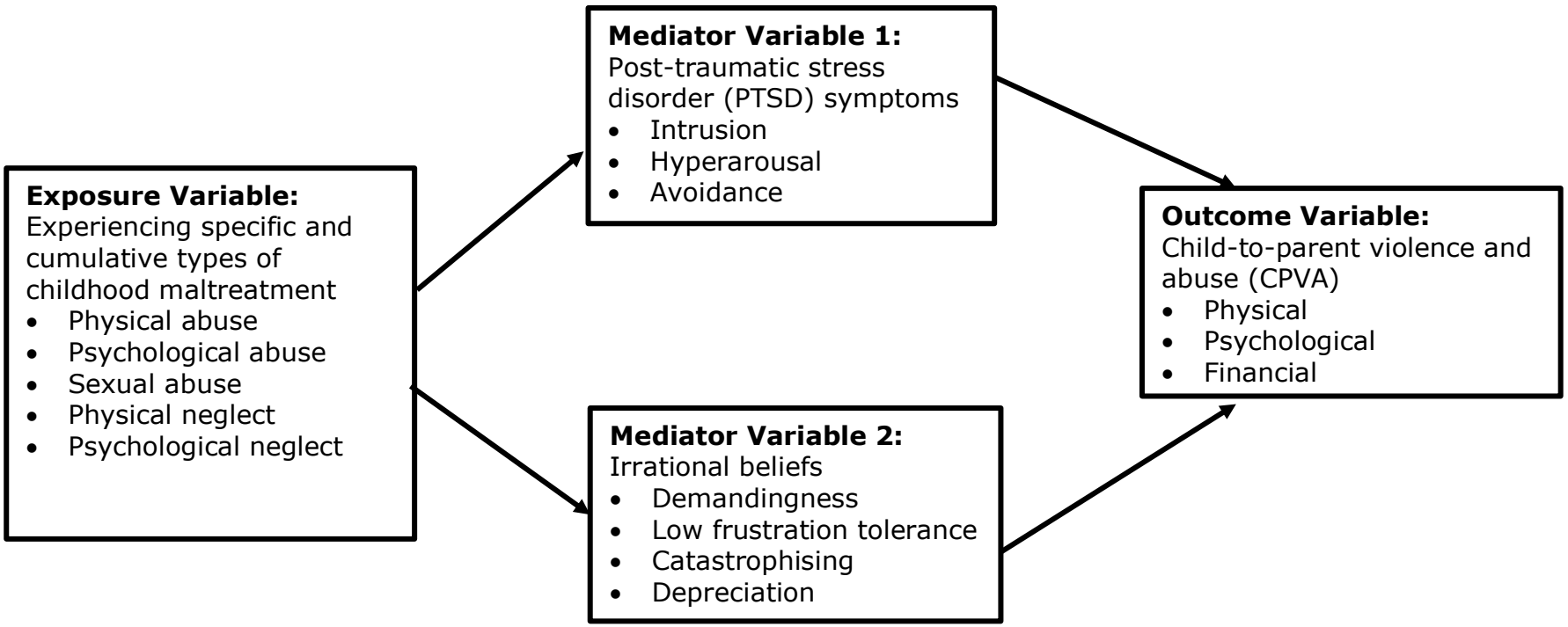
Chapter Three is composed of a methodology writeup that covered methods used for the primary studies reported in Chapter Four and Five. This chapter explained how the data was collected and analysed, the questionnaires used, and the rationale and ethical considerations made for the chosen methods.

Chapter Four covered a study that explored the impact of the experience of specific and cumulative types of childhood maltreatment on CPVA.

Chapter Five covered a study that explored the roles of PTSD symptoms and irrational beliefs in the relationship between childhood maltreatment and CPVA.

Chapter Six consolidated the findings from the systematic review, meta-analyses, and two primary studies. A discussion of the clinical implications, limitations, and future directions for childhood maltreatment and CPVA was covered.

Figure 1.2. Relationship of Studied Factors



Chapter 2: Systematic Review

A Systematic Review and Meta-Analysis of the Relationship Between Childhood Maltreatment and Child-to-Parent Violence and Abuse

Abstract

Background: Multiple studies have found childhood maltreatment to be associated with child-to-parent violence and abuse. At the time of conducting this review, no study had synthesised the available results of this relationship.

Aims: This systematic review aimed to explore the influence of childhood maltreatment on an individual's risk of engaging in child-to-parent violence and abuse.

Method: Quantitative studies exploring the risk of child-to-parent violence and abuse, among victims of childhood maltreatment, were systematically searched for. Nine bibliographic databases and four grey literature databases, with a date range between 1493 to 2019, were covered. All included studies were quality assessed for risk of bias. Data regarding child-to-parent overall or physical violence and abuse were meta-analysed; estimates of correlation and odd-ratio effect sizes were synthesised using random-effect models. The extracted data regarding child-to-parent psychological violence and abuse had significant statistical differences. Hence, a narrative synthesis of the data was completed.

Results: Thirty references (24 non-overlapping studies, N=22,680) out of 4675 identified references were included in this review. The overall experience of childhood maltreatment, direct victimisation, and exposure to domestic violence

were significantly associated with child-to-parent overall violence and abuse and child-to-parent physical violence and abuse ($p<.05$, 95%CI>0); high statistical heterogeneity was observed among all pooled analyses (>75%). All studies reported significant correlations between childhood maltreatment and child-to-parent psychological violence and abuse.

Conclusions: It would be beneficial to consider the impact of childhood maltreatment when planning interventions and policies regarding child-to-parent violence and abuse. The current findings may be limited by possible publication bias and high heterogeneity. A narrower set of inclusion criteria may allow for greater clarity and understanding of the studied relationship.

Keywords: child abuse, child neglect, domestic violence, child-to-parent violence and abuse, aggression against caregivers

2.1. Background/Rationale

Stoltenborgh et al. (2014) reported the prevalence rate of childhood physical, psychological, and sexual abuse, and physical and psychological neglect in developed countries to be 23%, 36%, 12%, 16% and 18% respectively. The 2015 to 2016 Crime Survey for England and Wales (Office of National Statistics, 2016) found that in the United Kingdom, approximately one in ten adults reported having experienced abuse or witnessed domestic violence in childhood. As defined in the introduction chapter, these five types of abuse and neglect are encompassed under the term "childhood maltreatment". In this chapter, the experience of witnessing domestic violence between one's parents is considered a form of psychological abuse, as the witness may experience significant fear and helplessness, and suffer from adverse clinical outcomes (Edleson, 2004; Navarre, 1987 as cited in Tomison & Tucci, 1997).

Childhood maltreatment is a global health problem with extensive immediate and long-term repercussions (Levey, Apter, & Harrison, 2017). The average lifetime cost of childhood maltreatment borne by the United Kingdom is approximately £90,000 (Conti, Morris, Melnychuk, & Pizzo, 2017). Norman et al. (2012) systematic review showed that non-sexual childhood maltreatment was significantly associated with a range of poor outcomes, such as substance misuse, mental illnesses, suicide attempts, and sexual risk behaviours. Similarly, systematic reviews by Maniglio (2009) and Paolucci et al. (2001) showed sexual abuse to be significantly associated with a range of difficulties including mental illnesses, promiscuity, and self-harm.

Amongst the various difficulties consistently associated with childhood maltreatment is the engagement in violence (Day, Hibbert, & Cadman, 2008).

Herrera and McCloskey (2001) found that exposure to domestic violence in childhood significantly increased the likelihood of violent delinquency in both males and females and that experiencing physical abuse was significantly associated with violent offences for females. Yun et al. (2011) found experiencing child neglect and sexual abuse to significantly predict violent behaviours.

Widom (1989) described the increased risk of engaging in interpersonal violence among victims of childhood maltreatment as the cycle of violence. This widely adopted concept by practitioners and researchers (Forsman & Langstrom, 2012) coupled with increased attention on child-to-parent violence and abuse (CPVA) have led to studies exploring the relationship between childhood maltreatment and CPVA. Qualitative (e.g. Biehal, 2012; Gabriel et al., 2018) studies, and retrospective (e.g. Ibabe, Jaureguizar, & Bentler, 2013; Kennedy Edmonds, Dann, & Burnett, 2010) and prospective (e.g. Izaguirre & Calvete, 2017) quantitative studies have shown childhood maltreatment to be associated with CPVA. As defined in Chapter One, CPVA encompasses any form of physical, psychological, and financial harm directed by a child towards one's parents.

The observed association between childhood maltreatment and CPVA may be due to the child's feelings and beliefs regarding one's relationship with one's parents. After being maltreated, the child develops fear and distrust towards one's parents and holds beliefs and expectations of hurt, rejection, and abandonment (Bellis, 2001; Briere & Jordan, 2009). These negative emotions and cognitions contribute to an ambivalent and chaotic relationship with one's parent (Briere & Jordan, 2009). The child may engage in violence, to regain a sense of control within the relationship (van der Kolk, 2005), resulting in CPVA.

2.2. Aims

As studies and theories suggest a possible association between experiencing childhood maltreatment and engaging in CPVA, synthesising findings from existing quantitative studies may contribute to a more robust understanding of this relationship. In this study, the overall experience of childhood maltreatment encompassed two categories: 1) direct victimisation of any form of physical, sexual, or psychological abuse, and physical or psychological neglect during childhood and 2) exposure to domestic violence between one's parents during childhood.

2.3. Methods

A protocol, that was built on Chou et al. (in preparation) unpublished protocol, was created as a guiding framework for this review. The following information was included in the protocol.

2.3.1. Eligibility Criteria

An inclusion/exclusion criteria form (Appendix A) was used to screen and select applicable studies for this review.

Study Type(s). Quantitative studies, such as prospective, case-control, and cross-sectional studies, were included. Studies that were qualitative in design, such as reviews and editorials, or had used qualitative analysis, such as interviews and vignettes, were excluded.

Population. Individuals between ages 6 to 25 years old were included.

Exposure. Any direct experience of maltreatment (i.e. abuse, neglect) or exposure to violence between parents during childhood (i.e. prior to age 18). Presence of the experience may be indicated via official records, professional-report, or self-report. Self-report is collected via tools with at least one reported psychometric property.

Comparator. No experience of any form of childhood maltreatment.

Outcome. Non-fatal violence directed towards one's parents. This behaviour may be indicated via official records, professional-report, or self-report. Self-report is collected via tools with at least one reported psychometric property.

2.3.2. Sources of Literature and Search Strategy

On 30th March 2019, databases Scopus 1788 to 2019, Applied Social Sciences Index & Abstracts 1987 to 2019, Cochrane Library, Campbell Collaboration Online Library: Crime and Justice and Social Welfare 2004 to 2019, ProQuest Dissertations & Theses 1743 to 2019, and Open Grey were searched. On 6th April 2019, databases PsycINFO 1806 to April Week 1 2019, Ovid MEDLINE(R) ALL 1946 to April 05, 2019, Embase 1974 to 2019 April 05, Psychology/Sociology Databases (CINAHL Plus with Full Text 1937 to 2019; Child Development & Adolescent Studies 1927 to 2019; European Views of the Americas 1493 to 1750; eBook Collection (EBSCOhost)), and Web of Science Core Collection 1900 to 2019 were searched. On 13th April 2019, Google Scholar and NSPCC databases were searched. No date restrictions were set during the searches. Search terms (Appendix B) were decided based on the literature on CPVA and verified by a librarian from the University of Nottingham's libraries research support team.

Child-to-Parent Inclusive Terms. (child* OR adolescen* OR teen* OR youth*) AND (parent* OR carer* OR caregiver* OR mother* OR father* OR guardian*)

Violence and Abuse Inclusive Terms. (violen* OR aggress* OR maltreat* OR abuse* OR assault* OR attack* OR exploit* OR batter*)

2.3.3. Data Extraction

A data extraction form (Appendix C) was used to obtain data from each study. When clarifications were needed, the authors were emailed. The following information was extracted:

- Study characteristics: Study design, aim, ethics, data collection setting, and recruitment of target population
- Participant characteristics: Sample size, age, ethnicity, family composition, parental socio-economic status, and education
- Measures and methods: Measurement type, variables measured, psychometric properties, type of data, and analytical method used
- Outcome: Results and CPVA prevalence rate

2.3.4. Quality Assessment

The risk of bias was assessed based on a pre-determined criterion form (Appendix D). This form was modified from the quality assessment form created by Chou et al. (in preparation), which was based on QUADAS. Seven broad aspects were assessed: ethical consideration, sampling and selection bias, measurement bias of exposure and outcome, attrition bias, statistical bias, and reporting bias.

Five of the included studies were independently reviewed by a second assessor (with PhD qualification); this assessor had previously reviewed the studies as part of a wider project by Chou et al. (in preparation). As there were discrepancies in how the risk of attrition bias was rated between the author and the second assessor, inter-rater reliability in this aspect could not be measured. The discrepancy was a result of the author having modified the quality assessment form used by the second assessor, to improve the evaluation of the risk of attrition bias. Comparing the remaining six aspects, initial inter-rater reliability was "excellent agreement beyond chance" (Kappa=.89; Fleiss, Levin, & Paik, 2003).

2.3.5. Data Synthesis

Parameters for three dependent variables (i.e. overall CPVA, physical CPVA, psychological CPVA) against three independent variables (i.e. overall childhood maltreatment, direct victimisation, and exposure to domestic violence) were obtained to conduct univariate meta-analyses. A small number of studies reported estimates for a specific gender of victims and perpetrators, or different types of childhood maltreatment (e.g. psychological abuse or neglect). As it would not be meaningful to conduct a meta-analysis without combining these estimates and sensitivity analyses showed no significant differences between transformed and untransformed estimates, these parameters were combined to provide a single estimate. Transformations were completed based on Borenstein et al. (2011; Appendix E) equations. Due to clinical diversity (e.g. varied conceptual definitions and measures used) and the sensitivity analysis results indicating significant differences among obtained estimates for psychological CPVA, a narrative synthesis was conducted for this variable.

Correlation coefficients was the most reported effect size metric amongst the included studies. Hence, all estimates were transformed to Fisher's *z* correlation metrics (Borenstein et al., 2011; Appendix E). Thereafter, sensitivity analyses between estimates of Fisher's *z* effect size converted from non-correlation coefficients metric (e.g. odds ratio) and from correlation coefficients metric were conducted (Appendix F). As significant group differences were observed, two separate syntheses were conducted: pooled estimates in (logged) odds ratio effect size metric, and pooled estimates in Fisher's *z* correlation effect size metric. Although the severity of a behaviour theoretically occurs on a continuum, from a data point of view, it was not statistically meaningful to transform all estimates into correlation coefficients effect size metric. The steps taken and the decisions made were based on guidance from Campbell Collaboration (Polanin & Snilstveit, 2016), which was chosen for its focus on the field of social science.

***Heterogeneity*.** Heterogeneity among pooled estimates was assessed using Cochran's Q test, defined as the presence of significant variation, and I^2 percentages, defined as the extent of variation contributed by heterogeneity (Pathak, Dwivedi, Deo, Sreenivas, & Thakur, 2017).

The heterogeneity tests (Cochran's Q $p<.05$; I^2 >70%) and the visual inspection of forest plots of fixed effects model for various meta-analyses (Appendix G) indicated significant statistical heterogeneity. Diversity in theoretical concepts and limited consistency to the measurements of childhood maltreatment and CPVA, such as type of victimisation, scale (e.g. continuous, ordinal, dichotomous), timeframe (e.g. 6months, 12 months), and targeted population, indicated the presence of clinical heterogeneity. Therefore, the DerSimonian-Laird random-effects model for meta-analysis was used.

Outliers. As visual inspection of funnel plots indicated the presence of outliers (Appendix H and Figures 2.10. to 2.1.3.), sensitivity analyses of pooled estimates with and without outliers were conducted (Appendix I). When no significant differences were observed, results of pooled estimates including outliers were reported. When outliers were shown to have significant influence, results of pooled estimates without outliers were reported.

Additional Analysis. A planned post-hoc subgroup analysis on the type of population (i.e. general community versus targeted/referred population) was conducted. According to recommendations (Higgins & Green, 2011), the analysis was only conducted for models with at least 10 studies.

Statistical Programme. All analyses were conducted using Stata SE 16.

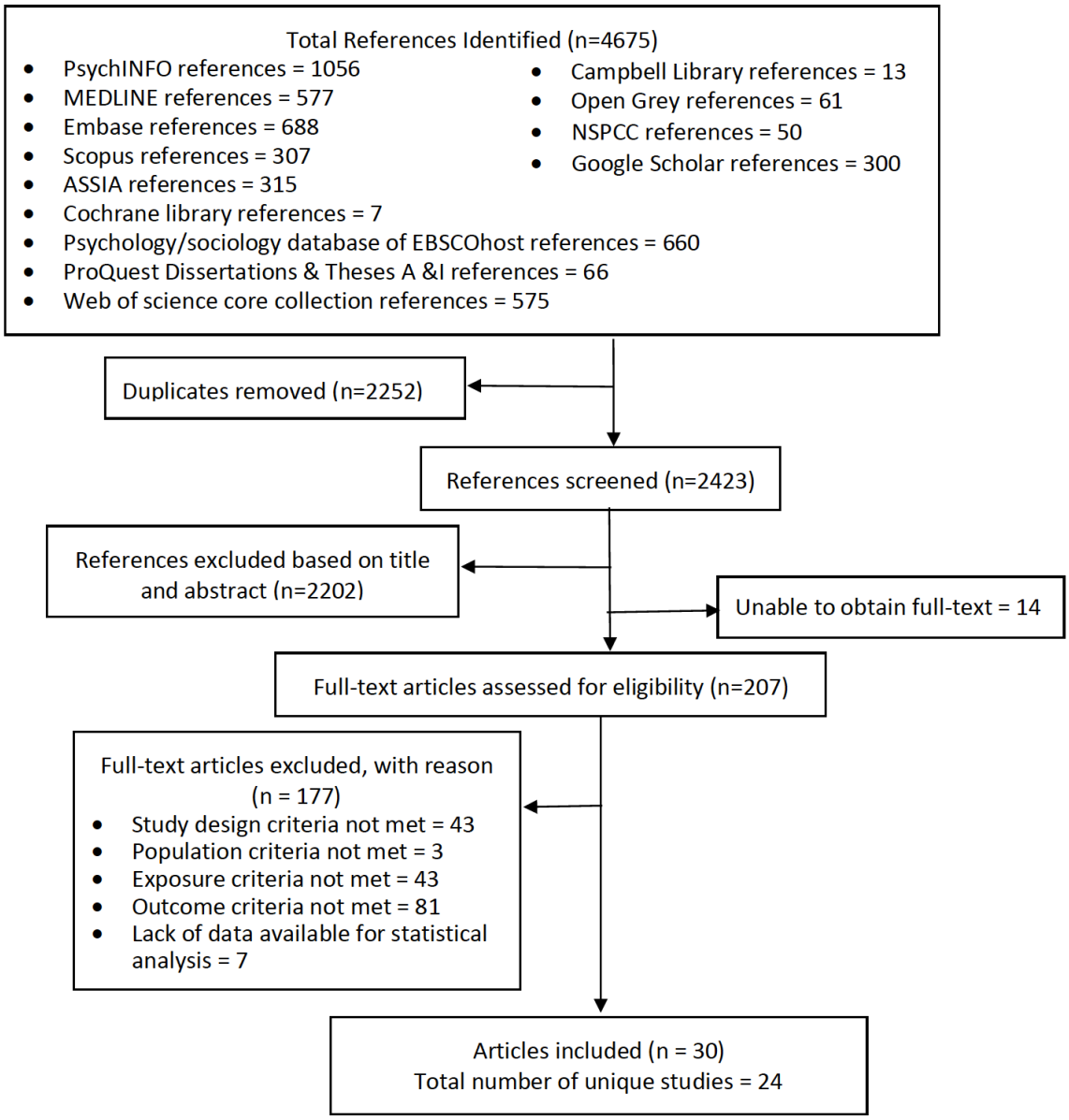
Risk of Publication Bias*.* Egger's test and visual inspection of funnel plots were used to assess the presence of publication bias across studies (Higgins & Green, 2011). Egger's test is a regression analysis of standard normal deviate and precision (Jin, Zhou, & He, 2015).

2.4. Results

2.4.1. Study Selection

The initial search identified 4,675 references. After screening titles and abstracts, 2,252 duplicates and 2,202 irrelevant references were excluded. Full-text articles of 14 references could not be located. Of the 207 full-text articles reviewed, 24 non-overlapping studies, reported within 30 articles, were included in this review. For articles that had overlapping studies, the article reporting a greater sample size was included. See Figure 2.1. for a detailed selection process.

Figure 2.1. Selection Flowchart of the Studies Included in Current Review



2.4.2. Characteristics of Included Studies (see Table 2.1.)

Population. All the included studies were from published sources, dating between 1995 and 2019. They were conducted in five countries (i.e. the United States of America, Germany, Spain, Egypt, Canada). There was a mixture of cross-sectional[2,3,4,5,7,10,11,12,13,14,16,18,19,22,24], case-control[8,9,15,23] and prospective[1,6,17,20,21] studies. Overall, 22,680 participants were recruited; three studies[2,3,6] used stratified sampling, 10 studies[1,4,9,10,17,18,21,22,23,24] used purposive sampling, six studies[5,7,12,13,14,16] used cluster sampling, three studies[11,19,20] used convenience

sampling, and two studies[8,15] used archival sampling. Thirteen studies[2,3,5,6,7,11,12,13,14,16,19,20,24] recruited the general community, two studies[4,10] recruited clinical samples, and nine studies[1,8,9,15,17,18,21,22,23] recruited at-risk individuals or individuals with convictions. All studies recruited both genders.

Childhood Maltreatment. All studies measured physical violence directed at the child and/or between parents. Four studies[4,6,7,15] analysed direct victimisation and exposure to domestic violence as a single variable (i.e. overall childhood maltreatment), 16 studies[1,2,3,5,9,10,11,12,13,16,17,18,19,20,23,24] analysed direct victimisation as a variable, and 16 studies[2,5,8,9,11,13,14,16,17,18,19,20,21,22,23,24] analysed exposure to domestic violence as a variable. Four studies[4,8,10,15] analysed childhood maltreatment as a dichotomous variable, one study[1] analysed it as an ordinal variable, another study[19] used mixed variables, whilst another[24] did not report the scale used; the remaining studies[2,3,5,6,7,9,11,12,13,14,16,17,18,20,21,22,23] analysed it as a continuous variable.

CPVA. All studies measured physical violence; three studies[1,5,20] analysed it as an ordinal variable, 10 studies[2,3,4,8,9,15,19,21,23,24] analysed it as a dichotomous variable, and the remaining studies[6,7,10,11,12,13,14,16,17,18,22] analysed it as a continuous variable. Fifteen studies[1,3,5,6,7,10,11,12,13,14,16,17,19,20,24] measured another type of CPVA (e.g. psychological, financial). Psychological CPVA had the greatest variation in measurement, such as defining it as verbal violence or analysing emotional and psychological violence as two separate variables[10,13]. Seven studies[5,6,16,17,19,22,24] separately analysed child-to-mother/father violence whilst three studies[3,18,22] separately analysed individuals engaging in CPVA, based on genders.

Table 2.1.

Characteristics of Identified Studies

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
1) *Bartle-haring et al. (2015)* USA Youth diagnosed with substance dependence/ misuse and residing in a runaway shelter	N = 179 52.5% Females (Age 12 to 17; $Mean_{age}$ 15.4) African American 65%, White, non-Hispanic 26%, Other 9%	• Conflict Tactics Scale (CTS; Straus 1979) • [Last 12 months]	• Physical abuse (Ordinal) • Psychological abuse (Ordinal)	• Conflict Tactics Scale (CTS; Straus 1979) • [Last 12 months]	• Physical CPVA (Ordinal) • Psychological CPVA (Ordinal)
2) *Beckmann (2019)* Germany Students from Schools	N = 2906 52.5% Females (Age 13 to 18; $Mean_{age}$ 14.9) German 73%, Turkish 5%, Former Soviet Union/Eastern European 12%, Other 10%	• German short version of the Conflict Tactic Scale (CTS; Straus 1979) • [Prior age 12] • 2 items, self-created questionnaire measuring exposure to domestic violence • [Last 12 months]	• Physical abuse (Continuous) • Exposure to domestic violence (Continuous)	• German short version of the Conflict Tactic Scale (CTS; Straus 1979) • [Last 12 months]	• Physical CPVA (Dichotomous)
3) *Beckmann et al. (2017)* Germany Students from Schools	N = 6444 49.3% Females (Age 13 to 19; $Mean_{age}$ 14.9) Germany 75%, Turkish 4%, Former SU/Eastern European 10%, Other 11%	• German short version of the Conflict Tactic Scale (CTS; Straus 1979) • [Prior age 12]	• Physical abuse (Continuous) • Psychological abuse (Continuous)	• German short version of the Conflict Tactic Scale (CTS; Straus 1979) • [Last 12 months]	• Physical CPVA (Dichotomous) • Psychological CPVA (Dichotomous)

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
4) *Boxer et al. (2009)* USA Youth seen at community mental health agency, primary DSM-IV Axis 1 diagnosis	N = 232 47.4% Females (Age 11 to 18; $Mean_{age}$ 14.1) Caucasian 90%, Biracial 7%, Other 3%	• Modified version of Conflict Tactics Scales (CTS; Straus, 1979) and Parent–Child Conflict Tactics scales (CTSPC; Straus, 1998) • [Last 12 months]	• Childhood Maltreatment[2] (Dichotomous)	• Modified version of Conflict Tactics Scales (CTS; Straus, 1979) and Parent–Child Conflict Tactics scales (CTSPC; Straus, 1998) • [Last 12 months]	• Physical CPVA (Dichotomous)
5) *Calvete et al. (2014)* Spain Students from Schools	N = 1698 48.8% Females (Age 12 to 17; $Mean_{age}$=14.1) Spanish 89%, South American 8%, Others 3%	• Modified version of the Exposure to Violence Scale (EEV, Orue and Calvete, 2010) • [Timeframe not reported]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Child-to-Parent Aggression Questionnaire (CPAQ, Calvete et al., 2013) • [Last 12 months]	• Physical CPVA (Ordinal) • Psychological CPVA (Ordinal)
6) *Calvete et al. (2015)* Spain Students from Schools	N = 591 50.4% Females (Age 12 to 17; $Mean_{age}$=14.2) Spanish 97%, Others 3%	• Exposure to Violence Scale (EEV, Orue and Calvete, 2010) • [timeframe not reported]	• Childhood maltreatment[2] (Continuous)	• Child-to-Parent Aggression Questionnaire (CPAQ, Calvete et al., 2013) • [Last 12 months]	• Physical and psychological CPVA together (Continuous)
7) *Calvete et al. (2011)* Spain Students from Schools	N = 1427 51.0% Females, 2% did not indicate gender (Age 12 to 17; $Mean_{age}$=14.1)	• Modified version of the Exposure to Violence Scale (EEV, Orue and Calvete, 2010) • [Timeframe not reported]	• Childhood Maltreatment[2] (Continuous)	• Conflict Tactics Scales-Child Parents (CTS-CP; Straus and Fauchier, 2008) • [Last 12 months]	• Physical CPVA (Continuous) • Psychological CPVA (Continuous)

[1] Different types of abuse and/or neglect measured as a single variable
[2] Direct victimisation and exposure to domestic violence measured as a single variable

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
8) *Contreras and Cano (2014)* Spain Youth who had been convicted	N = 654 13.1% Females (Age range not reported; Mean age=15.9)	• Based on archival review	• Exposure to domestic violence (Dichotomous)	• Conviction Records	• Physical CPVA (Dichotomous)
9) Contreras and Cano (2016) Spain Youth who had been convicted and students from schools (youth without conviction)	N = 90 23.3% Females (Age range not reported; $Mean_{age}$=16.6)	• Exposure to Violence Scale (EEV, Orue and Calvete, 2010) • [Timeframe not reported]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Conviction Records	• Physical CPVA (Dichotomous)
10) *Fawzi et al. (2013)* Egypt Psychiatric outpatients (first episode of psychosis)	N = 150 45.3% Females (Age 13 to 19; $Mean_{age}$=16.6)	• The Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003) • [Timeframe not reported]	• Direct victimisation[1] (Dichotomous)	• Adapted Arabic Version of the Abused Parent Questionnaire (APQ; Ghanizadeh and Jafari., 2010) • [Timeframe not reported]	• Physical, psychological, and financial CPVA together (Continuous)
11) *Gámez-Guadix and Calvete (2012)* Spain University students	N = 1,681 76.9% Females, 0.5% did not indicate gender (Age range not reported; $Mean_{agefemale}$=20.4; $Mean_{agemale}$=21.1)	• Conflict Tactics Scales: Parent-Child Version (CTS-PC; Straus et al., 1998) • Conflict Tactics Scales-Short Form (CTS2; Straus and Douglas, 2004) • [Timeframe not reported]	• Physical abuse (Continuous) • Exposure to domestic violence (Continuous)	• The Filioparental Violence Scale, created based on the Conflicts Tactics Scales (CTS2 and CTSPC, Straus and Douglas, 2004) • [Timeframe not reported]	• Physical CPVA (Continuous) • Psychological CPVA (Continuous)

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
12) *Hartz (1995)* USA Students from schools	N = 96 Gender breakdown not reported (Age 16 to 18; $Mean_{age}$ not reported)	• Conflict Tactics Scale (CTS; Straus, 1979) • [Timeframe not reported but measuring reciprocal relationship]	• Direct victimisation[1] (Continuous)	• Conflict Tactics Scale (CTS; Straus, 1979) • [Timeframe not reported; reciprocal relationship measured]	• Physical and psychological CPVA together (Continuous)
13) *Ibabe (2014)* Spain Students from Schools	N = 485 45% Females (Age 12 to 18; $Mean_{age}$=15.0)	• Scale of Intra-family Violence (Ibabe & Jaureguizar, 2011) • [Timeframe not reported]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Scale of Intra-family Violence (Ibabe & Jaureguizar, 2011) [Timeframe not reported]	• Physical CPVA (Continuous) • Psychological CPVA (Continuous) • Financial CPVA (Continuous)
14) *Ibabe (2015)* Spain Students from Schools	N=585 52% Females (Age 12 to 18; $Mean_{age}$=14.8) Immigrants 23%	• The Revised Conflict Tactics Scales (CTS2, Straus et al., 1996) • [Last 12 months]	• Exposure to domestic violence (Continuous)	• Conflict Tactics Scale (CTS1, Straus et al., 1998) • [Last 12 months]	• Physical CPVA (Continuous) • Psychological CPVA (Continuous)
15) *Ibabe et al. (2009)* Spain Youth who had been convicted	N=108 15% Females (Juveniles, Age not reported)	• Based on archival Review	• Childhood maltreatment[2] (Dichotomous)	• Conviction Records	• Physical CPVA (Dichotomous)
16) Izaguirre and Calvete (2017) Spain Students from Schools	N = 845 47.1% Females, 4.4% did not indicate gender (Age 13 to 18; $Mean_{age}$=15.9)	• The Exposure to Violence Questionnaire (Orue & Calvete, 2010) • [Timeframe not reported]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Child-to-Parent Aggression Questionnaire (Calvete et al., 2013) [Last 12 months]	• Physical and psychological CPVA together (Continuous)

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
17) *Kolko et al. (1996)* USA Schools and psychiatric unit outpatients; screened for fire-setting	N = 323 37% Females (Age 6 to 13; $Mean_{age}$=9.5) African American 55%, Caucasian 45%	• Conflict Tactics Scales (CTS; Straus, 1979) • [Last 12 months]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Conflict Tactics Scales (CTS; Straus, 1979) • [Last 12 months]	• Physical and psychological CPVA together (Continuous)
18)*Langhinrichsen-Rohling and Neidig (1995)* USA At-risk youth in Job Corps program	N = 474 28.9% Females (Adolescents, Age range not reported; $Mean_{age}$=18.0)	• Modified version of Conflict Tactic Scale (CTS; Straus, 1979) • [Whole lifetime]	• Physical abuse (Continuous) • Exposure to domestic violence (Continuous)	• Modified version of Conflict Tactic Scale (CTS; Straus, 1979) [Whole lifetime]	• Physical CPVA (Continuous)
19) *Lyons et al. (2015)* Canada University Students	N = 365 75.8% Females (92.3% aged 18 to 24; $Mean_{age}$ not reported) Caucasian 60%, African-Canadian 12%, Asian/Pacific Islander 11%, Middle Eastern 7%, Other 10%	• Parent–child Conflict Tactics Scales (CTSPC; Straus et al. 1998) • Revised Conflict Tactics Scales–Short Form (CTS2-Short Form; Straus and Douglas, 2004) • [At age 10]	• Physical abuse (Dichotomous) • Exposure to domestic violence (Mixed)	• Parent–child Conflict Tactics Scales (CTSPC; Straus et al., 1998; Straus and Douglas, 2004) • [At age 10]	• Physical CPVA (Dichotomous) • Psychological CPVA (Continuous)
20) *Margolin and Baucom (2014)* USA General public	N = 93 43.0% Females (Adolescents, Age range not reported; $Mean_{age\ wave5}$=18.6) African-American 27%, Caucasian 42%, Asian/Pacific-Islander 14%, Multi-racial 17%	• Parent-Child Conflict Tactics Scales (CTSPC; Straus et al., 1998) • Conflict Tactics Scales (CTS; Straus, 1979) • [Last 12 months]	• Physical abuse (Continuous) • Exposure to domestic violence (Continuous)	• 11 items self-created Adolescents' Parent-Directed Aggression questionnaire • [Timeframe not reported]	• Physical CPVA (Ordinal) • Psychological CPVA (Ordinal) • Financial CPVA (Ordinal)

Reference, Country of Origin, and Recruited Population	Sample Size Gender Breakdown (Age Range) Other Information	Psychometric(s): Childhood Maltreatment [Time Frame]	Childhood Maltreatment Analysed (Scale of Data)	Psychometric: Child-To-Parent Violence and Abuse [Time Frame]	Child-To-Parent Violence and Abuse Analysed (Scale Of Data)
21) *McCloskey and Lichter (2003)* USA Shelters and low-income areas	N = 296 Gender breakdown not reported (Age $_{wave1}$ 6 to 12; Mean$_{agewave1}$=9.2) Anglo European 54%, Hispanic 36%, African American 5%, Others 5%	• Modified version of Conflict Tactic Scale (CTS; Straus, 1979) and focus group discussion • [Timeframe not reported, only stated several years]	• Exposure to domestic violence (Continuous)	• 4 items self-created • child-to-parent aggression questionnaire • [Last 12 months]	• Physical CPVA (Dichotomous)
22) *Moretti et al. (2006)* Canada Centre for severe challenging behaviours or correctional facilities	N = 112 56.3% Females (Age 13 to 18; Mean$_{age}$=15.4) Euro-Caucasian 67%, Aboriginal descent 22%, African American 1%, Others 10%	• Family Background Questionnaire (McGee et al., 1997) • [Timeframe not reported]	• Exposure to domestic violence (Continuous)	• Modified version of Conflict Tactics Scale (CTS; Straus, 1979) • [Last 6 months]	• Physical CPVA (Continuous)
23) *Nowakowski-Sims (2019)* USA Youth who had been convicted	N = 127 44.5% Females (Age 12 to 17; Mean$_{age}$=15) White 42%, Black 39%, Hispanic 17%	• Modified from Adverse Childhood Experiences Questionnaire (ACES; Felitti et al., 1998) and Finkelhor et al. (2013) study • [Timeframe not reported]	• Direct victimisation[1] (Continuous) • Exposure to domestic violence (Continuous)	• Conviction Records	• Physical CPVA (Dichotomous)
24) *Sampedro et al. (2014)* Spain Students from Schools	N = 2,719 51.4% Female (Age 12 to 17; Mean$_{age}$ not reported)	• Exposure to Violence Scale (Orue & Calvete, 2010) • [Timeframe not reported]	• Direct victimisation[1] (not stated) • Exposure to domestic violence (Not stated)	• Child-to-Parent Aggression Questionnaire (CPAQ; Calvete et al., 2012) • [Last 12 months]	• Physical CPVA (Dichotomous) • Psychological CPVA (Not stated)

2.4.3. Quality of Included Studies

All studies included in this review were assessed for risk of bias (See Table 2.2.). Regardless of the assessed risk, all studies were included in the review. This decision was firstly based on the consideration that there lacked a clear-cut exclusion threshold for a study with a sufficiently high risk of bias. Also, excluding studies would result in the loss of precision, especially when all included studies were assessed to have a low risk of bias on multiple key domains which affected the overall study quality (Harvey & Dijkers, 2019; Higgins, Altman, & Sterne, 2011; Valentine, 2013).

Ethical Consideration. Most studies were assessed to have a low risk of bias. Six studies[1,8,12,13,14,15] were rated as unclear risk, due to not having stated who gave the ethics approval and how ethics was maintained.

Sampling and Selection Bias. Seven studies[2,3,5,6,7,16,20] were rated to have a low risk of bias. One study[24] was rated as unclear risk, due to the lack of information regarding sampling methods, response rate, and inclusion criteria. The remaining studies were rated as high risk of bias, mainly due to poor representativeness and response rate. Most studies lacked information regarding the selection/exclusion criteria and process.

***Measurement Bias*.** Twelve studies[2,3,4,5,6,9,11,13,16,19,20,23] provided an operational definition for CPVA. Eight studies[1,4,6,8,9,15,20,23] had gathered multiple sources of information or used official records to ascertain CPVA. Most studies had used modified tools with good psychometric properties and had reported and tested the internal consistency of the modified tools; excluding studies that had used tools without any psychometric properties was likely to have contributed to this outcome. Most studies had limited information regarding how the consistency of data collection was

maintained. For example, it was uncertain whether the same instructions were given to all participants, whether the questionnaires were completed in the same setting, and the extent to which participants were aware of the full research aims before the completion of responses. Although there lacked evidence of good practice in these two aspects, studies that fully or partially fulfilled all the other five/six aspects (e.g. adequate psychometric properties of tools used, clear definitions of the factors measured, collected data using the same measure across all participants, etc; see Appendix D) were rated as low risk. Two studies[20,21] were rated to have a high risk of bias for measurement of exposure variable, but a low risk of bias for measurement of the outcome variable. For both studies, validity-related psychometric properties could not be found for the exposure variable measures used. The remaining studies were rated as low risk of bias in both aspects.

Attrition Bias. Most studies were rated as either having unclear or a high risk of attrition bias. The eight studies[7,8,9,10,12,13,14,24], that were rated as having unclear risk, had limited information regarding differences between individuals who had agreed and declined to participate and how missing data were addressed. Twelve studies[1,2,3,4,11,15,16,17,18,20,21,23] were rated as high risk of bias, due to the deletion of responses with missing datasets and/or having less than 80% response rate coupled with differences between participants and non-respondents.

Statistical Bias. All studies were rated as low risk of bias. Most of the studies had limited information regarding testing and addressing assumptions.

Reporting Bias. One study[11] was rated as high risk of bias, due to selective reporting. Exact p-values were not reported in 10 studies[1,2,3,6,9,11,12,14,15,22].

Table 2.2.

Quality Assessment: Risk of Bias Result

Reference	Limited Ethical Consideration	Sampling & Selection Bias	Measurement Bias (Exposure)	Measurement Bias (Outcome)	Attrition Bias	Statistical Bias	Reporting Bias
1) Bartle-haring et al. (2015)	Unclear	High	Low	Low	High	Low	Low
2) Beckmann (2019)	Low	Low	Low	Low	High	Low	Low
3) Beckmann et al. (2017)	Low	Low	Low	Low	High	Low	Low
4) Boxer et al. (2009)	Low	High	Low	Low	High	Low	Low
5) Calvete et al. (2014)	Low	Low	Low	Low	Low	Low	Low
6) Calvete et al. (2015)	Low	Low	Low	Low	Low	Low	Low
7) Calvete et al. (2011)	Low	Low	Low	Low	Unclear	Low	Low
8) Contreras and Cano (2014)	Unclear	High	Low	Low	Unclear	Low	Low
9) Contreras and Cano (2016)	Low	High	Low	Low	Unclear	Low	Low
10) Fawzi et al. (2013)	Low	High	Low	Low	Unclear	Low	Low
11) Gámez-Guadix and Calvete (2012)	Low	High	Low	Low	High	Low	High
12) Hartz (1995)	Unclear	High	Low	Low	Unclear	Low	Low
13) Ibabe (2014)	Unclear	High	Low	Low	Unclear	Low	Low
14) Ibabe (2015)	Unclear	High	Low	Low	Unclear	Low	Low

Reference	Limited Ethical Consideration	Sampling & Selection Bias	Measurement Bias (Exposure)	Measurement Bias (Outcome)	Attrition Bias	Statistical Bias	Reporting Bias
15) Ibabe et al. (2009)	Unclear	High	Low	Low	High	Low	Low
16) Izaguirre and Calvete (2017)	Low	Low	Low	Low	High	Low	Low
17) Kolko et al. (1996)	Low	High	Low	Low	High	Low	Low
18) Langhinrichsen-Rohling and Neidig (1995)	Low	High	Low	Low	High	Low	Low
19) Lyons et al. (2015)	Low	High	Low	Low	Low	Low	Low
20) Margolin and Baucom (2014)	Low	Low	High	Low	High	Low	Low
21) McCloskey and Lichter (2003)	Low	High	High	Low	High	Low	Low
22) Moretti et al. (2006)	Low	High	Low	Low	Low	Low	Low
23) Nowakowski-Sims (2019)	Low	High	Low	Low	High	Low	Low
24) Sampedro et al. (2014)	Low	Unclear	Low	Low	Unclear	Low	Low

2.4.4. Synthesis of Results

Overall CPVA. Eighteen studies[1,2,3,6,7,9,11,12,13,14,15,16,17,18,19,20,22,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between overall childhood maltreatment and overall CPVA (Figure 2.2.). Ten studies[3,4,5,8,9,10,19,20,21,24] had valid data in (logged) odds ratio metric for the analysis of the relationship between overall childhood maltreatment and overall CPVA (Figure 2.3.). Nine studies[2,3,11,13,16,17,19,20,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between direct victimisation and overall CPVA (Figure 2.4.). Twelve studies[2,9,11,13,14,16,17,18,19,20,22,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between exposure to domestic violence and overall CPVA (Figure 2.5.).

Analyses of pooled estimates of correlation (Figure 2.2., n[3]=18, N[4]=16,931, Z=11.90, $p<.05$, $r=.29$, 95%CI [.24, .33]) and odds ratio (Figure 2.3., n=10, N=12,741, Z=4.04, $p<.05$, OR=1.35, 95%CI [1.16, 1.55]) effect sizes suggested a significant model of overall childhood maltreatment influencing an individual's risk of engaging in overall CPVA. This was further supported by analyses showing that direct victimisation (Figure 2.4., n=9, N=13,269, Z=12.23, $p<.05$, $r=.24$, 95%CI [.20, .26]) and exposure to domestic violence (Figure 2.5., n=12, N=8,086, Z=7.41, $p<.05$, $r=.21$, 95%CI [.16, .26]) were significantly related to overall CPVA.

The results suggested that there is a significant but weak positive relationship between overall CPVA and 1) the overall experience of childhood maltreatment, 2)

[3] n refers to the number of non-overlapping studies
[4] N refers to the sample size of participants

the experience of direct victimisation, and 3) the exposure to domestic violence. The weak association between experiencing greater levels of childhood maltreatment and engaging in higher levels of overall CPVA suggested that beyond childhood maltreatment, other factors are associated with an increased risk of overall CPVA. The result from the meta-analysis based on odds ratio suggested that the odds of a victim of childhood maltreatment engaging in overall CPVA is 1.35 times higher than a non-victim.

Figure 2.2. Forest plot (including outliers) of the model of overall childhood maltreatment and overall CPVA, Fisher's Z correlation effect size metric

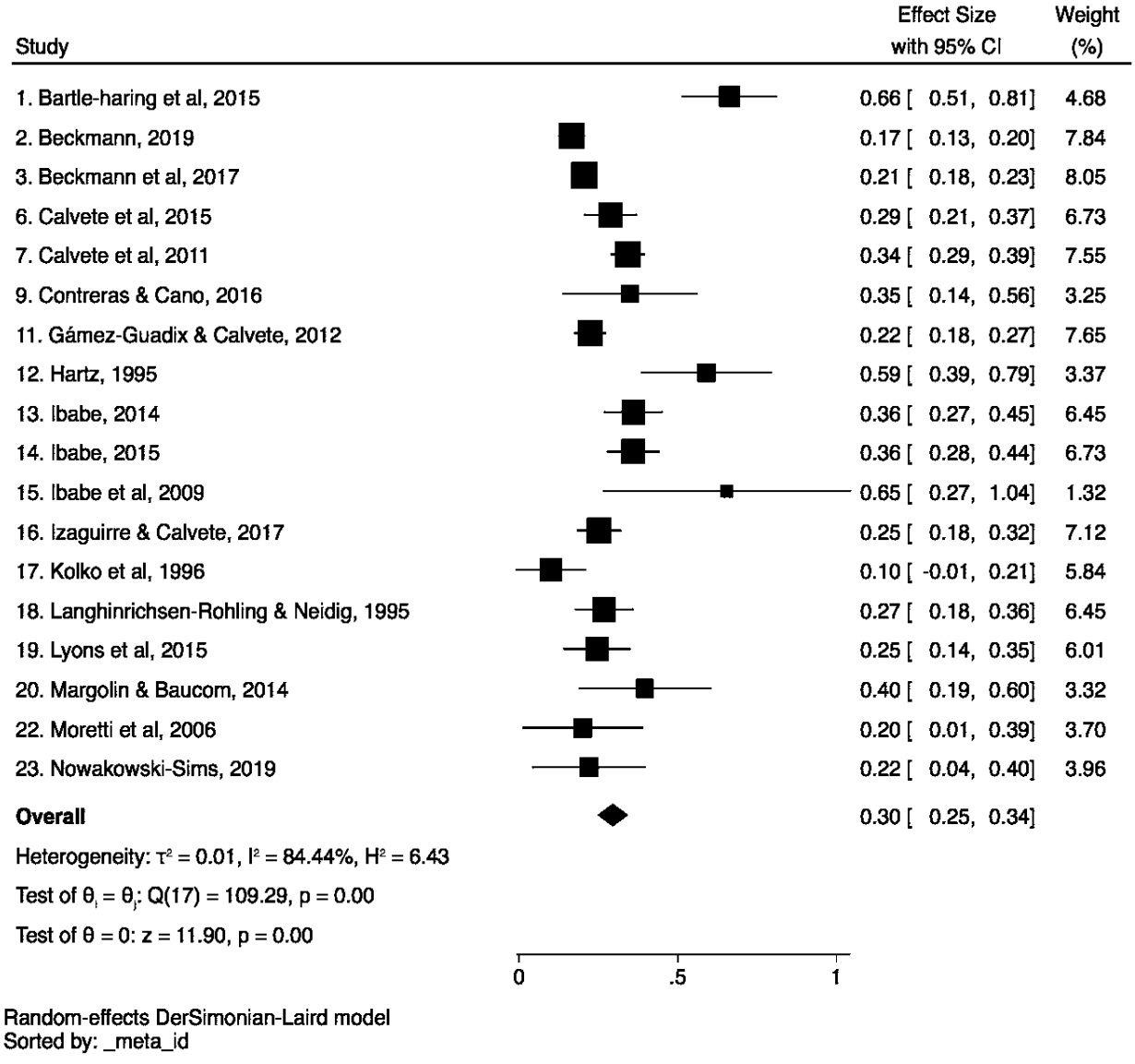


Figure 2.3. Forest plot (including outliers) of the model overall childhood maltreatment and overall CPVA, (logged) odds ratio effect size metric

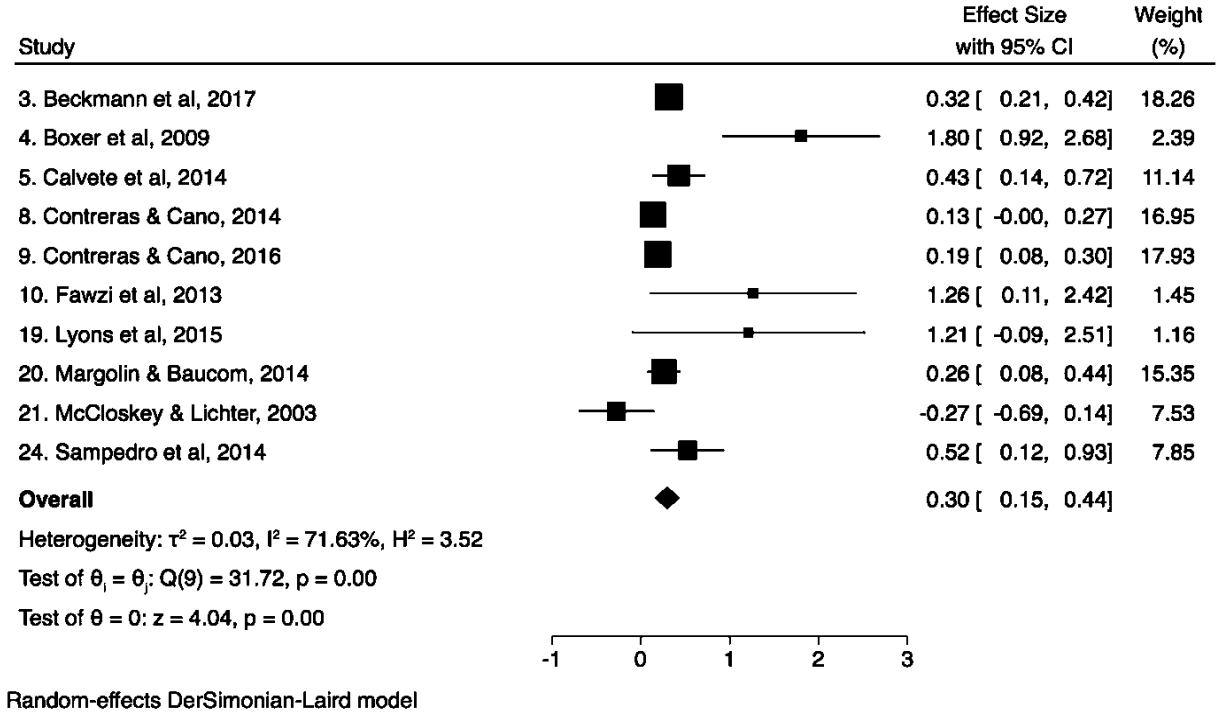


Figure 2.4. Forest plot (excluding outliers) of the model of direct victimisation and overall CPVA, Fisher's Z correlation effect size metric

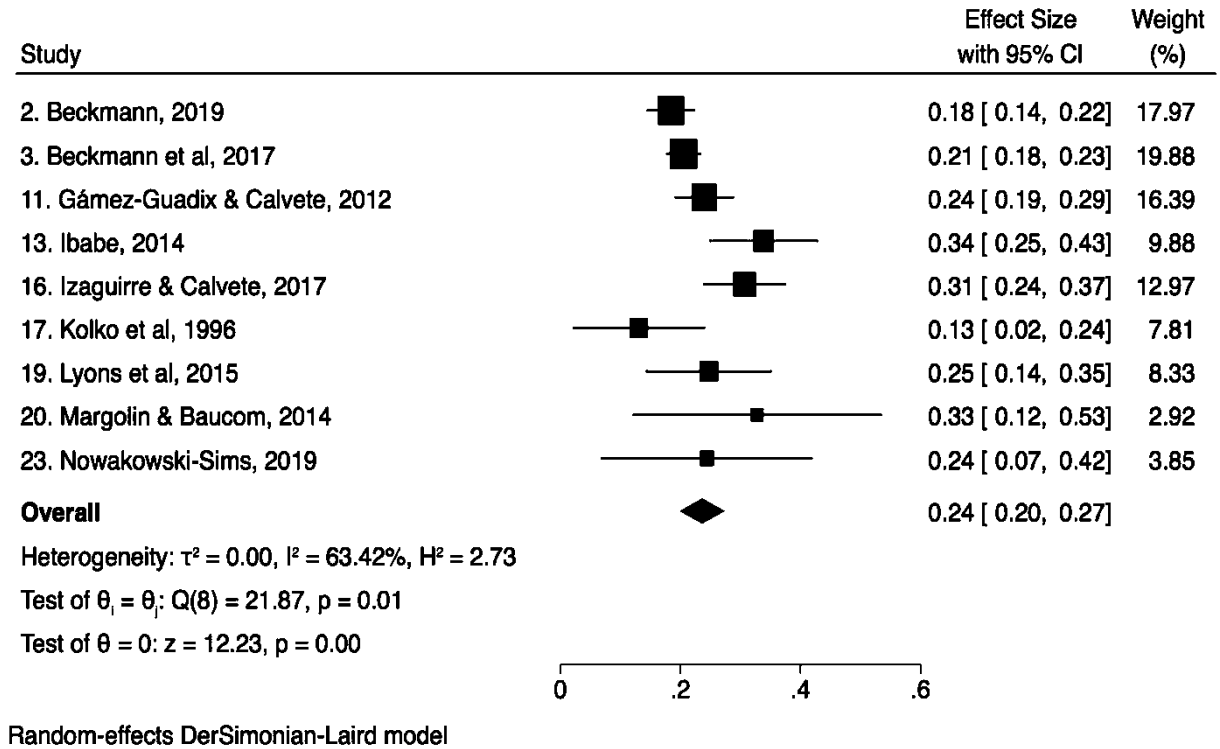
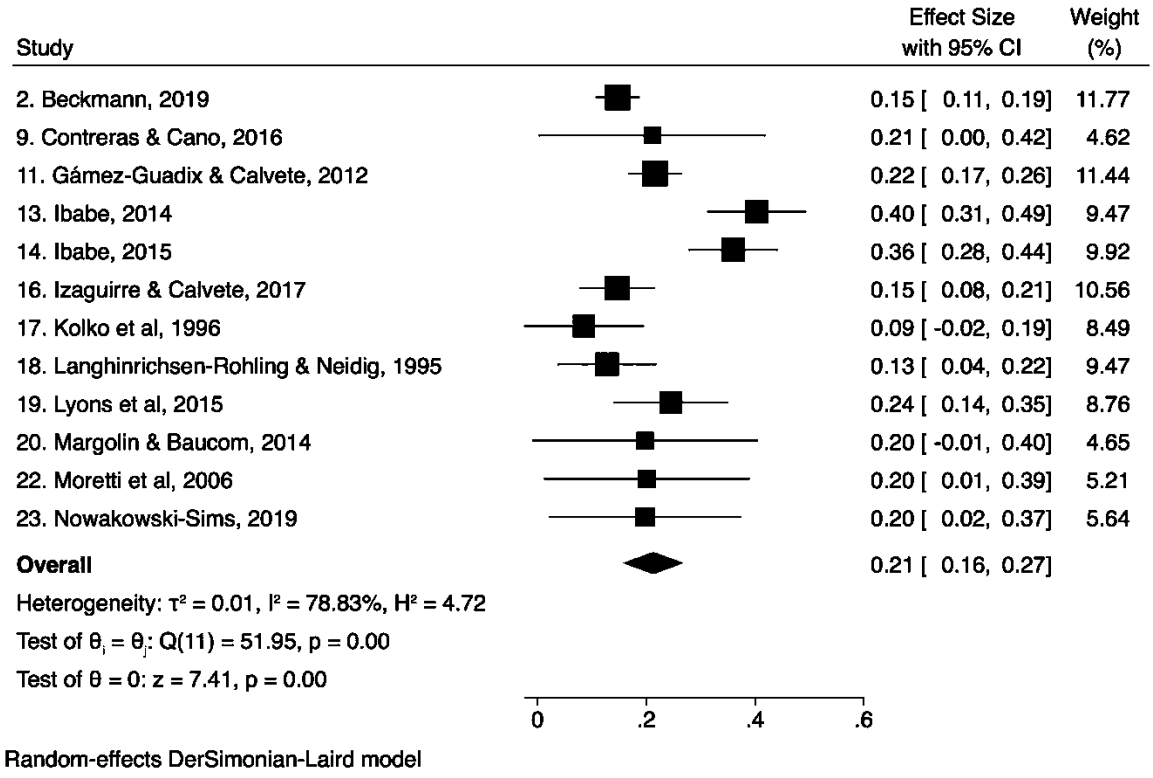


Figure 2.5. Forest plot (including outliers) of the model of exposure to domestic violence and overall CPVA, Fisher's Z correlation effect size metric



Physical CPVA. Ten studies[2,3,7,9,11,18,19,20,22,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between overall childhood maltreatment and physical CPVA (Figure 2.6.). Nine studies[3,4,5,8,9,19,20,21,24] had valid data in (logged) odds ratio metric for the analysis of the relationship between overall childhood maltreatment and physical CPVA (Figure 2.7.). Ten studies[1,2,3,9,11,13,18,19,20,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between direct victimisation and physical CPVA (Figure 2.8.). Ten studies[2,9,11,13,14,18,19,20,22,23] had valid data in Fisher's Z correlation metric for the analysis of the relationship between exposure to domestic violence and physical CPVA (Figure 2.9.).

Analysis of pooled estimates of correlation (Figure 2.6., n=10, N=13,719, Z=11.74, $p<.05$, $r=.22$, 95%CI [.19, .25]) and odds ratio (Figure 2.7., n=9, N=12,591, Z=3.61, $p<.05$, OR= 1.34, 95%CI [1.14, 1.57]) effect sizes suggested a significant model of overall childhood maltreatment influencing an individual's risk of engaging in physical CPVA. This was further supported by significant associations found between physical CPVA and direct victimisation (Figure 2.8., n=10, N=12,844, Z=8.21, $p<.05$, $r=.33$, 95%CI [.25, .40]) or exposure to domestic violence (Figure 2.9., n=10, N=6,918, Z=5.50, $p<.05$, $r=0.24$, 95%CI [.16, .32]).

These results suggested that there is a significant but weak positive relationship between physical CPVA and 1) the overall experience of childhood maltreatment, 2) the experience of direct victimisation, and 3) the exposure to domestic violence. The weak association between the studied relationships suggested that there are other factors associated with an increased risk of engaging in physical CPVA. Also, the results suggested that the odds of a victim of childhood maltreatment engaging in physical CPVA is 1.34 times higher than a non-victim.

Figure 2.6. Forest plot (excluding outliers) of the model of overall childhood maltreatment and physical CPVA, Fisher's Z correlation effect size metric

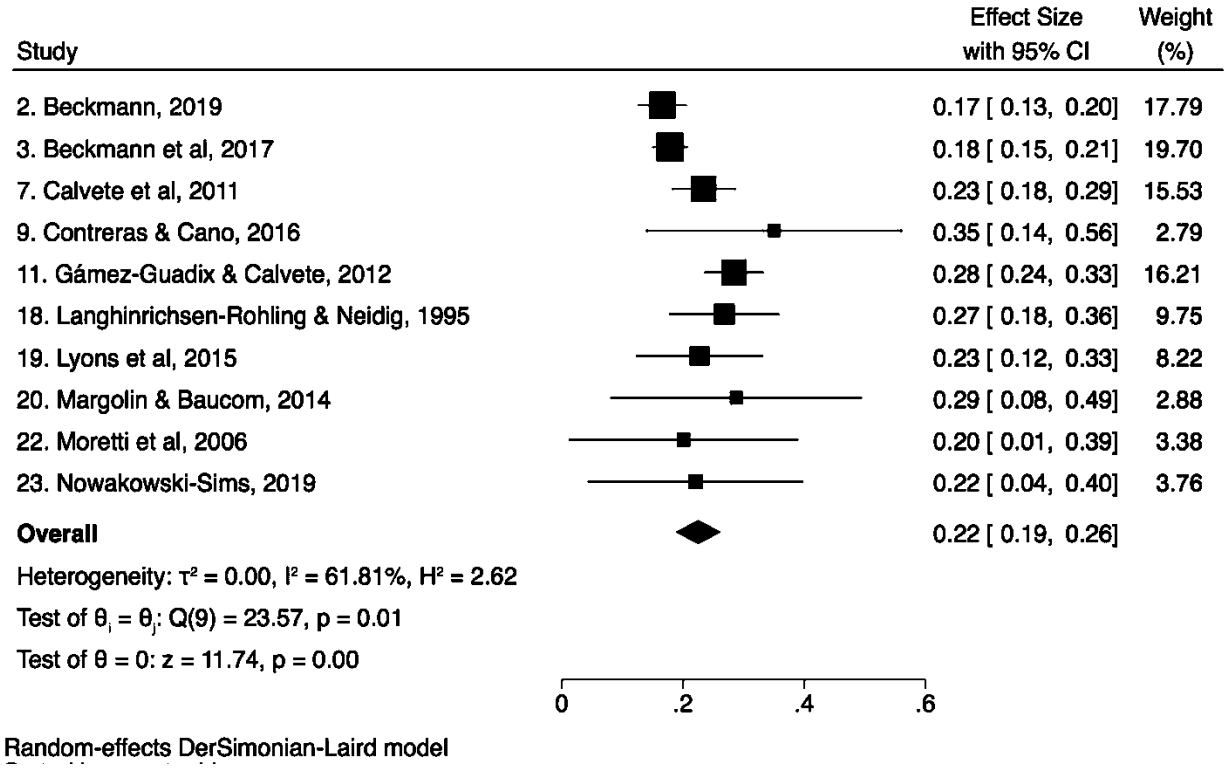


Figure 2.7. Forest plot (including outliers) of the model of overall childhood maltreatment and physical CPVA, (logged) odds ratio effect size metric

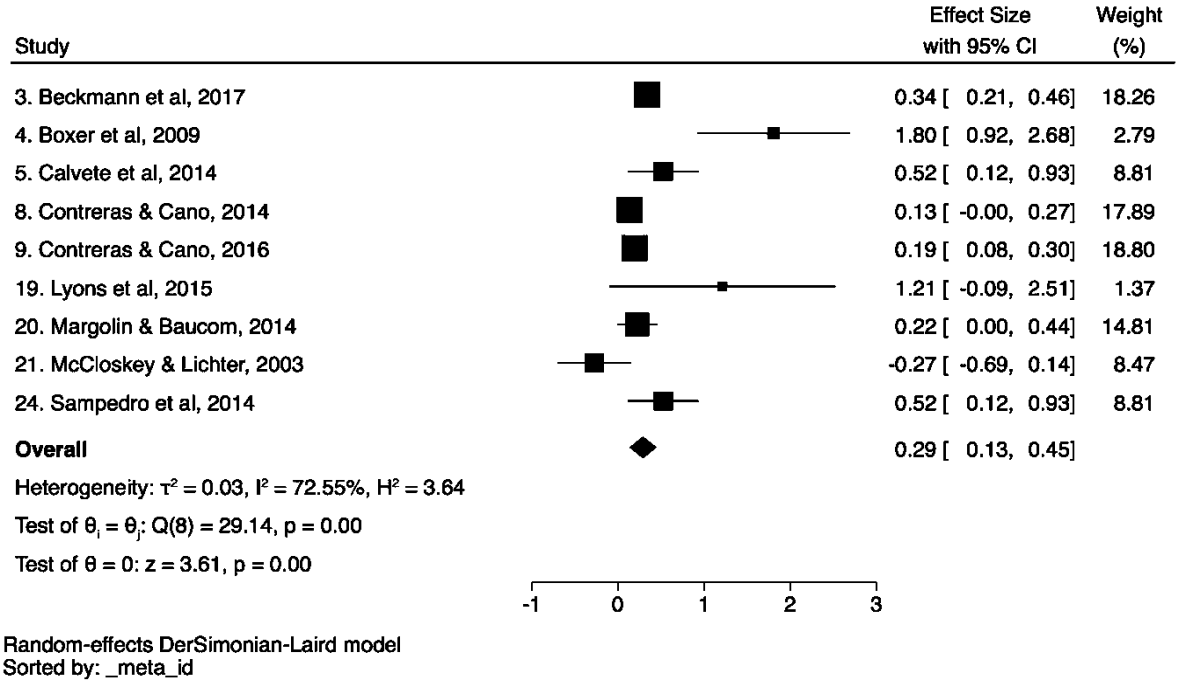


Figure 2.8. Forest plot (including outliers) of model of direct victimisation and physical CPVA, Fisher's Z correlation effect size metric

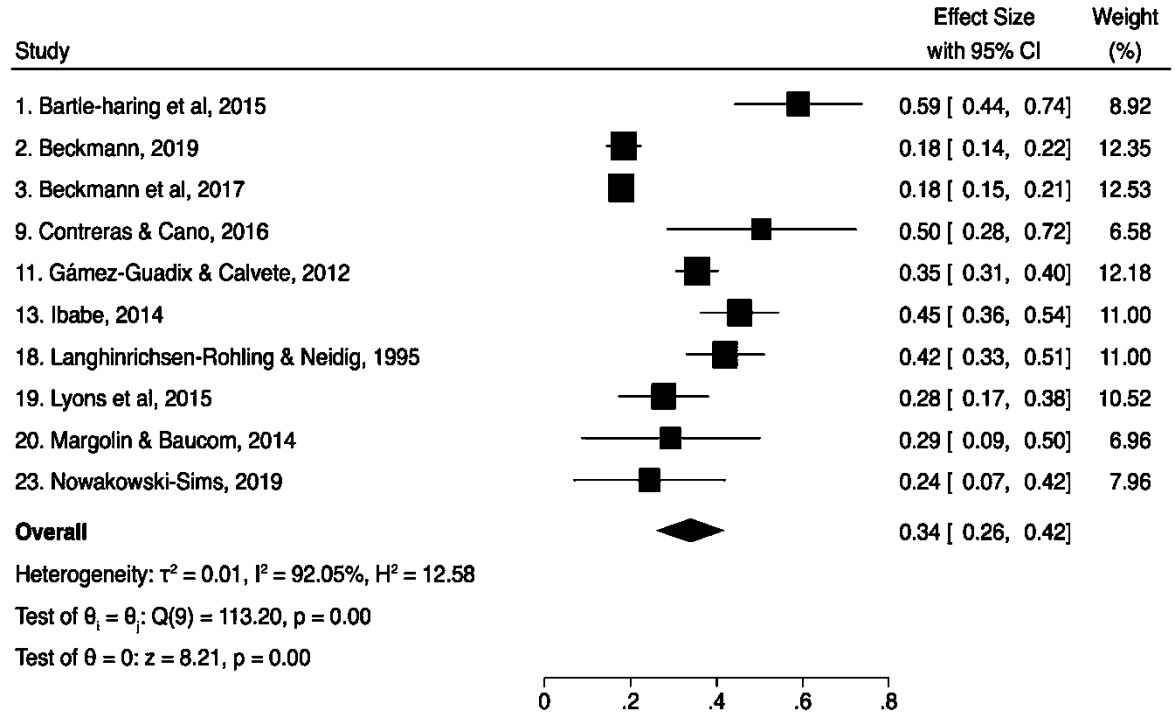
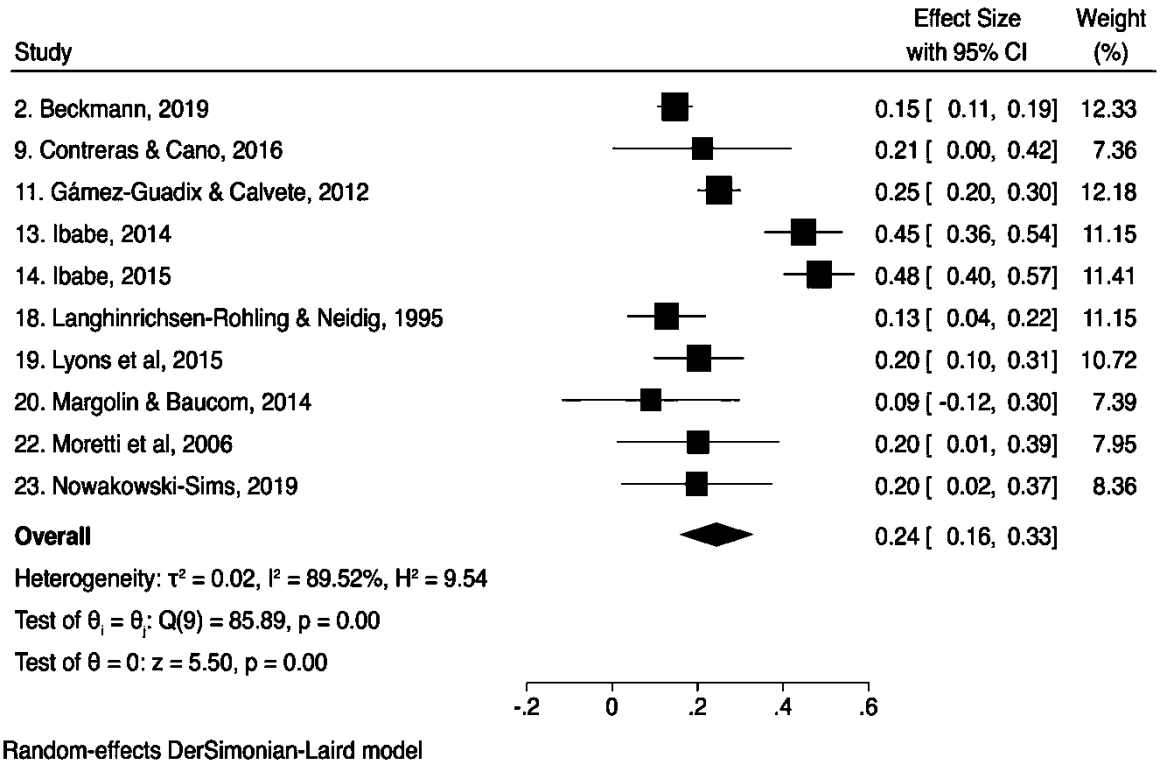


Figure 2.9. Forest plot (including outliers) of model of exposure to domestic violence and physical CPVA, Fisher's Z correlation effect size metric



***Psychological CPVA*.** Nine studies[1,3,5,7,11,13,14,19,20] assessed the association of overall childhood maltreatment, direct victimisation, or exposure to domestic violence with child-to-parent psychological violence and abuse (Table 2.3.). All seven studies[1,3,5,7,13,14,20] with adolescent participants found that experiencing direct victimisation and exposure to domestic violence were significantly and positively correlated with the risk of engaging in psychological CPVA. Similar findings were obtained among university students (Gámez-Guadix & Calvete, 2012[11]; Lyons et al. 2015[19]).

Four studies[3,5,19,20] explored whether childhood maltreatment predicted one's risk of engaging in psychological CPVA (Table 2.3.). Beckmann et al. (2017)[3] found that the experience of direct physical and psychological victimisation significantly predicted psychological CPVA among both sons and daughters. Calvete et al. (2014)[5] found that the experience of direct victimisation, but not exposure to violence, significantly predicted psychological CPVA. Lyons et al. (2015)[19] found exposure to verbal violence between parents, but not direct victimisation, to be a significant predictor. Margolin and Baucom (2014)[20] only found the overall experience of childhood maltreatment and exposure to father-to-mother violence to significantly predict psychological CPVA. Each study used different questionnaires, scales of measurement (i.e. continuous and ordinal), and timeframes to measure childhood maltreatment and psychological CPVA, and recruited populations with different participants characteristics (e.g. age and ethnicity breakdown) (see Table 2.1.). Due to methodological and clinical heterogeneity, the evidence surrounding experiences of overall childhood maltreatment, direct victimisation, and exposure to domestic violence increasing a child's risk of engaging in psychological CPVA is inconclusive.

Table 2.3.

Key Findings of Studies Measuring Child-to-Parent Psychological Violence and Abuse (psychological CPVA)

Reference, Population, (Sample Size)	Extracted Correlation Metric Statistic	P-value	Extracted Odds Ratio Metric Statistic [Confidence Interval]	P-value
1) *Bartle-haring et al. (2015)* USA Youth in runaway shelter and diagnosed with substance dependence/ misuse (N = 179; 52.5% Females)	Parent-to-child Psychological Abuse r = .63	< .001	NA	NA
3) *Beckmann et al. (2017)* Germany Students from Schools (N = 6444; 49.3% Females)	Parent-to-son Physical Abuse r = .240 Parent-to-son Psychological Abuse r = .214 Parent-to-daughter Physical Abuse r = .238 Parent-to-daughter Psychological Abuse r = .221	< .001 < .001 < .001 < .001	Parent-to-son Physical Abuse OR = 1.423 [*data not available*] Parent-to-son Psychological Abuse OR = 1.287 [*data not available*] Parent-to-daughter Physical Abuse OR = 1.428 [*data not available*] Parent-to-daughter Psychological Abuse OR= 1.234 [*data not available*]	< .001 < .001 < .001 < .001
5) *Calvete et al. (2014)* Spain Students from Schools (N = 1698; 48.8% Females)	NA	NA	Psychological Aggression Against Fathers Direct Victimisation OR = 1.39 CI[1] [1.06,1.83] Exposure to Domestic Violence OR = 1.29 CI[1] [.83, 1.99] Psychological Aggression Against Mothers Direct Victimisation OR = 1.60 CI[1] [1.24, 2.07] Exposure to Domestic Violence OR = 1.21 CI[1] [.81, 1.82]	 < .05 > .05 < .001 > .05

Reference, Population, (Sample Size)	Extracted Correlation Metric Statistic	P-value	Extracted Odds Ratio Metric Statistic [Confidence Interval]	P-value
7) *Calvete et al. (2011)* Spain Students from Schools (N = 1427; 51.0% Females)	Overall Childhood Maltreatment r = 0.30	< .001	NA	NA
11) *Gámez-Guadix and Calvete (2012)* Spain University students (N = 1,681; 76.9% Females)	Direct Victimisation r = .13 Exposure to Psychological Violence between Parents r = .27 Exposure to Physical Violence between Parents r = .09	<.001 <.001 <.001	NA	NA
13) *Ibabe (2014)* Spain Students from Schools (N = 485; 45% Females)	Psychological CPVA Father-to-son/daughter Abuse r = .13 Mother-to-son/daughter Abuse r = .27 Exposure to Domestic Violence r = .23 Emotional CPVA Father-to-son/daughter Abuse r = .23 Mother-to-son/daughter Abuse r = .28 Exposure to Domestic Violence r = .37	 <.01 <.01 <.01 <.01 <.01 <.01	NA	NA
14) *Ibabe (2015)* Spain Students from Schools (N=585; 52% Females)	Exposure to Domestic Violence r = .24	<.01	NA	NA

Reference, Population, (Sample Size)	Extracted Correlation Metric Statistic	P-value	Extracted Odds Ratio Metric Statistic [Confidence Interval]	P-value
19) *Lyons et al. (2015)* Canada University Students (N = 365; 75.8% Females)	Child-to-Mother Psychological Violence Direct Victimisation r = .23 Exposure to Psychological Violence between Parents r = .35 Exposure to Physical Violence between Parents r = .24 Child-To-Father Psychological Violence Direct Victimisation r = .29 Exposure to Psychological Violence between Parents r = .12 Exposure to Physical Violence between Parents r = .31	 <.01 <.01 <.01 <.01 <.05 <.01	Child-to-Mother Psychological Violence Direct Victimisation *No data available for variable* Exposure to Psychological Violence between Parents *No data available for variable* Exposure to Physical Violence between Parents *No data available for variable* Child-To-Father Psychological Violence Direct Victimisation *No data available for variable* Exposure to Psychological Violence between Parents *No data available for variable* Exposure to Physical Violence between Parents *No data available for variable*	 > .05 < .001 > .05 > .05 < .001 > .05
20) *Margolin and Baucom (2014)* USA General public (N = 93; 43.0% Females)	Parents' Total Previous Physical Aggression r = .38 Mother-to-adolescent Physical aggression r = .25 Father-to-adolescent Physical Aggression r = .29 Exposure to Mother-to-father Domestic Violence r = .22	 <.001 <.05 <.01 <.05	Overall Childhood Maltreatment OR = 1.35 95%CI [1.15–1.58] Mother-to-adolescent Physical Aggression OR = 1.34 95%CI [0.86–2.10] Father-to-adolescent Physical Aggression OR = 1.31 95%CI [0.84–2.03] Exposure to Mother-to-father Domestic Violence OR = 1.06 95%CI [0.68–1.65]	<.001 > .05 > .05 > .05

Reference, Population, (Sample Size)	Extracted Correlation Metric Statistic	P-value	Extracted Odds Ratio Metric Statistic [Confidence Interval]	P-value
	Exposure to Father-to-mother Domestic Violence r = .30	<.05	Exposure to Father-to-mother Domestic Violence OR = 1.95 95%CI [1.10–3.44]	< .05

Note.
1. Confidence level not indicated
NA . Not applicable

2.4.5. Subgroup Analysis

See Appendix J for forest plots of subgroup analyses.

Overall CPVA. Group differences were non-significant for the model of overall childhood maltreatment and overall CPVA, for both correlation coefficient (χ^2=.27, df=1, *p*=.60) and odds ratio (χ^2=.29, df=1, *p*=.59) effect sizes. The subgroup effect of population type was significant for the model of exposure to domestic violence on overall CPVA (χ^2=4.93, df=1, *p*<.05). Due to the mixed results, the subgroup effect of population type on the relationship between experiencing childhood maltreatment and risks of engaging in overall CPVA is inconclusive.

***Physical CPVA*.** Group differences were non-significant when exploring the models of childhood maltreatment (χ^2=1.06, df=1, *p*=.30), direct victimisation (χ^2=3.67, df=1, *p*=.06), and exposure to domestic violence (χ^2=3.02, df=1, *p*=.08) on physical CPVA. The results suggested that population type does not differentially influence the relationship between experiencing childhood maltreatment and risks of engaging in physical CPVA.

2.4.6. Publication Bias

Overall CPVA. For the model of overall childhood maltreatment and overall CPVA, the constructed funnel plots (Figure 2.10. and 2.11.) showed signs of asymmetry, and Egger's regression coefficient for correlation coefficient (t=3.02, p<.05) and odds ratio (t=2.99, p<.05) effect sizes were significant. The results suggested possible publication bias for the model of overall childhood maltreatment and overall CPVA. Egger's regression coefficient was not significant for the model of exposure to domestic violence and overall CPVA (t=-0.01, p=1.00). The funnel plots for models with variables direct victimisation and exposure to domestic

violence against overall CPVA showed evidence of symmetry (Appendix H). Both results suggested that publication bias was unlikely for either model.

Figure 2.10. Funnel plot (including outliers) of Fisher's Z correlation effect size metric and standard error of model overall childhood maltreatment and overall CPVA

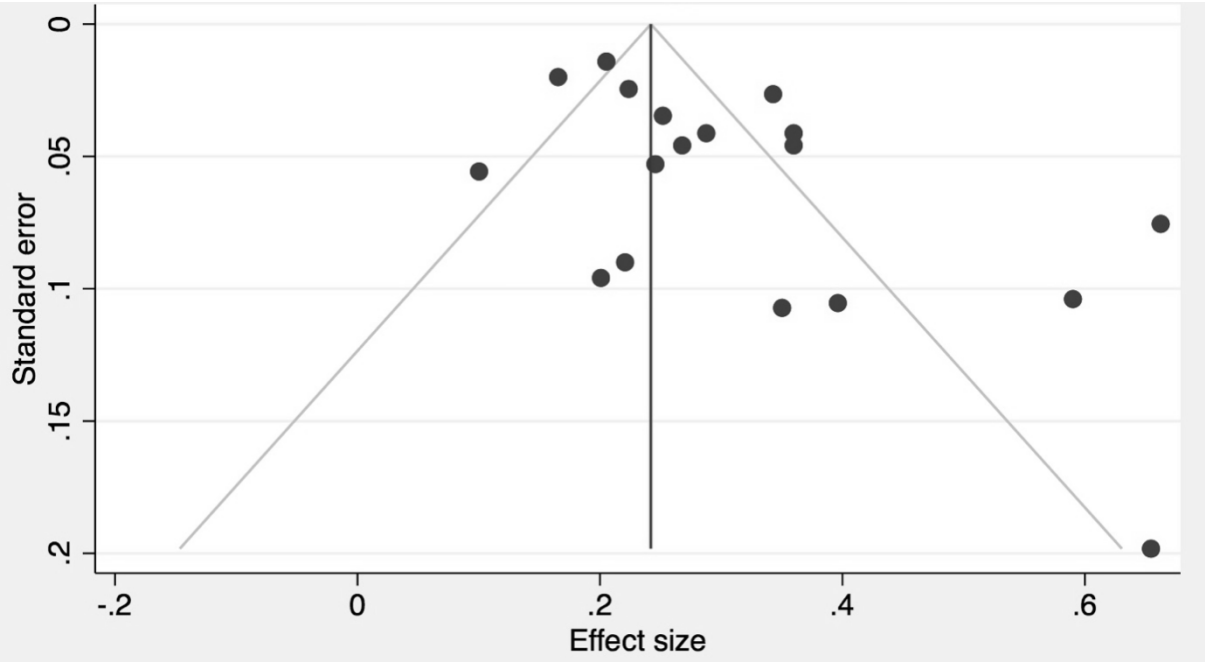
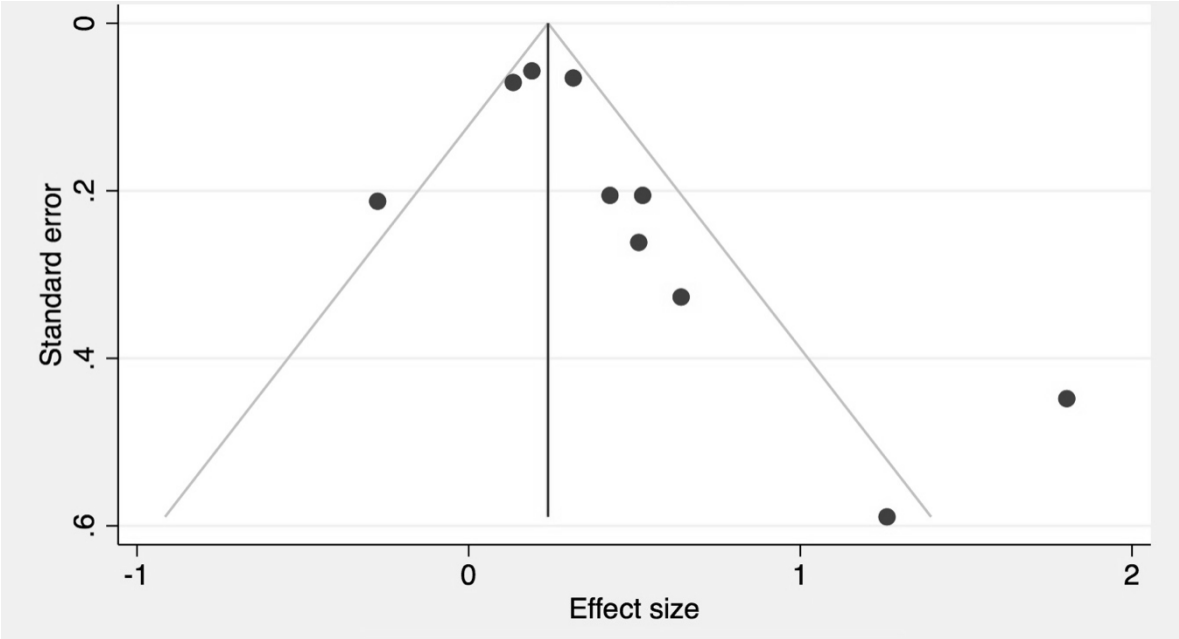


Figure 2.11. Funnel plot (including outliers) of (logged) odds ratio effect size metric and standard error of model overall childhood maltreatment and overall CPVA



***Physical CPVA*.** The constructed funnel plots (Figure 2.12. and 2.13. and Appendix H) showed signs of symmetry. Also, Egger's regression coefficient was not significant for the models of overall childhood maltreatment (t=1.30, p=.23), direct victimisation (t=1.90, p=.09), or exposure to domestic violence (t=-0.75, p=.48), and physical CPVA for correlation coefficients effect size. The results suggested that publication bias was unlikely for any of these models.

Figure 2.12. Funnel plot (excluding outliers) of Fisher's Z correlation effect size and standard error of model overall childhood maltreatment and physical CPVA

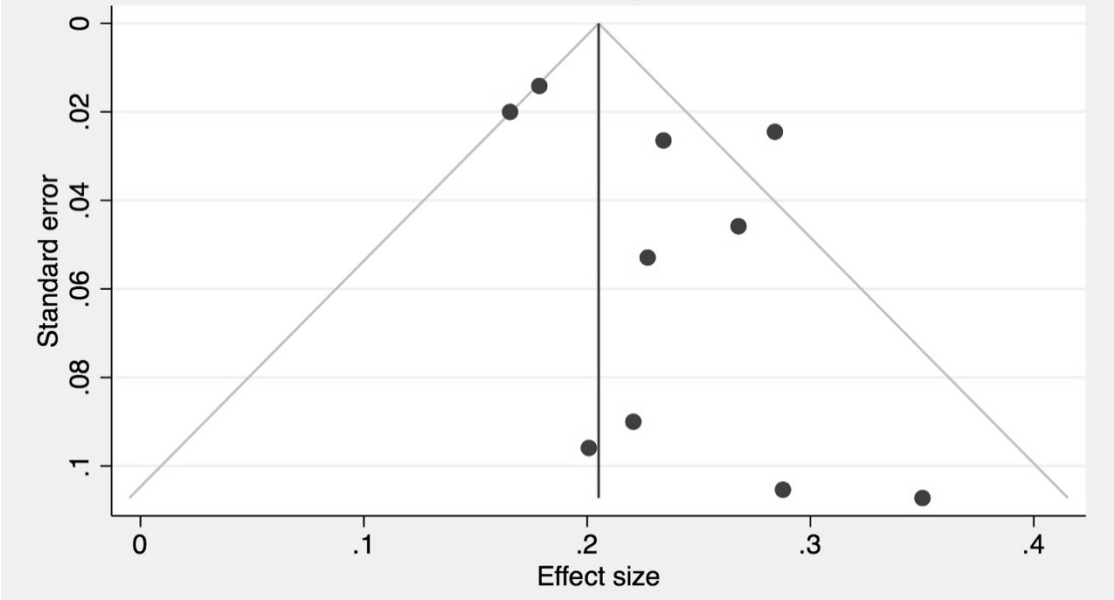
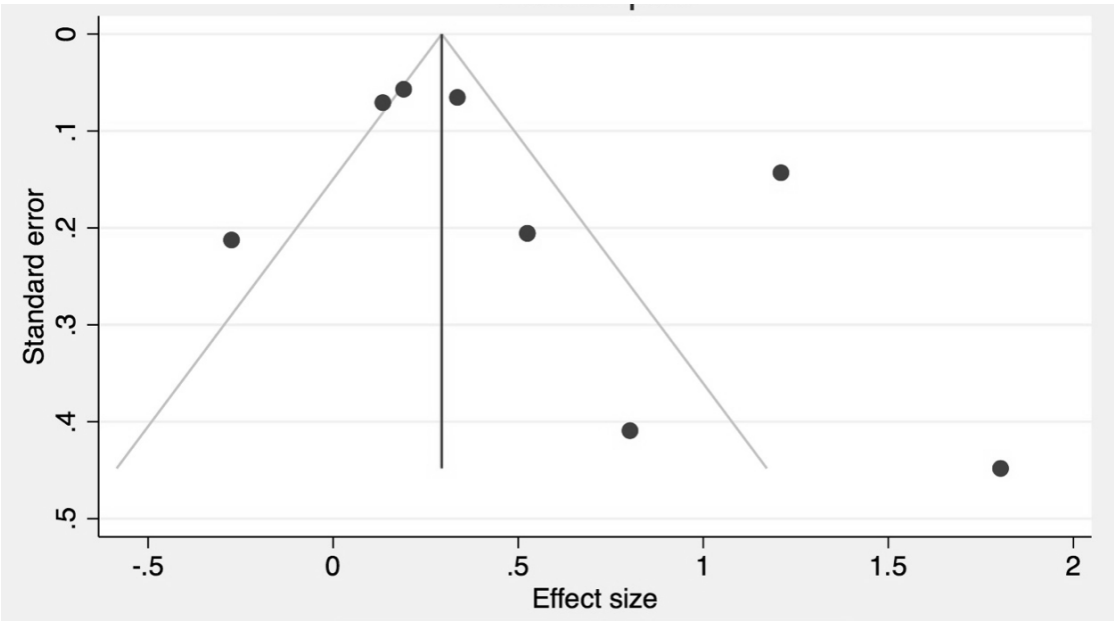


Figure 2.13. Funnel plot (including outliers) of (logged) odds ratio effect size metric and standard error of model overall childhood maltreatment and physical CPVA



2.5. Discussion

In this systematic review, the relationships between experiencing direct childhood victimisation (i.e. physical, sexual, and psychological abuse, and physical and psychological neglect) or indirect childhood victimisation (i.e. exposure to domestic violence) and the risk of engaging in CPVA were explored. The results from the eight meta-analyses support a possible relationship between experiencing childhood maltreatment and an increased risk of engaging in any form of CPVA (i.e. overall CPVA) and physical CPVA. Additionally, the narrative synthesis of evidence regarding psychological CPVA suggests a likely association between experiencing childhood maltreatment and engaging in psychological CPVA; for a clearer understanding of this relationship, further research will benefit from a more consistent definition and measurement of psychological CPVA.

Despite results suggesting the association between experiencing childhood maltreatment and risks of engaging in CPVA, the pooled estimates in correlation coefficients and odds ratio effect sizes are small. Also, not all maltreated victims recruited in the included studies had engaged in CPVA. These indicate a weak relationship between childhood maltreatment and CPVA. Other factors may interplay with the risk of CPVA. This is consistent with findings that violence is an equifinality phenomenon resulting from the cumulation and interaction of multiple risk factors (Espejo-Siles, Zych, Farrington, & Llorent, 2020; Hoyo-Bilbao, Orue, Gámez-Guadix, & Calvete, 2020; Mitjans et al., 2019). This is well illustrated by Cottrell and Monk's (2004) proposed nested ecological theory for CPVA.

Currently, little is known regarding which aspect of childhood maltreatment is influential and the mechanisms that underlie the suggested relationship. For

example, most studies measured the frequency or presence/absence of childhood maltreatment. However, this sheds little light regarding the impacts of severity, duration of exposure, or cumulation of each type of childhood maltreatment experienced on the risk of CPVA (Clemmons, Walsh, DiLillo, & Messman-Moore, 2007). Similarly, little is understood about the influence of childhood maltreatment on the nature of CPVA, such as severity, duration, and onset. This systematic review also highlights that beyond physical harm, little attention has been placed on other types of maltreatment and CPVA. Overall, limited exploration could be conducted to address the question of "what is the relationship between experiencing childhood maltreatment and risk of engaging in CPVA".

Regardless of the aforementioned limitations, the suggested influence of childhood maltreatment on the risk of CPVA, shown in this systematic review, can be explained by the theory of attachment. Due to the maltreatment experienced in childhood, victims are likely to constantly fear losing their attachment figure or feel anger and resentment, as their attachment figure was unable to meet their need for security (Gillath et al., 2016; Ross & Pfäfflin, 2003). Causing harm may serve a protective or communicative function for any of these emotions (Ross & Pfäfflin, 2003; Siegel & Victoroff, 2009). Some youths have reported engaging in abuse or violence against their parents, to express anger and/or create an emotional connection with their parents (Cottrell & Monk, 2004).

Cognitive distortions (Briere & Jordan, 2009), mental illnesses (Heim, Shugart, Craighead, & Nemeroff, 2010), substance misuse (Day et al., 2008), and neurological difficulties, such as poorer executive functioning and difficulties in emotional inhibition and processing (Gould et al., 2012), are likely to explain the

relationship between experiencing childhood maltreatment and risk of engaging in CPVA. For example, substance misuse was found to double the risk of child-to-father physical violence (Pagani et al., 2009), possibly as substance misuse contributes to reduced behavioural inhibitions (Smith, Mattick, Jamadar, & Iredale, 2014). The interaction of heightened stress sensitivity, poor emotional regulation, and impulsivity could also disrupt an individual's long-term consequential thinking and reduce one's awareness of personal responsibility in one's emotions and behaviours (Gould et al., 2012; Heim et al., 2010); hence increasing the likelihood of aggressive responses (Roberton, Daffern, & Bucks, 2012).

2.5.1. Gallego et al. (2019) Study

To the author's knowledge, there is one study (Gallego et al., 2019) that had conducted a meta-analysis exploring the relationship between experiencing childhood maltreatment and the risk of engaging in CPVA. Gallego et al. (2019) study was published after the completion of this thesis's systematic review.

This thesis's study has a stronger methodology. A more extensive search for relevant studies was conducted. A quality assessment was also conducted for studies included in this thesis's systematic review. Furthermore, sensitivity analyses were used to inform decisions regarding meta-analyses. Gallego et al. (2019) did not evidence their decisions to transform all estimates into correlation coefficients effect size metric and to conduct a meta-analysis of the obtained data regarding psychological CPVA.

There were also differences in the analyses conducted. Gallego et al. (2019) conducted three meta-analyses, all of which used correlation coefficient effect size

metric. The first model explored the relationship between the type of childhood maltreatment (i.e. direct victimisation and exposure to domestic violence) and overall CPVA. The second model explored the relationship between overall childhood maltreatment and the type of CPVA (i.e. physical CPVA and psychological CPVA). The last model explored the relationship between overall childhood maltreatment and overall CPVA in two different groups (i.e. community and judicial samples). This thesis's systematic review explored six models, based on parameters for two dependent variables (i.e. overall CPVA and physical CPVA) against three independent variables (i.e. overall childhood maltreatment, direct victimisation, and exposure to domestic violence). Also, the eight meta-analyses conducted were based on two effect size metrics (i.e. correlation coefficient and odds ratio). Another difference was that no subgroup analysis was conducted by Gallego et al. (2019) while this thesis's study explored if there were significant group differences (i.e. general community versus targeted/referred population) for the explored models.

The results from Gallego et al. (2019) study and this thesis's systematic review largely support the overall conclusion that a significant and positive relationship between the experience of childhood maltreatment (i.e. overall childhood maltreatment, direct victimisation, and exposure to domestic violence) and CPVA exists. However, inconsistent findings were observed between the two studies. In Gallego et al. (2019) study, moderate correlations ($r > .3$) were found between different parameters of childhood maltreatment variables and CPVA variables, as compared to the weak association suggested in this thesis's study. Also, Gallego et al. (2019) found direct victimisation and exposure to domestic violence to be equally associated with overall CPVA; in this thesis's study, direct victimisation

was found to have a stronger association (Figure 2.4. and 2.5.). Lastly, Gallego et al. (2019) concluded having found a significant and positive relationship between the experience of overall childhood maltreatment and psychological CPVA. Conversely, the mixed evidence found in this thesis's study indicates the need for caution to be taken (see Section 2.4.4.). These inconsistencies are likely to be a result of clinical and statistical heterogeneity among the included studies, in addition to differences in study design and methodological rigour between the two systematic reviews.

2.5.2. Direct and Indirect Victimisation

A slightly smaller pooled estimates was observed in this study's meta-analyses for exposure to domestic violence, as compared to direct victimisation. This finding suggests that although both experiences have overlapping aspects which contribute to the risk of CPVA, the experience of direct victimisation has an influential aspect that is not attributable to indirect victimisation (i.e. unique contribution). Similar findings were shown in Herrenkohl and Herrenkohl (2007) and Kulkarni et al. (2011) studies - direct victimisation was more strongly associated with poor outcomes. This may be because direct victimisation poses a greater threat to one's survival (Kulkarni, Graham-Bermann, Rauch, & Seng, 2011). It also directly impacts one's attachment relationship, due to betrayal trauma (Zurbriggen, Gobin, & Kaehler, 2012). However, as findings regarding the specific contributions of direct and indirect childhood victimisation are mixed, as evidenced by Gallego et al (2019) and this thesis's studies, future studies in this area will be necessary for greater clarity regarding the impact of the experience of direct victimisation and the exposure to domestic violence on the risk of CPVA.

2.5.3. Subgroups

Overall CPVA. The mixture of non-significant and significant subgroup effects and visual inspection of the forest plots (Appendix G) indicate possible interaction effects with other factors or the presence of confounding factors that are influencing the true subgroup effect (Richardson, Garner, & Donegan, 2019). These factors may include other adverse experiences, mental illnesses, substance misuse, peer influences (Biehal, 2012; Cottrell & Monk, 2004), gender proportion of the sample (Walsh & Krienert, 2007), or on-going reciprocal violence between the parents and child (Ibabe et al., 2013). If the issue of interaction effect and confounds are addressed, future studies may gain a clearer understanding of the differential impact of the general public and purposive sample. For example, reviews conducted may include only prospective studies, studies recording childhood maltreatment experience before the onset of CPVA, or studies with a narrower age group. Overall, the mixed findings within the subgroup analyses and the substantial unexplained heterogeneity highlight the complexity of the underlying factors contributing to CPVA.

Physical CPVA. No significant difference, between the general community and purposive sampling groups, in the association between childhood maltreatment and physical CPVA was found. This result may have been impacted by factors discussed above or the uneven distribution of studies and sample sizes between the two subgroups (Richardson et al., 2019). Another possibility is that, because CPVA is a largely hidden but relatively prevalent phenomenon (Tew & Nixon, 2010; Wilcox & Pooley, 2015), the general public population and purposive sample group are similar in CPVA-related characteristics; therefore, the risk associated with

childhood maltreatment is not diminished among the general public, as compared to the purposive sample group.

2.5.4. Research and Clinical Implications

In this systematic review, experiencing childhood maltreatment is suggested to be significantly linked with an increased risk of engaging in CPVA. Hence, there is a clear need for further research to establish a body of empirical evidence explaining why and which aspect of the experience of childhood maltreatment contributes to the onset, maintenance, and severity of different types of CPVA. Additionally, the included studies highlighted the current lack of consensus regarding the definition of CPVA and the scarcity in CPVA-related tools with strong validated psychometric properties, which is aligned with Ibabe (2020) systematic review findings.

Clinically, this systematic review lends support to arguments that childhood maltreatment can have a wide-reaching, destructive impact on an individual and the importance of continued efforts to prevent childhood maltreatment. Also, sufficiently early intervention, that addresses one's trauma, may reduce the likelihood of the onset of CPVA. There is potential value in identifying and considering the impact of the experiences of childhood maltreatment when professionals formulate and plan interventions targeting CPVA. Additionally, as a weak association between childhood maltreatment and CPVA was signalled in this study, considering other biopsychosocial factors while formulating will be essential, to identify the appropriate risk management and treatment plans.

2.5.5. Limitations

The high clinical and statistical heterogeneity observed among the included studies reduces the confidence that can be attributed to the significant finding of the relationship between experiencing childhood maltreatment and the risk of engaging in CPVA. This is because, the included studies are likely to be estimating different quantities of the impact of the exposure (i.e. childhood maltreatment) and possess different degrees of bias (Higgins & Green, 2011). For example, studies have shown gender differences regarding CPVA (Calvete et al., 2015; Ibabe et al, 2013) and childhood maltreatment (Cullerton-Sen et al., 2008; Topitzes, Mersky, & Reynolds, 2011). However, analysis considering gender differences could not be conducted for this preliminary study. Although a random-effects model was used and a subgroup analysis was conducted to address the observed heterogeneity, a narrower set of inclusion criteria (e.g. only child-to-mother/father violence, non-bidirectional studies, or adolescents) may reduce the heterogeneity and allow for increased clarity in the studied relationship. A broad inclusion criterion was used for this preliminary study, as it was at the exploratory stage and few studies had focused on each of the listed criteria.

The funnel plot test results suggest that not all applicable studies were included in this study. This may be due to the lack of access to the data or full-text article, despite attempts made to contact the authors (see Figure 2.1.). Additionally, although a range of databases was searched, excluded databases could contain studies applicable to this review.

The included studies mostly used a retrospective or cross-sectional study design, and some measured the exposure and outcome variables within the same timeframe; hence, the relationship between experiencing childhood maltreatment

and engaging in CPVA may be bi-directional (Ibabe, 2014; Ibabe et al., 2013). Also, transformed estimates of the included studies are likely to be conservative, as the inter-correlation of combined factors were unknown (Rosenthal & Rubin, 1986). Both factors reduce the accuracy of the results regarding the true impact of childhood maltreatment on an individual's risk of engaging in CPVA.

2.6. Conclusions

The results suggest that experiencing childhood maltreatment, both direct and indirect victimisation, is significantly but weakly associated with an individual's increased risk of engaging in overall and physical CPVA. The odds of a maltreated victim engaging in overall CPVA or physical CPVA is found to be approximately 1.3 times higher than a non-victim. Additionally, most included studies reported a significant relationship between experiencing childhood maltreatment and engaging in psychological CPVA. Overall, there is strong support for preventive and intervention work targeting CPVA to consider the impact of childhood maltreatment.

Significant statistical and clinical heterogeneity and possible publication bias observed in this study indicate a research need to extend the current understanding of the relationships found in this review. Consensus for the definition of different types of CPVA should also be established. Additionally, creating standardised CPVA tools and focusing beyond physical harm are necessary to allow for a more robust understanding of the relationship between childhood maltreatment and CPVA.

The previous chapter answered research question one: "What is the relationship between experiencing childhood maltreatment and engaging in CPVA?". The systematic review findings suggested that experiencing childhood maltreatment is significantly associated with one's risk of engaging in CPVA. However, there is poor understanding regarding what aspects of childhood maltreatment can influence a child's future behaviours towards their parents and the mechanisms that underlie the studied relationship. To address these research gaps, a quantitative online questionnaire study (spilt into two chapters - primary study one and two) focusing on females (aged 18 to 25) was conducted. The following chapter covers the methodology of the two studies investigating three research questions:

1. *Which type(s) of childhood maltreatment predict(s) CPVA? (Chapter Four)*
2. *Will the experience of cumulative types of childhood maltreatment predict CPVA? (Chapter Four)*
3. *Do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA? (Chapter Five)*

Chapter 3: Methodology

This chapter covered the research and analytical methods of the two primary studies conducted and discussed in Chapters four and five. The overall aim of the studies was to understand the relationship between childhood maltreatment and child-to-parent violence and abuse (CPVA) amongst young female adults.

In primary study one (Chapter Four), the relationships between the experiences of specific and cumulative types of childhood maltreatment and CPVA were explored. The types of childhood maltreatment studied were physical, psychological, and sexual abuse and physical and psychological neglect. Two research questions were investigated:

- In relation to young female adults, which type(s) of childhood maltreatment predict(s) CPVA?
- In relation to young female adults, will the experience of cumulative types of childhood maltreatment predict CPVA?

The focus of primary study two (Chapter Five) was on the association of two overarching mediators, post-traumatic stress disorder (PTSD) symptoms and irrational beliefs, with the relationships explored in primary study one. The main research question explored was:

- In relation to young female adults, do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?

3.1. Development and Implementation of Preliminary Study

The methodology of a quantitative online questionnaire study, spilt into two chapters (primary study one and two). The methods were piloted in the author's first year study (submitted for the annual review of Year 1, not part of this thesis).

The research question in the preliminary study was "do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?". This preliminary study phase allowed for practical testing of the planned design and procedure, the recruitment method, the potential volume of responses within a set period, the gender ratio of participants, and the feasibility of the adapted questionnaires for the doctorate research in this thesis. Modifications were made following the preliminary study (Section 3.2.).

3.1.1. Study Design of the Preliminary Study

A quantitative, retrospective, cross-sectional study was conducted. This design was chosen as best suited for this exploratory research regarding new aspects of CPVA (Meza & Passerman, 2011). Low cost was involved, multiple variables could be studied with a single data collection time-point, and the ethical concern of participants being deliberately exposed to the studied adverse experience was excluded (Mann, 2003). This design also allowed for an estimated prevalence rate to be obtained, assuming that the sample was relatively representative of the target population (Levin, 2006). Additionally, conducting quantitative research, compared to qualitative research, increased the likelihood of the generalisation and the objectivity of the findings (Tacq, 2011). However, simultaneous measurement of variables prevents causality from being established (Mann, 2003). Also, the potential impact of bi-directionality between CPVA and PTSD symptoms, irrational beliefs, or other ongoing factors, such as parents' hostile interactions, could not be excluded.

3.1.2. Ethics

Ethics approval was granted on 1st March 2018 by the University of Nottingham, Faculty of Medicine & Health Sciences Research Ethics Committee (Reference

number: FMHS 249-1802). As internet-mediated research was conducted, the British Psychological Society's guidelines (2013) were consulted.

Consent. Within the online survey, participants were given a participant information sheet and an informed consent form (Appendix P), which included information such as the study objectives, risks associated with the study, limits of anonymity, data storage, option to withdraw consent, and contact details of the researchers. Included at the end of each page of the survey was the option to withdraw their consent to participate in the study and the use of their responses, with no consequences.

Partial Deception. To reduce social desirability, partial deception was used in this study. Advertisements and the participant information sheet concealed part of the study aim by using broad terms, such as "interaction with one's caregivers" and "adverse experiences". No additional risk nor discomfort was likely elicited from the partial deception (Boynton, Portnoy, & Johnson, 2013). In the debriefing form (Appendix P), participants were informed of the full aim of the study and asked to restate their consent. Also, they were given the option to contact researchers for any questions, concerns, or discomfort, regarding the deception.

Sensitive Questions. A wide range of abuse focused survey-based studies has produced minimal harm and discomfort (Finkelhor, Hamby, Turner, & Walsh, 2016). Regardless, in the participant information sheet (Appendix P), participants were informed of potential feelings of distress associated with answering questions regarding one's experience of suffering from or engaging in maltreatment. In the debrief form (Appendix P), they were provided with avenues of support, for

continuity of care. Also, they were given the author's and the principal investigator's email addresses, to raise any concerns.

Anonymity and Confidentiality. Key identifiers, such as name and address, were not collected within the survey. The UK Data Protection Act 2018 was also applied to all the information that was gathered. In the participant information sheet (Appendix P), participants were informed of the limits of anonymity and confidentiality.

3.1.3. Recruitment (Preliminary Study Phase)

Recruitment was conducted between 1st April 2018 to 30th June 2018. Participants of either gender, between ages 18 to 25, from the United Kingdom, were recruited for the preliminary study. Age and location were the only two inclusion criteria. No compensations nor incentives were given to participants; the individual's autonomous choice to participate reduces undue influences and promotes informed consent (Resnik, 2015)

Snowball and voluntary sampling methods were used. The study was advertised on various online mediums, such as social media (i.e. Facebook, Instagram), forums (i.e. Craigslist and Gumtree), and a dedicated site for participant recruitment (i.e. www.callforparticipants.com). Administrative staff also emailed the survey link to the University of Nottingham students. Altogether, 233 individuals (8.6% were males, 85.8% were females) completed the survey. The quick recruitment of participants provided confidence that the power of the data, for this thesis study (see Section 3.3.1.), could be reached.

Due to self-selection bias, the sampling method reduced the likelihood of participants being representative of the general population (Mann, 2003). Respondents may be systematically different from non-respondents, which increases the likelihood of the former group completing the survey. For example, participants may be more pro-social or well-functioning, therefore, having greater capacities and time to participate in this study. Additionally, respondents had to have sufficient English language proficiency and access to the internet. All these characteristics may influence the studied outcome (Levin, 2006).

3.1.4. Administration of Questionnaires

The online survey was hosted on Bristol Online Surveys (BOS) site. Participants were given a link to complete the survey from any location of their convenience. Internet was the chosen medium, as it was a convenient, accessible, and cheap method to reach out to a larger number of individuals (Hewson, Yule, Laurent, & Vogel, 2002; Sax, Gilmartin, Lee, & Hagedornet, 2008). However, deception by participants or a data breach may occur (Hewson et al., 2002). Self-administered questionnaires were used, due to the low cost and allowance for a large dataset to be collected within a short duration. However, participants could not clarify any instructions or questions whilst completing the survey (Finkelhor et al., 2016).

3.1.5. Measures Used in Preliminary Study

All included measures were self-reports. Many of the items involved retrospective recall. Factors such as response bias, memory bias, or reverse temporal ordering may have reduced the accuracy and/or objectivity of the answers (Edwards, Fivush, Anda, Felitti, & Nordenberg, 2008; Finkelhor et al., 2015). Additionally, there lacked other sources of information to corroborate with the self-reported information. Despite the weaknesses, collecting self-report was decided as

sufficient, though not ideal, for this exploratory CPVA study. Firstly, aspects such as one's beliefs or perceptions of an experience may be best represented by the input of the individual of focus. Reasons such as low cost and increased likelihood of response, due to potential motivation to share one's personal experiences (McDonald, 2008), were also taken into consideration. Altogether, six questionnaires were administered. Detailed descriptions of the measures, used in the finalised study, can be found in Section 3.3.2..

3.1.5.1. Demographic Questionnaire

Key characteristics of participants, such as age, family structure, and living arrangements, were collected via 10 items.

3.1.5.2. Adapted Child-to-Parent Violence and Abuse Questionnaire (Appendix L)

This is a 23-items self-report tool, with a four-point scale. This questionnaire was created due to the lack of a psychometrically validated tool to measure the presence of CPVA amongst young adults. It was adapted from the Responding to Child to Parent Violence evaluation framework (Ferrando, Garcés, Durá, Ródenas, & Branchini, 2015) and Edenborough et al. (2011) Child-to-Mother Violence Instrument questionnaire. They were chosen due to their rigorous development process. The former questionnaire was borne out of a research partnership amongst six institutions from Bulgaria, England, Ireland, Spain, and Sweden. This instrument was conceptualised based on existing violence-related questionnaires, professional inputs, and desk research. Thereafter, three stages of validation were conducted: testing the instrument with external experts, subsequently, implementors and past participants of the Break4Change CPV programme, and lastly, current participants of the Break4Change CPV programme (Ferrando et al.,

2015). Edenborough et al. (2011) Child-to-Mother Violence Instrument was developed through multiple stages: reviewing the literature, incorporating feedback from children and expert panels, and conducting psychometric testing of the pilot and edited instruments with groups of mothers whose children are aged 10 to 24. It was reported to have high reliability (e.g. test-retest intra-class correlation coefficient of 0.97 and Cronbach's alpha = .90).

3.1.5.3. Adverse Childhood Experience-Revised (Finkelhor et al., 2015; Appendix M)

Only five of the original 14 items were included in this study (see detailed rationale in Section 3.3.2.3., page 74); they measured the presence/absence of the experience of five types of childhood maltreatment, prior to age 18. Although there is a lack of studies verifying the psychometrics properties of Adverse Childhood Experience-Revised, a systematic review by Petruccelli et al. (2019) found the five items, included in this study, to consistently be significantly associated with poor outcomes across various studies. Additionally, Finkelhor et al. (2013) found that regardless of the removal or addition of other items to the Adverse Childhood Experience-Revised scale, the five included items independently contributed to the tool's predictive power.

3.1.5.4. Impact of Event Scale-Revised (Weiss, 2004; Appendix N)

This is a 22-items self-report tool, with a five-point scale. It is shown to have strong sensitivity as a screener for PTSD symptoms (Morina, Ehring, & Priebe, 2013) and an adequate four factors model (Gargurevich, Luyten, Fils, & Corveleyn, 2009). Strong psychometric properties were observed among university students (Gargurevich et al., 2009), lung injury survivors (Bienvenu, Williams, Yang, Hopkins, & Needham, 2013), veterans (Creamer, Bell, & Failla, 2003), and

individuals who had experienced war (Morina et al., 2013). The instructions of this tool were modified within this study (see Section 3.3.2.4.).

3.1.5.5. Attitudes and Belief Scale 2-Abbreviated Version (Hyland et al., 2014; Appendix O)

Only the 12-items measuring irrational beliefs were included. A five-point scale was used. Although Hyland et al. (2017) had raised concerns regarding the items measuring both the context and psychological process of the beliefs, this tool was chosen as it is widely used in clinical practice (David, 2014; David, DiGiuseppe, Dobrean, Pasarelu, & Balazsi, 2019). Also, the irrational beliefs subscales have adequate psychometric properties and, as compared to the rational beliefs subscales and older versions of the scale, lesser problems with contamination (David et al., 2019). Hyland et al. (2014; 2017) studies showed adequate eight factors models, strong construct validity, and all factor loadings being statistically significant. Also, adequate internal reliability was reported; the composite reliability value(s) was .58 for low frustration tolerance and were more than .65 for demandingness, catastrophising and depreciation (Hyland, Fox, Treacy, Maguire, Boduszek, & Vallières, 2017). Hyland et al. (2014) study was conducted with emergency service personnel whilst Hyland et al. (2017) study was conducted with undergraduates from various universities in the Republic of Ireland, Northern Ireland, and England.

3.1.5.6. Shortened General Attitude and Belief Scale (Lindner et al., 1999)

Only the irrational beliefs scale (i.e. 21 items) was used. It consisted of six subscales: self-downing, need for achievement, need for approval, need for comfort, demand for fairness, and other-downing. A five-point scale was used (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

Moderate internal consistency reliability (α value < 0.78) and test re-retest reliability (0.65<r<0.87) for each subscale were found (Lindner et al., 1999). The tool was also chosen as it was widely used in clinical practice and reportedly comprehensive enough to measure an adult's irrational beliefs (David, 2014; Macavei & McMahon, 2010).

3.2. Modifications Made to the Preliminary Study

In the finalised study, the Shortened General Attitude and Belief Scale (Lindner et al., 1999) was removed. Secondly, additional questions were included in the demographic questionnaire (questions 9 to 11 of Appendix K). The last modification made to the study design was to focus only on females. The changes made to the Impact of Event Scale-Revised (Weiss, 2004) and the Adapted Child-to-Parent Violence and Abuse Questionnaire were kept. The rationales for the decisions are detailed in the next section.

3.2.1. Analysis of Preliminary Study

To test the feasibility of the questionnaires and administrative procedure, a preliminary analysis of the influence of mediators (i.e. PTSD symptoms and irrational beliefs) on the relationship between childhood maltreatment and CPVA was conducted. CPVA was analysed as a single variable. There were 224 datasets (19 males, 194 females; mean age=21.13). It was decided that a better understanding of the spread of participants was needed, to inform the representativeness of the sample. Throughout the whole study, no participants had contacted the researchers or the ethics committee to raise concerns or discomfort regarding the partial deception used nor the questions asked within the measures. This provided support for the study design decisions explained in Section 3.1.2..

The presence/absence of childhood maltreatment and the number of types of childhood maltreatment experienced were significantly correlated with overall PTSD symptoms, overall irrational beliefs, and CPVA (p<.05). Based on linear regression analyses, the presence and cumulation of types of childhood maltreatment were both found to significantly predict overall PTSD symptoms, overall irrational beliefs, and CPVA (p<.05). These significant findings showed that the modifications made to the Impact of Event Scale-Revised (Weiss, 2004) had little impact on the construct and content validities.

Multiple mediation analyses found that subscribing to lower levels of overall irrational beliefs, and demandingness and depreciation beliefs (95% CI[5]<0) were significantly associated with the relationships between the presence or experiencing more types of childhood maltreatment and CPVA. Overall PTSD symptoms (95% CI>0), but not its sub-variables, was significantly associated with the relationship between cumulative types of childhood maltreatment and CPVA. From the analyses, no significantly different information was obtained from the Shortened General Attitude and Belief Scale (Lindner et al., 1999) and the Attitudes and Belief Scale 2-Abbreviated Version (Hyland et al., 2014). Also, participants commented on the repetitiveness of the questions between the two questionnaires. Hence, the Shortened General Attitude and Belief Scale (Lindner et al., 1999) was removed, to reduce respondent fatigue.

[5] 95% CI refers to 95% bias corrected confidence interval

3.3. Study Methods for the Finalised Study

Ethics approval for the discussed amendments was given on 29th November 2018. The finalised study aimed to answer three research questions, in relation to young female adults, which were covered within chapters four and five of this thesis:

1) Which type(s) of childhood maltreatment predict(s) CPVA?
2) Will the experience of cumulative types of childhood maltreatment predict CPVA?
3) Do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?

3.3.1. Recruitment (Finalised Study Phase)

As a high volume of responses was obtained within the preliminary study phase, the same non-random, non-probability sampling method described in Section 3.1.3. was used. The calculation based on MedPower (Kenny, 2017) estimated that a minimum sample size of 435 was necessary. Taking reference from Fritz and MacKinnon (2007), an overall power of .8 and a medium effect size of .39 were adopted. These values were also based on the consideration that this was an exploratory study, which to the author's knowledge had never been conducted. Due to multiple planned analyses on a single dataset, an alpha level of .01 was adopted to reduce false discovery rate (Benjamini & Hochberg, 1995; Colquhoun, 2014).

3.3.1.1. Target Population

Due to the presence of sex differences in the experience and expression of violence (Ibabe et al., 2013; see Section 1.4.), only females were targeted during this recruitment phase. The only other inclusion criteria were that participants had to be between ages 18 to 25 and residing in the United Kingdom.

3.3.1.2. Recruited Sample (Finalised Study Phase)

The recruitment drive, between 1st December 2018 to 5th June 2019, gathered 583 responses. The response rate could not be accurately determined, due to the lack of data regarding the total number of individuals who had seen the promotional posts. However, if based solely on the social media advertisements, the response rate for the finalised study phase was 2.48%; this was based on the assumption that the 23,555 individuals reached were all unique, of which there were 1,175 engagements. There lacked data to explore if significant differences existed between respondents and non-respondents.

3.3.2. Measures Used in the Finalised Study

Participants completed five questionnaires, which measured the exposure (i.e. childhood maltreatment), mediators (i.e. PTSD symptoms and irrational beliefs) and outcome (i.e. CPVA) variables. The Shortened General Attitude and Belief Scale (Lindner et al., 1999) was removed, as its items and findings had overlapped with the Attitudes and Belief Scale 2-Abbreviated Version (Hyland et al., 2014).

Several strategies were used to improve the accuracy of the responses. To reduce response bias, anonymity was maintained (Ong & Welss, 2000) and statements of contribution to others/society were included within the participant information sheet (Gordon, 1987). Also, participants could choose a location they felt sufficiently safe at when disclosing sensitive information (Finkelhor et al., 2016; Hewson et al., 2002). It was decided that these, together with partial deception (see Section 3.1.2.), would sufficiently address socially desirable responding. Therefore, a lie scale was not included. Furthermore, current debates highlighted the lack of nuanced understanding regarding the form of honesty captured within a lie scale (Feldman, 2019); this impacts decisions on how results from a lie scale

would be used for analysis in this study. To reduce habituation bias and increase the reliability of the responses, a control question was added to the Adapted Child-to-Parent Violence and Abuse Questionnaire (Appendix L), Impact of Event Scale-Revised (Finkelhor et al., 2015; Appendix N), and Attitudes and Belief Scale 2-Abbreviated Version (Hyland et al., 2014; Appendix O). The control questions served as instructional manipulation checks, in which respondents were expected to adhere to a specific response (Oppenheimer, Meyvis, & Davidenko, 2009). Participants' questionnaires with incorrectly answered control questions were omitted from the respective analyses (see Appendix Q).

3.3.2.1. **Demographic Questionnaire** (Appendix K)

Key characteristics of participants were collected via 12 items. These data allowed for potential omission bias to be accounted for and an understanding of the representation of the participants.

3.3.2.2. **Adapted Child-to-Parent Violence and Abuse Questionnaire** (Appendix L)

Three subscales scores were obtained from this questionnaire: physical, psychological, and financial CPVA. Respondents completed it based on their past 12 months of interactions with their parent(s). Each item was rated on a four-point scale (0=never, 1=occasionally, 2=most weeks, 3=daily). Higher scores indicated greater severity of CPVA. Based on the sample recruited during the preliminary study phase and the finalised study phase (i.e. this thesis's overall recruited sample), high internal reliability was observed for overall CPVA scale and psychological CPVA subscale (Cronbach's alpha = .80, .75 respectively). Moderate

internal reliability was observed for physical and financial CPVA subscales (Cronbach's alpha = .65, .61 respectively).

3.3.2.3. **Adverse Childhood Experience-Revised** (Finkelhor et al., 2015; Appendix M)

Respondents indicated the presence/absence of experiencing physical, psychological, and sexual abuse, and physical and psychological neglect, prior to age 18. Only acts perpetrated by one's parents were measured; as mentioned in the Introduction Chapter (page 1), a parent refers to any adult household member responsible for parenting and caring for an individual since childhood. To reduce respondent fatigue, adverse experiences that were not the focus of this study were excluded. For example, household substance use, incarcerated family member, exposure to community violence, peer victimisation, or experiencing disasters. Excluding these items were deemed not to impact the interpretation of the included items. Also, the nine excluded items do not capture all possible adverse experiences (Finkelhor et al., 2015; Shapiro, 2001); hence, they would not sufficiently inform the confounding factor of non-childhood maltreatment related trauma. Based on this thesis's overall recruited sample, moderate internal reliability was observed for the five items (Cronbach's alpha = .71).

3.3.2.4. **Impact of Event Scale-Revised** (Weiss, 2004; Appendix N)

This tool measured the severity of intrusion, avoidance, and hyperarousal PTSD symptoms within the past seven days. A five-point scale was used (0=not at all/not applicable, 1=a little bit, 2=moderately, 3=quite a bit, 4=extremely). Higher scores signalled greater severity of PTSD symptoms experienced by the respondent. Based on this thesis's overall recruited sample, high internal reliability

was observed for the overall scale (Cronbach's alpha = .96) and intrusion, avoidance, and hyperarousal subscales (Cronbach's alpha = .93, .90, and .90, respectively).

This study modified the instructions by not specifying an adverse experience for respondents to answer the symptoms in relation to. This decision was made in consideration of the nature of complex trauma, where there is an accumulation of adverse experiences (Shapiro, 2001), and the high frequency of co-occurring types of traumas (Wolfe, 2018). Hence, asking participants to answer with respect to a single event may not accurately capture their symptoms. Additionally, theoretical and empirical literature suggested that PTSD-related symptoms are specific to the victims, and not the event (Courtois, 2004), and that early trauma experiences have strong influences over subsequent trauma experiences and the development of trauma-related symptoms (Shapiro, 2001). Therefore, the modification should have little impact on the validity of the tool.

At the end of the scale, an additional question was included. It explored if the respondent had undergone adverse experiences other than childhood maltreatment. The aim was to control for the confound of non-childhood maltreatment related trauma.

3.3.2.5. Attitudes and Belief Scale 2-Abbreviated Version (Hyland et al., 2014; Appendix O)

This tool measured demandingness, catastrophising, low frustration tolerance, and depreciation. A five-point scale was used (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). Higher scores indicated stronger irrational beliefs held by the respondent.

Based on this thesis's overall recruited sample, high internal reliability was observed for the overall irrational beliefs scale (Cronbach's alpha = .88) and demandingness, low frustration tolerance, and depreciation subscales (Cronbach's alpha = .77, .71, .77 respectively). Moderate reliability was observed for catastrophising subscale (Cronbach's alpha = .66).

3.4. Data Analysis of the Current Study

IBM SPSS Statistics software version 24, together with PROCESS macro version 3.1 by Hayes and Heteroskedascity test version 2 by Daryanto were used to analyse the data.

3.4.1. Attrition

In the preliminary study phase (i.e. 1st April 2018 to 30th June 2018), 233 responses were collected; this phase targeted both male and female respondents. The finalised study phase (i.e. 1st December 2018 to 5th June 2019) gathered 583 responses. Altogether, 816 participants were recruited.

After removing the responses of participants who had withdrawn consent (n=19), did not indicate as female gender (n=36), were outside of the age range (n=11), had insufficient dataset for analysis (n=28), and were outliers (n=13; Osborne, 2013; Tabachnick & Fidell, 2007), 709 responses remained. None of the respondents had missing data within a questionnaire. Instead, there were entire questionnaires unanswered or removed, due to incorrect responses to the control questions. A breakdown of the attrition of the sample is shown in Appendix Q. There were no observable differences in characteristics between respondents who were excluded and included, and between respondents who had incorrect and correct answers to the control questions.

3.4.2. Data Transformation

CPVA. Each type of CPVA (i.e. physical, psychological, and financial) had differing prevalence rates and associations with risk factors (Gámez-Guadix & Calvete, 2012; Ibabe, 2014; Ibabe et al., 2013). Hence, within the two primary studies, they were analysed as three separate variables. As continuous data was collected for CPVA, tests for violation of assumptions for linear regression were conducted. Shapiro-Wilk tests (p<.05) and Q-Q plots of standardised residuals indicated a violation of normality of residual assumption for all three types of CPVA. For psychological CPVA, following Osborne's (2013) recommendations, responses containing standardised residuals that were three standard deviations beyond the mean were removed. As residuals of physical and financial CPVA data were significantly non-normal (see Appendix R for Q-Q plots) and marked skewness and kurtosis of standardised residuals were observed (>1.5; Meyers, Gamst, & Guarino, 2013), both variables were dichotomised (i.e. presence or absence of engaging in CPVA). To improve the internal reliability of financial CPVA subscale, prior to dichotomising the data, the item "Have you ever incurred debts without telling your caregiver(s) that s/he has then had to cover?" was removed (Cronbach's alpha =.69 after item deletion).

Childhood Maltreatment. The five items of the Adverse Childhood Experience-Revised Scale (Finkelhor et al., 2015) were transformed into two dichotomous variables: presence or absence of the experience of abuse or neglect. This was to account for the significant association and diffusion of impact among abuse or neglect subtypes (Clemmons, Walsh, DiLillo, & Messman-Moore, 2007). To explore the influence of cumulative types of childhood maltreatment on the risk of CPVA,

participants' responses to the five items of the Adverse Childhood Experience-Revised Scale (Finkelhor et al., 2015) were summed up to form a single variable.

3.4.3. Analysis

Psychological CPVA. To explore the relationship between childhood maltreatment and psychological CPVA (primary study one; Chapter Four), three regression tests were conducted. The first test explored whether the experience of abuse or neglect significantly predicted the risk of CPVA (Section 3.3., question one). If significant, the influence of specific types of abuse and/or neglect on psychological CPVA was explored (Section 3.3., question one). The last regression test explored if experiencing cumulative types of childhood maltreatment predicted the risk of CPVA (Section 3.3., question one).

As the homoscedasticity assumption was violated (Koenker test: $p<.05$), heteroscedasticity-consistent standard error estimators were used (Hayes & Cai, 2007). The assumptions of no multi-collinearity (VIF <10) and independence of residuals (based on a scatterplot of standardised residual against standardised predicted value) were maintained. Bootstrapping with 5,000 resamples was used to improve the accuracy of the results (Hayes, 2018; Osborne, 2013). A bias-corrected 95% confidence interval was used, instead of a percentile-based confidence interval, as it is more reliable (Wichmann & Hill, 2001) and the skewness of the estimate distribution was considered (Hayes, 2014). To reduce the false discovery rate, a significance threshold of $p=.01$ was used (Benjamini & Hochberg, 1995; Colquhoun, 2014).

For primary study two (Chapter Five), multiple mediation analyses were conducted to answer research question three (Section 3.3.). Altogether, seven mediators (i.e.

intrusion, hyperarousal and avoidance PTSD symptoms, and demandingness, catastrophising, low frustration tolerance and depreciation beliefs) were analysed as separate variables. Although the mediators were significantly correlated (see Table 2 of Appendix S), there were theoretical and practical bases to conduct multiple mediation analyses with seven separate mediator variables (Hayes, 2018). The influence of mediators was only explored for relationships that were found to be significant in primary study one. The decision to conduct mediation analyses was supported by significant correlations found between specific types or cumulative types of childhood maltreatment and each mediator (see Table 1 of Appendix S). Additionally, the multi-collinearity assumption was maintained (Hayes, 2018). Five thousand bootstrapping resamples with a bias-corrected 95% confidence interval were used (Hayes, 2018).

Physical and Financial CPVA. To explore the relationship between childhood maltreatment and physical/financial CPVA, multiple logistic regression analyses were conducted (primary study one; Chapter Four); the tests were similar to those described for psychological CPVA. The assumption of no multi-collinearity (VIF <10) was maintained. To reduce bias and variance of estimated co-efficient (Fitrianto & Cing, 2014), bootstrapping with 5,000 resamples and a bias-corrected 95% confidence interval were used. A significance threshold of p=.01 for regression analyses was used (Benjamini & Hochberg, 1995; Colquhoun, 2014).

In primary study two (Chapter Five), multiple mediation analyses were conducted to explore the association of the seven mediators with the significant relationships found in primary study one. Five thousand bootstrapping resamples with a bias-corrected 95% confidence interval were used (Hayes, 2018). As mentioned, the decision to conduct mediation analysis was supported by the correlation test

results (see Table 1 of Appendix S) and as the multi-collinearity assumption was met.

Confounders. Age and non-childhood maltreatment trauma were controlled for during the analyses. The latter variable was based on the extent to which participants had indicated their Impact of Event Scale-Revised responses to be associated with their experience of childhood maltreatment (Appendix N). These two factors were identified as confounds based on studies showing them to influence violence (Matsuura, Hashimoto, & Toichi, 2009; Najman et al., 2009).

The influence of family structure (i.e. intact/non-intact) and employment (i.e. employed/ unemployed) were tested. Similar to the respective studies by Oh et al. (2018) and Shen (2009), they did not significantly impact the relationship between childhood maltreatment and challenging behaviours (CPVA in this study's context). Hence, they were not controlled for in the final analyses.

Another potential confounder is ethnic minorities. Literature has highlighted potential cultural effects on the views of parent-child relationship (e.g. strong emphasis on filial piety of children among Chinese; Yeh & Bedford, 2004) and the impact of different parenting styles on a child's outcome (Choi, Kim, Kim, & Park, 2013; Sangawi, Adams, & Reissland, 2015). Due to the interplay of cultural factors, which may influence the results, analyses with and without the minority population were conducted to explore this possibility. As no significant differences were observed between the two sets of results, respondents from all ethnicities were included in this study.

Chapter Four: Primary Study One

Relationship Between Specific and Cumulative Types of Childhood Maltreatment and Child-to-Parent Violence and Abuse

Abstract

Background: The systematic review found that a relationship between experiencing childhood maltreatment and engaging in child-to-parent violence and abuse. However, there is limited understanding of the impact of specific types and cumulative types of childhood maltreatment on child-to-parent violence and abuse.

Aims: To extend the current understanding of the relationship between childhood maltreatment and child-to-parent violence and abuse, this study explored two research questions specifically focused on young female adults: 1) Which type(s) of childhood maltreatment predict(s) child-to-parent violence and abuse? and 2) Will the experience of cumulative types of childhood maltreatment predict child-to-parent violence and abuse?

Method: A cross-sectional study was conducted. Females, aged 18 to 25, who are from the United Kingdom, were recruited using snowball and voluntary sampling methods. An anonymous online survey consisting of a demographic questionnaire, Adverse Childhood Experience-Revised, and an Adapted Child-to-Parent Violence and Abuse questionnaire was completed. Regression analyses were conducted on 709 datasets.

Results: The experience of psychological abuse, psychological neglect, and cumulative types of childhood maltreatment were independently found to

significantly increase the risk of child-to-parent psychological violence and abuse. Child-to-parent physical violence and abuse was predicted by the experience of psychological abuse and cumulative types of childhood maltreatment. Child-to-parent financial abuse was not predicted by any specific nor cumulation of types of childhood maltreatment.

Conclusions: Different types of childhood maltreatment increased the risk of child-to-parent physical and psychological violence and abuse. Literature has shown that experiencing childhood maltreatment negatively impacts multiple domains within an individual. Hence, exploring if and how trauma symptoms contribute to the relationship between childhood maltreatment and child-to-parent violence and abuse may extend this study's findings. The results also support the argument that studies should simultaneously explore all types of childhood maltreatment, instead of focusing only on one or two type(s). Conducting longitudinal studies or studies using a stratified random sampling method will be necessary, to lend support to this cross-sectional study findings.

Keywords: childhood maltreatment, multiple types of abuse and neglect, child-to-parent violence and abuse, aggression against caregivers

4.1. Childhood Maltreatment and Child-to-Parent Violence and Abuse

According to Radford et al. (2011), one in five children in the United Kingdom have experienced childhood maltreatment. In this thesis, childhood maltreatment encompasses physical, psychological, and sexual abuse and physical and psychological neglect engaged by a parent on a child below the age of 18. A parent refers to any adult household member responsible for parenting and caring for an individual since childhood. Physical abuse is the use of physical means, such as hitting and kicking, by one's parent(s), to cause hurt and injury to the child (Juntunen, 2013). Sexual abuse is the experience of being forced, by one's parent(s), to perform or witness a sexually explicit act (Deegener, 2001). Psychological abuse involves the harm of the child's development through a parent's use of psychologically or emotionally destructive attack(s) (Kaplan, Pelcovitz, & Labruna, 1999). Physical and psychological neglect refers to a parent's failure to meet the child's basic physical and psychological needs respectively, which could lead to serious disruption(s) in that child's development (HM Government, 2015).

Female victims of childhood maltreatment experience sustained difficulties from adolescence to young adulthood (Hahm, Lee, Ozonoff, & Van Wert, 2010). Possible adverse outcomes include post-traumatic stress disorder (PTSD) symptoms (Carol & Jordan, 2009), offending, violent, and abusive behaviours, substance misuse (Day, Hibbert, & Cadman, 2008), and poor mental health conditions (Horwitz, Widom, McLaughlin, & White, 2001). Additionally, systematic reviews covered in Chapter Two and by Gallego et al. (2019) have shown that experiencing childhood maltreatment is significantly associated with an increased risk of engaging in child-to-parent violence and abuse (CPVA).

CPVA is frequently described as a largely hidden but pervasive social problem and is estimated to be one of the more prevalent forms of intra-familial violence and abuse (Miles & Condry, 2015; Walsh & Krienert, 2009). As defined in Chapter One, CPVA involves physical, psychological, and financial harm directed at one's parents. Nowakowski-Sims (2019) highlighted that these acts of violence and abuse within the confines of one's home environment often extend to other social environments. Therefore, there is a pressing need to effectively tackle CPVA. Unfortunately, current understanding regarding how various risk factors, such as childhood maltreatment, contribute to this phenomenon is limited (Calvete, Orue, Gámez-Guadix, Hoyo-Bilbao, & Arroyabe, 2015b).

4.1.1. Specific Types of Childhood Maltreatment

At present, most studies exploring CPVA have only focused on physical abuse or explored multiple types of abuse as a single variable, whilst neglect is largely unexplored (see Chapter Two). The small number of studies exploring all types of childhood maltreatment were either qualitative studies (Biehal, 2012; Cottrell & Monk, 2004) or had collapsed them into a single variable (Nowakowski-Sims, 2019). Although each type of childhood maltreatment has an overlapping impact (Higgins & McCabe, 2001), different types of childhood maltreatment are associated with different risk outcomes (Bland, Lambie, & Best, 2018; Hahm et al., 2010). Exploring the influence of each type of childhood maltreatment (i.e. physical, sexual and psychological abuse, and physical and psychological neglect) may refine the current understanding of the relationship between childhood maltreatment and CPVA.

4.1.2. Cumulative Types of Childhood Maltreatment

As discussed in Chapter One, co-occurrence of childhood victimisation is a common experience (Finkelhor, Ormrod, & Turner, 2009a; Wolfe, 2018). Edwards et al. (2003) found that approximately 35% of individuals experienced at least two types of childhood maltreatment whilst the majority of Nowakowski-Sims (2019) study participants, who had engaged in CPVA, had experienced more than five types of childhood adversities. Experiencing multiple types of childhood maltreatment has consistently been found to be associated with poor outcomes (Hahm et al., 2010), such as psychological distress (Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009), interpersonal and family problems, poorer self-esteem (Elliott et al., 2009), and PTSD symptoms (Dierkhising, Ford, Branson, Grasso, & Lee, 2019). With a diverse range of short-and-long-term deleterious implications (Herrenkohl & Herrenkohl, 2007; Scott-Storey, 2011), experiencing cumulative types of childhood maltreatment may also be an influential risk factor of CPVA.

4.2. Significance and Research Questions

CPVA is detrimental to the child (Biehal, 2012; Ibabe, 2014), parents (Holt, 2016; Tew & Nixon, 2010), and society (Bland, Lambie, & Best, 2018). Hence, an increased understanding of how childhood maltreatment contributes to the risk of CPVA may allow preventive programmes, therapeutic interventions, and policies to be better informed and more effectively targeted. Primary study one aimed to refine current knowledge by exploring two research questions, in relation to young female adults:

1) Which type(s) of childhood maltreatment predict(s) CPVA?
2) Will the experience of cumulative types of childhood maltreatment predict CPVA?

4.3. Methods

As detailed in Chapter Three, this study recruited females, who are from the United Kingdom and in their young adulthood (aged 18 to 25). Voluntary and snowball sampling methods were used. They completed a self-administered, anonymous, online survey. Respondents completed a demographic questionnaire, Adverse Childhood Experience-Revised (Finkelhor, Shattuck, Turner, & Hamby, 2015), and an Adapted Child-to-Parent Violence and Abuse questionnaire.

IBM SPSS Statistics software version 24 was used to analyse the data. The five items of the Adverse Childhood Experience-Revised Scale (Finkelhor et al., 2015) were collapsed into two dichotomous variables: presence/absence of any abuse or neglect experience. This transformation was to account for the significant association and diffusion of impact among abuse or neglect subtypes (Clemmons, Walsh, DiLillo, & Messman-Moore, 2007). The five items were also summed up to form a single continuous variable, to explore the influence of cumulative types of childhood maltreatment on the risk of CPVA. Physical and financial CPVA were transformed and analysed as two dichotomous variables. This is because, residuals of both data were significantly non-normal (see Appendix R for Q-Q plots) and marked skewness and kurtosis of standardised residuals were observed (>1.5; Meyers, Gamst, & Guarino, 2013). For psychological CPVA, the data were transformed based on Osborne's (2013) recommendations; it remained a continuous variable. Two confounds, age and the experience of non-childhood maltreatment related trauma, were controlled for. See Chapter Three for more details regarding data collection, transformation, and analysis.

4.4. Results

4.4.1. Demographics

Altogether, 709 responses ($Mean_{age}$=21) were analysed (see Table 4.1.). Most participants were of white ethnicity (92.9%). At the time of responding, 49.4% and 31.5% of the respondents resided with a female or male parent/caregiver respectively. Among the respondents, 45.7% were students and 44.7% were from England. Forty-nine point two percent of the respondents reported having grown up in an intact family and 94.1% were cared for by a female parent/caregiver.

Prevalence of CPVA. Within this sample, the prevalence rate for overall CPVA and psychological CPVA was 13.3% and 17.5% respectively. For physical CPVA and financial CPVA, 13.1% and 20.9% of the respondents respectively reported having engaged in the corresponding type of violence and abuse against their parents within the past year. (See Table 4.1.)

Prevalence of Childhood Maltreatment. Psychological abuse (49%) and psychological neglect (53.5%) were the most common types of maltreatment experienced by the respondents. An almost equal number of respondents had experienced between one to three types of childhood maltreatment (17-18%). (See Table 4.1.)

Table 4.1.

Participants' Demographics

Characteristics	*n*	%
Age (mean=21.07, SD[1]=2.13)		
18	100	14.1
19	101	14.2
20	106	15.0
21	110	15.5
22	94	13.3
23	74	10.4
24	80	11.3
25	44	6.2
Country[2]		
England	317	44.7
Wales	65	9.2
Scotland	122	17.2
Northern Ireland	18	2.5
Ethnicity		
White	659	92.9
African / Caribbean	8	1.1
Indian	4	.6
Chinese	10	1.4
Mixed	17	2.4
Other	9	1.3
Prefer not to say	2	.3
Employment		
Full-time	156	22.0
Part-time	126	17.8
Student	324	45.7
Not working	103	14.5
Education Level		
No qualification	5	.7
Secondary school	66	9.3
A-levels or equivalent	292	41.2
Undergraduate degree	281	39.6
Post-graduate qualification	54	7.6
Others	11	1.6
Family Structure During Childhood		
Intact family	349	49.2
Blended family	40	5.7
Single parent	152	21.5
Biological parent and step-parent	64	9.0
Others	104	14.7

Childhood (Prior aged 18) Caregiving Arrangement[3]		
Mother/female guardian	667	94.1
Father/male guardian	397	56.0
Grandparents	61	8.6
Current Living Arrangements[3]		
Living with mother/female guardian	350	49.4
Living with father/male guardian	223	31.5
Grandparents	20	2.8
Alone	59	8.3
Prevalence rate		
CPVA[3]		
• Overall CPVA[4]		
○ 1 SD[1] (=3.25) above mean (= 3.11)	95	13.3
• Psychological CPVA[4]		
○ 1 SD[1] (=2.40) above mean (= 2.47)	124	17.5
• Physical CPVA[5]		
○ Has engaged in	93	13.1
• Financial CPVA[5]		
○ Has engaged in	148	20.9
Childhood Maltreatment		
• Number of types experienced[4]		
○ 1 type	130	18.4
○ 2 types	131	18.6
○ 3 types	121	17.1
○ 4 types	60	8.5
○ All 5 types	18	2.5
• Type of maltreatment experienced[3]		
○ Physical abuse[5]	193	27.3
○ Psychological abuse[5]	346	49.0
○ Sexual abuse[5]	52	7.4
○ Physical Neglect[5]	116	16.4
○ Psychological Neglect[5]	378	53.5

NOTE.

1. SD = Standard deviation
2. Only applicable for the finalised study phase of data collection. Respondents from the preliminary phase only indicated if they were from the United Kingdom or not.
3. Non-cumulative
4. Continuous variable
5. Dichotomous variable

4.4.2. Psychological CPVA

Three linear regression models were analysed. The first multiple linear regression model tested the relationship of independent variables "abuse" and "neglect" on the dependent variable "child-to-parent psychological violence and abuse" (i.e. model one). The second multiple linear regression model tested the relationship of independent variables "psychological abuse", "physical abuse", "sexual abuse", "psychological neglect", and "physical neglect" on the dependent variable "child-to-parent psychological violence and abuse" (i.e. model two). The third linear regression model tested the relationship of the independent variable "cumulative types of childhood maltreatment" on the dependent variable "child-to-parent psychological violence and abuse" (i.e. model three).

Table 4.2.

Tests of linear regression models for predictors of child-to-parent psychological violence and abuse (psychological CPVA)

Predictors	β[1]	*SE* β[2]	*p*	95%BCa CI[3] [LL, UL][4]
Model One				
Abuse[#]	.862	.212	.0001*	.448, 1.280
Neglect[#]	1.006	.210	.0001*	.597, 1.424
Model Two				
Psychological Abuse[#]	.854	.230	.001*	.388, 1.311
Physical Abuse[#]	.211	.255	.390	-.308, .730
Sexual Abuse[#]	-.300	.392	.424	-1.027, .453
Psychological Neglect[#]	.976	.216	.0001*	.560, 1.387
Physical Neglect[#]	-.144	.278	.602	-.697, .383
Model Three				
Cumulative Types	.504	.064	.0001*	.386, .625

NOTE.

1. Effect Size based on Bootstrapping (5000 sample) unstandardised coefficient
2. Heteroskedasticity constant standard error (HC-3 Davidson-Mackinnon)
3. 95% BCa CI based on 5000 bootstrap sample
4. LL = lower-limit and UL = upper-limit

[#] Presence/Any experience of this form of childhood maltreatment

* $p<.01$

A significant regression equation was found for model one ($F(4, 699) = 24.829$, $p < .01$, $R^2 = .124$). Abuse ($B = .862$, $p < .01$) and neglect ($B = 1.006$, $p < .01$) significantly predicted psychological CPVA (see Table 4.2.). This result indicated that young female adults, who had experienced abuse or neglect, were more likely to engage in psychological CPVA.

A significant regression equation was found for model two ($F(7, 696) = 14.614$, $p < .01$, $R^2 = .128$). Psychological abuse ($B = .854$, $p < .01$) and psychological neglect ($B = .976$, $p < .01$) significantly predicted psychological CPVA (see Table 4.2.). Physical abuse, sexual abuse, and physical neglect did not significantly predict psychological CPVA ($p > .01$; see Table 4.2.). These results indicated that young female adults, who had experienced psychological abuse or psychological neglect, were more likely to engage in psychological CPVA.

A significant regression equation was found for model three ($F(3, 700) = 25.735$, $p < .01$, $R^2 = .099$). Experiencing cumulative types of childhood maltreatment significantly predicted psychological CPVA ($B = .504$, $p < .01$; see Table 4.2.). This result indicated that experiencing more types of childhood maltreatment increased the likelihood of young female adults engaging in psychological CPVA.

Approximately 12% of the variation (R^2) in psychological CPVA can be explained by the presence or absence of abuse and neglect (i.e. model one and two). The experience of cumulative types of childhood maltreatment explained 9.9% of the variation (R^2) in psychological CPVA (i.e. model three). The small amount of total variance explained in each model suggested that other unexplored factors may contribute to an increased risk of psychological CPVA. These factors may include

antisocial and violent peer groups, attitudes supporting violence, substance misuse, and impulsivity (Arias-Rivera & García, 2020).

4.4.3. Physical CPVA

As physical CPVA is a dichotomous variable, three logistic regression models were analysed. The first multiple logistic regression model tested the relationship of the independent variables "abuse" and "neglect" on the dependent variable "child-to-parent physical violence and abuse" (i.e. model one). The second multiple logistic regression model tested the relationship of independent variables "psychological abuse", "physical abuse", and "sexual abuse" on the dependent variable "child-to-parent physical violence and abuse" (i.e. model two). The last logistic regression model tested the relationship of independent variable "cumulative types of childhood maltreatment" on the dependent variable "child-to-parent physical violence and abuse" (i.e. model three).

Model one of abuse and neglect on physical CPVA ($\chi2(4, 704)=33.476$, Nagelkerke $R^2=.086$, $p<.01$) indicated that the experience of abuse significantly increased the likelihood of young female adults engaging in physical CPVA ($B=.792$, $p<.01$). The results suggested that the odds of engaging in physical CPVA is 2.207 times higher for young female adults who had experienced abuse, than those who did not; this value was based on the reported odds ratio (i.e. Exp(B)). Experiencing neglect did not significantly increase the odds of young female adults engaging in physical CPVA ($p>.01$). (See Table 4.3.)

Model two of psychological, physical and sexual abuse on physical CPVA ($\chi2(5, 704)=34.447$, Nagelkerke $R^2=.086$, $p<.01$) indicated that the experience of psychological abuse significantly increased the likelihood of young female adults

engaging in physical CPVA (B=.926, p<.01). It was predicted that the odds of engaging in physical CPVA is 2.524 times higher for young female adults who had experienced psychological abuse, than those who did not; this value was based on the reported odds ratio (i.e. Exp(B)). Experiencing physical or sexual abuse did not significantly increase the odds of young female adults engaging in physical CPVA (p>.01). (See Table 4.3.)

Model three of cumulative types of childhood maltreatment on physical CPVA (χ2(3, 704)=33.114, Nagelkerke R^2=.085, p<.01) indicated that the experience of cumulative types of maltreatment significantly increased the likelihood of young female adults engaging in physical CPVA (B=.365, p<.01). It was predicted that the odds of young female adults engaging in physical CPVA increases by 1.440 times for an additional type of maltreatment experienced; this value was based on the reported odds ratio (i.e. Exp(B)). (See Table 4.3.)

Based on Nagelkerke R^2, approximately 8.5% of the variation in physical CPVA can be explained by the presence or absence of abuse and neglect (i.e. model one and two) or the experience of cumulative types of childhood maltreatment (i.e. model three). The small amount of total variance explained in the three models suggested the presence of other abovementioned unexplored factors contributing to physical CPVA (Arias-Rivera & García, 2020).

Table 4.3.

Tests of logistic regression models for predictors of child-to-parent physical violence and abuse (physical CPVA)

Predictors	β[1]	*SE* β[2]	*p*	95%BCa CI[3] [LL, UL][4]
Model One				
Abuse[#]	.792	.301	.005*	.222, 1.442
Neglect[#]	.487	.303	.104	-.106, 1.125
Model Two				
Psychological Abuse[#]	.926	.285	.0001*	.373, 1.504
Physical Abuse[#]	.241	.274	.370	-.291, .795
Sexual Abuse[#]	.403	.414	.311	-.510, 1.152
Model Three				
Cumulative Types	.365	.080	.0001*	.201, .537

NOTE.

1. Effect Size based on Bootstrapping (5000 sample) unstandardised coefficient
2. Standard Error based on 5000 bootstrap sample
3. 95% BCa CI based on 5000 bootstrap sample
4. LL = lower-limit and UL = upper-limit

[#] Presence/Any experience of this form of childhood maltreatment

* $p<.01$

4.4.4. Financial CPVA

Financial CPVA is a dichotomous variable. Two logistic regression models were analysed. The first multiple logistic regression model tested the relationship of independent variables "abuse" and "neglect" on the dependent variable "child-to-parent financial abuse" (i.e. model one). The second logistic regression model tested the relationship of independent variable "cumulative types" on the dependent variable "child-to-parent financial abuse" (i.e. model two).

The model of abuse and neglect ($\chi2(4, 704)=20.818$, Nagelkerke $R^2=.046$, $p<.01$; model one) indicated that both abuse and neglect did not significantly predict child-to-parent financial abuse (see Table 4.4.). The results indicated that the

likelihood of young female adults engaging in financial CPVA was similar for those who had experienced abuse or neglect and those who had not.

The model of cumulative types of childhood maltreatment on child-to-parent financial abuse ($\chi 2(3, 704)=15.574$, Nagelkerke $R^2=.034$, $p<.01$; model two) indicated that experiencing more types of maltreatment did not significantly predict financial CPVA (see Table 4.4.). The results indicated that regardless of the number of types of childhood maltreatment experienced by young female adults, the likelihood of them engaging in financial CPVA is similar.

Table 4.4.

Tests of logistic regression models for predictors of child-to-parent financial abuse (financial CPVA)

Predictors	β[1]	*SE* β[2]	*p*	95%BCa CI[3] [LL, UL][4]
Model One				
Abuse[#]	-.070	.231	.761	-.519, .390
Neglect[#]	.532	.241	.027	.049, 1.031
Model Two				
Cumulative of Types	.078	.063	.213	-.048, .205

NOTE.

1. Effect Size based on Bootstrapping (5000 sample) unstandardised coefficient
2. Standard Error based on 5000 bootstrap sample
3. 95% BCa CI based on 5000 bootstrap sample
4. LL = lower-limit and UL = upper-limit

[#] Presence/Any experience of this form of childhood maltreatment

* $p<.01$

4.5. Discussion

Primary study one explored the impact of experiencing specific types and cumulative types of childhood maltreatment on young female adults' risk of engaging in CPVA. Within this study, psychological abuse and psychological neglect were the most reported types of childhood maltreatment experienced. The

prevalence rate of each type of childhood maltreatment found in this study differs from those reported by the United Kingdom's Office for National Statistics (2020a,b). In the latter, 8.0%, 15.6%, 10.6% and 1.7% of females within ages 18 to 24 reported experiencing physical, psychological, and sexual abuse, and physical neglect respectively, prior to aged 16. This difference may be due to the sampling method or the cut-off age of experiencing childhood maltreatment. Alternatively, the difference may be associated with the data collection method; the United Kingdom's Office for National Statistics data was based on self-report and official records (Office for National Statistics, 2020c). Most respondents in this study, similar to Wolfe's (2018) observation, either had not experienced any form of childhood maltreatment or had experienced more than one type of maltreatment. Akin to previous CPVA studies (Nock & Kazdin, 2002; Margolin & Baucom, 2014; Suárez-Relinque, Del, León-Moreno, & Callejas, 2019), engagement in psychological, as compared to physical, violence and abuse was more commonly reported by females.

4.5.1. Contribution of Specific Type of Childhood Maltreatment

The first question explored which type(s) of childhood maltreatment predict(s) CPVA. The findings indicate that both abuse and neglect, specifically psychological abuse and psychological neglect, are influential psychological CPVA risk factors for young female adults. Only the experience of abuse, specifically psychological abuse, significantly increases young female adults' risk of physical CPVA. The results suggest that for young female adults, physical and sexual abuse, and physical neglect are not influential risk factors of CPVA. Allen (2011) study obtained similar findings; when psychological abuse and physical abuse were

explored together, only the experience of psychological abuse significantly increased the risk of physical and psychological aggression to others.

4.5.1.1. Psychological Abuse

***Psychological CPVA*.** The relationship between psychological abuse and psychological CPVA may be explained by the individual's use of avoidance strategies. Experiencing psychological abuse is associated with an increased tendency to respond to stressors with avoidant-related actions (Krause, Mendelson, & Lynch, 2003; Shin, Lee, Jeon, & Wills, 2015). For example, the individual may impulsively escape a distressing event or actively suppress negative emotions and thoughts. Victims of childhood maltreatment may find their parents' presence distressing; they are reminded of past rejections, or future expectations of abandonment are elicited (Calvete, Orue, Gamez-Guadix, & Bushman, 2015; Krause, Mendelson, & Lynch, 2003; Purnell, 2004). To escape the stressful situation, they may choose to use violence or abuse against their parents (Hernandez, Trout, & Liu, 2016), which is a learnt strategy (Eckstein, 2004; Ibabe, 2014). As psychological violence, compared to physical violence, is more commonly used by females (Gavin & Porter, 2014; Nock & Kazdin, 2002), psychological CPVA occurs.

A disrupted ability in establishing stable, nurturing, and satisfying relationships may also explain the association between psychological abuse and psychological CPVA. Experiencing psychological abuse was found to contribute to poor self-esteem (Gross & Keller, 1992, as cited in Higgins & McCabe, 2001) and a negative self-concept (Kelly, 2004). These individuals may excessively seek reassurances of love and one's worthiness, to improve their sense of self (Hernandez, Trout, &

Liu, 2016). Victims of psychological abuse are also likely to possess poor interpersonal relatedness (Allen, 2011) and ineffective ways of forming and maintaining the parent-child relationship (Bellis, 2001; Heim, Shugart, Craighead, & Nemeroff, 2010). These victims may have internalised threatening or causing harm as a key communicative and problem-solving tool (Eckstein, 2004; Ibabe, 2014). Hence, psychological violence and abuse is used, to achieve their goal.

Physical CPVA. With age, there are increasing barriers that a female has to overcome prior to using physical violence and abuse, as compared to engaging in psychological violence and abuse (Gavin & Porter, 2014). These barriers may be associated with social norms against the use of physical violence and abuse by females, socialisation of the use of indirect aggression, or the physical build, strength, and safety of the female (Gavin & Porter, 2014). Thus, the use of physical violence and abuse can be argued to be an escalation in the severity of a female's behaviour (Eckstein, 2004; Winstok, 2008).

The escalation from psychological CPVA to physical CPVA may occur while the child attempts to gain a sense of control within the relationship. The struggle for control may happen when the child becomes preoccupied with receiving reassurance of love and one's worthiness (Hernandez et al., 2016). Alternatively, conflict may arise when the child seeks to create a certain physical or emotional distance from one's parents (Nixon, 2012; Ryan & Deci, 2000). This argument is extrapolated from findings regarding females engaging in intimate partner violence (Dasgupta, 2002; Graham-Kevan & Archer, 2005). One's intimate partner and parents are both important attachment figures (Gillath, Karantzas, & Fraley, 2016).

4.5.1.2. Psychological Neglect

Psychological CPVA. Psychological neglect results in a lack of emotional and interpersonal stimuli (Crouch & Milner, 1993). This dearth of stimulation is theorised to negatively impact an individual's cognitive and social abilities (Crouch & Milner, 1993; Young & Widom, 2014). Significant difficulties in matching the correct facial expression to the context and distinguishing the appropriate emotion may be observed (Fries & Pollak, 2004). The individual also tends to distance and withdraw from others (Myhr, 2013; Taillieu, Brownridge, Sareen, & Afifi, 2016). This interaction style reduces one's opportunities to develop a range of helpful relational skills and coping strategies (Crouch & Milner, 1993). Over time, the individual's unrefined interaction patterns with one's parents become entrenched. Hence, when the child misinterprets social cues from one's parents, psychological CPVA is likely to occur.

The lack of meaningful interactions and emotional connection with one's parents may result in a psychologically neglected child engaging in psychological violence and abuse. Psychological absence of a parent (Calvete et al., 2014a), lack of emotional closeness (Paulson, Coombs, & Landsverk, 1990), and being weakly attached to one's parent (Agnew & Huguley, 1989) were all found to be associated with increased violence towards one's parents. A neglected child often views any form of interaction with one's parents as a positive reward (Dargis & Newman, 2016). Threatening and causing harm frequently results in the child being noticed and/or listened to by one's parents (Cottrell & Monk, 2004; Monk, 1997). Hence, the child may engage in psychological CPVA.

4.5.1.3. Physical and Sexual Abuse

There are two possibilities explaining the lack of significant relationships between physical or sexual abuse and psychological and physical CPVA found within this study. Current theoretical and empirical evidence of the differential impact of each type of maltreatment is limited. This restricts understanding of which possibility this study's findings may fall under.

The first possibility is that all types of abuse significantly increase the risk of psychological and physical CPVA. However, beyond the overlapping impact across all types of abuse, the experience of psychological abuse has a unique contribution to the risk of CPVA (Goodwin & Goodwin, 2016). This means that the influence of psychological abuse is not attributable to other types of childhood maltreatment. This hypothesis is supported by Allen (2008), who found that amongst the different types of childhood maltreatment, psychological abuse was the strongest predictor for emotional distress in adulthood. Also, when McGee (1993) concurrently explored the influence of physical, sexual, and psychological abuse, family violence, and neglect, only psychological abuse predicted self-reported adjustment difficulties and externalising problems.

The other possibility is that the impact of other types of abuse on a victim is associated with psychological abuse. Research has shown that regardless of the type of abuse experienced, most victims, if not all, will experience psychological abuse (Crittenden, Claussen, & Sugarman, 1994). Cecil et al. (2017) argued this phenomenon to be due to any form of abuse instilling the idea of unworthiness and unlovability within the victim, which is the operationalised definition of psychological abuse.

4.5.2. Impact of Cumulative Types of Childhood Maltreatment

4.5.2.1. Psychological and Physical CPVA

The second question explored whether the experience of cumulative types of childhood maltreatment predicts CPVA. The results indicate, for young female adults, experiencing more types of childhood maltreatment to be an influential psychological and physical CPVA risk factor. Experiencing cumulative types of childhood maltreatment places greater strain on the victim's adaptive processing and regulatory capacities and uses more of one's internal resources (Higgins & McCabe, 2001; Scrafford, Grein, & Miller-Graff, 2018). Furthermore, undergoing trauma across more contexts contribute to the development of a general lack of safety (Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011a; Finkelhor, Turner, Hamby, & Ormrod, 2011b). Therefore, the victim is more likely to be overly sensitive and reactive when experiencing stressors (Scrafford, Grein, & Miller-Graff, 2018; Worthington, 2012). The presence of one's parents may evoke memories or expectations of maltreatment and rejection (Ford, Chapman, Mack, & Pearson, 2006; Krause et al., 2003). Elicited feelings of threat, helplessness, and fear may overwhelm the individual. In an attempt to cope, the individual reactively engages in psychological or physical CPVA.

4.5.3. Financial CPVA

This study found that both abuse and neglect did not significantly increase the risk of financial CPVA among young female adults. Similarly, Margolin et al. (2014) study found that instead of past violence, a parent's current violence directed at the child significantly increased the child's risk of engaging in financial CPVA. Primary study one findings also suggest that cumulative types of maltreatment do

not significantly predict financial CPVA among young female adults. There are two possible explanations for the lack of significant findings.

Firstly, financial CPVA is arguably a form of instrumental violence. Individuals may proactively engage in financial abuse to gain power over their parents. However, victims of maltreatment are at a greater risk of engaging in reactive violence, to protect themselves (Ford, Chapman, Connor & Cruise, 2012; Nowakowski-Sims & Rowe, 2017). Some individuals engaging in CPVA disclosed perceiving that they hold little power within the family (Miles & Condry, 2015); they explained their use of violence and abuse against their parents to be a response to having been victimised (Miles & Condry, 2015). If maltreated victims' acts of violence and abuse are indeed reactive, they may be less likely to engage in financial CPVA.

The alternative explanation relates to the data analysis and collection of financial CPVA. Firstly, the three items used in this study may not accurately measure the phenomenon of financial CPVA. The limited literature describing the nature of financial CPVA restricts the researcher's ability to ensure adequate coverage of this type of CPVA. Secondly, dichotomising the variable reduces this study's sensitivity in identifying a relationship. A relatively high prevalence rate was obtained (i.e. 20.9% of the participants reported having engaged in financial CPVA). Using a continuous scale, as compared to a dichotomous scale, is shown to be more sensitive and consistent in identifying a significant relationship, due to its ability to accommodate a range of possible outcomes (Stoeber, Dette, & Musch, 2010; Walters, 2005).

4.5.4. Implications, Limitations and Future Directions

The discussion of this study's limitations is merged with primary study two's discussion (see Chapter Five). Please see Chapter Six for discussions on this study's implications and future directions. The recommendations are based on the consolidated findings of the systematic review and primary study one and two.

4.6. Conclusion

Overall, this study contributes to current knowledge of the relationship between childhood maltreatment and CPVA. Different types and cumulative types of childhood maltreatment were found to significantly increase the likelihood of physical and psychological CPVA among young female adults. To make sense of the development and maintenance of these relationships, future studies should explore the mechanisms underlying each of these relationships. The following chapter will explore post-traumatic stress disorder symptoms and irrational beliefs as possible underlying mechanisms.

Chapter 5: Primary Study Two

Mediators in the Relationship between Childhood Maltreatment and Child-to-Parent Violence and Abuse

Abstract

Background: In the previous chapters, childhood maltreatment was revealed to be a risk factor for child-to-parent violence and abuse. However, not all victims will threaten or cause harm to their parent(s). Currently, there is limited understanding regarding the mechanisms underlying the phenomenon of child-to-parent violence and abuse among victims of maltreatment.

Aims: This study examined the roles of two symptoms of complex trauma (i.e. post-traumatic stress disorder symptoms and irrational beliefs) in the relationship between different types of childhood maltreatment and child-to-parent violence and abuse.

Method: Females, between ages 18 to 25, were recruited to complete an anonymous online survey. It consisted of a demographic questionnaire, Adverse Childhood Experience-Revised, Impact of Event Scale-Revised, Abbreviated Attitudes and Belief Scale 2, and an Adapted Child-to-Parent Violence and Abuse questionnaire. Multiple mediation analyses were conducted on 709 responses. Seven mediators (i.e. intrusion, hyperarousal, and avoidance PTSD symptoms, and demandingness, catastrophising, low frustration tolerance, and depreciation beliefs) were analysed.

Results: Avoidance PTSD symptoms were associated with the relationship between psychological abuse and child-to-parent physical violence and abuse. Catastrophising and depreciation beliefs were associated with the relationship between psychological abuse and child-to-parent psychological violence and abuse. Depreciation beliefs was also associated with the relationship between psychological neglect or cumulative types of childhood maltreatment and child-to-parent psychological violence and abuse. None of the mediators fully explained the studied relationships.

Conclusions: The findings highlighted the need to take a multi-causal factor approach and recognise the role of complex trauma symptoms when understanding child-to-parent violence and abuse. Longitudinal or replica studies are necessary for a clearer understanding of the underlying mechanisms driving the relationship between childhood maltreatment and child-to-parent violence and abuse.

Keywords: childhood maltreatment, post-traumatic stress disorder, irrational beliefs, child-to-parent violence and abuse, aggression against caregivers

5.1. Introduction

Numerous studies, including Chapter Two's systematic review, have established that a relationship between childhood maltreatment and child-to-parent violence and abuse (CPVA) exists. Also, primary study one (Chapter Four) found that various types of childhood maltreatment increased the likelihood of young female adults engaging in child-to-parent psychological and physical violence and abuse. However, studies have consistently shown that only some maltreated victims engage in CPVA (Boxer, Gullan, & Mahoney, 2009; Browne, Hamilton-Giachritsis, & Vettor, 2007; Chapter Two). Various explanations and theories have been proposed; these included a need for revenge or self-protection (Cottrell & Monk, 2004), low empathy and distress tolerance (Lozano et al., 2013 as cited in Martínez, Estévez, Jiménez, & Velilla, 2015), neurobiological changes (Selwyn & Meakings, 2016), and mental illnesses (Holt & Shon, 2018). However, a large knowledge gap regarding why childhood maltreatment may be an influential risk factor remains (Nowakowski-Sims & Rowe, 2015).

Childhood maltreatment is often viewed as a form of complex trauma, which is "the experience of multiple, chronic and prolonged, developmentally adverse traumatic events" (van der Kolk, 2005, p.402). Complex trauma negatively impacts seven key domains: attachment, biology, affect regulation, dissociation, behavioural control, cognition, and self-concept (Cook et al., 2005; Courtois, 2004). Among the various poor outcomes, primary study two focuses on PTSD symptoms and an individual's beliefs; both are key treatment targets for unresolved trauma (Shapiro, 2001).

5.1.1. Symptoms of Post-Traumatic Stress Disorder (PTSD)

PTSD symptoms may develop when an individual's adaptational process is overwhelmed and fails to resolve the traumatic memories (Wolfe, 2018; van der Kolk, 2005). These symptoms are more likely to develop in individuals who have poor attachment and support from one's parents, experienced chronic interpersonal trauma, and poor psychological functioning (Lawson, 2009). Within this study, PTSD symptoms refer to intrusion, avoidance, and hyperarousal; they are overlapping symptoms listed in the Diagnostic and Statistical Manual of Mental Disorder, 5th Edition for PTSD (American Psychiatric Association, 2013) and International Classification of Diseases-11 for PTSD and complex PTSD (World Health Organisation, 2018). Intrusion is the internal experience of trauma as if it was occurring at present (Weiss, 2004). Avoidance encompasses any behaviours or thoughts relating to withdrawal from or suppression of trauma-related stimuli (Weiss, 2004). Lastly, hyperarousal refers to the victim's state of significantly heightened arousal (Weiss, 2004).

When victims of childhood maltreatment suffer from PTSD symptoms, they are likely to view their parent(s) as a potential threat and a reminder of their experiences of helplessness, instead of a source of comfort and support (Nowakowski-Sims & Rowe, 2017). Being in the presence of their parents may also result in re-traumatisation (Erolin, Wieling, & Parra, 2014). The victims remain in a fight-or-flight state, face difficulties processing information, and suffer from an overtaxed mental capacity (Miles, Menefee, Wanner, Tharp, & Kent, 2015; Roberton, Daffern, & Bucks, 2012; Sutherland & Bryant, 2008). To cope with the constant state of high arousal and distress and to protect themselves from the fear-provoking stimulus, the victims may engage in pre-emptive and reactive

violence (Miles et al., 2016; Nowakowski-Sims & Rowe, 2017; van der Kolk, 2005). This violence may be in the form of CPVA. Individuals engaging in CPVA have reported higher levels of psychological distress (Kennedy, Edmonds, Dann, & Burnett, 2010) and a hostile attribution bias (Calvete, Gamez-Guadix, & Garcia-Salvador, 2015a; Contreras & Cano, 2016). Also, they possess a greater tendency to direct violence at the parent who had perpetrated the maltreatment (Boxer, Gullan, & Mahoney, 2009; Izaguirre & Calvete, 2017); their actions are reportedly a response to the past victimisation(s) (Cottrell & Monk, 2004; Miles & Condry, 2015). Additionally, difficulties in problem-solving and emotional regulation skills are both predictive of violence among young adults (D'Zurilla, Chang, & Sanna, 2003). Overall, active PTSD symptoms are likely to have an explanatory role in the relationship between childhood maltreatment and CPVA.

5.1.2. Irrational Beliefs

Distorted cognitions, such as altered perceptions of self, others, and relationships, is one of the diverse difficulties associated with complex trauma (Cook et al., 2005; Courtois, 2004). Under the Rational Emotive Behaviour Therapy model, there are four main categories of cognitive distortions that may drive an individual's difficulties (Ellis & Harper, 1975; DiGiuseppe, Doyle, Dryden, & Backxx, 2014). Beliefs of demandingness refer to unrealistic, inflexible, and absolute thoughts (DiGiuseppe et al., 2014). Catastrophising beliefs refer to the individual's tendency to exaggerate the negative consequences of a past or future incident and/or conceptualise others in an extremely negative manner (MacInnes, 2004). Low frustration tolerance beliefs refer to thoughts regarding one's inability to tolerate discomfort while depreciation beliefs refer to the generalised negative evaluation of oneself (DiGiuseppe et al., 2014). These illogical, rigid, or unhelpful beliefs, all

broadly termed irrational beliefs, are especially easily indoctrinated during childhood, and repeatedly reinforced to adulthood (Ellis & Harper, 1975). Eventually, these distorted cognitions contribute to the individual's engagement in self-sabotaging behaviours (Ellis & Harper, 1975).

CPVA may be a self-sabotaging behaviour driven by distorted cognitions (Calvete et al., 2015a; Orue, Calvete, & Fernández-González, 2019). Irrational beliefs elicit intense emotions, which when coupled with poor emotional regulation, may result in reactive violence (Cook et al., 2005; Ellis & Harper, 1975). Another pathway is via behaviours. For example, strong demandingness for control may drive one's pre-occupation in gaining absolute influence over the family environment (Cottrell, 2001, as cited in Coogan, 2011; Tew & Nixon, 2010). Overall, irrational beliefs may play an explanatory role in the relationship between childhood maltreatment and CPVA.

5.2. Significance and Research Aims

To stop the entrenched cycle of victimisation, clarity surrounding the factors connecting childhood maltreatment and CPVA is needed. A better understanding of the relationship will allow for more targeted prevention and treatment strategies. To narrow the knowledge gap regarding why only some maltreated victims engage in violence and abuse against their parents, this preliminary study aimed to answer one main research question: In relation to young female adults, do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?

Altogether, five relationships were explored:

1. Psychological abuse and Psychological CPVA

2. Psychological neglect and Psychological CPVA
3. Cumulative types of childhood maltreatment and Psychological CPVA
4. Psychological abuse and Physical CPVA
5. Cumulative types of childhood maltreatment and Physical CPVA

Financial CPVA was not explored in this study. Primary study one found a non-significant relationship between it and childhood maltreatment.

5.3. Methods

As explained in Chapter three, females, aged 18 to 25, and within the United Kingdom were recruited. Participants completed an anonymous online survey consisting of a demographic questionnaire, Adverse Childhood Experience-Revised (Finkelhor, Shattuck, Turner, & Hamby, 2015), Impact of Event Scale-Revised (Weiss, 2004), Abbreviated Attitudes and Belief Scale 2 (Hyland, Shevlin, Adamson, & Boduszek, 2014), and an Adapted Child-to-Parent Violence and Abuse questionnaire.

IBM SPSS Statistic Software v24 and PROCESS Macro by Hayes were used to conduct multiple mediation analyses. This decision was supported by the significant relationships found between childhood maltreatment and CPVA in Chapter Four. Also, a significant correlation was found between childhood maltreatment and the mediators (i.e. three PTSD symptoms and four irrational beliefs) (see Appendix S). Although the seven mediators were significantly correlated to each other (see Appendix S), there were theoretical and statistical bases to analyse them as separate variables (Hayes, 2018; Section 3.3.3.3.). Psychological and physical CPVA were analysed as continuous and dichotomous variables respectively. The latter was dichotomised as the assumptions of linear regression test were violated. Age and the experience of non-childhood

maltreatment related trauma were controlled for in the mediation models. Further details of this study's methodology were covered in Chapter Three.

5.4. Results

Altogether, 709 responses ($Mean_{age}$=21) were analysed. Most participants were of white ethnicity (92.9%) while 45.7% and 44.7% of the respondents were students and from England respectively. Approximately half of the respondents grew up in an intact family. At the time of responding, 49.4% and 31.5% of the respondents resided with a female or male parent/caregiver respectively. See Table 4.1. for more details on the respondents' demographics.

5.4.1. Psychological CPVA

The first multiple mediation analysis conducted was based on psychological abuse being modelled as directly influencing child-to-parent psychological violence and abuse and indirectly through the seven mediators (Table 5.1.; Figure 5.1.). Catastrophising (β=.156, 95%CI>0; Table 5.1.) and depreciation (β=-.300, 95%CI<0; Table 5.1.) were significantly associated with the relationship between psychological abuse and psychological CPVA. The results suggested that higher levels of disproportionate worries of the worst-case outcomes (i.e. catastrophising) and lower levels of generalised negative evaluation of oneself (i.e. depreciation) were associated with an increased likelihood of young female adults, who had experienced psychological abuse, engaging in psychological CPVA. Secondly, the direct effect of psychological abuse on psychological CPVA was significant (β=1.319, 95%CI>0; Table 5.1.). This finding indicated that there were unexplored factors associated with the relationship between psychological abuse and psychological CPVA. The factors may include poor social skills or emotional

regulation, attitudes supporting the use of violence, or disregard for the rights of others (Arias-Rivera & García, 2020).

Table 5.1.

Multiple mediation analysis of psychological abuse and psychological CPVA

	β[1]	*SE* β[2]	95%BCa CI[3] [LL, UL][4]
Direct Effect of psychological abuse	1.319	.221	.885, 1.753**
Indirect Effect of mediators			
Intrusion	-.014	.175	-.355, .328
Avoidance	.106	.128	-.147, .361
Hyperarousal	.036	.189	-.336, .397
Demandingness	-.025	.045	-.116, .061
Catastrophising	.156	.082	.004, .321**
Low Frustration Tolerance	.136	.080	-.014, .299
Depreciation	-.300	.107	-.519, -.095**

NOTE.

1. Effect Size based on unstandardised coefficient
2. *SE* β is a Heteroskedasticity constant error (HC-3 Davidson-Mackinnon)
3. 95% bias-corrected and accelerated confidence interval based on 5000 bootstrap sample
4. LL = lower-limit of confidence interval and UL = upper-limit of confidence interval

** statistically significant (confidence interval does not contain 0)

The second multiple mediation analysis was based on psychological neglect being modelled as directly influencing child-to-parent psychological violence and abuse and indirectly through the seven mediators (Table 5.2.; Figure 5.2.). Depreciation (β=-.300, 95%CI<0; Table 5.2.) was found to be significantly associated with the relationship between psychological neglect and psychological CPVA. The finding suggested that young female adults, who had experienced psychological neglect and engaged in higher levels of psychological CPVA, reported lower levels of generalised negative evaluation of self (i.e. depreciation). Secondly, the direct effect of psychological neglect on psychological CPVA was significant (β=1.351, 95%CI>0), suggesting the presence of unexplored factors that contributed to the studied relationship. Overall, the results suggested that together with unexplored

factors, depreciation was a significant explanatory factor associated with the relationship between psychological neglect and psychological CPVA.

Table 5.2.

Multiple mediation analysis of psychological neglect and psychological CPVA

	β[1]	*SE* β[2]	95%BCa CI[3] [LL, UL][4]
Direct Effect of psychological neglect	1.351	.233	.895, 1.808**
Indirect Effect of mediators			
Intrusion	.009	.190	-.360, .373
Avoidance	.089	.141	-.192, .361
Hyperarousal	.030	.211	-.381, .443
Demandingness	-.032	.052	-.141, .069
Catastrophising	.160	.093	-.015, .342
Low Frustration Tolerance	.133	.096	-.046, .330
Depreciation	-.300	.113	-.537, -.080**

NOTE.

1. Effect Size based on unstandardised coefficient
2. *SE* β is a Heteroskedasticity constant error (HC-3 Davidson-Mackinnon)
3. 95% bias-corrected and accelerated confidence interval based on 5000 bootstrap sample
4. LL = lower-limit of confidence interval and UL = upper-limit of confidence interval

** statistically significant (confidence interval does not contain 0)

The third multiple mediation analysis was based on cumulative types of childhood maltreatment being modelled as directly influencing child-to-parent psychological violence and abuse and indirectly through the seven mediators (Table 5.3.; Figure 5.3.). Depreciation (β=-.127, 95%CI<0; Table 5.3.) was significantly associated with the relationship between cumulative types of childhood maltreatment and psychological CPVA. The finding suggested that young female adults, who had experienced more types of childhood maltreatment and engaged in higher levels of psychological CPVA, reported lower levels of depreciation. The direct effect of cumulative types of childhood maltreatment on psychological CPVA was also significant (β=.503, 95%CI>0). Hence, there were unexplored factors, aforementioned, that were associated with the studied relationship.

Table 5.3.

Multiple mediation analysis of cumulative types of childhood maltreatment and psychological CPVA

	β[1]	*SE* β[2]	95%BCa CI[3] [LL, UL][4]
Direct Effect of childhood maltreatment	.503	.092	.322, .684**
Indirect Effect of mediators			
Intrusion	.004	.080	-.153, .160
Avoidance	.029	.059	-.090, .143
Hyperarousal	-.014	.086	-.188, .155
Demandingness	-.012	.019	-.052, .026
Catastrophising	.063	.035	-.005, .134
Low Frustration Tolerance	.056	.034	-.006, .126
Depreciation	-.127	.045	-.222, -.045**

NOTE.

1. Effect Size based on unstandardised coefficient
2. *SE* β is a Heteroskedasticity constant error (HC-3 Davidson-Mackinnon)
3. 95% bias-corrected and accelerated confidence interval based on 5000 bootstrap sample
4. LL = lower-limit of confidence interval and UL = upper-limit of confidence interval

** statistically significant (confidence interval does not contain 0)

5.4.2. Physical CPVA

The fourth multiple mediation analysis was based on psychological abuse being modelled as directly influencing child-to-parent physical violence and abuse and indirectly through the seven mediators (Table 5.4.; Figure 5.4.). Avoidance (β=.331, 95%CI>0; Table 5.4.) was significantly associated with the relationship between psychological abuse and physical CPVA. The results suggested that young female adults, who had experienced psychological abuse and engaged in physical CPVA, reported higher levels of avoidance PTSD symptoms. The direct effect of psychological abuse on physical CPVA was significant (β=1.147, 95%CI>0). Hence, aforementioned, other unexplored factors also contributed to the studied relationship.

Table 5.4.

Multiple mediation analysis of psychological abuse and physical CPVA

	β[1]	*SE* β[2]	95%BCa CI[3] [LL, UL][4]
Direct Effect of psychological abuse	1.147	.286	.587, 1.707**
Indirect Effect of mediators			
Intrusion	-.163	.224	-.610, .270
Avoidance	.331	.163	.030, .655**
Hyperarousal	-.277	.246	-.774, .186
Demandingness	-.070	.058	-.198, .034
Catastrophising	.026	.115	-.196, .265
Low Frustration Tolerance	.107	.113	-.095, .340
Depreciation	-.162	.152	-.463, .127

NOTE.

1. Effect Size based on unstandardised coefficient
2. Standard error
3. 95% bias-corrected and accelerated confidence interval based on 5000 bootstrap sample
4. LL = lower-limit of confidence interval and UL = upper-limit of confidence interval

** statistically significant (confidence interval does not contain 0)

The fifth multiple mediation analysis was based on cumulative types of childhood maltreatment being modelled as directly influencing child-to-parent physical violence and abuse and indirectly through the seven mediators (Table 5.5.; Figure 5.5.). None of the mediators was significantly associated with the relationship between cumulative types of childhood maltreatment and physical CPVA (Table 5.5.). The direct effect of cumulative types of childhood maltreatment on physical CPVA was significant (β=.495, 95%CI>0). Overall, the results suggested that instead of the seven mediators, other factors contributed to the studied relationship.

Table 5.5.

Multiple mediation analysis of cumulative types of childhood maltreatment and physical CPVA

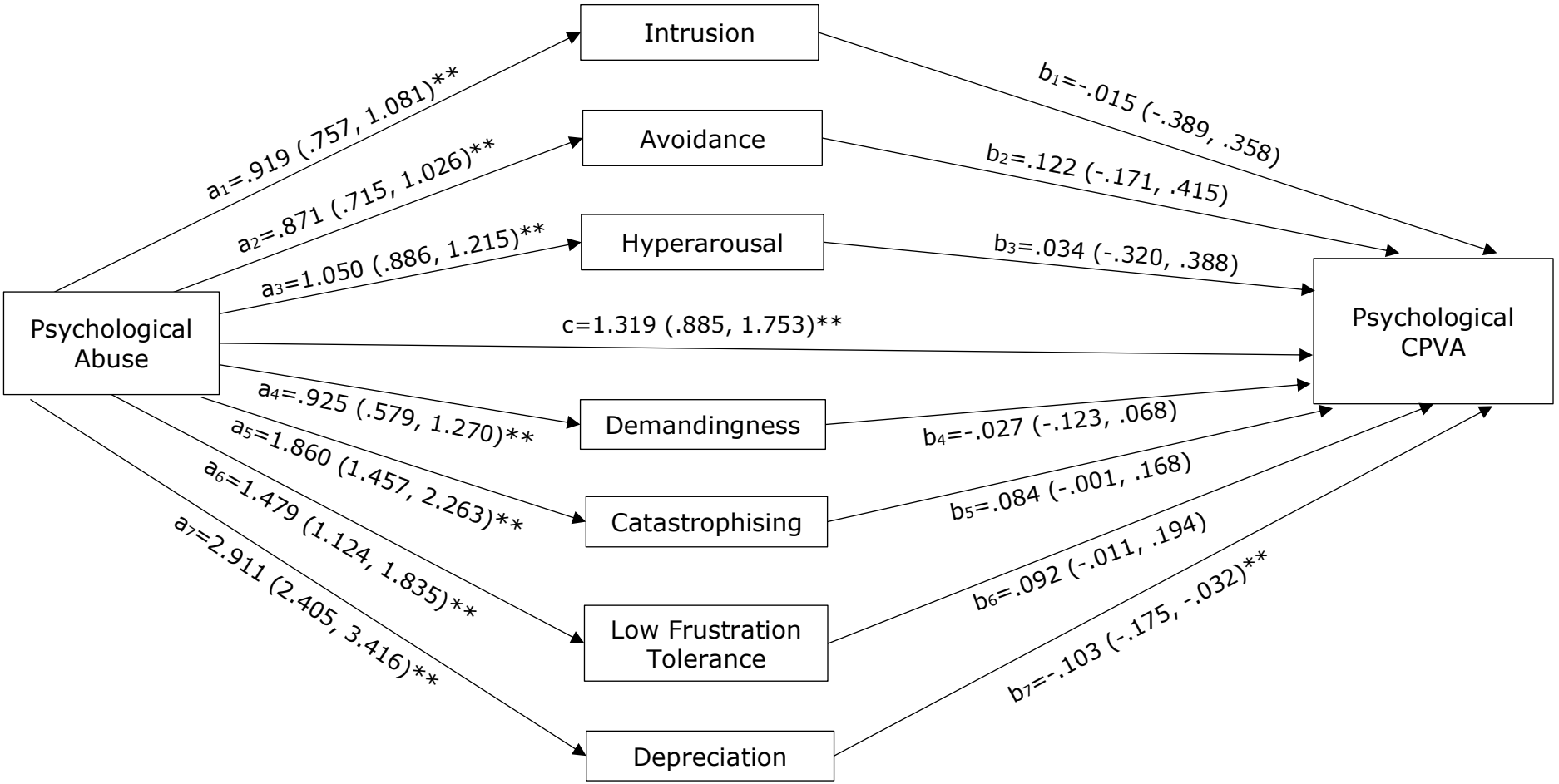
	β[1]	*SE* β[2]	95%BCa CI[3] [LL, UL][4]
Direct Effect of childhood maltreatment	.495	.108	.284, .706**
Indirect Effect of mediators			
Intrusion	-.056	.097	-.254, .134
Avoidance	.128	.072	-.016, .263
Hyperarousal	-.166	.111	-.401, .047
Demandingness	-.032	.026	-.085, .016
Catastrophising	.009	.051	-.090, .112
Low Frustration Tolerance	.044	.048	-.042, .146
Depreciation	-.082	.062	-.211, .037

NOTE.

1. Effect Size based on unstandardised coefficient
2. Standard error
3. 95% bias-corrected and accelerated confidence interval based on 5000 bootstrap sample
4. LL = lower-limit of confidence interval and UL = upper-limit of confidence interval

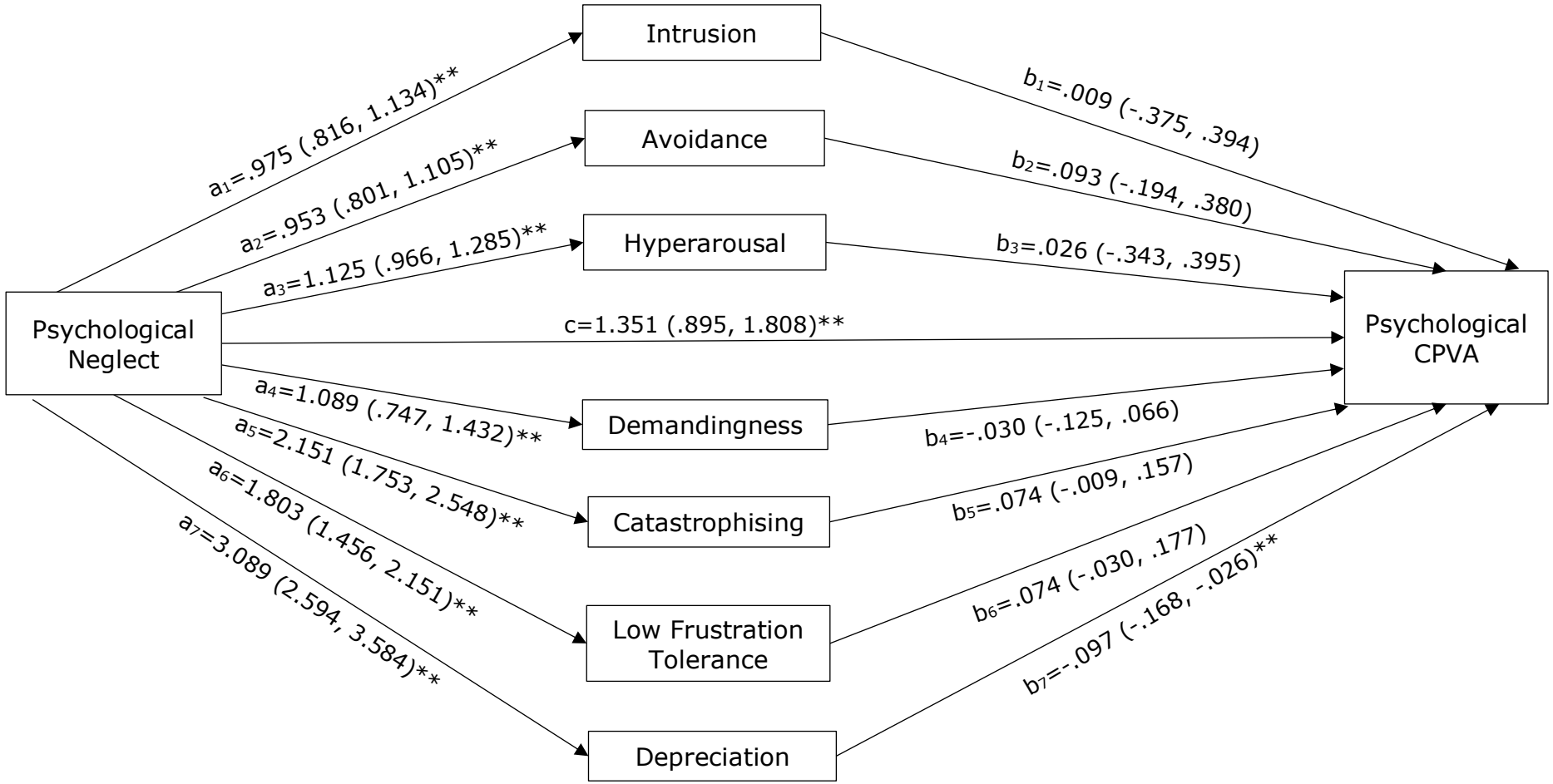
** statistically significant (confidence interval does not contain 0)

Figure 5.1. Multiple mediation model of psychological abuse and psychological CPVA



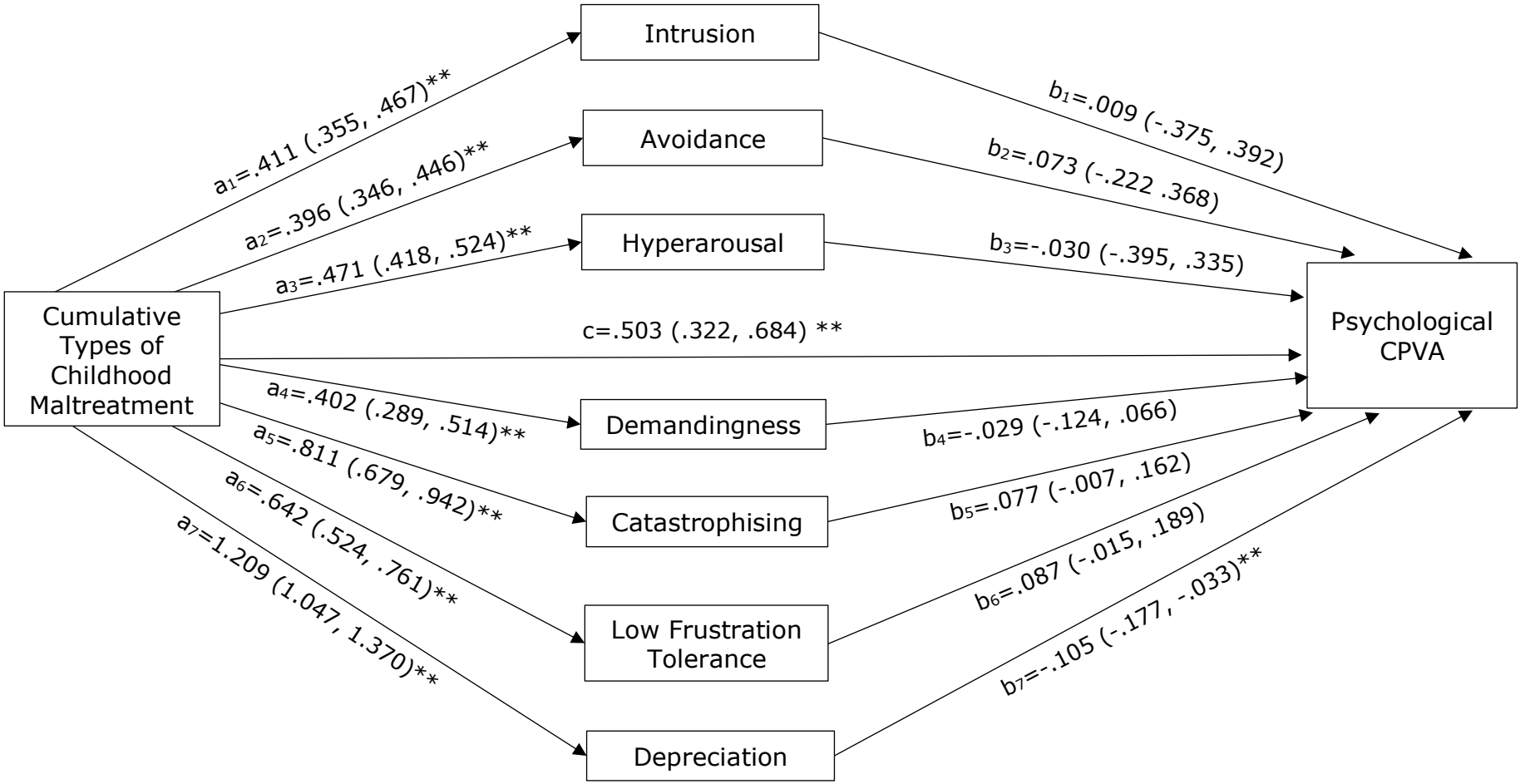
Note.
a, b = unstandardised coefficients from respective linear regression models
c = direct effect of childhood maltreatment on psychological CPVA
** statistically significant (the range within lower and upper limits of 95% confidence interval does not contain 0)

Figure 5.2. Multiple mediation model of psychological neglect and psychological CPVA



Note.
a, b = unstandardised coefficients from respective linear regression models
c = direct effect of childhood maltreatment on psychological CPVA
** statistically significant (the range within lower and upper limits of 95% confidence interval does not contain 0)

Figure 5.3. Multiple mediation model of cumulative types of childhood maltreatment and psychological CPVA



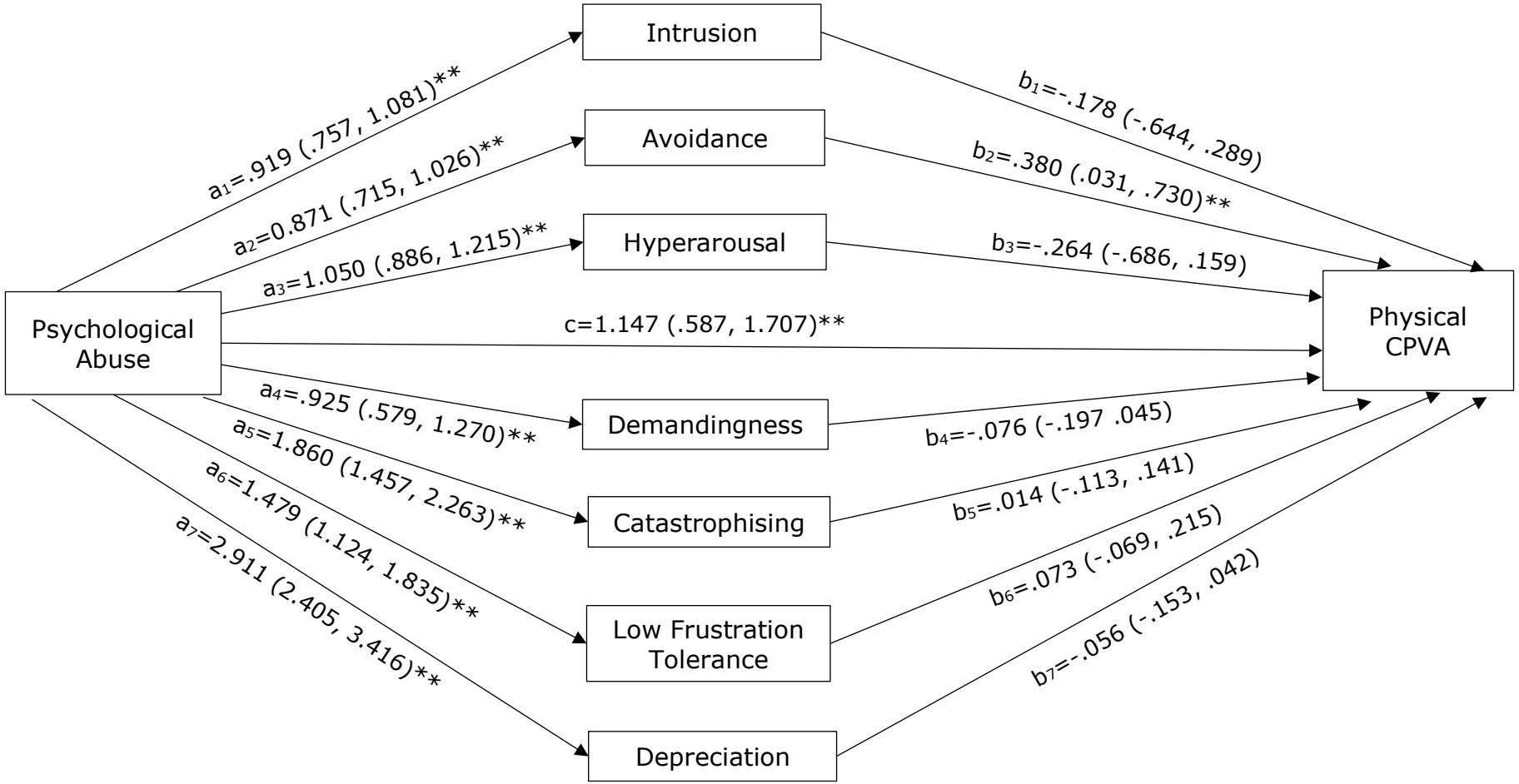
Note.

A, b = unstandardised coefficients from respective linear regression models

c = direct effect of childhood maltreatment on psychological CPVA

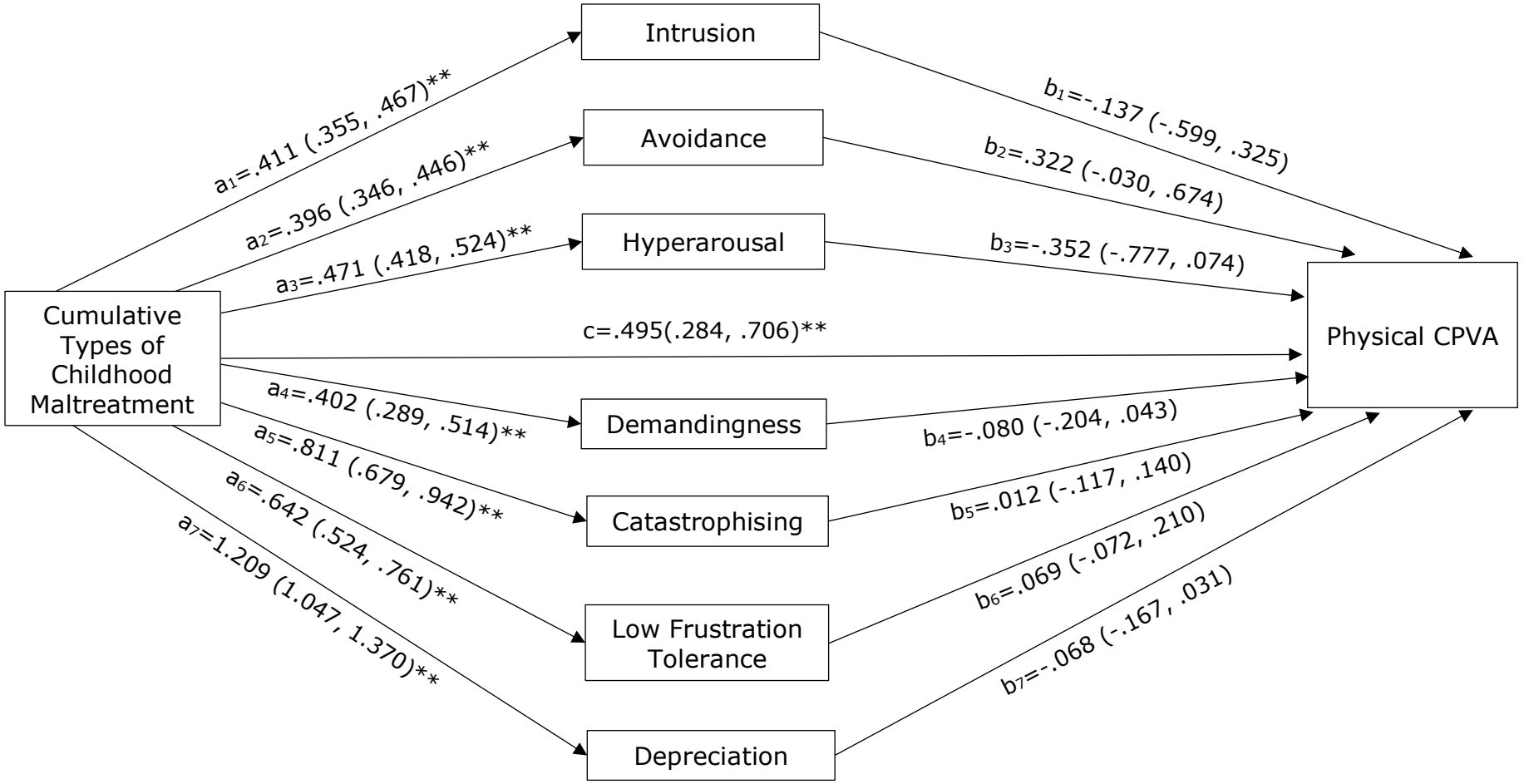
** statistically significant (the range within lower and upper limits of 95% confidence interval does not contain 0)

Figure 5.4. Multiple mediation model of psychological abuse and physical CPVA



Note.
A, b = unstandardised coefficients from the respective linear and logistic regression models
c = direct effect of childhood maltreatment on physical CPVA
** statistically significant (the range within lower and upper limits of 95% confidence interval does not contain 0)

Figure 5.5. Multiple mediation model of cumulative types of childhood maltreatment and physical CPVA



Note.
A, b = unstandardised coefficients from the respective linear and logistic regression model
c = direct effect of childhood maltreatment on physical CPVA
** statistically significant (the range within lower and upper limits of 95% confidence interval does not contain 0)

5.5. Discussion

This study explored whether PTSD symptoms and irrational beliefs explained five relationships between experiencing different types of childhood maltreatment and an increased risk of engaging in physical or psychological CPVA. The results indicate that among young female adults, catastrophising and depreciation were significantly associated with the relationship between psychological abuse and psychological CPVA. Among females in young adulthood, depreciation was also significantly associated with the relationship between psychological neglect or cumulative types of childhood maltreatment and psychological CPVA. Lastly, among young female adults, the relationship between psychological abuse and physical CPVA was significantly associated with avoidance. None of the mediators was significantly associated with the relationship between cumulative types of childhood maltreatment and physical CPVA. Demandingness, low frustration tolerance, intrusion, and hyperarousal were not significantly associated with any of the studied relationships.

5.5.1. Psychological CPVA

5.5.1.1. Catastrophising

The results suggest that young female adults, who were victims of psychological abuse and have an increased likelihood of engaging in psychological CPVA, are more likely to report higher levels of disproportionate worries of the worst-case outcomes (i.e. catastrophising).

Psychological Abuse. Victims of psychological abuse are more sensitive about their interactions with their parent(s) (Myhr, 2013; Steele & Hart, 2014). They may catastrophise being rejected or hurt by their parents, which elicits anxiety

(Ellis, 2003a; 2003b). As their distress escalates, they face increasing difficulties tolerating uncertainties (Kertz & Woodruff-Borden, 2011). Psychological CPVA may be the end-product of using unhelpful strategies to cope with the anxiety. For example, while engaging in avoidant strategies, such as suppression or escapism (Krause, Mendelson, & Lynch, 2003; Shin, Lee, Jeon, & Wills, 2015), they may reactively use psychological violence and abuse. Alternatively, they may attempt to exert dominance over their parents' behaviours (Cottrell & Monk, 2004; Ellis, 2003b) or affirm their internalised identity (Ellis 2003a, 2003b; Gillath, Karantzas, & Fraley, 2016). Both strategies help individuals regain a sense of control (Krause, Mendelson, & Lynch, 2003; Purnell, 2004). Experiencing psychological abuse as a child may result in the internalisation of causing psychological harm as a key problem-solving tool (Eckstein, 2004; Ibabe, 2014). Hence, to achieve either goal of avoidance or control, they may engage in psychological CPVA.

5.5.1.2. Depreciation

The results indicate that young female adult victims of psychological abuse, psychological neglect, or more types of childhood maltreatment, who are at risk of engaging in psychological CPVA, also hold lower levels of generalised negative evaluation of self (i.e. depreciation).

Psychological Abuse and Cumulative Types. Individuals are likely to develop negative self-concepts when their parents repeatedly communicate abusive messages during the maltreatment (Hernandez, Trout, & Liu, 2016). To gain a sense of control by reinforcing their poor sense of self (Gillath, Karantzas, & Fraley, 2016), they may attempt to elicit negative feedback (Cottrell & Monk, 2004;

Hernandez et al., 2016). Individuals with higher levels of depreciation quickly define themselves based on a few negative descriptors from others (Szentagotai & Jones, 2010). Hence, they require less input regarding their lack of desirability and poor worth, to reinforce their negative self-concept (Szentagotai & Jones, 2010). Conversely, victims with lower levels of depreciation require more feedback. They are therefore more likely to threaten or cause psychological harm against their parent(s), which are learnt strategies (Eckstein, 2004; Ibabe, 2014), to elicit the negative feedback they desire.

Displacement of blame, due to lower levels of depreciation, increases the likelihood of one's engagement in psychological CPVA. Individuals reporting higher levels of depreciation are more likely to internalise responsibility (Szentagotai & Jones, 2010), suppress negative emotions (Gross & Levenson, 1997; Nolen-Hoeksema, 2012), engage in self-blame (McGee, 1993), and withdraw from social stimuli (e.g. parents) (Schimmenti, 2012). Contrarily, maltreated victims with lower levels of depreciation are more likely to approach and blame their parents for causing the trauma and their ongoing difficulties (Schimmenti, 2012; van der Kolk, 2005). Possessing anger and resentment towards their parents may reduce their internal barriers against threatening or causing harm to their parents (Douglas, Hart, Webster, & Belfrage, 2013). Also, they are more motivated to change external factors, to which they have attributed their distress (e.g. their parents' presence) (Cheung & Park, 2010; Martin & Dahlen, 2004, 2007). As the use of psychological abuse and violence is likely internalised within their repertoire of problem-solving and communication skills (Eckstein, 2004; Ibabe, 2014), psychological CPVA may occur.

Psychological Neglect. Victims of psychological neglect may seek to create a sense of connectedness with their parents (Dargis & Newman, 2016; Ryan & Deci, 2000). However, due to limited interactions and a lack of appropriate social stimulations in the early years, they may have unrefined interaction patterns and/or difficulties interpreting social cues (Crouch & Milner, 1993; Fries & Pollak, 2004). Victims reporting lower levels of depreciation would more readily blame their parents, instead of themselves, for the difficult interactions (Szentagotai & Jones, 2010). As they continue to approach their parents with poor interpersonal skills and externalised anger, they may inadvertently engage in psychological violence and abuse against their parents (Cottrell & Monk, 2004; Ryan & Deci, 2000; Young & Widom, 2014). Conversely, individuals with higher levels of self-blame and shame are more likely to avoid their parents (Lutwak, Panish, & Ferrari, 2003), which reduces the likelihood of psychological CPVA.

5.5.2. Physical CPVA

5.5.2.1. Avoidance

The results suggest that young female adults, who had experienced psychological abuse and have an increased risk of engaging in physical CPVA, are more likely to report higher levels of avoidance symptoms.

***Psychological Abuse*.** As mentioned in Section 4.5.1.1., before engaging in physical violence and abuse, a female needs to overcome multiple psychological barriers. Individuals reporting higher levels of avoidance PTSD symptoms are likely to engage in experiential avoidance (Boeschen, Koss, Figueredo, & Coan, 2001). This term refers to emotional, cognitive, and behavioural strategies that help people escape distressing and intrusive memories of trauma (Boeschen et al., 2001). For children who were maltreated, these strategies are likely directed at

their parents, who evoke reminders of the past maltreatment (Lazarus & Folkman, 1984; Shapiro, 2001). When the child engages in experiential avoidance while having an active fight-or-flight system, physical CPVA is likely to occur (Calvete et al. 2015a; Contreras, Bustos-Navarrete, & Cano-Lozano, 2019; Nock & Kazdin, 2002).

5.5.3. Non-significant Findings

5.5.3.1. Demandingness and Low Frustration Tolerance

Past studies have identified demandingness and low frustration tolerance as risk factors or characteristics of individuals engaging in CPVA (Calvete et al., 2014a; Kennair & Mellor, 2007; Nock & Kazdin, 2002). However, this study does not support previous findings. Demandingness and low frustration tolerance beliefs measured within this study may be too generalised. This is because, the questionnaire does not capture content-specific beliefs relating to one's parents (Browne, Dowd, & Freeman, 2010). Additionally, the items can arguably be broken down further into meaningful categories (Harrington, 2005).

Another possibility is that demandingness and low frustration tolerance are observed among non-maltreated individuals who engage in CPVA. Both beliefs are arguably associated with a sense of entitlement, an ego-centric viewpoint (Beara, 2015; Harrington, 2007), and permissive parenting (Calvete, Orue, & Gámez-Guadix, 2013). However, having grown up with long-term rejection and alienation, maltreated victims are likely to internalise that they deserved or were responsible for the poor treatment given by their parents (Cawson, Wattam, Brooker, & Kelly, 2000; Calvete, Orue, Gámez-Guadix, Hoyo-Bilbao, & Arroyabe, 2015b; Courtois, 2004). Hence, they are less likely to develop an elevated sense of self-importance. This is observed from consistent findings, across studies, of low self-esteem

among maltreated victims (Cawson, Wattam, Brooker, & Kelly, 2000; Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011a; Higgins & McCabe, 2001).

5.5.3.2. Intrusion and Hyperarousal PTSD Symptoms

Regarding the lack of significant findings for intrusion and hyperarousal, a key possibility is that avoidance has a unique contribution to the increased risk of CPVA. A unique contribution refers to effects not attributable to other PTSD symptoms. Avoidance symptoms manifest during episodes of active intrusion and hyperarousal symptoms, as this is the individual's way of coping with the painful affects and memories (Litz, 1992; Tull & Roemer, 2003). Only during the process of actively coping and protecting oneself, would an individual likely use violence and abuse against others (Tull & Roemer, 2003; van der Kolk, 2005).

5.5.4. Implications

Catastrophising was found to be significantly associated with the relationship between psychological abuse and psychological CPVA (Table 5.1.). However, no significant relationship between catastrophising and psychological CPVA was found (Figure 5.1.). The findings suggest that the explanatory power of catastrophising is relatively small, and its influence can only be detected via bootstrapping. In other studies, individuals reporting higher levels of catastrophising were found to have an increased tendency to both suppress and express anger (Szentagotai & Jones, 2010). This may explain the extremely weak but significant association observed for catastrophising on the relationship between psychological abuse and psychological CPVA. Conducting additional studies (e.g. longitudinal or qualitative) may help clarify the findings.

The consolidated findings obtained from primary study one and two suggest several implications (see Section 6.4. and 6.5. for in-depth discussions). Firstly, instead of operationalising childhood maltreatment as a singular construct or focusing on a few types of childhood maltreatment, it may be more meaningful to concurrently explore all types of childhood maltreatment. Secondly, researching and formulating the roles of multiple biopsychosocial risk factors, instead of solely focusing on childhood maltreatment, may allow for a more holistic understanding of CPVA. Thirdly, further research would help inform the applicability of the REBT model in explaining violent and abusive behaviours among young female adults. Fourthly, there is a need for improved identification of psychological abuse and neglect, to better safeguard both children and parents. Lastly, infusing a trauma-informed approach within existing skill-based and restorative focused CPVA interventions may be a more targeted response.

5.5.5. Limitations and Future Directions

The discussion within this section covers one empirical study discussed across Chapters four and five.

5.5.5.1. Study Design

A cross-sectional, retrospective study was conducted. There is a lack of different data collection time-points for the exposure, mediator, and outcome variables, alongside an inflated type I error (Baguley, 2008; Fairchild & McDaniel, 2017). Also, the current behaviours of one's parent(s) were not measured. Hence, the significant relationships found within this study may, instead, be driven by the inter-relatedness and mutual causality of present violence and abuse between the child and parent(s) (Margolin & Baucom, 2014). Secondly, the mediators can only be concluded as being associated with the studied relationships, instead of an

explanatory factor that is placed in a specific temporal order (Baguley, 2008; Fairchild & McDaniel, 2017). Therefore, the results of the two primary studies should be cautiously viewed as exploratory findings indicating the value for further research. Another consideration is the accuracy of respondents' recall of past childhood maltreatment experience(s). A meta-analysis conducted by Baldwin et al. (2019) found that there was poor agreement between retrospective and prospective childhood maltreatment measures, especially when questionnaires were used. However, other studies have shown that the discrepancy was the strength of association and not the overall relationship (Fergusson, Horwood, & Boden, 2011; Newbury et al., 2018). Conducting longitudinal studies will be most beneficial in clarifying and extending both studies' findings.

5.5.5.2. Recruitment and Sample

Although a substantial number of females was recruited for this study, a convenience sampling method was used (detailed in Chapter Three). Also, advertisements for this study were limited to a small number of online platforms. Self-selection bias of participants is likely (Etikan, Musa, & Alkassim, 2016). A high number of respondents had functional engagements (see Table 4.1). Also, aforementioned, the prevalence rates of childhood maltreatment between the Office for National Statistics (2020a, b) and this study are different (see Section 4.5.). Lastly, high-risk individuals are likely under-represented in this sample; this may have impacted what was defined as an outlier within this study (Etikan et al., 2016). Additional studies should be conducted, to test if the findings can be replicated.

5.5.5.3. Measurement of Variables

Within this study, childhood maltreatment was operationally defined as five separate types. Also, the findings suggest that there are meaningful differences within each abuse and neglect subtype. However, Higgins (2005) highlighted that there lacked comprehensive theory and evidence to support the idea that each type is a meaningfully unique construct. If childhood maltreatment is more meaningful as a single construct, the observed relationship between cumulative types of maltreatment experienced and risk of CPVA may not be directly linked to the additive impact of different types of maltreatment. Instead, it signals the influence of general family characteristics, such as a rigid, inflexible, and chaotic family environment (Higgins & McCabe, 2001; Higgins, 2005), on the risk of CPVA.

This study only measured the absence or presence of an individual's experience of childhood maltreatment. Also, the measurement of PTSD symptoms was not directly referenced to one's experience of childhood maltreatment. Therefore, what aspects of psychological abuse and neglect are associated with the mediators and CPVA is unclear. Future studies should explore the role of other influential facets of childhood maltreatment, such as duration, severity, and frequency (Higgins & McCabe, 2001), in the risk of CPVA. Official documentation or other-report should also be collated to corroborate with the self-report data.

As discussed in Section 5.5.3.1, the irrational beliefs measured in this study may not have accurately captured content-specific cognitive distortions relating to one's parents. Hence, future CPVA studies may benefit from a mixed-methods design.

5.6. Conclusion

This is a follow-up study to primary study one (Chapter Four). It aimed to understand the roles of PTSD symptoms (i.e. intrusion, hyperarousal, and avoidance) and irrational beliefs (i.e. demandingness, catastrophising, low frustration tolerance, and depreciation) in five relationships between childhood maltreatment (i.e. psychological abuse, psychological neglect, and cumulative types) and physical and psychological CPVA. Overall, the findings support the possibility that symptoms of complex trauma contribute to the development and maintenance of physical and psychological CPVA. In light of the findings from the three studies, the following chapter will discuss this thesis's overall research and clinical contributions.

Chapter 6: Discussion and Conclusions

6.1. Thesis Aims

To address the knowledge gaps surrounding CPVA (Miles & Condry, 2015; Shanholtz, O'Hara, Duchschere, Beck, & Lawrence, 2020; Williams, Tuffin, & Niland, 2017), this thesis attempted to extend Nowakowski-Sims and Rowe's (2015) argument that childhood trauma contributes to an individual's engagement in CPVA. Another aim was to contribute to an increased understanding of CPVA amongst an age group with different legal implications; traditionally, research has been focused on adolescents (Holt & Shon, 2018). Altogether, four research questions were explored:

1. What is the relationship between experiencing childhood maltreatment and engaging in CPVA?
2. In relation to young female adults, which type(s) of childhood maltreatment predict(s) CPVA?
3. In relation to young female adults, will the experience of cumulative types of childhood maltreatment predict CPVA?
4. In relation to young female adults, do PTSD symptoms and irrational beliefs explain the relationship between childhood maltreatment and CPVA?

6.2. Summary of Findings

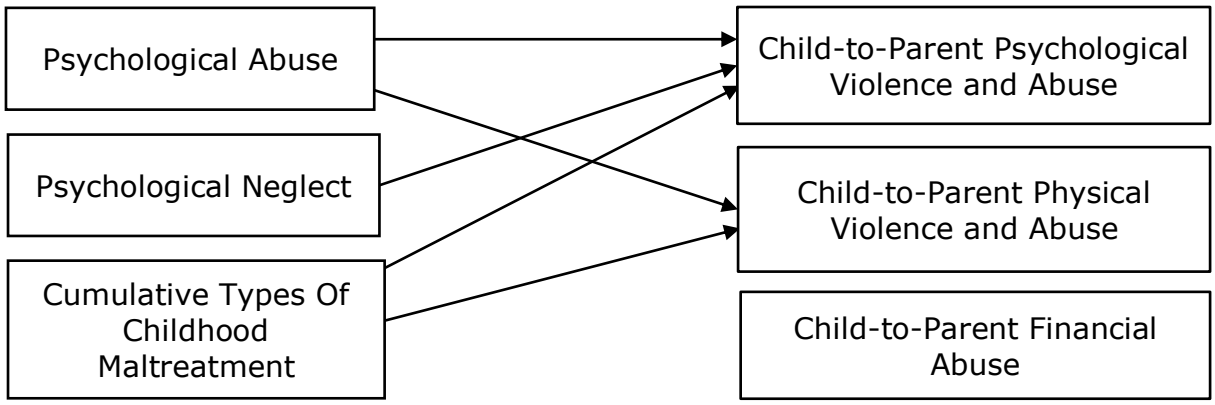
To address the lack of a consolidated understanding of the relationship between childhood maltreatment and CPVA, a systematic review consisting of 24 non-overlapping studies was completed (Chapter Two). Meta-analyses and a narrative synthesis were conducted. The results contribute to the overall thesis by identifying a relationship between childhood maltreatment and CPVA. This finding provides evidence for the bi-directionality of violence theory, proposed by multiple CPVA researchers (Gámez-Guadix & Calvete, 2012; Ibabe, 2014; Kennedy,

Edmonds, Dann, & Burnett, 2010). This review also confirms Izaguirre and Calvete (2017) finding that compared to exposure to domestic violence, direct victimisation is more strongly associated with CPVA. Therefore, a different level of support and resources may be required for individuals experiencing direct victimisation, as compared to indirect victimisation. This review also highlights research gaps. Firstly, various types of childhood maltreatment, especially physical abuse, are often studied in isolation. Secondly, consensus regarding the definition of CPVA is lacking. Lastly, CPVA-related tools with strong and validated psychometric properties are scarce. The latter two aspects are aligned with Ibabe (2020) systematic review findings. The inconsistent findings between this thesis's systematic review and Gallego et al. (2019) review suggest the need for narrower inclusion criteria and greater methodological rigour, to provide clarity on the relationship between childhood maltreatment and CPVA.

Primary study one (Chapter Four) aimed to allow a more robust understanding of the relationship established in Chapter Two. To the author's knowledge, this is the first study that concurrently analysed the relationship between five types of childhood maltreatment (i.e. physical, psychological, and sexual abuse, and physical and psychological neglect) and three types of CPVA (i.e. physical, psychological, and financial). The results reveal that different types of childhood maltreatment are associated with different types of CPVA (see Figure 6.1. for a visual representation of the findings). Similar findings were obtained by studies focusing on other types of challenging behaviours (Cecil, Viding, Fearon, Glaser, & McCrory, 2017; Cohen, Brown, & Smaile, 2001; Higgins, 2005). This study's exploratory evidence also refines the current understanding surrounding childhood maltreatment. It highlights that the experience of different types of childhood

maltreatment may independently and additively cause harm and disruptions to an individual (Cecil et al., 2017). This study also contributes to the wider picture of the potential long-term impact of childhood maltreatment on violent behaviours among young female adults (Day, Hibbert, & Cadman, 2008).

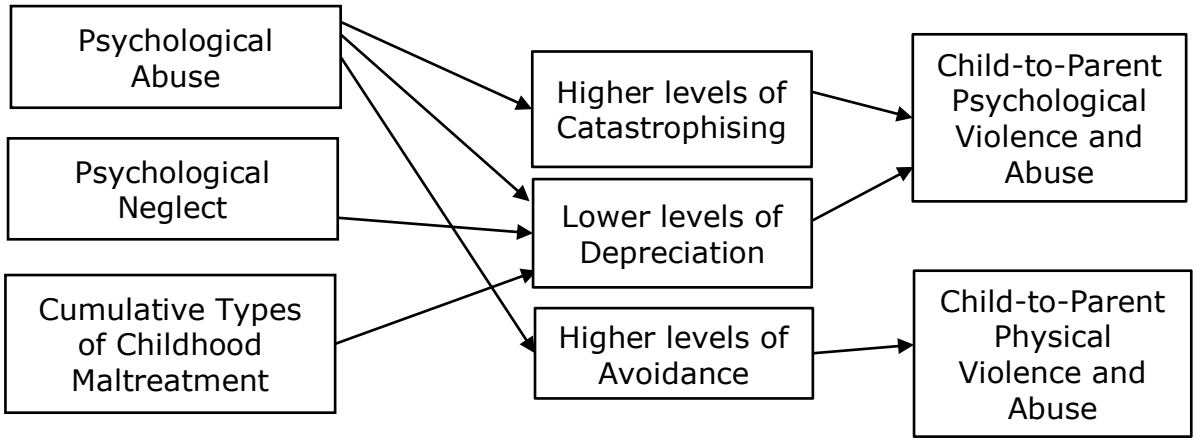
Figure 6.1. Diagram Summarising the Findings Obtained from Primary Study One



The previous studies indicate that childhood maltreatment is a potential risk factor of CPVA. However, the results also reveal that not all victims of childhood maltreatment will engage in violence and abuse against their parent(s). To reduce the large knowledge gap regarding the underlying mechanisms (Nowakowski-Sims & Rowe, 2017; Selwyn & Meakings, 2016), the second part of the study (Chapter Five) was conducted. To the author's knowledge, no studies have explored the potential role of PTSD symptoms and irrational beliefs in the relationship between childhood maltreatment and CPVA. The exploratory evidence suggests that, among young female adults, avoidance PTSD symptoms and catastrophising and depreciation beliefs may be the underlying mechanisms explaining the relationship between childhood maltreatment and psychological or physical CPVA (see Figure 6.2. for a visual representation of the findings). The hinted role of the child's internal experiences supports arguments that changes solely focused on the child's environment or parenting practices are insufficient responses to address

CPVA (Hunter, Nixon, & Parr, 2010; Selwyn & Meakings, 2016). Together with primary study one, this study findings also contribute to the pool of evidence highlighting the impact of complex trauma on adverse long-term outcomes (Ibabe, 2014).

Figure 6.2. Diagram Summarising the Findings Obtained from Primary Study Two



6.3. Conceptual Framework: Survival, Security and Attachment

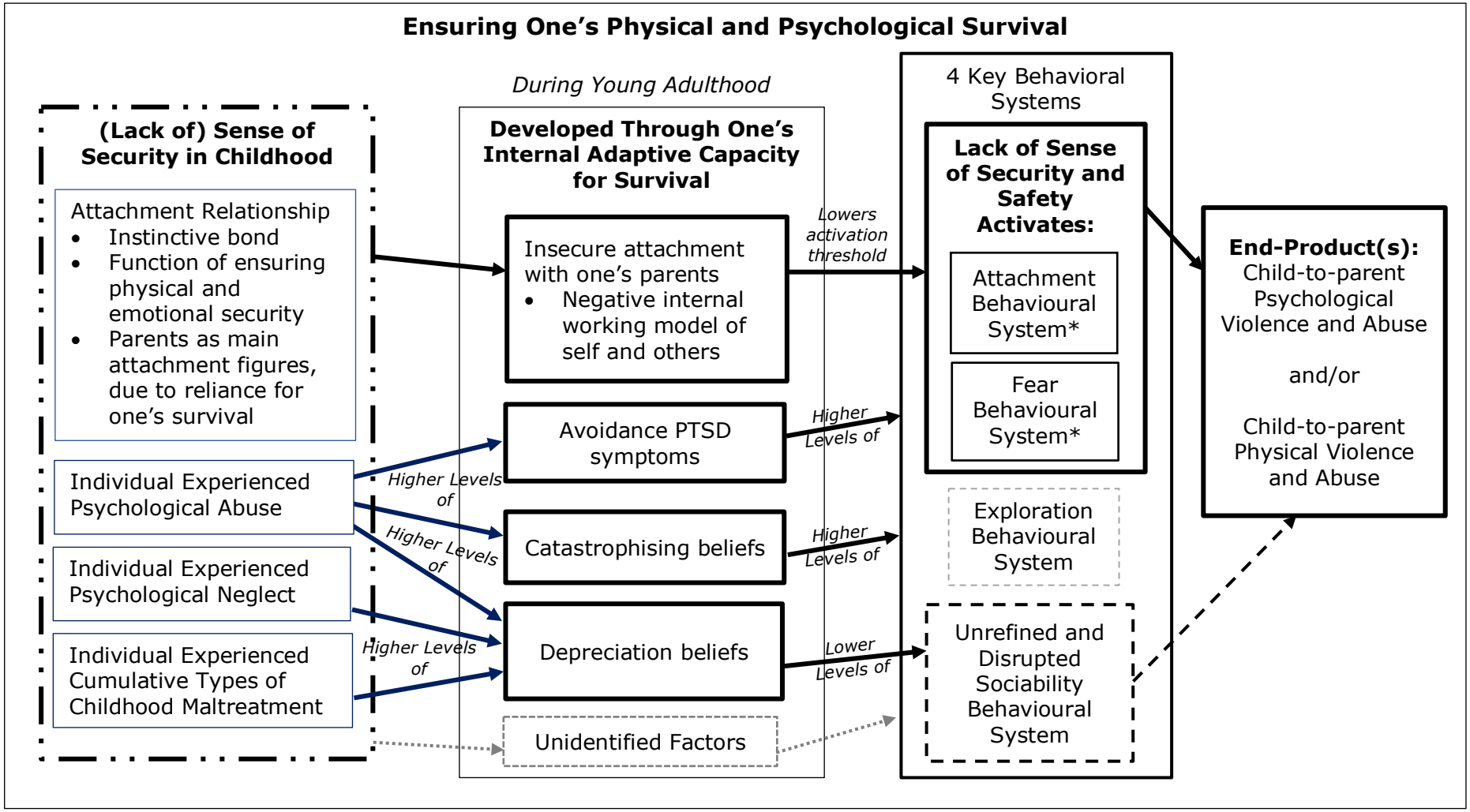
Attachment theory (Bowlby, 1969, 1982 as cited by Cassidy, 2016) can be used to consolidate Chapter Two, Four and Five findings. The explanation of the relationship among childhood maltreatment, avoidance PTSD symptoms, catastrophising and depreciation beliefs and CPVA assumes that the relationships are causal. However, conclusions about causality cannot be drawn from this thesis. As the studies were focused on young female adults, the explanation is in the context of females.

When a child experiences psychological abuse, psychological neglect, or cumulative types of childhood maltreatment, she is likely to be chronically exposed to distressing emotions and thoughts (Bellis, 2001; Fonagy & Target, 1997). These internalised affects and cognitions are foundational blocks to a child's negative

internal working model of self and others (Mikulincer & Shaver, 2016; van der Kolk, 2008). The child's poor sense of self and/or a generalised sense of mistrust and threat towards her parents reduces the activation threshold of her fear and attachment behavioural systems (Kobak, Zojac, & Madsen, 2016; Myhr, 2013). When both systems are activated, the child will attempt to re-establish a sense of safety and security (Cassidy, 2016; Mikulincer & Shaver, 2016). This goal is achieved by meeting her desired physical proximity and/or emotional contact with her parents (i.e. attachment figure) (Cassidy, 2016).

For a child who experiences high levels of catastrophising beliefs or avoidance PTSD symptoms, she frequently experiences overwhelming fear and anxiety. Hence, her fear and attachment behavioural systems are constantly activated (Kobak, Zojac, & Madsen, 2016; Mikulincer & Shaver, 2016). These distressing feelings also disrupt the child's unrefined sociability behavioural system (Lanius, Bluhm, & Frewen, 2011; Stovall-McClough & Dozier, 2016), resulting in increased conflicts with her parents. When a child has lower levels of depreciation beliefs, she is likely to blame her parents for the negative interactions. Increased animosity towards her parents worsens her unrefined sociability behavioural system. When the child uses inappropriate social skills to re-establish her internal sense of safety and security, child-to-parent psychological and/or physical violence and abuse occurs. (see Figure 6.3. for visual representation)

Figure 6.3. Adapted Framework Based on The Attachment Theory for Child-to-Parent Violence And Abuse



NOTE:
* system is activated

6.4. Research Implications

6.4.1. Accounting for the Impact of Different Types of Childhood Maltreatment

Primary study one and two findings support suggestions that, amongst the different types of maltreatment, there is a hierarchy (Hahm et al., 2010) and overlapping variance (Cecil et al., 2017) of contributions to poor outcomes. Hence, the method of measurement and analysis of childhood maltreatment will impact our understanding of its relationship with CPVA. Instead of operationalising childhood maltreatment as a singular construct or focusing on one or two types of childhood maltreatment, it may be more meaningful to concurrently explore different types of childhood maltreatment. Secondly, future systematic reviews will need to take into consideration clinical heterogeneity contributed by the different types of childhood maltreatment. Lastly, there is a need for a comprehensive theory explaining the independent effect of each type of childhood maltreatment (Higgins, 2005).

6.4.2. Expanding the Methodology

The overall thesis suggests that among young female adults, experiencing childhood maltreatment is significantly but weakly associated with an increased risk of engaging in CPVA. Future studies will need to explore if the findings can be replicated with a longitudinal study design, a range of populations, and the use of random sampling. These studies can also use more clearly defined constructs for psychological CPVA and childhood maltreatment. Also, having multiple respondents, beyond the child's self-report, or using a mixed-methods design may increase the robustness of the findings. Secondly, this thesis is mainly focused on the presence or absence of exposure and outcome variables. Hence, there is a

need for researchers to establish a body of empirical evidence explaining why and which aspect(s) of the experience of childhood maltreatment contributes to different facets of CPVA. For example, studies can measure and analyse the relevant dimensions of victimisation (e.g. severity, chronicity, onset), gender (e.g. father/mother), and other domains impacted by complex trauma (e.g. dissociation, relational and regulation skills, and emotional literacy).

6.4.3. Exploring Multiple Biopsychosocial Factors

A weak association between childhood maltreatment and CPVA was consistently found throughout this thesis. Also, the few mediators (i.e. catastrophising, depreciation, and avoidance), found to be significantly associated with the relationship between childhood maltreatment and CPVA, accounted for a very small part of the relationship. Concurrently researching the roles of multiple biopsychosocial risk factors may allow for a more holistic understanding of CPVA. For example, the influence of both the child's internal (e.g. affect and cognitions) and external experiences (e.g. family environment or current interaction with parents) on CPVA can be explored.

6.4.4. Applicability of Rational Emotive Behaviour Therapy (REBT)

This thesis used the REBT model to explore the role of a young female adult's cognition in the use of violence and abuse. There is empirical evidence supporting the theoretical assumptions of REBT (Vîslă, Flückiger, Holtforth, & David, 2016) and the effectiveness of this treatment modality in improving psychosocial outcomes (David, Cotet, Matu, Mogoase, & Stefan). However, within this thesis, a largely non-significant finding was obtained. Also, depreciation was revealed to be a suppressor mediator. The results suggest that the REBT model could be a poor fit for individuals engaging in violence and abuse (Mitchell, Simourd & Tafrate,

2013). There is limited empirical support for the direct association between irrational beliefs and violence and abuse (Debidin & Dryden, 2011). Also, there are instances of a mismatch between cognitions and emotions (e.g. individuals do not emotionally connect with the helpful thoughts) (Al-Roubaiy, 2020). Alternatively, they are moderators which interact with other risk factors (e.g. poor social-cognitive abilities or antisocial attitudes; Browne, Dowd, & Freeman, 2010; Fives, Kong, Fuller, & DiGiuseppe, 2011) or protective factors (e.g. good social awareness or strong support network; Espejo-Siles, Zych, Farrington, & Llorent, 2020). Another possibility is that the contributory role of irrational beliefs on CPVA may only be observed when specific to the context (see Section 5.5.3.1. for an in-depth explanation). Identifying which hypothesis is true may inform the applicability of the REBT model in explaining violent and abusive behaviours among young female adults.

6.4.5. Financial CPVA

In this thesis, limited exploration regarding financial CPVA could be made. Developing an operationalised hypothetical construct and a validated psychometric tool that measures this phenomenon should be a priority. Qualitative studies exploring the parents' experiences of their child's use of financial abuse may allow for a better understanding of this phenomenon.

6.5. Practical and Clinical Implications

6.5.1. Improved Identification of Childhood Maltreatment

This thesis suggests psychological abuse and neglect to be influential risk factors of CPVA for young female adults. They were also the most common types of childhood maltreatment experienced (see Table 4.1.). However, they are under-recognised and under-reported by professionals (Arruabarrena, Paúl, Indias, &

Ullate, 2013; Glaser, 2002). Thus, there is a need for increased recognition of psychological maltreatment as an influential form of victimisation. Also, more emphasis on the identification of psychological abuse and neglect is needed. Training, structured processes, and governmental and organisational policies may help address these gaps (Arruabarrena et al., 2013; Gilbert et al., 2009). Utilising self-report questionnaires (e.g. Adverse Childhood Experience-Revised) may help professionals in the identification process too. Early identification may prevent the entrenchment of the cycle of violence (Cottrell & Monk, 2004; O'Hara, Duchschere, Beck, & Lawrence, 2017).

6.5.2. Best Practice When Working on CPVA

This thesis may help inform professionals' work, as organisations are struggling to determine the best practice for CPVA-related cases (O'Hara et al., 2017).

6.5.2.1. Assessing for Trauma

Primary study two results support arguments and findings that victims of complex trauma, who exhibit challenging behaviours, seldom meet the current diagnostic criteria of PTSD (Sar, 2011; Schmid, Petermann, & Fegert, 2013). Instead, experiencing a diverse range of difficulties is a more common outcome (Sar, 2011; Schmid et al., 2013). Hence, practitioners should consider the impact of complex trauma (e.g. childhood maltreatment), regardless of the presence of PTSD symptoms. The overall findings suggest that for families experiencing CPVA, exploring past and present childhood maltreatment may be key to safeguarding the child and parents and inform if enhanced support is necessary (McCloud, 2017).

6.5.2.2. Value of Formulation

The overall thesis findings are aligned with the current understanding of CPVA, where multiple factors interact to elevate an individual's risks to others (Kennair & Mellor, 2007; O'Hara et al., 2017). The use of formulation will best allow professionals to gain a good understanding of the interactions among the different factors driving an individual's risk of engaging in CPVA. Professionals can use Cottrell and Monk's (2004) nested ecological theory or the attachment theory (e.g. Figure 6.3.) as the broad conceptual framework for the formulation.

Several studies have found that a high percentage of adolescents engaging in CPVA also hold diagnoses of attention-deficit hyperactivity disorder or conduct disorder (Contreras & Cano, 2015; Cottrell & Monk, 2004; Ibabe & Jaureguizar, 2010; Routt & Anderson, 2011). There are overlaps between these diagnoses and symptoms of complex trauma (Daviss, Reiser, & Thomas, 2000; Szymanski, Sapanski, & Conway, 2011). Hence, there may be more value in placing focus on addressing the factors underlying the symptoms than treating based on the diagnosis (Conway, Oster, & Szymanski, 2011; Cook et al., 2005).

6.5.2.3. Trauma-Informed Interventions

The role of childhood maltreatment found within this thesis supports Nowakowski-Sims and Rowe's (2015) recommendation for a trauma-informed care approach. This approach contains two aspects. First, policymakers and service providers should recognise the impact of trauma on a service user's challenging behaviour (e.g. CPVA) (Nowakowski-Sims & Rowe, 2017). Next, service providers should provide a safe environment and corrective emotional and attachment experiences, to help service users address their difficulties (Nowakowski-Sims & Rowe, 2017). Current CPVA-related programmes, such as Step Up (Anderson & Routt, 2014),

Break4change (Munday, 2009), and non-violent resistance (Coogan, 2018), are heavily skill-based and restorative focused. Hence, infusing a trauma-informed approach within existing CPVA interventions may be a more targeted response (Hunter & Nixon, 2012; Nowakowski-Sims & Rowe, 2017; Wilcox & Pooley, 2015).

6.5.3. Policies

This thesis supports Condry and Miles's (2012) argument that policymakers need to conceptualise CPVA as a significant problem requiring specialised approaches and targeted support. Beyond tackling CPVA by raising awareness (e.g. the Home Office (2015) information guide), the government can inject funding towards establishing frameworks for the provision of necessary resources and rehabilitative interventions, to effectively address CPVA (Biehal, 2012; Wilcox & Pooley, 2015). Policymakers can also consider extending the "National Protocol on Reducing Unnecessary Criminalisation of Looked-After Children and Care Leavers" (Department for Education, 2018) to individuals engaging in CPVA. This thesis also contributes to the existing evidence pool regarding the wide-reaching and destructive impact of childhood maltreatment. Hence, continued initiatives and efforts to prevent childhood maltreatment should be supported.

6.6. Conclusions

There is growing attention and evidence that some parents are experiencing violence and abuse from their children (Condry & Miles, 2014; Dias, 2020). This research thesis presented a systematic review and an empirical study. The overall aim was to extend the current understanding of the relationship between childhood maltreatment and CPVA. The exploratory results demonstrate a complex interaction between the experience of childhood maltreatment and its associated

symptoms, which contributes to an individual's risk of engaging in CPVA. Based on the consolidated findings, suggestions for further research directions, practice enhancements, and policy initiatives were made. It is with hope that this thesis contributes to the ongoing efforts to address this form of intra-familial violence.

References

Agnew, R., & Huguley, S. (1989). Adolescent violence toward parents. Journal of Marriage and Family, 51(3), 699-711.

Al-Roubaiy, N. S. (2020). One pathway to cognitive behaviour therapy integration: Introducing assimilative integrative rational emotive behaviour therapy. The Cognitive Behaviour Therapist, 13, 1-18.

Allen, B. (2008). An analysis of the impact of diverse forms of childhood psychological maltreatment on emotional adjustment in early adulthood. Child Maltreat, 13, 307-312.

Allen, B. (2011). Childhood psychological abuse and adult aggression: The mediating role of self-capacities. Journal of Interpersonal Violence, 26(10), 2093–2110.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: American Psychiatric Association.

Anderson, L., & Routt, G. (18 Dec, 2014). Step Up: Program materials. Retrieved from King County: https://kingcounty.gov/courts/superior-court/juvenile/step-up/curriculum/materials.aspx

Arias-Rivera, S., & García, V. H. (2020). Theoretical framework and explanatory factors for child-to-parent violence. A scoping review. anales de psicología / annals of psychology, 36(nº 2 (may)), 220-231.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. American Psychologist, 55(5), 469-480.

Arruabarrena, I., Paúl, J. D., Indias, S., & Ullate, M. (2013). Psychologists and child psychological maltreatment severity assessment. Psicothema, 25(4), 482-487.

Aupperle, R. L., Melrose, A. J., Stein, M. B., & Paulus, M. P. (2012). Executive function and PTSD: Disengaging from trauma. Neuropharmacology, 62(2), 686–694.

Awena, F., Berger, M., Coles, S., Dooley, C., Foster, S., Hanna, J., Hemmingfield, J., Johnstone, L., Nadirshaw, Z., Wainwright, T., Whomsley, S. (2013). Classification of behaviour and experience in relation to functional psychiatric diagnoses: Time for a paradigm shift. Leicester: The British Psychological Society.

Baguley, T. (2008). Serious stats: A guide to advanced statistics for the behavioral sciences. Hampshire: Palgrave Macmillan.

Baldwin, J. R., Reuben, A., Newbury, J. B., & Danese, A. (2019). Agreement between prospective and retrospective measures of childhood maltreatment a systematic review and meta-analysis. JAMA Psychiatry, 584-593.

Barnes, S. E., Howell, K. H., & Miller-Graff, L. E. (2016). The relationship between polyvictimization, emotion dysregulation, and social support among emerging adults victimized during childhood. Journal of Aggression, Maltreatment & Trauma, 25(5), 470-486.

Bartle-Haring, S., Slesnick, N., & Carmona, J. (2015). Reciprocity in adolescent and caregiver violence. J Fam Violence, 30(2), 149–159.

BBC. (07 Aug, 2019). Domestic violence: Child-parent abuse doubles in three years. Retrieved from BBC News: https://www.bbc.com/news/uk-england-49207887

Beara, V. (2015). The contribution of REBT in addressing the givens of existence. J Rat-Emo Cognitive-Behav Ther, 33, 179–197.

Beckmann, L. (2019). Family relationships as risks and buffers in the link between parent-to-child physical violence and adolescent-to-parent physical violence. Journal of Family Violence, 35, 131–141.

Beckmann, L., Bergmann, M. C., Fischer, F., & Mößle, T. (2017). Risk and protective factors of child-to-parent violence: A comparison between physical and verbal aggression. Journal of Interpersonal Violence, 1–26.

Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. Development and Psychopathology, 13, 539–564.

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. J. R. Statist. Soc. B, 57(1), 289-300.

Biehal, N. (2012). Parent abuse by young people on the edge of care: A child welfare perspective. Social Policy & Society, 11(2), 251–263.

Bienvenu, O. J., Williams, J. B., Yang, A., Hopkins, R. O., & Needham, D. M. (2013). Posttraumatic stress disorder in survivors of acute lung injury: evaluating the impact of event scale-revised. Chest, 144(1), 24-31.

Bland, V. J., Lambie, I., & Best, C. (2018). Does childhood neglect contribute to violent behavior in adulthood? A review of possible links. Clinical Psychology Review, 60, 126–135.

Boeschen, L. E., Koss, M. P., Figueredo, A. J., & Coan, J. A. (2001). Experiential avoidance and post-traumatic stress disorder: A cognitive mediational model of rape recovery. Journal of Aggression, Maltreatment & Trauma, 4, 211-245.

Borenstein, M., Hedges, L. V., Higgins, J. P., Rothstein, H. R., & Higgins, J. P. (2011). Introduction to meta-analysis. West Sussex: John Wiley & Sons, Incorporated.

BOS. (n.d. n.d., n.d.). BOS Security. Retrieved 15 Nov, 2017, from BOS: https://www.onlinesurveys.ac.uk/help-support/bos-security/

Boxer, P., Gullan, R. L., & Mahoney, A. (2009). Adolescents' physical aggression toward parents in a clinic-referred sample. Journal of Clinical Child & Adolescent Psychology, 38(1), 106–116.

Boynton, M. H., Portnoy, D. B., & Johnson, B. T. (2013). Exploring the ethics and psychological impact of deception in psychological research. IRB, 35(2), 7–13.

Briere, J., & Jordan, C. E. (2009). Childhood maltreatment, intervening variables, and adult psychological difficulties in women An overview. TRAUMA, VIOLENCE, & ABUSE, 10(4), 375-388.

British Psychological Society. (2013). Ethics guidelines for internet-mediated research. Leicester: The British Psychological Society.

Browne, C. M., Dowd, E. T., & Freeman, A. (2010). Rational and irrational beliefs and psychopathology. In D. David, S. J. Lynn, & A. Ellis, Rational and irrational beliefs: Research, theory, and clinical practice (pp. 149-172). New York, NY: Oxford University Press.

Browne, K. D., & Hamilton, C. E. (1998). Physical violence between young adults and their parents: Associations with a history of child maltreatment. Journal of Family Violence, 59-79.

Browne, K., Hamilton-Giachritsis, C., & Vettor, S. (2007). The cycles of violence: The relationship between childhood maltreatment and the risk of later

becoming a victim or perpetrator of violence. Copenhagen, Denmark: World Health Organization Regional Office for Europe.

Calvete, E., Gamez-Guadix, M., & Garcia-Salvador, S. (2015a). Social information processing in child-to-parent aggression: Bidirectional associations in a 1-year prospective study. J Child Fam Stud, 24, 2204–2216.

Calvete, E., Gámez-Guadix, M., & Orue, I. (2014). Family characteristics associated with child-to-parent aggressions in adolescents. anales de psicología, 30(3), 1176-1182.

Calvete, E., Orue, I., & Gámez-Guadix, M. (2013). Child-to-parent violence: Emotional and behavioral predictors. Journal of Interpersonal Violence, 26(4), 755-772.

Calvete, E., Orue, I., & Sampedro, R. (2011). Violencia filioparental en la adolescencia: Características ambientales y personales. Infancia y Aprendizaje, 34(3), 349-363.

Calvete, E., Orue, I., Bertino, L., Gonzalez-Díez, Z., Montes, Y., Padilla, P., & Pereira, R. (2014a). Child-to-parent violence in adolescents: The perspectives of the parents, children, and professionals in a sample of spanish focus group participants. Journal of Family Violence, 29(3), 343-352.

Calvete, E., Orue, I., Gamez-Guadix, M., & Bushman, B. J. (2015). Predictors of child-to-parent aggression: A 3-year longitudinal study. Developmental Psychology, 51(5), 663–676.

Calvete, E., Orue, I., Gámez-Guadix, M., Hoyo-Bilbao, J. D., & Arroyabe, E. L. (2015b). Child-to-parent violence: An exploratory study of the roles of family violence and parental discipline through the stories told by Spanish children and their parents. Violence and Victims, 30(6), 935-947.

Carol, J. B., & Jordan, E. (2009). Childhood maltreatment, intervening variables, and adult psychological difficulties in women: An overview. TRAUMA, VIOLENCE, & ABUSE, 10(4), 375-388.

Cassidy, J. (2016). The nature of the child's ties. In J. Cassidy, & P. R. Shaver, Handbook of attachment: Theory, research, and clinical applications (3rd ed.) (pp. 3-24). New York: Guilford Publications.

Cawson, P., Wattam, C., Brooker, S., & Kelly, G. (2000). Child maltreatment in the United Kingdom: A study of the prevalence of abuse and neglect. NSPCC Research Findings, 1-20.

Cecil, C. A., Viding, E., Fearon, P., Glaser, D., & McCrory, E. J. (2017). Disentangling the mental health impact of childhood abuse and neglect. Child Abuse and Neglect, 63, 106–119.

Cheung, R. Y., & Park, I. J. (2010). Anger suppression, interdependent self-construal, and depression among Asian American and European American college students. Cultur Divers Ethnic Minor Psychol, 16(4), 517–525.

Choi, Y., Kim, Y. S., Kim, S. Y., & Park, I. K. (2013). Is Asian American parenting controlling and harsh? Empirical testing of relationships between Korean American and western parenting measures. Asian Am J Psychol, 4(1), 19–29.

Chou, S. & Chawke, G. (2018). The association between adverse childhood experience, parental attachment and child-to-parent violence in Ireland. Journal of Interpersonal Violence. (In preparation)

Clemmons, J. C., Walsh, K., DiLillo, D., & Messman-Moore, T. L. (2007). Unique and combined contributions of multiple child abuse types and abuse severity to adult trauma symptomatology. Child Maltreatment, 12(2), 172–181.

Cohen, P., Brown, J., & Smaile, E. (2001). Child abuse and neglect and the development of mental disorders in the general population. Dev Psychopathol, 13(4), 981-999.

Colquhoun, D. (2014). An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. open sci., 1, 1-16.

Condry, R., & Miles, C. (2012). Adolescent to parent violence and youth justice in England and Wales. Social Policy & Society, 11(2), 241–250.

Condry, R., & Miles, C. (2014). Adolescent to parent violence: Framing and mapping a hidden problem. Criminology & Criminal Justice, 14(3), 257–275.

Conti, G., Morris, S., Melnychuk, M., & Pizzo, E. (2017). The economic cost of child maltreatment in the UK: a preliminary study. London: NSPCC.

Contreras, L., & Cano, C. (2014). Adolescents who assault their parents: A different family profile of young offenders? Violence and Victims, 29(3), 393-406.

Contreras, L., & Cano, M. C. (2015). Exploring psychological features in adolescents who assault their parents: A different profile of young offenders? The Journal of Forensic Psychiatry & Psychology, 26(2), 224-241.

Contreras, L., & Cano, M. C. (2016). Child-to-parent violence: The role of exposure to violence and its relationship to social-cognitive processing. The European Journal of Psychology Applied to Legal Context, 8(2), 43-50.

Contreras, L., Bustos-Navarrete, C., & Cano-Lozano, M. C. (2019). Child-to-parent violence questionnaire (CPV-Q): Validation among Spanish adolescents. International Journal of Clinical and Health Psychology, 19(1), 67-74.

Conway, F., Oster, M., & Szymanski, K. (2011). ADHD and complex trauma: A descriptive study of hospitalized children in an urban psychiatric hospital. Journal of Infant, Child, and Adolescent Psychotherapy, 10(1), 60-72.

Coogan, D. (2011). Child-to-parent violence: Challenging perspectives on family violence. Child Care in Practice, 17(4), 347-358.

Coogan, D. (2018). Child to parent violence and abuse: Family interventions with non violent resistance. London: Jessica Kingsley Publishers.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., DeRosa, R., Hubbard, R., Kagan, R., Liautaud, J., Mallah, K., Olafson, E., & van der Kolk, B. (2005). Complex trauma in children and adolescents. PSYCHIATRIC ANNALS, 35(5), 390–398.

Cottrell, B., & Monk, P. (2004). Adolescent-to-parent abuse. A qualitative overview of common themes. JOURNAL OF FAMILY ISSUES, 25(8), 1072-1095.

Courneya, K. S. (1994). Predicting repeated behavior from intention: The issue of scale correspondence. Journal of Applied Social Psychology, 24(7), 580-594.

Courtois, C. A. (2004). Complex trauma, complex reactions: Assessment and treatment. Psychotherapy: Theory, Research, Practice, Training, 41(4), 412–425.

Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the impact of event scale— revised. Behaviour Research and Therapy, 41, 1489–1496.

Crittenden, P. M., Claussen, A. H., & Sugarman, D. B. (1994). Physical and psychological maltreatment in middle childhood and adolescence. Development and Psychopathology, 6, 145-164.

Crombach, A., & Elbert, T. (2014). The benefits of aggressive traits: A study with current and former street children in Burundi. Child Abuse & Neglect, 38, 1041–1050.

Crouch, J. L., & Milner, J. S. (1993). Effects of child neglect on children. Crim Justice & Behavior, 20(1), 49-65.

Crowell, J. A., Fraley, R. C., & Roisman, G. I. (2016). Measurement of individual differences in adult attachment. In J. Cassidy, & P. R. Shaver, Handbook of attachment: Theory, research, and clinical applications (3rd ed.) (pp. 598-635). New York: Guilford Publications.

Cullerton-Sen, C., Cassidy, A. R., Murray-Close, D., Cicchetti, D., Crick, N. R., & Rogosch, F. A. (2008). Childhood maltreatment and the development of relational and physical aggression: The importance of a gender-informed approach. Child Dev, 79(6), 1736–1751.

D'Zurilla, T. J., Chang, E. C., & Sanna, L. J. (2003). Self-esteem and social problem solving as predictors of aggression in college students. Journal of Social and Clinical Psychology, 22(4), 424-440.

Dargis, M., & Newman, J. (2016). Altered emotion modulated startle in women with a history of childhood neglect. Personality and Individual Differences, 89, 187-191.

Dasgupta, S. D. (2002). A framework for understanding women's use of nonlethal violence in intimate heterosexual relationships. VIOLENCE AGAINST WOMEN, 8(11), 1364-1389.

David, D. (2014). The empirical status of rational emotive behavior therapy: (Rebt) theory & practice [Powerpoint slides]. Retrieved from http://albertellis.org/pdf_files/The-Empirical-Status-of-Rational-Emotive-Behavior-Theory-and-Therapy.pdf

David, D. O., DiGiuseppe, R., Dobrean, A., Pasarelu, C. R., & Balazsi, R. (2019). The measurement of irrationality and rationality. In M. E. Bernard, & W. Dryden, Advances in REBT Theory, practice, research, measurement, prevention and promotion (pp. 79-100). Cham: Springer.

David, D., Cotet, C., Matu, S., Mogoase, C., & Stefan, S. (n.d.). 50 years of rational-emotive and cognitive-behavioral therapy: A systematic review and meta-analysis. Journal of Clinical Psychology, 74(3), 304–318.

Daviss, W. B., Reiser, A. F., & Thomas, J. (2000). Child maltreatment, other trauma exposure, and posttraumatic symptomatology among children with oppositional defiant and attention deficit hyperactivity disorders. *Child Maltreatment, 5*, 205–217.

Day, C., Hibbert, P., & Cadman, S. (2008). A literature review into children abused and/or neglected prior custody. Youth Justice Board, 1-69.

Debidin, M., & Dryden, W. (2011). A systematic review of the literature on the use of rational emotive behaviour therapy in criminal justice work to reduce re-offending. J Rat-Emo Cognitive-Behav Ther, 29, 120–143.

Deegener, G. (2001). Child abuse. International Encyclopedia of the Social & Behavioral Sciences, 1672–1676.

Department for Education. (2018). The national protocol on reducing unnecessary criminalisation of looked-after children and care leavers. London: Department for Education.

Dias, A. (17 Dec, 2020). *Covid 19: Increase in parents abused by children in lockdown*. Retrieved from BBC: https://www.bbc.com/news/uk-england-shropshire-55276279

Dierkhising, C. B., Ford, J. D., Branson, C., Grasso, D. J., & Lee, R. (2019). Developmental timing of polyvictimization: Continuity, change, and

association with adverse outcomes in adolescence. Child Abuse & Neglect, 87, 40-50.

Dieten, M. V., & King, E. (2013). Advancing the use of CBT with justice-involved women. In R. C. Tafrate, & D. Mitchell, Forensic CBT: A handbook for clinical practice (pp. 329-353). West Sussex: John Wiley & Sons.

DiGiuseppe, R. (1996). The nature of irrational beliefs: Progress in rational emotive behavior therapy. Journal of Rational Emotive & Cognitive Behavior Therapy, 5-28.

DiGiuseppe, R., Doyle, K., Dryden, W., & Backx, W. (2014). A practitioner's guide to rational emotive behavior therapy (3rd ed.). New York: Oxford University Press.

Dixon, J., Lee, J., Ellison, S., & Hicks, L. (2015). Supporting adolescents on the edge of care. The role of short term stays in residential care. An Evidence Scope. n.p.: The NSPCC and Action for Children.

Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). HCR-20: Assessing Risk for Violence (3rd ed.). Vancouver, Canada: Mental Health, Law and Policy Institute, Simon Fraser University.

Dulmus, C. N., & Hilarski, C. (2006). Significance of gender and age in African American children's response to parental victimization. Health & Social Work, 31, 181-188.

Eckstein, N. J. (2004). Emergent issues in families experiencing adolescent-to-parent abuse. Western Journal of Communication, 68(4), 365-388.

Edenborough, M., Wilkes, L. M., Jackson, D., & Mannix, J. (2011). Development and validation of the child-to-mother violence scale. NURSERESEARCHER, 18(2), 63-76.

Edleson, J. L. (2004). Should childhood exposure to adult domestic violence be defined as child maltreatment under the law? In P. G. Jaffe, L. L. Baker, & A. J. Cunningham, Protecting children from domestic violence: Strategies for community intervention (pp. 8-29). New York, NY: Guilford Publications.

Edwards, V. J., Fivush, R., Anda, R. F., Felitti, V. J., & Nordenberg, D. F. (2008). Autobiographical memory disturbances in childhood abuse survivors. Journal of Aggression, Maltreatment & Trauma, 4(2), 247-263.

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood experiences study. Am J Psychiatry, 160, 1453–1460.

Elliott, A. N., Alexander, A. A., Pierce, T. W., Aspelmeier, J. E., & Richmond, J. M. (2009). Childhood victimization, poly-victimization, and adjustment to college in women. Child Maltreatment, 14(4), 330-343.

Ellis, A. (1975). Reason and emotion in psychotherapy. Secaucus: Lyle Stuart, Inc.

Ellis, A. (2003a). Discomfort anxiety: A new cognitive behavioral construct (Part I). Journal of Rational Emotive & Cognitive Behavior Therapy, 21(3/4), 183-191.

Ellis, A. (2003b). Discomfort anxiety: A new cognitive behavioral construct (Part II). Journal of Rational Emotive & Cognitive Behavior Therapy, 21(3/4), 193-202.

Ellis, A., & Harper, R. A. (1975). A new guide to rational living. North Hollywood, CA: Melvin Powers.

Erolin, K. S., Wieling, E., & Parra, R. E. (2014). Family violence exposure and associated risk factors for child PTSD in a Mexican sample. Child Abuse & Neglect, 38, 1011–1022.

Espejo-Siles, R., Zych, I., Farrington, D. P., & Llorent, V. J. (2020). Moral disengagement, victimization, empathy, social and emotional competencies as predictors of violence in children and adolescents. Children and Youth Services Review, 118, 105337.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4.

Evans, E. D., & Warren-Sohlberg, L. (1988). A pattern analysis of adolescent abusive behavior toward parents. Journal of Adolescent Research, 3(1), 201-216.

Fairchild, A. J., & McDaniel, H. L. (2017). Best (but oft-forgotten) practices: Mediation analysis. Am J Clin Nutr, 105, 1259–1271.

Fawzi, M. H., Fawzi, M. M., & Fouad, A. A. (2013). Parent abuse by adolescents with first-episode psychosis in Egypt. Journal of Adolescent Health, 53, 730-735.

Feldman, G. (2019). What is honesty? Laypersons interpret high lie scale scores as reflecting intentional dishonesty: rejoinder to De Vries et al. (2017) comment on Feldman et al. (2017). Social Psychological and Personality Science, 10(2), 220-226.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults the

adverse childhood experiences (aceACE) study. Am J Prev Med, 14(4), 245-58.

Fergusson, D. M., Horwood, L. J., & Boden, J. M. (2011). Structural equation modeling of repeated retrospective reports of childhood maltreatment. International Journal of Methods in Psychiatric Research, 20(2), 93–104.

Ferrando, M., Garcés, J., Durá, E., Ródenas, F., & Branchini, B. (2015). Evaluation framework for child to parent violence. Valencia: Polibienestar Research Institute. Retrieved from http://www.rcpv.eu/79-rcpv-evaluation-framework-child-to-parent-violence/file

Finkelhor, D., Hamby, S., Turner, H., & Walsh, W. (2016). Ethical issues in surveys about children's exposure to violence and sexual abuse. In C. A. Cuevas, & C. M. Rennison, The Wiley Handbook on the Psychology of Violence (1st ed.) (pp. 24-48). Chichester: West Sussex: John Wiley & Sons, Ltd.

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007a). Poly-victimization: A neglected component in child victimization. Child Abuse & Neglect, 31, 7–26.

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007b). Polyvictimization and trauma in a national longitudinal cohort. Development and Psychopathology, 19, 149–166.

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2009a). Lifetime assessment of poly-victimization in a national sample of children and youth. Child Abuse & Neglect, 33, 403–411.

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2009b). The developmental epidemiology of childhood victimization. Journal of Interpersonal Violence, 24(5), 711-731.

Finkelhor, D., Shattuck, A., Turner, H. A., Ormrod, R., & Hamby, S. L. (2011a). Polyvictimization in developmental context. Journal of Child & Adolescent Trauma, 4, 291–300.

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2013). Improving the adverse childhood experiences study scale. JAMA Pediatr., 167(1), 70-75.

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of Adverse Childhood Experiences. Child Abuse & Neglect, 48, 13-21.

Finkelhor, D., Turner, H., Hamby, S., & Ormrod, R. (2011b). Polyvictimization: Children's exposure to multiple types of violence, crime and abuse. Juvenile Justice Bulletin - National Survey of Children's Exposure to Violence, 1–12.

Fitrianto, A., & Cing, N. M. (2014). Estimating bias and variances in bootstrap logistic regression for Umaru and impact data. AIP Conference Proceedings, 1635(742), 742-747.

Fives, C. J., Kong, G., Fuller, J. R., & DiGiuseppe, R. (2011). Anger, aggression, and irrational beliefs in adolescents. Cogn Ther Res(35), 199–208.

Fleiss, J. L., Levin, B., & Paik, M. C. (2003). The measurement of interrater agreement. In J. L. Fleiss, B. Levin, & M. C. Paik, Statistical methods for rates and proportions (3rd ed.) (pp. 598-626). Hoboken, NJ: Wiley.

Fonagy, P. (2003). The developmental roots of violence in the failure of mentalization. In F. Pfafflin, & G. Adshead, A matter of security: The application of attachment theory to forensic psychiatry and psychotherapy (pp. 13-56). London: Jessica Kingsley Publishers.

Fonagy, P., & Target, M. (1997). Attachment and reflective function: Their role in self-organization. Development and Psychopathology, 9, 679–700.

Ford, J. D., Chapman, J., Connor, D. F., & Cruise, K. R. (2012). Complex trauma and aggression in secure juvenile justice settings. CRIMINAL JUSTICE AND BEHAVIOR, 39(6), 694-724.

Ford, J. D., Chapman, J., Mack, J. M., & Pearson, G. (2006). Pathways from traumatic child victimization to delinquency: Implications for juvenile and permanency court proceedings and decisions. Juvenile and Family Court Journal, 13-26.

Forsman, M., & Langstrom, N. (2012). Child maltreatment and adult violent offending: population-based twin study addressing the 'cycle of violence' hypothesis. Psychological Medicine, 1-7.

Freyd, J. J. (1996). Betrayal trauma: The logic of forgetting childhood abuse. London: Harvard University Press.

Fries, A. B., & Pollak, S. D. (2004). Emotion understanding in postinstitutionalized Eastern European children. Dev Psychopathol, 16(2), 355–369.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. Psychol Sci., 18(3), 233–239.

Gabriel, L., Tizro, Z., James, H., Cronin-Davis, J., Beetham, T., Corbally, A., Lopez-Moreno, E., & Hill, S. (2018). "Give me some space": exploring youth to parent aggression and violence. J Fam Viol, 33, 161–169.

Gallego, R., Novo, M., Fariña, F., & Arce, R. (2019). Child-to-parent violence and parent-to-child violence: A meta-analytic review. The European Journal of Psychology Applied to Legal Context, 11(2), 51-59.

Gámez-Guadix, M., & Calvete, E. (2012). Violencia fi lioparental y su asociación con la exposición a la violencia marital y la agresión de padres a hijos. Psicothema, 24(2), 277-283.

Gargurevich, R., Luyten, P., Fils, J., & Corveleyn, J. (2009). Factor structure of the impact of event scale-revised in two different Peruvian samples. Depression and Anxiety, 26, E91–E98.

Gavin, H., & Porter, T. (2014). Female aggression. West Sussex: John Wiley & Sons.

Gilbert, R., Kemp, A., Thoburn, J., Sidebotham, P., Radford, L., Glaser, D., & MacMillan, H. L. (2009). Recognising and responding to child maltreatment. Lancet, 373, 167–180.

Gillath, O., Karantzas, G. C., & Fraley, R. C. (2016). Adult attachment: A concise introduction to theory and research. London: Elsevier.

Glaser, D. (2002). Emotional abuse and neglect (psychological maltreatment): A conceptual framework. Child Abuse & Neglect, 26, 697–714.

Glaser, D. (2011). How to deal with emotional abuse and neglect—Further development of a conceptual framework (FRAMEA). Child Abuse Negl., 35(10), 866-875.

Goodwin, K. A., & Goodwin, C. J. (2016). Research in psychology methods and design (8th ed.). Hoboken, NJ: John Wiley & Sons.

Gordon, R. A. (1987). Social desirability bias: A demonstration and technique for its reduction. Teaching of Psychology, 14(1), 40-42.

Gould, F., Clarke, J., Heim, C., Harvey, P. D., Majer, M., & Nemeroff, C. B. (2012). The effects of child abuse and neglect on cognitive functioning in adulthood. Journal of Psychiatric Research, 46, 500-506.

Graham-Kevan, N., & Archer, J. (2005). Investigating three explanations of women's relationship aggression. Psychology of Women Quarterly, 29, 270–277.

Gratz, K. L., Bornovalova, M. A., Delany-Brumsey, A., Nick, B., & Lejuez, C. W. (2007). A laboratory-based study of the relationship between childhood abuse and experiential avoidance among inner-city substance users: The role of emotional non-acceptance. Behavior Therapy, 38, 256–268.

Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. Journal of Abnormal Psychology, 106(1), 95-103.

Hahm, H. C., Lee, Y., Ozonoff, A., & Van Wert, M. J. (2010). The impact of multiple types of child maltreatment on subsequent risk behaviors among women during the transition from adolescence to young adulthood. J Youth Adolesc, 39(5), 528–540.

Harrington, N. (2005). The frustration discomfort scale: Development and psychometric properties. Clin. Psychol. Psychother., 12, 374–387.

Harrington, N. (2007). Frustration intolerance as a multidimensional concept. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25, 191–211.

Hartz, D. T. (1995). Comparative conflict resolution patterns among parent-teen dyads of four ethnic groups in Hawaii. Child Abuse & Neglect, 19(6), 681-689.

Harvey, L. A., & Dijkers, M. P. (2019). Should trials that are highly vulnerable to bias be excluded from systematic reviews? *Spinal Cord, 57*, 715–716.

Hayes, A. F. (2014). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY: Guilford Publications.

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). New York, NY: Guilford Press.

Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. Behavior Research Methods, 39(4), 709-722.

Heim, C., Shugart, M., Craighead, W. E., & Nemeroff, C. B. (2010). Neurobiological and psychiatric consequences of child abuse and neglect. Dev Psychobiol, 52, 671–690.

Hernandez, E. M., Trout, Z. M., & Liu, R. T. (2016). Vulnerability-specific stress generation: Childhood emotional abuse and the mediating role of depressogenic interpersonal processes. Child Abuse & Neglect, 62, 132–141.

Herrenkohl, T. I., & Herrenkohl, R. C. (2007). Examining the overlap and prediction of multiple forms of child maltreatment, stressors, and socioeconomic status: A longitudinal analysis of youth outcomes. J Fam Viol (2007) 22(7), 553–562.

Herrenkohl, T. I., Hong, S., Klika, J. B., Herrenkohl, R. C., & Russo, M. J. (2013). Developmental impacts of child abuse and neglect related to adult mental health, substance use, and physical health. J Fam Violence, 28(2), 1-16.

Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkoh, R. C., & Moylan, C. A. (2008). Intersection of child abuse and children's exposure to domestic violence. TRAUMA, VIOLENCE, & ABUSE, 9(2), 84-99.

Herrera, V. M., & McCloskey, L. A. (2001). Gender differences in the risk for delinquency among youth exposed to family violence. Child Abuse & Neglect, 25, 1037–1051.

Hewson, C., Yule, P., Laurent, D., & Vogel, C. (2002). Internet research methods: A practical guide for the social and behavioural sciences. London: SAGE Publications.

Higgins, D. (2005). Differentiating between child maltreatment experiences. Family Matters 9th Australian Institute of Family Studies Conference (pp. 1-12). Melbourne: Australian Institute of Family Studies.

Higgins JPT, Altman DG, Sterne JAC (editors). Chapter 8: Assessing risk of bias in included studies. In: Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from www.cochrane-handbook.org.

Higgins, D. J., & McCabe, M. P. (2001). Multiple forms of child abuse and neglect: adult retrospective reports. Aggression and Violent Behavior, 6, 547–578.

Higgins, J. P., & Green, S. (2011, Mar n.d.). Cochrane handbook for systematic reviews of interventions Version 5.1.0. Retrieved from The Cochrane Collaboration: www.handbook.cochrane.org

HM Government. (2015). Working together to safeguard children: A guide to inter-agency working to safeguard and promote the welfare of children. London: Department for Education.

Holt, A. (2016). Adolescent-to-parent abuse as a form of ''domestic violence'': A conceptual review. TRAUMA, VIOLENCE, & ABUSE, 17(5), 490-499.

Holt, A., & Shon, P. C. (2018). Exploring fatal and non-fatal violence against parents: Challenging the orthodoxy of abused adolescent perpetrators. International Journal of Offender Therapy and Comparative Criminology, 62(4), 915–934.

Home Office. (08 Apr, 2015). Information guide: Adolescent to parent violence and abuse (APVA). Retrieved from Home Office: https://www.basw.co.uk/system/files/resources/basw_114152-3_0.pdf

Hong, J. S., Kral, M. J., Espelage, D. L., & Allen-Meares, P. (2012). The social ecology of adolescent-initiated parent abuse: A review of the literature. Child Psychiatry Hum Dev, 43, 431–454.

Horwitz, A. V., Widom, C. S., McLaughlin, J., & White, H. R. (2001). The impact of childhood abuse and neglect on adult mental health: A prospective study. Journal of Health and Social Behavior, 42(2), 184-201.

Hoyo-Bilbao, J. D., Orue, I., Gámez-Guadix, M., & Calvete, E. (2020). Multivariate models of child-to-mother violence and child-to-father violence among adolescents. The European Journal of Psychology Applied to Legal Context, 12(1), 11-21.

Hunter, C., & Nixon, J. (2012). Introduction: Exploring parent abuse – building knowledge across disciplines. Social Policy & Society, 11(2), 211–215.

Hunter, C., Nixon, J., & Parr, S. (2010). Mother abuse: A matter of youth justice, child welfare or domestic violence? J Law Soc, 37(2), 264-284.

Hyland, P., Fox, R., Treacy, G., Maguire, P., Boduszek, D., & Vallières, F. (2017). Assessing the factorial validity of the attitudes and belief scale 2-abbreviated version: A call for the development a gold standard method of measuring rational and irrational beliefs. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 35(2), 111-124.

Hyland, P., Shevlin, M., Adamson, G., & Boduszek, D. (2014). Modeling the structure of the attitudes and belief scale 2 using cfa and bifactor approaches: Toward the development of an abbreviated version. Behavioural and Cognitive Psychotherapy, 312–326.

Ibabe, I. (2014). Direct and indirect effects of family violence on child-to-parent violence / Efectos directos e indirectos de la violencia familiar sobre la violencia filio-parental. Estudios de Psicología, 35(1), 137-167.

Ibabe, I. (2015). Predictores familiares de la violencia filio-parental: El papel de la disciplina familiar. anales de psicología, 31(2), 615-625.

Ibabe, I. (2020). A systematic review of youth-to-parent aggression: Conceptualization, typologies, and instruments. Front. Psychol., 11(577757), 1-18.

Ibabe, I., & Bentler, P. M. (2016). The contribution of family relationships to child-to-parent violence. J. Fam. Viol., 31, 259–269.

Ibabe, I., & Jaureguizar, J. (2010). Child-to-parent violence: Profile of abusive adolescents and their families. Journal of Criminal Justice, 38, 616–624.

Ibabe, I., Jaureguizar, J., & Bentler, P. M. (2013). Risk factors for child-to-parent violence. J Fam Viol, 28, 523–534.

Ibabe, I., Jaureguizar, J., & Díaz, Ó. (2009). Adolescent violence against parents. Is it a consequence of gender inequality? European Journal of Psychology Applied to Legal Context, 1(1), 3-24.

Izaguirre, A., & Calvete, E. (2017). Exposure to family violence as a predictor of dating violence and child-to-parent aggression in Spanish adolescents. Youth & Society, 49(3), 393-412.

Jin, Z., Zhou, X., & He, J. (2015). Statistical methods for dealing with publication bias in meta-analysis. Statist. Med., 34, 343–360.

Juntunen, V. R. (2013). Child abuse sourcebook (3rd ed.). Detroit, MI: Omnigraphics.

Kaplan, S. J., Pelcovitz, D., & Labruna, V. (1999). Child and adolescent abuse and neglect research: A review of the past 10 years. Part I: Physical and emotional abuse and neglect. Psychiatry, 38(10), 1214-1222.

Karatzias, T., Shevlin, M., Fyvie, C., Hyland, P., Efthymiadou, E., Wilson, D., Roberts, N., Bisson, J. I., Brewin, C. R., Cloitre, M. (2017). Evidence of

distinct profiles of Posttraumatic Stress Disorder (PTSD) and Complex Posttraumatic Stress Disorder (CPTSD) based on the new ICD-11 Trauma Questionnaire (ICD-TQ). J Affect Disord, 207, 181-187.

Kennair, N., & Mellor, D. (2007). Parent abuse: A review. Child Psychiatry Hum Dev, 38, 203–219.

Kennedy, T. D., Edmonds, W. A., Dann, K. T., & Burnett, K. F. (2010). The clinical and adaptive features of young offenders of child-parent violence. Journal of Family Violence, 25, 509–520.

Kennedy, T. D., Edmonds, W. A., Dann, K. T., & Burnett, K. F. (2010). The clinical and adaptive features of young offenders with histories of child-parent violence. J Fam Viol, 25, 509–520.

Kenny, D. A. (2017, Feb). MedPower: An interactive tool for the estimation of power in tests of mediation [Computer software]. Available from https://davidakenny.shinyapps.io/MedPower/.

Kertz, S. J., & Woodruff-Borden, J. (2011). The developmental psychopathology of worry. Clin Child Fam Psychol Rev, 14, 174–197.

Kobak, R., Zojac, K., & Madsen, S. (2016). Attachment disruptions, reparative processes, and psychopathology: Theoretical and clinical implications. In J. Cassidy, & P. R. Shaver, Handbook of attachment: Theory, research, and clinical applications (3rd ed.) (pp. 25-39). New York: Guilford Publications.

Kolko, D. J., Kazdin, A. E., & Day, B. T. (1996). Children's perspectives in the assessment of family violence: Psychometric characteristics and comparison to parent reports. CHILD MALTREATMENT, 1(2), 156-167.

Krause, E. D., Mendelson, T., & Lynch, T. R. (2003). Childhood emotional invalidation and adult psychological distress: The mediating role of emotional inhibition. Child Abuse & Neglect, 27, 199–213.

Kulkarni, M., Graham-Bermann, S., Rauch, S. A., & Seng, J. (2011). Witnessing versus experiencing direct violence in childhood as correlates of adulthood PTSD. J Interpers Violence, 26(6), 1264–1281.

Langhinrichsen-Rohling, J., & Neidig, P. (1995). Violent backgrounds of economically disadvantaged youth: Risk factors for perpetrating violence? Journal of Family Violence, 10(4), 379-397.

Lanius, R. A., Bluhm, R. L., & Frewen, P. A. (2011). How understanding the neurobiology of complex post-traumatic stress disorder can inform clinical practice: A social cognitive and affective neuroscience approach. Acta Psychiatr Scand, 124, 331–348.

Lawson, D. M. (2009). Understanding and treating children who experience interpersonal maltreatment: Empirical findings. Journal of Counseling & Development, 87, 204-215.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York, NY: Springer.

Levey, E. J., Apter, G., & Harrison, A. (2017). The global problem of child maltreatment: Perspectives on mechanisms of influence and illness presentation. Int J Cult Ment Health, 10(1), 90–96.

Levin, K. A. (2006). Study design III: Cross-sectional studies. Evidence-Based Dentistry, 7.1, 24-25.

Lindner, H., Kirkby, R., Wertheim, E., & Birch, P. (1999). A brief assessment of irrational thinking: The shortened general attitude and belief scale. Cognitive Therapy and Research, 23(6), 651-663.

Litz, B. T. (1992). Emotional numbing in combat-related post-traumatic stress disorder: A critical review and reformulation. Clinical Psychology Review, 12, 417–432.

Loinaz, I., Barboni, L., & Ma-de-Sousa, A. (2020). Gender differences in child-to-parent violence risk factors. anales de psicología / annals of psychology, 36(3), 408-417.
Loinaz, I., Barboni, L., & Ma-de-Sousa, A. (2020). Gender differences in child-to-parent violence risk factors. anales de psicología / annals of psychology, 36(3), 408-417.
Loue, S. (2005). Redefining the emotional and psychological abuse and maltreatment of children: Legal implications. Journal of Legal Medicine, 26, 311-337.

Lutwak, N., Panish, J., & Ferrari., J. (2003). Shame and guilt: Characterological vs. behavioral self-blame and their relationship to fear of intimacy. Personality and Individual Differences, 35(4), 909-916.

Lyons, J., Bell, T., Fréchette, S., & Romano, E. (2015). Child-to-parent violence: Frequency and family correlates. J Fam Viol, 30, 729–742.

Macavei, B., & McMahon, J. (2010). The assessment of rational and irrational beliefs. In D. David, S. J. Lynn, & A. Ellis, Rational and irrational beliefs: Research, theory, and clinical practice (pp. 115–147). New York, NY: Oxford University Press.

MacInnes, D. (2004). The theories underpinning rational emotive behaviour therapy: Where's the supportive evidence? International Journal of Nursing Studies, 41, 685–695.

Manfreda, K. L., & Vehovar, V. (2008). Internet surveys. In E. D. Leeuw, J. J. Hox, & D. A. Dillman, International handbook of survey methodology (pp. 264-284). Abingdon: Routledge.

Maniglio, R. (2009). The impact of child sexual abuse on health: A systematic review of reviews. Clinical Psychology Review, 29, 647–657.

Mann, C. J. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. Emerg Med J, 20, 54–60.

Margolin, G., & Baucom, B. R. (2014). Adolescents' aggression to parents: Longitudinal links with parents' physical aggression. J Adolesc Health, 55(5), 645–651.

Martin, R. C., & Dahlen, E. R. (2004). Irrational beliefs and the experience and expression of anger. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 22, 3-19.

Martin, R. C., & Dahlen, E. R. (2007). Anger response styles and reaction to provocation. Personality and Individual Differences, 43(8), 2083–2094.

Martínez, M. L., Estévez, E., Jiménez, T. I., & Velilla, C. (2015). Child-parent violence: Main characteristics, risk factors and keys to intervention. Papeles del Psicólogo, 36(3), 216-224.

Marvin, R. S., Britner, P. A., & Russell, B. S. (2016). Normative development: The ontogeny of attachment in childhood. In J. Cassidy, & P. R. Shaver, Handbook of attachment: Theory, research, and clinical applications (3rd ed.) (pp. 273-290). New York: Guilford Publications.

Matsuura, N., Hashimoto, T., & Toichi, M. (2009). Correlations among self-esteem, aggression, adverse childhood experiences and depression in inmates of a female juvenile correctional facility in Japan. Psychiatry and Clinical Neurosciences, 63, 478–485.

Mccloskey, L. A., & Lichter, E. L. (2003). The contribution of marital violence to adolescent aggression across different relationships. JOURNAL OF INTERPERSONAL VIOLENCE, 18(4), 390-412.

McCloud, E. (2017). Adolescent-to-parent violence and abuse (APVA): An investigation into prevalence, associations and predictors in a community sample. Portsmouth: Unpublished Thesis.

McDonald, J. D. (2008). Measuring personality constructs: The advantages and disadvantages of self reports, informant reports and behavioural assessments. Enquire, 1(1), 75-94.

Mcdonald, M. K., Borntrager, C. F., & Rostad, W. (2014). Measuring trauma: Considerations for assessing complex and non-ptsd criterion a childhood trauma. Journal of Trauma & Dissociation, 15, 184–203.

McGee, R. A. (1993). Multiple maltreatment, attribution of blame, and adjustment among adolescents. Digitized Theses, 2387, 1-282.

Meyers, L. S., Gamst, G. C., & Guarino, A. J. (2013). Chapter 20 Assessing distribution shape: Normality, skewness, and kurtosis. In L. S. Meyers, G. C. Gamst, & A. J. Guarino, Performing data analysis using IBM spss (pp. 139-146). Hoboken, NJ: John Wiley & Sons, Incorporated.

Meza, J. P., & Passerman, D. S. (2011). Assess the quality of the information. In J. P. Meza, & D. S. Passerman, Integrating narrative medicine and evidence-based medicine: The everyday social practice of healing (pp. 59-78). London: Radcliffe Publishing.

Mikulincer, M., & Shaver, P. R. (2016). Adult attachment and emotion regulation. In J. Cassidy, & P. R. Shaver, Handbook of attachment: Theory, research, and clinical applications (3rd ed.) (pp. 507-533). New York, NY: The Guilford Press.

Miles, C., & Condry, R. (2015). Responding to adolescent to parent violence: Challenges for policy and practice. Brit. J. Criminol., 55, 1076–1095.

Miles, S. R., DeBakey, M. E., Menefee, D. S., Wanner, J., Tharp, A. T., & Kent, T. A. (2016). The relationship between emotion dysregulation and impulsive aggression in veterans with posttraumatic stress disorder symptoms. Journal of Interpersonal Violence, 31(10), 1795–1816.

Miles, S. R., Menefee, D. S., Wanner, J., Tharp, A. T., & Kent, T. A. (2015). The relationship between emotion dysregulation and impulsive aggression in veterans with posttraumatic stress disorder symptoms. Journal of Interpersonal Violence, 1–22.

MIT. (n.d., 2008). YOUNG ADULT DEVELOPMENT PROJECT. Retrieved from MIT: http://hrweb.mit.edu/worklife/youngadult/index.html

Mitchell, D., Simourd, D. J., & Tafrate, R. C. (2013). Introduction: Critical issues and challenges facing forensic CBT practitioners. In R. C. Tafrate, & D. Mitchell, Forensic CBT: A handbook for clinical practice (pp. 1-10). Sussex: John Wiley & Sons, Incorporated.

Mitjans, M., Seidel, J., Begemann, M., Bockhop, F., Moya-Higueras, J., Bansal, V., Wesolowski, J., Seelbach, A., Ibáñez, M. I., Kovacevic, F., Duvar, O., Fañanás, L., Wolf, H., Ortet, G., Zwanzger, P., Klein, V., Lange, I., Tänzer, A., Dudeck, M., Penke, L., Elst, L. T., Bittner, R. A., Schmidmeier, R., Freese, R., Müller-Isberner, R., Wiltfang, J., Bliesener, T., Bonn, S., Poustka, L., Müller, J. L., Arias, B., & Ehrenreich., H. (2019). Violent aggression predicted by multiple pre-adult environmental hits. Molecular Psychiatry, 24, 1549–1564.

Monk, P. H. (1997). Adolescent-to-parent violence: A qualitative analysis of emerging themes. Vancouver: University of British Columbia.

Moretti, M. M., Obsuth, I., Odgers, C. L., & Reebye, P. (2006). Exposure to maternal vs. paternal partner violence, ptsd, and aggression in adolescent girls and boys. Aggressive Behavior, 32(4), 385-395.

Morina, N., Ehring, T., & Priebe, S. (2013). Diagnostic utility of the impact of event scale–revised in two samples of survivors of war. PLOS ONE, 8(12), 1-8.

Munday, A. (2009). Break4Change: Does a holistic intervention effect change in the level of abuse perpetrated by young people towards their parents/carers? Brighton: Unpublished Thesis.

Muran, J. C. (1991). A reformulation of the ABC model in cognitive psychotherapies: Implications for assessment and treatment. Clinical Psychology Review, 11, 399-418.

Myhr, G. (2013). Responding to threat: Using attachment-related interventions in cognitive behavioural therapy of anxiety disorders. In A. N. Danquah, & K. Berry, Attachment theory in adult mental health: A guide to clinical practice (pp. 48-62). Abingdon, OX: Routledge.

Najafi, T., & Lea-Baranovich, D. (2014). Theoretical background, therapeutic process, therapeutic relationship, and therapeutic techniques of REBT and CT; and some parallels and dissimilarities between the two approaches. International Journal of Education and Research, 2(2), 1-12.

Najman, J. M., Hayatbakhsh, M. R., McGee, T. R., Bor, W., O'Callaghan, M. J., & Williams, G. M. (2009). The impact of puberty on aggression/delinquency: Adolescence to young adulthood. THE AUSTRALIAN AND NEW ZEALAND JOURNAL OF CRIMINOLOGY, 42(3), 369–386.

National Collaborating Centre for Mental Health. (2005). Post-traumatic stress disorder. London & Leicester: Royal College of Psychiatrists & British Psychological Society.

Newbury, J. B., Arseneault, L., Moffitt, T. E., Caspi, A., Danese, A., Baldwin, J. R., & Fisher, H. L. (2018). Measuring childhood maltreatment to predict early-adult psychopathology: Comparison of prospective informant-reports and retrospective self-reports. Journal of Psychiatric Research, 96, 57-64.

Nixon, J. (2012). Practitioners' constructions of parent abuse. Social Policy & Society, 11(2), 229–239.

Nock, M. K., & Kazdin, A. E. (2002). Parent-directed physical aggression by clinic-referred youths. Journal of Clinical Child & Adolescent Psychology, 31(2), 193-205.

Nolen-Hoeksema, S. (2012). Emotion regulation and psychopathology: The role of gender. Annual Review of Clinical Psychology, 8, 161-187.

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. PLOS Medicine, 9(11), 1-31.

Nowakowski-Sims, E. (2019). An exploratory study of childhood adversity and delinquency among youth in the context of child-to-parent and sibling-to-sibling violence. Journal of Family Social Work, 22(2), 126-145.

Nowakowski-Sims, E., & Rowe, A. (2015). Using trauma informed treatment models with child-to-parent violence. Journ Child Adol Trauma, 8, 237–244.

Nowakowski-Sims, E., & Rowe, A. (2017). The relationship between childhood adversity, attachment, and internalizing behaviors in a diversion program for child-to-mother violence. Child Abuse & Neglect, 72, 266–275.

O'connor, T. G., Marvin, R. S., Rutter, M., Olrick, J. T., Britner, P. A., & The English And Romanian Adoptees Study Team. (2003). Child–parent attachment following early institutional deprivation. Development and Psychopathology, 15, 19–38.

O'Hara, K. L., Duchschere, J. E., Beck, C. J., & Lawrence, E. (2017). Adolescent-to-parent violence: Translating research into effective practice. Adolescent Res Rev, 2, 181–198.

Office for National Statistics. (2020a). Child abuse extent and nature, England and Wales: year ending March 2019. n.c.: Office for National Statistics.

Office for National Statistics. (2020b). Child neglect in England and Wales: year ending March 2019. n.c.: Office for National Statistics.

Office for National Statistics. (n.d. Jan, 2020c). Child abuse in England and Wales: January 2020. Retrieved from Office for National Statistics: https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/childabuseinenglandandwales/january2020

Office of National Statistics. (2016). Abuse during childhood: Findings from the Crime Survey for England and Wales, year ending March 2016. Office of National Statistics, 1-35.

Oh, A., Han, M., Choi, Y., Lau, S., & Shum, M. S. (2018). Exploring relationship among child maltreatment experience in childhood and behavior problems as young adults: Role of social support among college students in Hong Kong. International Social Work, 1-14.

Oliver, L. (2018). Family narratives of child-to-parent violence and abuse: Lifting the veil of secrecy. Dorset: Unpublished thesis.

Ong, A. D., & Welss, D. J. (2000). The impact of anonymity on responses to sensitive questions. Journal of Applied Social Psychology, 30(8), 1691-1708.

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. Journal of Experimental Social Psychology, 45, 867–872.

Orue, I., Calvete, E., & Fernández-González, L. (2019). Early maladaptive schemas and social information processing in child-to-parent aggression. J Interpers Violence, 1–25.

Osborne, J. W. (2013). Normality of residuals is a continuous variable, and does seem to influence the trustworthiness of confidence intervals: A response to, and appreciation of, Williams, Grajales, and Kurkiewicz (2013). Practical Assessment, Research & Evaluation, 18(12), 1-9.

Padesky, C. A., & Beck, A. T. (2003). Science and philosophy: Comparison of cognitive therapy and rational emotive behavior therapy. Journal of Cognitive Psychotherapy, 17(3), 211-224.

Padesky, C. A., & Beck, A. T. (2005). Response to Ellis' discussion of "science and philosophy: Comparison of cognitive therapy and rational emotive behavior therapy". Journal of Cognitive Psychotherapy, 19(2), 187-189.

Pagani, L., Tremblay, R. E., Nagin, D., Zoccolillo, M., Vitaro, F., & McDuff, P. (2009). Risk factor models for adolescent verbal and physical aggression toward fathers. J Fam Viol, 24, 173–182.

Paolucci, E. O., Genuis, M. L., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. The Journal of Psychology, 135(1), 17-36.

Pathak, M., Dwivedi, S. N., Deo, S., Sreenivas, V., & Thakur, B. (2017). Which is the preferred measure of heterogeneity in meta-analysis and why? A revisit. Biostat Biometrics Open Acc J, 1(1), 1-7.

Paulson, M. J., Coombs, R. H., & Landsverk, J. (1990). Youth who physically assault their parents. Journal of Family Violence, 5(2), 121-132.

Paunovic, N. (1998). Cognitive factors in the maintenance of PTSD. Scandinavian Journal of Behaviour Therapy, 27(4), 167-178.

Petruccelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. Child Abuse & Neglect, 97, 1-13.

Polanin, J. R., & Snilstveit, B. (2016). Campbell Methods Policy Note on Converting Between Effect Sizes. Oslo: The Campbell Collaboration.

Purnell, C. (2004). Attachment theory therapy and attachment-based therapy. In M. Green, & M. Scholes, Attachment and human survival (pp. 119-136). London: Karnac Books.

Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N., & Collishaw, S. (2011). Child abuse and neglect in the UK today. London: NSPCC.

Resnik, D. B. (2015). Bioethical issues in providing financial incentives to research participants. *Medicoleg Bioeth, 5*, 35–41.

Richardson, M., Garner, P., & Donegan, S. (2019). Interpretation of subgroup analyses in systematic reviews: A tutorial. Clinical Epidemiology and Global Health, 7, 192–198.

Richmond, J. M., Elliott, A. N., Pierce, T. W., Aspelmeier, J. E., & Alexander, A. A. (2009). Polyvictimization, childhood victimization, and psychological distress in college women. Child Maltreatment, 14(2), 127-147.

Roberton, T., Daffern, M., & Bucks, R. S. (2012). Emotion regulation and aggression. Aggression and Violent Behavior, 17, 72–82.

Rosenthal, R., & Rubin, D. B. (1986). Meta-analytic procedures for combining studies with multiple effect sizes. Psychological Bulletin, 99(3), 400-406.

Ross, T., & Pfäfflin, F. (2003). Violence and attachment: Attachment styles, self-regulation and interpersonal problems in a prison population. In F. Pfafflin, G. Adshead, M. Morris, M. Parker, & M. Parker, A matter of security: The application of attachment theory to forensic psychiatry and psychotherapy (pp. 225-249). London: Jessica Kingsley Publishers.

Routt, G., & Anderson, L. (2011). Adolescent violence towards parents. Maltreatment & Trauma, 20(1), 1-19.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68-78.

Sampedro, R., Calvete, E., Gamez-Guadix, M., & Orue, I. (2014, Aug). Child-to-parent aggression in adolescents: Prevalence and risk factors. Poster.

Sangawi, H. S., Adams, J., & Reissland, N. (2015). The effects of parenting styles on behavioral problems in primary school children: A cross-cultural review. Asian Social Science, 11(22), 171-186.

Sar, V. (2011). Developmental trauma, complex PTSD, and the current proposal of DSM-5. European Journal of Psychotraumatology, 2(5622), 1-9.

Sax, L. J., Gilmartin, S. K., Lee, J. J., & Hagedorn, L. S. (2008). Using web surveys to reach community college students: an analysis of response rates and

response bias. Community College Journal of Research and Practice, 32(9), 712-729.

Schimmenti, A. (2012). Unveiling the hidden self: Developmental trauma and pathological shame. Psychodynamic Practice, 18(2), 195-211.

Schmid, M., Petermann, F., & Fegert, J. M. (2013). Developmental trauma disorder: Pros and cons of including formal criteria in the psychiatric diagnostic systems. Schmid et al. BMC Psychiatry, 13(3), 1-12.

Scott-Storey, K. (2011). Cumulative abuse: do things add up? An evaluation of the conceptualization, operationalization, and methodological approaches in the study of the phenomenon of cumulative abuse. Trauma Violence Abuse, 12(3), 135-150.

Scrafford, K. E., Grein, K., & Miller-Graff, L. E. (2018). Legacies of childhood victimization: Indirect effects on adult mental health through re-victimization. Journ Child Adol Trauma, 11, 317–326.

Selwyn, J., & Meakings, S. (2016). Adolescent-to-parent violence in adoptive families. British Journal of Social Work, 46, 1224–1240.

Serious Crime Act 2015. (2015). Retrieved from Legislation.gov.uk: http://www.legislation.gov.uk/ukpga/2015/9/section/76/enacted

Shanholtz, C. E., O'Hara, K. L., Duchschere, J. E., Beck, C. J., & Lawrence, E. (2020). Understanding the perception of stakeholders in reducing adolescent-to-parent violence/aggression. Journal of Adolescence, 80, 264–274.

Shapiro, F. (2001). Eye movement desensitization and reprocessing (emdr): Basic principles, protocols, and procedures (2nd ed.). New York: NY: The Guilford Press.

Shen, A. C. (2009). Long-term effects of interparental violence and child physical maltreatment experiences on PTSD and behavior problems: A national survey of Taiwanese college students. Child Abuse & Neglect, 33, 148–160.

Shin, S. H., Lee, S., Jeon, S., & Wills, T. A. (2015). Childhood emotional abuse, negative emotion-driven impulsivity, and alcohol use in young adulthood. Child Abuse & Neglect, 50, 94–103.

Siegal, J. P. (2013). Breaking the links in intergenerational violence: An emotional regulation perspective. Family Process, 52(2), 163-178.

Siegel, A., & Victoroff, J. (2009). Understanding human aggression: New insights from neuroscience. International Journal of Law and Psychiatry, 32, 209–215.

Siegel, D. J. (2003). Attachment and self-understanding: Parenting with the brain in mind. In M. Green, & M. Scholes, Attachment and human survival (pp. 21-36). London: Routledge.

Smith, J. L., Mattick, R. P., Jamadar, S. D., & Iredale, J. M. (2014). Deficits in behavioural inhibition in substance abuse and addiction: A meta-analysis. Drug and Alcohol Dependence, 145, 1-33.

Spinazzola, J., Ford, J. D., Zucker, M., van der Kolk, B. A., Silva, S., Smith, S. F., & Blaustein, M. (2005). Survey evaluates complex trauma exposure, outcome, and intervention among children and adolescents. Psychiatric Annals, 3(5), 433-439.

Steele, K., & Hart, O. V. (2014). Understanding attachment, trauma and dissociation in complex developmental trauma disorders. In A. N. Danquah, & K. Berry, Attachment theory in adult mental health: A guide to clinical practice (pp. 78-94). New York: Routledge.

Stoeber, J., Dette, D. E., & Musch, J. (2010). Comparing continuous and dichotomous scoring of the balanced inventory of desirable responding. Journal of Personality Assessment, 78(2), 370-389.

Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R., & IJzendoorn, M. H. (2014). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. Child Abuse Rev., 1-14.

Stovall-McClough, K. C., & Dozier, M. (2016). Attachment states of mind and psychopathology in adulthood. In J. Cassidy, & P. R. Shaver, Handbook of attachment (3rd ed.): Theory, research, and clinical applications (pp. 715-738). New York, NY: Guilford Publications.

Straus, M. A., & Hamby, S. L. (1997). Measuring physical & psychological maltreatment with the conflict tactics scales. In G. K. Kantor, & J. L. Jasinski, Out of darkness: Contemporary perspectives on family violence (pp. 119–135). Thousand Oaks, CA: Sage.

Suárez-Relinque, C., Del, M. A., León-Moreno, C., & Callejas, J. J. (2019). Child-to-parent violence: Which parenting style is more protective? A study with spanish adolescents. Int J Environ Res Public Health, 16(8), 1-14.

Sutherland, K., & Bryant, R. A. (2008). Social problem solving and autobiographical memory in posttraumatic stress disorder. Behaviour Research and Therapy, 46, 154–161.

Szentagotai, A., & Jones, J. (2010). The behavioral consequences of irrational beliefs. In S. J. D. David, & A. Ellis, Rational and irrational beliefs Research, theory, and clinical practice (pp. 75-98). New York, NY: Oxford University Press.

Szymanski, K., Sapanski, L., & Conway, F. (2011). Trauma and ADHD – Association or diagnostic confusion? A clinical perspective. *Journal of Infant, Child, and Adolescent Psychotherapy, 10*(1), 51-59.

Tabachnick, B.G., & Fidell, L.S. (2007). Using Multivariate Statistics (5th ed.). Boston: Pearson. (p. 74).

Tacq, J. (2011). Causality in qualitative and quantitative research. Qual Quant, 45, 263–291.

Taillieu, T. L., Brownridge, D. A., Sareen, J., & Afifi, T. O. (2016). Childhood emotional maltreatment and mental disorders: Results from a nationally representative adult sample from the United States. Child Abuse Negl, 59, 1-12.

Tew, J., & Nixon, J. (2010). Parent abuse: Opening up a discussion of a complex instance of family power relations. Social Policy & Society, 9(4), 579–589.

Tomison, A. M., & Tucci, J. (1997, Sept n.d.). Emotional abuse: The hidden form of maltreatment. Retrieved from Australian Institute of Family Studies: https://aifs.gov.au/cfca/publications/emotional-abuse-hidden-form-maltreatment#wit

Topitzes, J., Mersky, J. P., & Reynolds, A. J. (2011). Child maltreatment and offending behavior: Gender-specific effects and pathways. Crim Justice Behav, 38(5), 492–510.

Tull, M. T., & Roemer, L. (2003). Alternative explanations of emotional numbing of posttraumatic stress disorder: An examination of hyperarousal and experiential avoidance. Journal of Psychopathology and Behavioral Assessment, 25(3), 147-154.

Umemura, T., Lacinova, L., & Macek, P. (2014). Is emerging adults' attachment preference for the romantic partner transferred from their attachment

preferences for their mother, father, and friends? Emerging Adulthood, 1-15.

Valentine, J. (2013). *Measuring and Assessing Study Quality* [PowerPoint slides]. Campbell Collaboration Training Group. https://campbellcollaboration.org/images/presentaion/Quality_Assessment_Valentine_2013.ppt.pdf

van der Kolk, B. (2008). The John Bowlby memorial lecture 2006. Developmental trauma disorder: A new, rational diagnosis for children with complex trauma histories. In S. Benamer, & K. White, Trauma and attachment (pp. 45-60). London: Routledge.

van der Kolk, B. A. (2005). Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. Psychiatric Annals, 35, 401–408.

Vîslă, A., Flückiger, C., Holtforth, M., & David, D. (2016). Irrational beliefs and psychological distress: A meta-analysis. Psychother Psychosom, 85(1), 8-15.

Walsh, J. A., & Krienert, J. L. (2007). Child–parent violence: An empirical analysis of offender, victim, and event characteristics in a national sample of reported incidents. J Fam Viol, 22, 563–574.

Walsh, J. A., & Krienert, J. L. (2009). A decade of child-initiated family violence Comparative analysis of child–parent violence and parricide examining offender, victim, and event characteristics in a national sample of reported incidents, 1995-2005. Journal of Interpersonal Violence, 24(9), 1450-1477.

Walters, G. D. (2005). Incremental validity of the psychological inventory of criminal thinking styles as a predictor of continuous and dichotomous measures of recidivism. Assessment, 12(1), 19-27.

Weiss, D. S. (2004). The impact of event scale-revised. In J. P. Wilson, & T. M. Keane, Assessing psychological trauma and PTSD: A practitioner's handbook (2nd ed.) (pp. 168-189). New York: NY: Guilford Press.

Wichmann, F. A., & Hill, N. J. (2001). The psychometric function: II. bootstrap-based confidence intervals and sampling. Perception & Psychophysics, 63(8), 1314-1329.

Widom, C. S. (1989). Does violence beget violence? A critical examination of the literature. Psychological Bulletin, 106(1), 3-28.

Wilcox, P., & Pooley, M. (2015). Chapter 5 Children who are violent to their parents need protection too. In C. Humphreys, & N. Stanley, Domestic violence and protecting children: New thinking and approaches (pp. 81-96). London: Jessica Kingsley Publishers.

Williams, M., Tuffin, K., & Niland, P. (2017). "It's like he just goes off, BOOM!": mothers and grandmothers make sense of child-to-parent violence. Child & Family Social Work, 22(2), 597-606.

Winstok, Z. (2008). Conflict escalation to violence and escalation of violent conflicts. Children and Youth Services Review, 30, 297–310.

Wolfe, D. A. (2018). Why polyvictimization matters. Journal of Interpersonal Violence, 33(5), 832– 837.

World Health Organization. (2018). 6B40 Post traumatic stress disorder. Retrieved from ICD-11 for Mortality and Morbidity Statistics: https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f2070699808

Worthington, R. (2012). Dealing with trauma as an intervention for aggression: A review of approaches and the value of reprocessing. Journal of Aggression, Conflict and Peace Research, 4(2), 108-118.

Yeh, K., & Bedford, O. (2004). Filial belief and parent–child conflict. INTERNATIONAL JOURNAL OF PSYCHOLOGY, 39(2), 132–144.

Young, J. C., & Widom, C. S. (2014). Long-term effects of child abuse and neglect on emotion processing in adulthood. Child Abuse & Neglect, 38, 1369–1381.

Yun, I., Ball, J. D., & Lim, H. (2011). Disentangling the relationship between child maltreatment and violent delinquency: Using a nationally representative sample. Journal of Interpersonal Violence, 26(1), 88-110.

Zulueta, F. d. (2003). Human violence is a preventable disease. In M. Green, & M. Scholes, Attachment and human survival (pp. 99-118). London: Routledge.

Zurbriggen, E. L., Gobin, R. L., & Kaehler, L. A. (2012). Trauma, attachment, and intimate relationships. Journal of Trauma & Dissociation, 13(2), 127-133.