

**A SYSTEMIC APPROACH TO RESILIENCE FOLLOWING  
CHILD MALTREATMENT: THE ROLE OF ATTACHMENT  
AND COPING STYLES**

By

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## **ABSTRACT**

Child maltreatment is a pervasive societal concern that has affected countless young people, families, communities and nations with detrimental effects at the physical, psychological, neurobiological and social levels. Despite exposure to chronic adversity, a remarkable number of individuals are able to display resilience and demonstrate positive adaptation following their experience of trauma.

This thesis aims to examine the impact of attachment and coping styles in the context of resilience following child maltreatment utilising a systemic framework. Chapter One provides an overview of the theoretical literature relating to resilience, attachment, coping and child maltreatment. Chapter Two explores the construct of resilience and critiques the Connor Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) as one of the few standardised measures of resilience. This measure focuses on assessing internal factors that promote positive adaptation following adversity with little attention given to external or systemic drivers in the resilience building process. In order to understand the protective role of attachment and coping and its impact upon resilience at multiple levels of functioning, Chapter Three presents a systematic review that explores the literature on the effects of attachment and/or coping styles on resilience following child maltreatment within the framework of a socio-ecological approach with a particular emphasis on female experiences. Chapter Four presents an empirical paper exploring the impact of multiple maltreatment experiences (victimisation, perpetration and abuse types) upon attachment, coping and resilience with an exclusively female sample. Chapter Five summarises the conclusions and limitations from all the chapters in the thesis discussion.

## **DEDICATIONS**

For the beautiful souls that have blessed my life...

*Prema Vaidehi and Lksh Surya*

*Dedicated with Love and Gratitude at the Lotus Feet of my Beloved Bhagawan...*

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## **Chapter One**

### **THESIS INTRODUCTION**

## Introduction

Investigating the causes of and pathways to child maltreatment, has, and continues to remain a central focus of research and government policy making. This has been in an attempt to inform clinical practice and risk assessment procedures in order to contribute towards the prevention of child maltreatment and work towards safeguarding children at risk earlier. A number of studies have documented maladaptive outcomes associated with child maltreatment for an individual's developmental growth and psychological adjustment (Herrenkohl, Sousa, Tajima, Herrenkohl & Moylan, 2008). However, over the last few decades, there is emerging research investigating the area of resilience amongst this population which suggests that, despite their adverse experiences, some children demonstrate relatively positive adjustment and success in later life (Haskett, Nears, Ward, & McPherson, 2006; Herrenkohl, 2011; Kilka & Herrenkohl, 2013).

## **Definition of Child Maltreatment**

Having a common conceptual and operational definition of child maltreatment has been increasingly recognised as fundamental to effective preventative strategies (Butchart, Harvey, Mian, Furniss, & Kahane, 2006). This can be problematic particularly as the understanding of what constitutes child maltreatment varies with culture, age and context. However, the experience of significant harm and suffering appears to be at the core of most definitions (Asmussen, 2010). The World Health Organisation has defined child maltreatment as:

“...the abuse and neglect that occurs to children under 18 years of age. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child's

health, survival, development or dignity in the context of a relationship of responsibility, trust or power. Exposure to Intimate partner violence is also sometimes included as a form of child maltreatment” (WHO, 2014).

In their guide to inter-agency working to safeguard and promote the welfare of children, ‘Working Together to Safeguard Children’ (2013), the Department for Education define abuse as:

“...a form of maltreatment of a child. Somebody may abuse or neglect a child by inflicting harm, or by failing to act to prevent harm. Children may be abused in a family or in an institutional or community setting by those known to them or, more rarely, by others (e.g., via the Internet). They may be abused by an adult or adults, or another child or children” (p. 85).

Within research and definitions, child maltreatment has frequently been divided into four types; physical abuse, psychological or emotional abuse, sexual abuse and neglect. In addition, exposure to domestic violence is also recognised as causing significant harm to children and thus represents a form of maltreatment (Butchart et al., 2006).

### **Prevalence of Child Maltreatment**

Attempting to reach a figure regarding the prevalence and extent of child maltreatment has for years been problematic. Despite its widespread and common occurrence, the exact number of children who have been abused in the UK is unknown as statistics on the number of substantiated child abuse cases are not published. In addition, research indicates that child maltreatment is under-reported as those who abuse children or may witness abuse rarely report this due to fear of the consequences of doing so.

Furthermore, abusers may prevent children from disclosing their maltreatment through threat or intimidation (Asmussen, 2010). Whilst the number of children who are the subject of a child protection plan, child in need plan, or on a child protection register is known, this is not the same as knowing exactly how many are at imminent risk of abuse.

Estimates of the prevalence of child maltreatment appear to vary considerably between studies conducted within the United Kingdom. In a review of 28 studies in the UK, Radford et al. (2011) presented a range of prevalence rates for different forms of abuse. For example, for childhood experience of physical violence, figures varied from 1.8% to 34%; similarly, with sexual abuse, rates varied from 1.1% to 32% and for neglect from 6% to 41.5%. The National Society for the Prevention of Cruelty to Children's (NSPCC) annual summary of child protection register statistics for March 2014 reported that at the time, 56,231 children were on child protection registers or subject to child protection plan in the UK, thus placing them at imminent risk of child maltreatment (NSPCC, 2015).

Comparisons between studies of maltreatment are difficult due to a lack of consensus surrounding the definition of child maltreatment. Definitions of maltreatment appear to be primarily influenced by legal systems and social policy making rather than by research outcomes. There is a lack of understanding and clear standards do not exist between parental disciplinary practices and maltreatment (Cicchetti & Lynch, 1995). Therefore, what might constitute acceptable disciplinary practice in one society or culture may differ significantly in another. There is also a lack of agreement as to whether child maltreatment should be defined based on the actions of the perpetrator,



the effects upon the child, or a combination of the two (Barnett, Manly & Cicchetti, 1993). Additionally, there is debate about whether parental intent needs to be considered; this raises further methodological concerns as it is more difficult to measure parental intent than parental behaviour (Cicchetti & Valentino, 2006).

### **Effects of Child Maltreatment**

Empirical research has demonstrated the long standing associations between experience of child maltreatment and a range of physical, emotional, psychological and neurological difficulties that can potentially manifest themselves at various stages of an individual's development (Herrenkohl, Hong, Klika, Herrenkohl, & Russo, 2012; Hillberg, Hamilton-Giachritsis, & Dixon, 2011; Mills, Scott, Alati, O'Callaghan, Najman, & Strathearn, 2013; Norman, Byambaa, Butchart, Scott, & Vos, 2012; Shaffer, Huston, & Egeland, 2008; Widom, Czaja, Bentley, & Johnson, 2013). Exposure to child maltreatment can be accompanied by a range of difficulties that are manifest during early childhood and often followed through the various developmental stages in the form of externalising behaviours (i.e., substance misuse, challenging behaviours and criminal offending) and internalising problems (i.e., mental health difficulties, self-harm and suicidality) (Bailey, DeOliveira, Wolfe, Evans, & Hartwick, 2012; Hillberg et al., 2011; Mills et al., 2013; Mersky & Topitzes, 2010; Norman et al., 2012).

Furthermore, there is evidence that a maltreated population is at increased risk of perpetuating abuse and neglect towards their own children (Kaufman & Zigler, 1989) and that victimisation into adulthood through sexual assault and domestic abuse is likely to continue (Noll, Trickett, Harris, & Putnam, 2009; Trickett, Noll, & Putnam, 2011). Recent advances highlight the neurobiological effects of child maltreatment through

chronic disruption of interconnected biological systems over long periods of time (Cicchetti, 2013). Increasing evidence also refers to the physical impact of maltreatment (Rogosch, Dackis, & Cicchetti, 2011), particularly in terms of ‘allostatic load’. This refers to the impact to the body when it is confronted with chronic and repeated major stressors leading to physiological consequences of heightened and sustained neural and neuroendocrine responsiveness (Ganzel, Morris & Wethington, 2010). Chronic dysregulation of the biological system over prolonged periods of time results in psychological and physiological consequences that can persist throughout the life course (Juster, McEwen, & Lupien, 2010).

In relation to maltreatment experiences, research has previously generally tended to focus upon individual experiences, such as abuse types or number of victimisation experiences and perpetrator involvement in isolation with single episodes of maltreatment. Limited consideration has been given to the wider impact of exposure to multiple forms of maltreatment experiences (i.e., victimisation, abuse types and perpetration) occurring on more than one occasion. Crucially, recent research has concluded that children exposed to one form of child maltreatment are at increased risk of experiencing multiple victimisations, abuse types and perpetrators, and that multiple maltreatment experiences are associated with poorer outcomes than single abuse experiences (Finkelhor, Ormrod, & Turner, 2007a,b,c; Ford, Elhai, Connor, & Frueh, 2010; Gilbert et al., 2009; Gustafsson, Nilsson, & Svedin, 2009; Higgins & McCabe, 2001).

Notwithstanding the negative and distressful effects of child maltreatment, an increasingly encouraging body of literature spanning approximately 40 years

demonstrates how, despite an individual's experience of a range of traumatic adversities (such as child maltreatment, exposure to war or severe atrocities), they are able to flourish in a range of domains within their life suggesting that positive adaptation is possible.

## **Resilience**

*“The greatest glory in living lies not in never falling...but in rising every time we fall”.*

*Nelson Mandela (1918 – 2013)*

‘Invulnerable’, ‘competence’, ‘hardiness’, ‘stress resistant’ are all terms that have been utilised interchangeably to describe resilience (Anthony & Cohler, 1987; Rutter, 1985). Despite a large quantity of research into resilience by esteemed researchers, there continues to be limited agreement for a single definition of resilience, which consequently leads to substantial variations in the operationalisation and measurement of the construct (Luthar, Cicchetti & Becker, 2000). Thus, despite the significant amount of research in this area, it still appears that our understanding is fraught with a lack of clarification and direction.

The phenomenon of resilience has typically been defined as a “...pattern of positive adaptation in the context of past or present adversity (O’Dougherty Wright, Masten, & Narayan, 2013, p. 16). Cicchetti (2010) conceptualised resilience as a “...dynamic developmental process encompassing the attainment of positive adaptation within the context of significant adversity” (Cicchetti, 2010, p. 145). More recently, definitions of resilience have become broader to integrate the concept across different systems. Masten (2011) defines it as “the capacity of a dynamic system to withstand or recover

from significant challenges that threaten its stability, viability, or development” (O’Dougherty Wright et al., 2013, p. 16).

Resilience is not conceptualised as a static trait or individual characteristic. Reactions to different types of stressors are likely to vary depending on the circumstances facing individuals. Thus resilience is a dynamic concept; the same individual can show maladaptive responses in certain situations at different times in their life and resilience during others (Masten & O’Dougherty Wright, 2010). This dynamic view of resilience suggests that individual adaptation occurs as an interactive process among resilience factors located not only within the child, but the family and community (Ungar, Ghazinour & Richter, 2013; Yates & Masten, 2004).

Empirical research into resilience has been described as having occurred in four waves (O’Dougherty Wright et al., 2013). The first wave endeavoured to understand the phenomenon of resilience, with focus on the individual; the second wave yielded a more dynamic understanding of resilience adopting a developmental systems approach focussing upon the systemic transactions between the individual and the systems within which he/she is embedded; attention during the third wave looked at resilience interventions and changing developmental pathways. The current, fourth wave is focused on understanding and integrating resilience across multiple levels of analysis which concentrates upon increased attention on neurobiological processes, brain development and the interaction of these systems when shaping new development.

## **Resilience and Child Maltreatment**

Understanding resilience among individuals with a history of child maltreatment has attracted much attention. The focus of this research has shifted from single-level to multi-level investigation (Cicchetti, 2010). Competence in age-salient developmental tasks has been used by resilience researchers as a measure for positive adaptation in studies of resilience. This approach focused on external adaptation from a developmental perspective as opposed to internal well-being (Masten & Obradovic, 2006). For example, Cicchetti (2013) reviews a range of resilience research paying particular attention to the examination of multiple domains of adaptive functioning. In their longitudinal study, Egeland and Farber (1987) found that compared to their non-maltreated peers, there was a decrease in the percentages of competent maltreated children across each developmental period assessed. Of the maltreated infants who formed a secure attachment with their primary caregiver, 52% remained competent as toddlers, 15% as 3½ year olds and 30% as pre-schoolers. In contrast, of the non-maltreated group, 54% of the securely attached infants remained competent as toddlers, 47% as 3½ year olds and 47% as pre-schoolers.

When attempting to demonstrate the transient nature of resilience across age periods, Herrenkohl, Herrenkohl, and Egolf (1994) through their longitudinal study, found that resilient functioning was demonstrated at different age periods. Egeland and Farber (1987) did not find one child who was consistently competent across each age period assessed. During their cross-sectional study, Cicchetti, Rogosch, Lynch, and Holt (1993) developed a composite index of adaptive functioning to assess multiple areas of adaptation. They found that maltreated children showed significantly lower overall

competence compared to non-maltreated children. Consistent with the above literature, Cicchetti and Rogosch (1997) found maltreated children exhibited greater deficits than non-maltreated children across six of the seven indicators of adaptive functioning. The seven indicators of adaptive functioning were defined as internalising, externalising, child's self-report of depression (CDI), school risk index, prosocial, disruptive and withdrawn (Cicchetti & Rogosch, 1997).

As already described, one of the fundamental difficulties dominating resilience research has been the perceived lack of unified understanding or definition of the construct. This variation and lack of specificity in the definition of resilience has crucial implications for the research methodology used and the reporting of findings. This is particularly relevant in research surrounding resilience in the context of child maltreatment (Heller, Larrieu, D'Imperio & Boris, 1999; Luthar et al., 2000; Walsh, Dawson & Mattingly, 2010).

### **Methodological Considerations in Studies of Resilience following Child Maltreatment**

What constitutes resilience criteria among the different developmental stages (child, adolescents and adults) varies as does its assessment. Resilient functioning has been defined as lack of depressive or other clinical symptoms (Kaufman, 1991; Moran & Eckenrode, 1992), self-reported successful functioning (Valentine & Feinauer, 1993), graduating from high school (Herrenkohl, et al., 1994) or the higher end of whichever variable is being measured (e.g., self-esteem, cognitive ability, etc.) (Cicchetti et al., 1993, Herrenkohl et al., 1994; Moran & Eckenrode, 1992). Other researchers have defined resilience as 1) performing at least above average in school, having no suicide

risk, no history of marijuana use and infrequent or no use of alcohol and tobacco; 2) having a good quality of sleep; 3) not being depressed in combination with having good levels of self-esteem (Liem, James & O'Toole, 1997); and 4) proper emergence of an internal state (Beeghly & Cicchetti, 1994).

Furthermore, whilst some studies have used one criterion to measure resilience (Chamber & Belicki, 1998; Luthar, 1991; Luthar, Doernberger & Zigler, 1993), others have used several (Cicchetti et al., 1993; McGloin & Widom, 2001) in order to generate an overall resilience rating. Some investigators have used multiple measures and have defined resilience as scores above a certain level on several measures, whilst others have combined variables to yield an overall resilience rating (Heller, Larrieu, D'Imperio & Boris, 1999). Individuals highly resilient in one domain of adjustment are also prone to experiencing deficits in other areas, particularly in relation to high levels of emotional distress. O'Dougherty Wright et al., (2103) also comment that there is continued debate about measuring internal versus external adaptation, but also how many domains should be evaluated and when outcomes are assessed. Adopting a multidimensional process, as exhibited by Tolan and Henry (1996) and Kaufman, Cook, Arny, Jones and Pittinsky (1994), allows for variations in outcomes across different domains (Luthar et al., 1993). Thus, examining resilience across a variety of domains provides a comprehensive and holistic view of an individual's functioning.

There are methodological difficulties associated with data collation, particularly discrepancies that may exist when it is being gathered in different ways and from multiple reporters. For example, a child may be considered resilient on the basis of self-report or one reporter, but may not be perceived as such on the basis of a second reporter or multiple reporters (Heller et al., 1999). In addition, the type of data gathered

(relating to internal or external functioning) also needs to be considered (Luthar, 1993). Data collected at various points in life may also affect research outcomes. For example, retrospective reports of adults who were victims of child maltreatment may be very different from the reports of those individuals who have recently experienced maltreatment and for whom the experience is raw. Retrospective information is heavily reliant upon memory, which can be affected by the passage of time and events which may have occurred between the abuse incident and research participation (Heller et al., 1999). Furthermore, retrospective studies obtained from adults run the risk of underestimation because events in early childhood are forgotten (Cawson, Wattam, Brooker, & Kelly, 2000).

From their review of the developmental research on resilience in maltreated children, Klika and Herrenkohl (2013) identified that few longitudinal studies have examined resilience across childhood, adolescence and adulthood. The apparent lack of consistency of resilient functioning during these developmental periods further supports the idea that resilience is a dynamic developmental process, and that the relationship between resilience at one point in time and at a future point is not fixed or pre-determined (Egeland, Carlson & Sroufe, 1993). Of those studies that explored resilience over two developmental periods to allow for measuring transitional periods, again it was found that levels of resilience measured in one developmental stage were different to resilience levels in another (Bolger & Patterson, 2003; Cicchetti & Rogosch, 1997; Cicchetti, 2013).

Methods and measurements of resilience across domains and amongst researchers continue to remain considerably variable. Limited guidance in relation to research methodology and data analysis techniques makes comparing studies, results and



conclusions in this area difficult. Resilience across life experiences and developmental stages is likely to be transitional according to risk and protective factors present within the ecologies at that time. Consequently, measuring resilience by only focusing upon one domain ignores its transient and multidimensional nature. Thus, sampling across various domains of functioning, as broadly as possible, is required when measuring resilience among maltreated children (Cicchetti, 2013; Cicchetti et al., 1993; Cicchetti & Rogosch, 1997; Ungar, 2005).

Given the difficulties associated with measuring resilience, as described above, this thesis views that a more adequate definition of resilience encompasses more than the absence of psychopathology by using standardised measures of resilience as well as assessing resilience across multiple domains of functioning. This thesis will continue to critically examine the definition and measurement of resilience over the course of the following chapters.

### **Systemic Approach to Resilience**

Early research into resilience primarily focused upon the personal qualities of ‘resilient children’, such as autonomy or self-esteem (Masten & Garmezy, 1985). However, as research evolved, there was increasing evidence to suggest that resilience may often derive from factors external to the child (Luthar et al., 2000). Subsequent second wave research revealed a set of internal and external factors implicit in the development of resilience; namely, a) attributes of the children themselves; b) aspects of their families; c) characteristics of their wider social environments (Masten & Garmezy, 1985; Werner & Smith, 1982, 1992). Since then, empirical research has attempted to focus upon

understanding underlying protective processes and how the above factors may contribute to positive outcomes (Luthar, 1999).

Ungar, Ghazinour, and Richter (2013) apply Bronfenbrenner's (1979) socio-ecological model to understand the factors that facilitate the development of resilience under stress and emphasise the importance of assessing an individual's development in the context of the systems that surround them and the transactional processes between these systems and the individual. One such framework for understanding and explaining a child's personal development using the influences of the social, environmental, cultural and historical factors is the ecological-transactional model (Cicchetti & Valentino, 2006; Lynch & Cicchetti, 1998). This model draws upon the work of Bronfenbrenner (1979), Belsky (1980) and Cicchetti and Rizley (1981) and presents a robust framework for explaining the variety of individual and environmental factors identified in resilience research. It describes how healthy development requires an individual to successfully negotiate a sequence of challenging life stage transitions in the context of environmental supports and stressors that surround the individual (Baim & Morrison, 2011).

Framed as nested levels of decreasing proximity to the individual, Cicchetti and Lynch (1993) conceptualised four levels: the macrosystem (societal cultural beliefs and values); the exosystem (neighbourhood and community setting in which the young person is embedded); the microsystem (the family environment created and experienced by the adults and children) and; the ontogenic (the individual and their own personal adaptation). They hypothesised that factors in these environments "...interact and transact with each other over time in shaping individual development and adaptation" (p. 236).

The concept of ‘multifinality’ (Cicchetti & Rogosch, 1996) purports that children are not equally affected by their maltreatment experiences. Cicchetti (2013) elaborated upon ‘multifinality’ in the resilience developmental process where individuals respond to and interact with vulnerability and protective factors at each level of the ecology (Lynch & Cicchetti, 1998) allowing for variation in developmental outcomes.

### **Risk and Protective Factors and Resilience**

Most authors agree that there is a complex relationship between risk and protective factors that are inherent to the individual, family and environment that affect one’s level of psychological adjustment and resilience to stress (Masten & Garmezy, 1985; Rutter, 1987). Several risk factors associated with reduced resilience in maltreated children (such as atypicalities in neurobiological processes, poor emotional regulation, insecure attachments and relationships, poor school/peer interactions etc.; Cicchetti, 2010) are being discussed in this introduction. Examination of protective factors associated with resilience provides practitioners with insight into how resilience and well-being can be promoted amongst maltreated children. Cicchetti (2010) lists protective factors associated with resilient functioning as a) close relationships with caring adults in the family and community; b) self-regulation abilities; c) positive views of self; d) self-efficacy and motivations to be effective; and e) friendships and romantic attachments with pro-social and well-regulated peers (Masten, 2007).

When considering resilience following child maltreatment, Afifi and MacMillan (2011) comment upon protective factors within various domains of functioning. These include individual personal characteristics, such as personality traits, self-efficacy, coping, intellect and life satisfaction, and family protective factors that include supportive

relationships such as family coherence, stable caregiving and parental relationships. Through a review of longitudinal and cross-sectional studies, Afifi and MacMillan (2011) found protective factors were most consistently found at the family level in longitudinal studies within childhood and adolescent samples (Herrenkohl, Herrenkohl & Egolf, 1994), with some evidence for personality traits (ego-resilience) and positive self-esteem at the individual level (Cicchetti & Rogosch, 1997). Within cross-sectional studies involving child and adolescent samples, supportive family relationships and family environments were found to be consistent protective factors (Sagy & Doton, 2001; Spaccarelli & Kim, 2005). For adults, evidence for the role of individual-level factors, including internal locus of control, optimism about the future, less self-destruction, self-blame and trauma-related beliefs, have been found (Himelein & McElrath, 1996; Liem, James & O'Toole, 1997).

Two additional protective factors relevant to resilience are attachment and coping styles. Specifically, secure attachment styles and problem-focused coping strategies (as opposed to insecure attachment patterns or emotion and avoidant focused coping styles) are of interest to the resilience building process. Both concepts have been subject to thorough research and exploration individually for decades. However, their association with resilience and how both constructs (separately and combined) might influence resilience in the context of multiple domains of functioning is poorly understood. By investigating further the links between attachment styles and resilience and coping strategies and resilience against a socio-ecological framework, it is hoped that practitioners can use a strengths-focused approach to lever off these concepts within different domains of functioning.

## **Attachment and Resilience in the context of Child Maltreatment**

Atwool (2006) argues that the dynamics of attachment can contribute towards an understanding of the processes underpinning resilience. Bowlby (1969) drew on evolutionary theory, biology, family systems and developmental psychology when establishing attachment theory. He postulated that in order for a species to survive, the young need to be protected from danger or harm so that they can grow, develop and reproduce (Baim & Morrison, 2011). Thus, human infants are equipped with a variety of instinctive techniques that maximise their chances of survival, one of which is attachment seeking behaviour (Goldberg, Muir, & Kerr, 2000). Crittenden (2008) defines attachment as having three key features; a) a unique, enduring and affectively charged relationship; b) a strategy for protecting oneself and, c) pattern of information processing that underlies the strategies. In most cases, the developmental process functions automatically through the interaction between genetic, epigenetic and contextual factors (Rutter, 2006a), thus promoting resilience in the face of danger. However, in some cases, repetitive exposure to unprotected and uncomforted threats beyond the individual's zone of proximal development results in accumulated risk that leaves the individual with maladaptive strategies (Crittenden, 2008).

Through the 'strange situation' experiment, Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) established three patterns of attachment. Infants classified as 'secure' (Type B) used the caregiver as a secure base from which to explore, protesting at their departure, but seeking the caregiver's attention upon their return. Infants classified as 'anxious-avoidant' or 'distancing' (Type A) did not exhibit distress on separation and ignored the caregiver on their return. Those infants classified as 'anxious-ambivalent/resistant' or 'pre-occupied' (Type C) showed distress on

separation, and were clingy and difficult to comfort upon the caregivers return. In 1990, Main and Solomon added a 'disorganised' attachment pattern (Type D) which included behaviours such as freezing, rocking, disorientation, crying at the departure of the stranger and showing confusion or fear on the return of the caregiver.

The above categories of attachment patterns represent the concept of the 'Internal Workings Model' (Bowlby, 1969, 1982) and theorises that early attachment with the attachment figure leads a child to develop expectations about their own and others' role in relationships. Thus, the set of expectations regarding the attachment figure constitute the child's internal representational model of the other and the expectations of one's self constitute the model of the self.

Attachment theorists (Bartholomew & Horowitz, 1991; Bowlby, 1982) hypothesised that insecure attachment styles are developed when experiences of an individual's interactions cause them to doubt the trustworthiness, responsivity and accessibility of others, leading to questioning the integrity of the self. Studies on the quality of attachment in maltreated children show that significantly more maltreated infants displayed insecure attachments (Browne & Saqi, 1988a; Carlson, Cicchetti, Barnett, & Braunwald, 1989b; Egeland & Sroufe, 1981a, 1981b; Schneider-Rosen & Cicchetti, 1984; Ward, Kessler, & Altman, 1993). All of the studies reported a greater number of insecurely attached children in the maltreated group as compared to the control groups, although some of the studies found a number of infants with secure patterns of attachment. From this perspective, it has been proposed that disruptions in attachment experiences can lead to a range of subsequent emotional and behavioural difficulties, including aggression (Briere, 1992; Farrington, 1997).

It is suggested that risk factors or stressors resulting in child maltreatment are mediated by and dependent upon relationships within the family (Browne, 1988, 1995b; Caliso & Milner, 1992). Therefore, infants who are maltreated may still form secure attachment to their caregiver due to compensatory background factors, suggesting that attachment and childhood maltreatment should be considered within the broader context of the family (Lewis, 1988; Trickett & Susman, 1989). The presence of such protective factors would enable a child experiencing child maltreatment to still form appropriate relationships (Afifi & MacMillan, 2011).

Masten and Coatsworth (1998) state that "...infant competence is embedded in the caregiving system" (pp. 208), identifying attachment as one of the fundamental developmental tasks of the early period. They also found self-regulation as the other critical task in this period which is closely linked to the quality of the attachment relationship. The development of key protective factors such as caring and effective parent-child relationships, good cognitive development and self-regulation of attention, emotion and behaviour are influenced by the security of attachment and internal workings models (Atwood, 2006). Secure attachment and the development of resilience appear to be influenced by the different systems embedding an individual. Children with secure attachment experiences are likely to have positive perceptions of themselves and others, both of which are crucial when forming and maintaining relationships between adults and peers. More recent attachment theory research includes the Dynamic Maturational Model (DMM) of attachment and adaptation (Crittenden, 2005). This model considers an individual's response in the face of danger suggesting that all the attachment strategies have their own functionality given the contexts within which they

are used. Thus, a particular style may be a strength in one situation, but potentially problematic in another.

### **Coping and Resilience in the context of Child Maltreatment**

Coping is a process that unfolds in the context of a situation or condition that is appraised as personally significant and as taxing or exceeding the individual's resources for coping (Lazarus & Folkman, 1984). It can be categorised among three main dimensions; 'Problem-focused' coping refers to direct efforts to manage or alter the stressful situation including rational problem solving and support seeking strategies; 'Emotion-focused' coping aims to control emotional states evoked by stressful situations such as self-blame, rumination and positive reappraisal; 'Avoidance' coping involves the denial or minimisation of, or procrastination in dealing with stressors, such as distraction or substance misuse (Hager & Runtz, 2012).

With adults, Robboy and Anderson (2011) found that females with experiences of multiple abuse types (including child maltreatment) were more likely to endorse maladaptive coping strategies such as substance misuse, self-harm and eating disorders. Studies with victims of multiple forms of maltreatment show that maltreatment experience may influence the use of particular coping strategies. For example, women reporting exposure to both physical and sexual abuse had a tendency to use distancing and self-blame, whereas victims of sexual abuse used self-isolation to a greater degree than victims of physical abuse (Futa, Nash, Hansen & Garbin, 2003). A significant literature documents the detrimental effects of child maltreatment (Herrenkohl, Hong, Klika, Herrenkohl, & Russo, 2012; Hillberg, Hamilton-Giachritsis, & Dixon, 2011; Mills et al, 2013; Widom, Czaja, Bentley, & Johnson, 2013) and the mode of coping by



an individual following abuse is seen as an important determinant in understanding the long-term functioning of individuals with a history of child maltreatment (Walsh, Fortier & DeLillio, 2009).

The ability to 'self-organise' and use internal processes to deal with trauma and stress suggest that this may come in the form of 'biopsychosocial' (Engel, 1980) capabilities (e.g., self-efficacy, ability to seek help, sense of mastery and preparedness); appraisal and interpretation of the situation, resources and coping methods; and, intentions of goals that guide responses to stress (Keenan, 2010). These capabilities increase and mature as an individual grows, but can vary amongst people. Rutter (2000) also reports that the development of coping strategies is a dynamic process that matures over time; strategies effective for coping in one situation may not necessarily be effective in others.

In relation to attachment styles and coping, in her study, Crittenden (1992) expected that coping strategies shown by children vary as a function of the attachment model and situation. Thus, neglected children are expected to be consistently withdrawn from other people, marginally maltreated children are expected to be capable of interaction in low-stress environments but otherwise become anxious and dependent upon their caregiver, whilst adequately reared children are expected to display security and co-operation in most situations under stress. Crittenden (1992) found support for her hypotheses that through experiences with neglectful or abusive parents, children may develop maladaptive coping strategies. Whilst certain strategies serve a function in the short-term, such as protecting the child in an adverse environment, the longer term consequence may mean that the internal working model may not be modified. Therefore, Crittenden (1992) observes that some coping strategies become problematic as the individual carries the internal representations into later life.

## **Aim and Overview of Thesis**

Following on from the empirical literature and theory described in this introduction, this thesis aims to explore resilience following child maltreatment within a socio-ecological framework. Within this, specific emphasis has been given to the role of secure attachment patterns and problem-focused coping styles as protective facilitators in the journey towards positive adaptation following chronic adversity. In doing so, it is hoped that further understanding is gained of the role of adaptive attachment and coping styles in conjunction with resilience across multiple domains of functioning.

The following four chapters of this thesis attempt to achieve these aims. Chapter Two discusses the psychometric properties of the Connor Davidson Resilience Scales (CD-RISC; Connor & Davidson, 2003). Given the lack of standardised resilience measures in resilience research, the CD-RISC was chosen in order to gain further understanding of the scale and its applicability to a range of general and clinical populations. Chapter Three utilises a systematic literature review process to examine the effects of attachment and/or coping styles upon resilience following child maltreatment. The review considers these relationships within a socio-ecological framework. The findings from this review are presented in light of their implications for child protection services, policy makers and practitioners working in clinical settings. Chapter Four presents an empirical research project that explores the impact of multiple maltreatment experiences (frequency of victimisation incidents, number of perpetrators involved and number of abuse types) upon attachment, coping and resilience. Finally, the discussion completes the thesis by presenting the overall findings, limitations and practical implications of the work.

## **Chapter Two**

### CRITIQUE OF THE CONNOR DAVIDSON RESILIENCE SCALE

(CD-RISC)

## Introduction

Resilience has been described as a multi-dimensional concept that is transient and evident across multiple domains of functioning. Definitions of resilience have evolved over the years with the predominant theoretical thinking at the time appearing to influence the context of its exploration. Despite the differences in terminologies, two common factors appear central to the study of resilience; that there has been a significant threat to the development or adaptation of the individual or system and; that despite this threat or risk exposure, the current or eventual adaptation of the individual or system is considered satisfactory (O'Dougherty Wright, Masten & Narayan, 2013).

Operationally however, and in relation to measurement, confusion continues to remain about the factors that constitute the construct of resilience (Luthar et al., 2000), particularly within child maltreated populations (Walsh, Dawson & Mattingly, 2010). A variety of standards have been utilised to denote positive adaptation in the literature including the absence of psychopathology, successes in age-appropriate tasks, subjective well-being, or all. Children deemed to display resilience have generally been able to manage developmental tasks despite their experience of exposure to adversity (O'Dougherty Wright et al., 2013). Areas of research have tended to focus upon differences in the views of the manifestation of resilience in terms of internal versus external processes, the dynamic nature of resilience suggesting that an individual may display resilience at one point in their life, but fail to at another and the relevance of adopting a socio-ecological perspective when considering risk and protective factors associated with resilience (Ungar, Ghazinour & Richter, 2013).

Empirical evidence suggests that resilience is established in an assorted array of factors and thus, it is postulated that resilience is a multi-dimensional characteristic that alters according to context, age, gender, time and cultural origin, as well as an individual's varying life circumstances (Garmezy & Rutter, 1985; Seligman & Csikszentmihalyi, 2000). When considering the importance of exploring resilience across cultures, Ungar (2008) states that "...resilience is not a condition of individuals alone, but also exists as a trait of a child's social and political setting" (p. 220). Ungar (2005) stressed the importance of paying attention to the cultural and contextually specific aspects of resilience and the relevance of how resilience is defined by different populations and manifested in daily practices.

Chapter one highlighted the ongoing debate in relation to the definition and operationalization of resilience in empirical research of child maltreatment. This can be seen in the variation in assessments used to capture resilience where a lack of standardisation of measures continues to remain problematic.

### **Measures of Resilience**

While there are existing scales designed to measure resilience (Bartone, Ursano, Wright, & Ingraham, 1989; Wagnild & Young, 1993) or aspects of resilience (such as hardiness: Hull, Van Treuren, & Virnelli, 1987; Kobasa, 1979; perceived stress (Cohen, Kamarck, & Mermelstein, 1983) they have not been widely used (Connor & Davidson, 2003). The reasons for this are not reported, however, this may be due to the limited validation they have received, the lack of standardisation upon a range of populations, or a lack of awareness of their existence, possibly linked to a shortage of empirical publications concerning their use. As a result, numerous studies exploring resilience have either

employed measures of psychological adjustment through the absence of psychopathology, or utilised other scales that assessed concepts related to resilience (O'Dougherty Wright et al., 2013).

Windle, Bennett and Noyes (2011) conducted a methodological review of resilience scales. This included an assessment of nineteen resilience measures. Four of these were refinements of the Dispositional Resilience Scale (Bartone et al, 1989), the Connor Davidson Resilience Scale (Connor & Davidson, 2003) and the Resilience Scale for Adults (Friborg, Hjemdal, Rosenvinge & Martinussen, 2003). Each measure was scored using a quality assessment protocol on the basis of their psychometric properties. The authors also examined the theory and item selection in relation to the measures. Windle et al. (2011) concluded that the Connor-Davidson Resilience Scale (CD-RISC), the Resilience Scale for Adults (Friborg et al., 2003, 2005) and the Brief Resilience Scale (Smith et al., 2008) received the best psychometric ratings (although these scores were still deemed moderate on the basis of the quality assessment).

The CD-RISC is a relatively recently developed measure that aims to establish itself as one of the few standardised measures assessing resilient functioning with a range of populations. In light of the above findings in respect of the CD-RISC and its growing use in research, it was felt that further understanding of its psychometric properties and its clinical application to an adult population (both general and mental health populations), was deemed necessary. Furthermore, this measure has been used to assess resilience in Chapter 4 and therefore developing a clearer understanding of its clinical use in research and in general assessment was required.

### **Development of the Connor Davidson Resilience Scale (CD-RISC)**

Connor and Davidson (2003) explained their motivation for developing the CD-RISC as stemming from their critique of the area of health where the focus was largely upon pathology and problem orientation. They felt a need to move towards identifying protective and strength based factors, particularly in order to enhance health and well-being within therapy. Their interest in resilience resulted from their extensive work treating males and females experiencing Post Traumatic Stress Disorder (PTSD) as well as from their research interests within the area of assessments, risk factors and diagnosis of PTSD. The authors became interested in resilience as being relevant to treatment outcome in anxiety, depression, PTSD and stress reactions (Connor & Davidson, 2003).

The researchers conducted literature searches into the area of resilience, which at the time, they report, was largely influenced by research from developmental psychology and child psychiatry (Connor & Davidson, 2011). On the basis of the scarce use of resilience measures and because there were no resilience measures contained within the list of psychiatric measures published by the American Psychological Association (Connor & Davidson, 2003), the researchers decided that a brief, self-rated scale to help measure resilience and treatment response should be developed.

Connor and Davidson (2003) reported that the content of their scale was taken from various sources of early work into resilient features. Items from Kobasa's (1979) construct of 'hardiness' such as reflecting control, commitment and change viewed as challenge were included. From Rutter's (1985) work into resilience, the researchers drew upon personal and social characteristics such as goals, self-efficacy, past successes, sense of humour, action oriented approach, engaging the support of others,

adaptability when coping with stress and secure attachments. Using Lyons' (1991) work surrounding positive adjustment following trauma, concepts such as assessing patience and endurance of stress and pain were also included. Finally, spiritual concepts taken from Shackleton's Antarctic expedition experiences (Alexander, 1998), such as the role of faith and belief, were included.

Despite the evolving nature of resilience research at the time, it is surprising that the researchers did not consider the wealth of literature they were potentially excluding from their development of such a scale, particularly in relation to developmental competence and multiple domains of resilient functioning. In Windle et al.'s (2011) methodological review of resilience measurement scales, Connor and Davidson (2003) are critiqued for not identifying attributes of resilience in much depth. Windle et al. also questioned why only the work of Kobasa (1979), Rutter (1985) and Lyons (1991) were chosen and why research from other authors into resilience characteristics were not explored and potentially included.

Connor and Davidson (2003) reported that by constructing the CD-RISC, they hoped that resilience could be quantified as a valid and reliable measure, to establish mean values for resilience amongst general and clinical populations and to assess how resilience may be 'modifiable' in response to pharmacological treatment in clinical samples. Therefore, Connor and Davidson aimed to present a robust tool that could be applied to a range of clinical populations, in a bid to measure resilience and subsequently develop preventative strategies for the management of neuropsychiatric illnesses.



### Overview of the Tool

The Connor Davidson Resilience Scale (CD-RISC) consists of 25 items. A further 10 item version of the CD-RISC was developed by Campbell-Sills and Stein (2007) and a two item version by Vaishnavi, Connor and Davidson (2007) (these revisions will not be reviewed in this critique). Items on the CD-RISC include a range of statements that tap into confidence, coping with stress, adaptation and locus of control; examples include “I am able to adapt when changes occur”, “I believe I can achieve my goals even if there are obstacles” and “I feel in control of my life”. The CD-RISC uses a self-rating scale which requires respondents to rate items on a five point scale (0-4) as follows: 0 (not true at all), 1 (rarely true), 2 (sometimes true), 3 (often true) and 4 (true nearly all the time) based upon their experiences in the previous month. If a particular situation has not arisen during this time then the respondent is required to consider how they may have reacted. The full range of scores of the CD-RISC is between 0 to 100, with higher scores indicating greater resilience. No further guidance is provided in relation to the score benchmarks, categories such as low, medium or high resilience or the calculation of individual average scores.

The CD-RISC scale was originally validated upon specific adult samples, such as the general population (USA), primary care patients, psychiatric outpatients in private practice, generalised anxiety disorder subjects and two samples of patients suffering from PTSD. Mean scores of these populations are outlined in Table 1. The population sizes for these study groups are relatively small and there is no evidence of power calculations having been conducted to determine appropriate sample sizes. Forming their study population, Connor and Davidson (2003) reported a predominance of females (65%) of White ethnicity (77%) with a mean age of 44 years.

*Table 1: Mean scores of populations reported in Connor and Davidson (2003) using the CD-RISC*

<b>Study group</b>	<b>N</b>	<b>Mean (SD)</b>	<b>Median (1<sup>st</sup>, 4<sup>th</sup> Q)</b>
General Population	577	80.4 (12.8)	82 (73, 90)
Primary Care	139	71.8 (18.4)	75 (60, 86)
Psychiatric outpatients	43	68 (15.3)	69 (57, 79)
GAD patients	24	62.4 (10.7)	64.5 (53, 71)
PTSD patients	22	47.8 (19.5)	47 (31, 61)
PTSD patients after treatment	22	52.8 (20.4)	56 (39, 61)

### **Factor Analyses of the CD-RISC**

Connor and Davidson (2003) describe deriving a five factor model after conducting Exploratory Factor Analysis (EFA) of the CD-RISC in a general US adult population. These factors were broadly interpreted as follows:

Factor One: Personal competence, high standards and tenacity.

Factor Two: Trust in one's instincts, tolerance of negative affect and strengthening effects of stress.

Factor Three: Positive acceptance of change and secure relationships.

Factor Four: Control.

Factor Five: Spiritual influences.

The strongest of these factors related to aspects of persistence/tenacity and strong sense of self-efficacy (Connor & Davidson, 2003). However, since the original five factor structure, a number of studies have been conducted which raise concern about the consistency of the factor structure across different settings, as well as cross-culturally.

International studies of the CD-RISC with various populations and samples are reported in the user guide (Connor & Davidson, 2011) and note the variation in the factor structure between two, three, four and five factor solutions. For example, in Singh and Yu's (2010) study of the psychometric properties of the CD-RISC with a sample of Indian students, an exploratory factor analysis resulted in a four factor solution relating to hardiness, optimism, resourcefulness and purpose. In their study examining a cohort of community dwelling older American women, Lamond and colleagues (2008) derived a four factor model divided into the following areas; goal orientation, tenacity and personal control (Factor 1); tolerance for negative affect and adaptability (Factor 2); leadership and acting on a hunch (Factor 3); and spiritual orientation (Factor 5). Jorgensen and Seedat (2008) were also unable to confirm the original five factor model with their sample of South African adolescents. Instead, they proposed a two or three factor solution where tenacity was quite robust. Similarly, a Chinese study conducted with a general population by Yu and Zhang (2007a, as cited in Connor & Davidson, 2011), found three factors to best account for their findings namely; tenacity, strength and optimism. In a study of Iranian university students who completed the CD-RISC (Khoshouei, 2009), four factors were derived which were relatively similar to the original five factor items generated by Connor and Davidson (2003). These were achievement motivation, self-confidence, tenacity and adaptability.

Given the multi-faceted nature of resilience, it is surprising that there are no subscales within the measure that allows for assessment of the different factors. The variations in factor structure may also be accounted for by the large differences in age, sampling, culture, ethnic background and country in the studies. Yu and Zhang (2007a) note the potential impact of culture, observing that Chinese people are less inclined religiously than those in other societies; hence, the CD-RISC items reflecting spirituality/faith in God failed to load as a separate factor in their study. However, in their study, Singh and Yu (2010) found that items associated with spirituality and God had the highest loading, showing a unique trend in the Indian sample. The large variations in factor structure cross-culturally suggest that further comparisons between international samples using the CD-RISC are required, given that the construct of resilience is open to interpretation between cultures.

Understanding the culturally and contextually specific aspects of resilience is crucial to its definition and measurement in different communities (Ungar, 2008). Cultural knowledge and sensitivities are key to understanding whether the scale and its factor structure actually measures what it intends to, or whether there are cultural influences and biases that may affect the applicability of the tool. Ungar (2008) reports how resilience is influenced by a child's environment and that the interaction between an individual and their social ecologies will impact upon the degree of positive outcomes experienced. Cultural variations are likely to exert influence on the wider ecologies and as such have an impact upon an individual's resilience outcomes (Arrington & Wilson, 2000).

Research surrounding the CD-RISC scales continues to expand with all versions of the scales being used to study a variety of populations. These include large community

samples, adolescents, senior citizens, survivors of various trauma, mental health and psychiatric patients, patients of PTSD treatment, ethnic groups and cultures and various professional or athletic groups (Connor & Davidson, 2011). Through this research, several aspects of the original measure (and its revisions) have been tested.

### Psychometric Properties

Kline (1986) states that a psychological test may be described as a good test if it has certain characteristics such as: a) the data are based on at least interval level (or a ratio scale, i.e., having a true zero point); b) it is reliable; c) it is valid; and d) it has appropriate norms. The test should measure what it aims to measure accurately and consistently.

### **Reliability**

The concept of reliability refers to an instrument's ability to be interpreted consistently across different situations (Field, 2009). The two main types of reliability are internal consistency and test-retest reliability.

#### *Internal consistency*

Internal consistency measures the extent to which a test is consistent within itself. Currently, only two published studies exist assessing the internal consistency of the CD-RISC. Connor and Davidson (2003) reported a high Cronbach's alpha score for the full scale (0.89) for a US general population sample but item-total correlations ranged from poor to strong (0.30 to 0.70). In their study with an Indian population, Singh and Yu (2010) found the alpha reliability score of their identified four factor solution as

moderate to high; hardiness (0.80), optimism (0.75), resourcefulness (0.74) and purpose (0.69). The overall reliability coefficient was also strong (0.89) and consistent with that reported by Connor and Davidson (2003) in their original study. While the overall reliability coefficient appears to be good for both studies, given the poor to moderate item-total correlations reported by Connor and Davidson (2003), further investigation of the internal consistency of the scale would be useful.

#### *Test retest reliability*

Test retest reliability is concerned with the consistency of the test over time. This is measured when a test is administered twice at two different points in time. This type of reliability assumes that there will be no change in the quality or construct being measured, although the issue of ‘practice effects’ may arise particularly when participants may attempt to replicate previous responses in order to display consistency. The original study (Connor & Davidson, 2003) assessed the test retest reliability with 24 Generalised Anxiety Disorder and PTSD patients. The Intraclass Correlation Coefficient was 0.87, although the type of ICC is not specified. Therefore, little or no change was observed from time one to time two (timeframes were not stipulated).

Test retest reliability for the CD-RSIC has been explored in the following studies. Khoshouei (2009) also found strong test retest reliability for all four factors in a factor analysis ( $r=0.78$  to  $r=0.88$ ). Furthermore, Ito, Nakajima, Shirai and Kim (2009) also found good test retest reliability amongst Japanese students. Steinhardt, Mamerow, Brown and Jolly (2008) found no change in CD-RISC scores over a four week period (mean score 70.5 vs. 70.6) with African American adults with Type 2 diabetes. Finally,

Giesbrecht et al. (2009) found mean scores of 66.4 at time one and 66.3 four months later with a wait-list control group.

In developing this measure, Connor and Davidson (2003) reported that they wanted to assess the changes in resilience scores of clinical populations in response to pharmacological treatment. However, due to the limited number of studies reviewed and the relatively short timeframes, test re-test reliability should be treated with caution. Further evidence needs to be gathered to determine whether the same construct is actually being measured at two different points in time, and whether it is also sensitive to cultural changes. In addition, there do not appear to be any references to measurement errors in order to determine the discrepancy between the figures in terms of what is being measured compared to the actual value if resilience were to be measured directly. Further testing is therefore necessary to determine the measure's true universal consistency.

## **Validity**

The aim of validity is to examine if a test correctly measures that which it purports to measure. As a way to ascertain this, several types of validity can be examined within the psychometric assessment. The following types of validity will be discussed in respect of the CD-RISC; construct validity, concurrent validity and predictive validity.

### *Construct Validity*

Construct validity refers to the extent to which scores on a specific questionnaire relate to other measures in a manner that is consistent with the theory regarding the concepts that are being measured (Windle et al., 2011). In their methodological review of resilience measurement scales, Windle et al. (2011) allocated the CD-RISC the

maximum score on the criterion of construct validity as they believed the measure has specific formulated hypotheses and at least 75% of the results are in accordance with these hypotheses.

In their user manual, Connor and Davidson (2011) outlined a number of studies in support of construct validity. They hypothesised that the construct of resilience would mean that those individuals suffering from depression, PTSD, substance abuse, psychosocial problems and suicidal behaviour would be deemed less resilient than their counterparts. Given the lower mean scores across some of these populations from their study, this appears to be the case. Roy, Sarchiapone and Carli (2007) found that CD-RISC scores were lower in substance abusers with a history of attempted suicide than those with no history, suggesting the possibility that a low CD-RISC score indicates reduced resilience and as such may be a risk factor for recurring problematic behaviours. In a second study by the same authors, it was found that the CD-RISC score, not the Beck Hopelessness Inventory predicted suicide attempt (Roy, Sarchiapone & Carli, 2007).

Among South African adolescents, Fyncham, Altes, Stein and Seedat (2009) found that resilience moderated the relationship between childhood abuse and PTSD symptoms, reducing its impact on PTSD in the presence of high resilience (Connor & Davidson, 2011). Huang (2010) observed that greater resilience in diabetics was associated with social support and better coping strategies, and that resilience was positively associated with a healthy quality of life and self-care. Furthermore, the CD-RISC was the only psychological variable to predict lower symptoms on measures of PTSD and Depression (Ahmed et al., 2010).



From the research, it would appear that the CD-RISC displays good construct validity that is consistent with the theory and the other variables associated with the construct of resilience. However, drawbacks continue to remain in relation to the scoring structure of the scale, absence of subscales relating to the different factors and the impact this has upon cultural sensitivities.

### *Concurrent Validity*

Concurrent validity refers to the degree with which the measure correlates with other instruments that it is theoretically predicted to correlate with. These tests are usually well-established measures. In the original study, Connor and Davidson (2003) report that in 591 subjects from the combined sample, the CD-RISC scores were positively correlated with the Kobasa (1979) hardiness measure in psychiatric outpatients (Pearson  $r = 0.83$ ,  $p < .0001$ ). In comparison to the Perceived Stress Scale (PSS-10; Cohen, Kamarck & Mermelstein, 1983), the CD-RISC showed a significant negative correlation (Pearson  $r = -0.76$ ,  $p < .001$ ). Additionally, the Sheehan Stress Vulnerability Scale (SVS; Sheehan, Raj, Harnett, Sheehan, 1990) was also similarly negatively correlated with the CD-RISC in subjects from the combined sample (Spearman  $r = -0.32$ ,  $p < .0001$ ). These results indicate that, as expected, higher levels of resilience are related to higher levels of hardiness, and lower levels of perceived stress and vulnerability. As would be expected, greater resilience was also associated with greater social support as demonstrated by the CD-RISC's correlation with the Sheehan Social Support Scale (SSSS; Sheehan et al, 1990) (Spearman  $r = 0.36$ ,  $p < .0001$ ) in 589 subjects (Connor & Davidson, 2003). However, the strength of some of these correlations are relatively weak as categorised by Dancey and Reidy (2004).

In the CD-RISC user manual devised by Connor and Davidson (2011), they comment upon a number of studies that demonstrate the concurrent validity of the CD-RISC. They report that the scale correlated with other like measures, either of resilience itself or related measures as described further. In a number of studies conducted by Yu and Zhang (2007a) assessing the concurrent validity of the CD-RISC, they report that the scale correlated with the Rosenberg Self-Esteem Scale (Rosenberg, 1965) ( $r=0.49$ ,  $p<0.01$ ), the Life Satisfaction Index-A (LSIA; Neugarten, Havighurst & Tobin, 1961) ( $r=0.48$ ,  $p<0.01$ ), and all five factors of the NEO-Five Factor Inventory (NEO-FFI; Scandell, 2000) (e.g., neuroticism,  $r=-0.47$ ; extraversion,  $r=0.43$ ; openness,  $r=0.27$ ; agreeableness,  $r=0.36$ ; conscientiousness,  $r=0.64$ ; all  $p<0.01$ ) (Zhang & Yu, 2007a). In further studies, Yu and Zhang (2007b) note that the CD-RISC proved a better measure when compared to the Ego Resiliency Scale (ERS; Block & Kremen, 1996) in relation to correlations with the NEO, self-esteem and life satisfaction scales. Six out of seven correlations were significant with coefficients ranging from  $r=-0.39$  to  $0.54$  whereas only one correlation was significant for the ERS.

Furthermore, Smith et al. (2008), found that the CD-RISC correlated with the Brief Resilience Scale (BRS; Smith et al., 2008) ( $r=0.59$ ,  $p<0.01$ ) and positive and negative affect on the Positive and Negative Affectivity Scale (PANAS; Watson, Clark & Tellegen, 1988) ( $r=0.68$  and  $r=-0.25$ ,  $p<0.01$ ). Negative correlation with the Perceived Stress Scale (PSS) ( $r=-0.53$ ,  $p<0.01$ ) and anxiety and depression on the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1988) ( $r=-0.40$  and  $r=-0.35$ ,  $p<0.01$ ) were also observed.

There are a large number of empirical studies which have provided evidence of a significant correlation between the CD-RISC and a number of other measures which

test for the same or related concepts. Concurrent validity does appear to be well-established. However, most of the reported studies demonstrate weak to moderate correlation coefficient sizes that require further exploration. Future research should take into account the sample sizes used ensuring that the procedures and statistical analysis methods utilised by researchers are consistent with each other.

### *Predictive Validity*

Predictive Validity refers to the degree to which the measure can predict which recorded behaviours on a test are related to future behaviours that the measure was designed to predict (Field, 2009). Of all the resilience measures reviewed, Windle et al. (2011) noted that responsiveness (the ability to detect clinically important changes over time) was only measured in the CD-RISC. In their original research article, Connor and Davidson (2003) compared pre and post treatment CD-RISC scores in treatment responders and non-responders in the clinical trial samples (subjects with generalised anxiety disorder and PTSD). They describe a significant relationship between the CD-RISC and degree of improvement on the Clinical Global Improvement (CGI-I; Guy, 1976) scale where greater clinical improvement was linked with increased change on the CD-RISC. Furthermore, it has been noted that predictive validity has been observed between the CD-RISC, PTSD and depression. In PTSD patients, the total CD-RISC score pre-treatment was an independent predictor of remission, after controlling for the effect of other predictors (Davidson et al., 2011). In their user manual, Connor and Davidson (2011) outline a number of studies examining predictive validity and also discuss the CD-RISC's sensitivity to change in therapeutic studies of psychiatric patients using both pharmacological and psychological therapy. The positive direction of change in CD-RISC scores pre and post treatment suggests that the measure is

detecting improved levels of functioning between two time points. This suggests that resilience is a dynamic concept, amenable to change.

There is some evidence of the CD-RISC's sensitivity to change particularly in response to clinical trials. Studies described above (e.g., Davidson et al. 2011) have noted the scale's ability to detect improved functioning between two time points as well as measuring the construct of resilience (Connor & Davidson, 2003; Giesbrecht et al.; 2009; Ito, Nakajima, Shirai & Kim, 2009). As the measure is attempting to fulfil two purposes; firstly, by measuring the construct of resilience of various general and clinical population groups and secondly, measuring levels of resilient functioning pre and post treatment, further research is required in order to ascertain whether the measure is coherently able to fulfil both of these aims without compromising the construct of the scale.

#### Appropriate Norms/Populations

The user manual associated with the CD-RISC reports an overview of mean scores of the CD-RISC with a variety of populations in different countries (Connor & Davidson, 2011). The mean scores of community samples in the USA (Connor & Davidson, 2003), China (Yu, Lau, Mak, Lv, Cheng & Zhang, 2009) and Korea (Ha, Kang, An & Cho, 2009) have been reported. The range for the mean scores of the CD-RISC appears to generally be consistent across different samples from the USA (range 75.7 to 82.7). The mean scores for a Chinese and Korean population range between 65.4 and 71.0, therefore mean scores from an Eastern population appear to be lower than those obtained with Western samples. This variation may be related to the characteristics of the population group studied such as age/backgrounds, the sample sizes and differences

in the definition and understanding of the concept of resilience and therefore its measurement across cultures (Ungar, 2008). There are no UK community samples and thus the applicability of this scale to the UK and other countries is yet to be established.

Mean scores for students and young adults are also available in the CD-RISC manual (Connor & Davidson, 2011). Mean scores across the countries varied with the highest from high school graduates in the USA (73.1; Clauss-Ehlers & Wibrowski, 2007), 73.0 from Australia with teenage cricketers (Gucciardi, Jackson, Coulter & Mallett, 2011), 70.1 from Russian school children aged 10-16 who had survived a terrorist attack and some of whom had PTSD (Vetter et al., 2010); 69.6 from Chinese adolescent earthquake survivors (Yu et al, 2011), 68.3 from Iranian undergraduates (Khoshouei, 2009), 66.4 from undergraduates in Netherlands (Giesbrecht et al., 2009), 65.9 in South African High school students (Bruwer et al., 2008) and 64.3 in Japanese undergraduates with a mean age of 39 (Ito et al., 2009). There are small differences in mean scores across these countries and these variations may be explained by differences in the sample groups and methodologies used. Once again, a UK sample is unavailable however, it is possible that mean scores achieved by a similar population in the UK may fall within the range of scores cited above.

Of interest are the mean scores generated by the Russian and Chinese samples given their direct experience of trauma. These scores are higher than those achieved by the undergraduate samples (who do not report experience of specific trauma) from other countries. The reason for this discrepancy are not reported, but may be attributed to a range of things, such as the support and intervention received by the sample following their experience, the experience of resilience both individually and culturally and differences in sample sizes.

Norms are also available for participants suffering from a range of mental health conditions (Connor & Davidson, 2011). Connor and Davison (2011) have divided these participants into the following three groups; PTSD/severe trauma, depression/suicidality and other diagnoses. They do not stipulate the reasons for these groupings. In relation to the first two groups, a variety of studies have been conducted showing that the mean scores are below that of the normative population (Connor & Davidson, 2003). The mean scores of participants with depression or a history of suicide attempt varied across countries. For examples, for major depression, mean scores varied from 57.1 in the USA (Davidson et al, 2005), 53.3 in Italy (Carmedese et al, 2007) and 39.0 in Australia (Dodding, Nasal, Murphy & Howell, 2008). However, these variations and others cited in the manual (Connor & Davidson, 2011) can be attributed to differences in sample sizes (smallest being  $N=9$  in Australia), population characteristics, types of interventions/medication used, stage of recovery from illness and time of assessment. Once again, UK mean scores for these populations are unavailable.

In relation to other diagnoses, CD-RISC scores have also been obtained with pathologies ranging from generalised anxiety disorder, substance misuse problems, insomnia and schizophrenia. The mean scores for USA samples range from 48.7 (Simon et al, 2009) to 63.8 (Sutherland, Cook, Stetina & Hernandez, 2009). This variation in mean scores may be attributed to the different diagnoses in the sample, intervention/medication types and effects, stage of treatment/recovery as well as the way in which the CD-RISC has been used (e.g., whether it has been used as a pre and post treatment measure).

Connor and Davidson (2011) comment that the results that have been generated suggest that psychiatrically healthy individuals score higher on the CD-RISC than do those with

a range of psychiatric illnesses. Differences in sample sizes and characteristics continue to make true comparisons between studies problematic. From the mean scores presented, it would seem that differences in ethnicity and cultural factors would need to be thoroughly understood when measuring resilience. In addition, the way in which the CD-RISC is being used within research also needs to be clarified (i.e., whether it is measuring the construct of resilience or if it is being used to measure resilient functioning pre and post treatment).

In terms of future developments of the CD-RISC, the measure would benefit from expanding its norm base to various UK populations such as those already studied in other countries (general and clinical). The scale could also be applied to forensic populations within prisons and mental health institutions in order to assist with risk assessment processes. Other applications may be with cases relating to childhood maltreatment and other civil proceedings where a measurement of an individual's level of resilience may be useful or required.

### Distorted Responding

Socially desirable and defensive responding has been documented as a confounding factor in self-report tools (Paulhus & Reid, 1991). Despite this, the CD-RISC does not contain any type of validity scale. It is therefore difficult to assess if the examinee is responding to the test items in a socially desirable or defensive manner depending on the context within which the scale is used. One way of negating this effect is by incorporating a measure in the test battery that is designed to detect desirable and/or defensive responding such as the Paulhus Deception Scale (PDS; Paulhus, 1998).

## Conclusion

A reasonable number of studies have been conducted exploring the psychometric properties of the CD-RISC tool as a measure for resilience. Overall, this critique has found that whilst the CD-RISC has the positive backing of a range of studies relating to validity and reliability, further research is still required to establish this measure as a robust assessment of the construct of resilience across diverse cultures. Currently, there do not appear to be a sufficient number of studies that establish all areas of validity and reliability in a rigorous manner. In addition, as previously mentioned, whilst the scale can be used to measure the construct of resilience or as a pre and post measure of resilience, clarity is required during the aims of any study about the intention with which the scale is going to be employed so as to avoid any confusion about its application.

Global research with different populations has also found an unstable factor structure that ranges from a two factor to a five factor solution. This has raised questions about the true applicability of the factor structure to international populations and whether the concept of resilience requires further exploration when applied generally and cross-culturally. Furthermore, the absence of subscales within the measure does not allow for an understanding of the how the differing factor components are operating at an individual level, combined and across different cultures. Furthermore, whilst the CD-RISC has been assessed using samples from various Eastern and Western countries, this critique has found no UK based studies using this measure. Appropriate mean scores have been provided for a range of populations and sample groups cross-culturally, although UK mean scores are not available at present.



In addition, the theoretical formation of this tool focused on utilising the influences of existing resilience ideas that were based on characteristics of ‘internal’ resilience as opposed to taking into account emerging research in relation to resilience such as the exploration of developmental competence and the impact of social ecologies. Whilst this is a limitation, it would appear that this scale would best be applied amongst a battery of assessments that extracts resilient functioning across multiple domains (see Chapter three for a discussion of this).

Thus, it is recommended that validating the tool with a variety of sample groups in the UK would be an appropriate direction for further research. It would be interesting to explore how UK based mean scores compare to those from other countries. Furthermore, the application of the CD-RISC in forensic and clinical settings may provide assistance when conducting risk assessments as well as within therapeutic environments exploring treatment impact and progress as a pre and post measure. The capacity for the CD-RISC to contribute towards measuring resilience in forensic populations, such as with victims of Intimate partner violence, within child care proceedings, with forensic psychiatric patients and those exhibiting substance based dependencies is present. These areas have not as yet been examined and in doing so, it is hoped that the research will add to the largely positive appraisal of the CD-RISC. Chapter four of this thesis attempts to take forward these recommendations by utilising the CD-RISC for research purposes with a sample of adults reporting a history of child maltreatment.

### **Chapter Three**

A SYSTEMATIC LITERATURE REVIEW EXPLORING THE EFFECTS  
OF ATTACHMENT AND/OR COPING STYLES ON RESILIENCE  
FOLLOWING CHILD MALTREATMENT: A SOCIO-ECOLOGICAL  
PERSPECTIVE

The previous chapter explored the psychometric properties of the CD-RISC scale and found that it is limited to measuring resilience at the individual level with little consideration of the impact of external influences and functioning across different domains of functioning. This chapter will explore the application of resilience measures and its relationship with attachment and coping styles utilising a systematic literature review process. In particular, it considers how a socio-ecological framework is applied to allow for a more holistic understanding of resilient functioning.

### Abstract

This systematic literature review aimed to explore the effects of attachment and/or coping styles on resilience following experiences of child maltreatment. The review also aimed to determine the extent to which a socio-ecological model could be applied to the dynamics of attachment, coping and resilience with a maltreated population.

Following an initial scoping exercise, a literature search was conducted utilising systematic research principles. Inclusion and exclusion criteria were formulated and applied to the search results. A total of 2221 articles were initially identified through the adopted search strategy, from which six articles were subject to a quality assessment process. All six articles were deemed appropriate to be included in the final review and were subsequently subjected to data extraction and synthesis.

The overall findings were that whilst all six articles measured attachment and/or coping styles and resilience, the exploration of this relationship was limited and there were no studies that explicitly measured the effects of attachment *and* coping styles upon resilience. Methodological limitations and heterogeneity in the definitions of key

concepts meant that whilst standardised measures were utilised, these varied based on the scope of the study. Generalisability of the findings of the studies was restricted due to diverse population characteristics, a primarily female sample and their non-applicability to a United Kingdom sample. The small number of studies reviewed is a significant limitation and highlights the need for future research in this area. Limitations of this review, as well as the practical implementation of conclusions are discussed.

## Introduction

Despite the risks associated with abuse, a number of established studies have suggested that individuals who are exposed to childhood abuse in their formative years are able to develop healthily, with few, if any difficulties (Cicchetti & Rogosch, 1997; Kilka & Herrenkohl, 2013; McGloin & Widom, 2001). Bonnano (2004) describes resilience as the ability “...to maintain relatively stable healthy levels of psychological and physical functioning, despite exposure to highly disruptive or life threatening situations...” (p. 20). Despite their experience of maltreatment, there are many survivors who are capable of functioning adaptively, providing evidence that there are internal and external mechanisms that aid the process of recovery from severe childhood trauma. Attachment and coping styles are two such constructs that act as protective factors and facilitate the journey towards resilient outcomes.

The influence of attachment styles, specifically the internal working model of self and others has been researched and observed to display links to the use of coping responses in the wider literature (O’Dougherty Wright, Crawford, & Del Castillo, 2009). These underlying relational schemas or core beliefs influence an individual’s perceptions,

thinking and behaviours which subsequently appear to contribute towards coping approaches. In the context of child maltreatment, further exploration is required into the effects of both attachment and coping and their impact on resilience. Chapter one discussed the role of attachment and coping styles as protective factors and the relevance of assessing resilience across multiple domains of functioning. Chapter two focused on the psychometric properties of the Connor Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) and noted its limitation in excluding examination of wider systemic influences on resilience. Therefore, considering attachment, coping and resilience against a socio-ecological framework is of interest to this review.

### **Attachment Styles following Child Maltreatment**

According to Bowlby's conceptual framework, attachment behaviour is defined as an expression of proximity seeking, comfort seeking and security seeking in situations of real and/or perceived threat/danger (Svanberg, 1998). Subsequent to Bowlby's early work, through further investigation, Ainsworth and colleagues identified three patterns of attachment: securely attached or 'balanced' infants (Type B), and two insecurely attached groups; anxious/avoidant or 'distancing' (Type A) and anxious/ambivalent or 'pre-occupied' (Type C) (Ainsworth, Blehar, Waters, & Wall, 1978).

An additional pattern of attachment was added by Main and Solomon (1990) categorised as 'disorganised'. The caregivers of this category of infants have been observed to display regular psychiatric distress and/or are dealing with unresolved personal loss. Main and Solomon (1990) found that this pattern is typically associated with a high-risk home environment, including factors such as abuse, stress and poverty; these infants are at greater risk of developing later psychopathology. Attachment theory

not only focuses on behavioural systems, but also reflects mental representations of the self in relation to others referred to as 'Internal Working Models of attachment' (Bowlby, 1969, 1982).

All forms of insecure attachment are commonly found in children who have experienced abuse or neglect (Alexander, 1992; Rosenstein & Horowitz, 1996). Disruptions to early attachment may not produce pathology, but could increase an individual's vulnerability to disorder, particularly when combined with other risk factors such as family dysfunction and trauma (Rosenstein & Horowitz, 1996). Individuals with an aetiology of developmentally rooted psychological adversities (through experiences of abuse, neglect or trauma) can face life-threatening dangers which impact brain development, self-organisation and mental processes (Holmes, 2001). Studies on the quality of attachment in maltreated children show that significantly more maltreated infants displayed insecure attachments (Browne & Saqi, 1988a; Carlson, Cicchetti, Barnett, & Braunwald, 1989b; Crittenden, 1992; Egeland & Sroufe, 1981a, 1981b; Schneider-Rosen & Cicchetti, 1984; Ward, Kessler, & Altman, 1993). Low levels of attachment security have been observed in maltreated children (Haskett et al., 2006) and previously abused adults (Muller, 2009, 2010; Bakermans-Kranenburg & van IJzendoorn, 2009). Morton and Browne (1998) suggested that insensitive parenting produces an insecure attachment relationship in the infant, thus leading to a poor representational model of oneself and thereby influencing the formation of future relationships.

Attachment styles may vary on the basis of the child maltreatment type/s experienced. For example, Roche, Runtz and Hunter (1999) demonstrated that attachment appeared to impact the relationship between child sexual abuse and psychological adjustment (as

measured by the Trauma Symptom Inventory). They found that females in the study displayed less secure and fearful attachment styles with a greater number of psychological symptoms, particularly if they were the victim of intrafamilial abuse. Adults who report a history of child abuse/neglect have displayed a tendency to endorse an insecure attachment style having developed a negative model of themselves and others (Alexander, 1992) and this subsequently may impede adaptive coping responses (Muller, 2009). Mikulincer and Shaver (2007) reported that attachment theory considers support seeking as the attachment system's primary strategy when confronted with stressors.

The findings of Browne and Winkelman's (2007) study supports Bowlby's (1982, 1988) concept that an internal working model has a strong cognitive component which may help to explain that despite some time lapse since their childhood abuse, these individuals continue to suffer from perceptions of powerlessness, helplessness and vulnerability to psychological adjustment. Thus, as Bowlby theorised, the internal representation of self can affect attachment and later adult adaptation.

### **Coping Styles following Child Maltreatment**

Coping can be viewed as a construct related to resilience (Campbell-Sills, Cohan & Stein, 2006), although coping typically describes the cognitive and behavioural strategies utilised by an individual in response to managing the demands of stressful situations (Folkman & Moskowitz, 2004). Usually, functionality is problem-focused (changing the stressful situation by acting) or emotion-focused (changing how the situation is managed or the meaning of what is happening) (Lazarus, 1993). Whilst coping can be a flexible and context-driven process, the experience of early chronic

stressful events might prompt the use of a particular type of coping strategy that may be an adaptive method of coping with the trauma or maltreatment at the time, but may be harmful in the long term (Finkelhor & Browne, 1985).

Crittenden (1992) reported how coping strategies vary as a result of development in terms of the physical and cognitive skills of the child as well as the quality of their experiences. More recently, Crittenden (2008) viewed self-protecting strategies as strengths, suggesting that the context and the expression of the strategy is situation dependent, forming an adaptive or maladaptive coping response. For example, emotion-focused and avoidance coping strategies may serve a functional response to inescapable, aversive child maltreatment as they allow temporary alleviation of distress, shame or hopelessness (Briere, 2002). Survivors of maltreatment have been found to utilise passive styles of coping across stressors (Hagen & Runtz, 2012). Emotion-focused and avoidance strategies have been found to be more commonly utilised in women and samples of college students who are survivors of abuse than problem-focused approaches that seek support or actively solve the problem (Briere & Scott, 2006; Gipple, Lee, & Puig, 2006; Leitenberg, Gibson, & Novy, 2004; Shapiro & Levendosky, 1999). Several studies have found that avoidant coping techniques such as disengagement were the most frequently used strategy by both male and female survivors of child sexual abuse (Brand & Alexander, 2003; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Runtz & Schallow, 1997; Tremblay, Hebert, & Piche, 1999).

A number of studies have found that positive coping styles predict better emotional adjustment and a decreased risk of revictimisation for survivors of child sexual abuse (Gibson & Leitenberg, 2001). Specifically, use of social support systems with coping



methods that do not involve self-blame have been associated with a decreased risk of revictimisation (Arata, 2000). In addition, women who employ cognitive and action focused coping strategies such as disclosing and discussing their experience, minimisation, positive reframing, and refusing to dwell on the abuse experience were better emotionally adjusted than women who did not use these approaches (Himelein & McElrath, 1996). In contrast to this, avoidant coping styles that include self-blame cause increased levels of psychological distress and increase vulnerability to revictimisation (Arata, 2000; Kuyken & Brewin, 1994).

Adolescent victims of child sexual abuse have been found to use psychological defence mechanisms in order to deal with their abuse (Ward, 1988). In a study of college students, Rew, Esparza and Sands (1991) found that sexually abused males were more likely than females to use coping strategies that would keep the stress under control without addressing the problem directly and by using affective responses such as getting angry and taking their tension out onto others. Differences in methodological approaches between studies in the assessment of coping, the age and size of the sample and the severity of abuse have been highlighted as limitations to a number of findings (O'Dougherty Wright et al., 2005).

In relation to physical abuse victimisation, Zimrin (1986) conducted a long-term follow up investigation differentiating childhood coping mechanisms of adult individuals who appeared well-adjusted and those who manifested higher levels of psychopathology. It was found that as children, the well-adjusted victims of physical abuse were more likely than the poorly adjusted victims to take initiative and influence their own destiny, to have a higher self-image, display fewer episodes of self-destructiveness, have higher

levels of cognitive abilities and have high manifestations of hope and have the support of an adult.

### **Resilience in the context of Child Maltreatment**

Definitions in relation to the concept of resilience have evolved with research. However, with this advancement, confusion still remains in relation to operational conceptualisation, particularly in relation to its direct measurement in child maltreatment studies. Yi-Frazier et al. (2010) described resilience as an individual's ability to maintain a state of well-being with the help of personal characteristics that enhance their capacity to adapt to adversity. Quale and Schanke (2010) have further defined the concept of resilience by stating it is "...a broad conceptual umbrella, and the construct refers to important psychological skills and to the individual's ability to use family, social and external support to cope better with stressful events....resilience reflects the ability to maintain a stable equilibrium" (p. 13, 14).

The criteria used to judge resilience has varied considerably and has incorporated, the absence of psychopathology, success in age-salient tasks, subjective well-being or all of these (O'Dougherty Wright, Masten & Narayan, 2013). Early research focused on the absence of psychopathology as a reflection of resilience. However, it was recognised that this approach provides limited understanding of positive outcomes achieved by children with experience of adversity. Resilience is more than just the absence of psychopathology and has commonly been referred to in the wider literature as positive adaptation/adjustment. Positive adaptation can be defined in terms of internal function (e.g., maturity, mental well-being, health) or external function (e.g., positive results at school or in the community), or a combination of both (Masten & O'Dougherty Wright,

2010). Masten, Burt, and Coatsworth (2006) recognised that concepts such as ‘competence’ and ‘developmental tasks’ are engrained in the history of developmental theory and psychological science. In the developmental literature, competence generally refers to an individual’s capability to function effectively in the world in relation to expectations based on norms of behaviour in a given context, culture and time in history.

However, the measurement of resilience in the child maltreatment literature has continued to attract wide debate (Heller, Larrieu, D’Imperio & Boris, 1999; Luthar, Cicchetti & Becker, 2000; Walsh, Dawson & Mattingly, 2010). Walsh et al. (2010) noted that little attention has been given to the variance in the breadth and depth of the measurement of resilience amongst maltreated children and the implications of such differences. They draw out how measures of behavioural, emotional, social and academic competence vary based on the developmental stages of the groups and that there is no clear criterion to determine resilience levels or competence. During their review, they also commented upon the lack of studies that explore multiple domains of functioning, only tending to examine single domains/indicators of resilience without considering functioning across domains.

Whilst there has been some measurement of resilient functioning across external domains, most of the research on resilience has examined developmental outcome in a single domain, usually intrapersonal functioning (O’Dougherty Wright, Fopma-Loy & Fischer, 2005). Although, as postulated above (Masten, Burt, & Coatsworth, 2006), the processes underlying resilience may build over time and across domains, and as such, there is some variance across domains in terms of adaptation and functioning. The

‘second wave’ of resilience research focused on the processes and interactions that lead to resilience over time and incorporated an ecological-transactional systems approach (O’Dougherty Wright et al. 2013). These studies explored both moderating processes that served to explain protective or buffering effects on individuals under certain conditions as well as mediating processes to explain how specific processes work to undermine or enhance adaptation (O’Dougherty Wright et al., 2005).

As described in chapter one, the ecological-transactional model of children and contexts (Lynch & Cicchetti, 1998) can be used to help specify the types of adversity children face and their likely impact upon development. At each level of the environment, ‘potentiating’ and ‘compensatory’ risk factors are thought to exist for the individual (Cicchetti & Rizley, 1981). Children developing in dangerous ecologies without adequate compensatory factors are at higher risk of displaying incompetence that is associated with increasing symptomatology and psychopathology (Cicchetti & Lynch, 1993). Furthermore, these children are growing up in environments where violence is occurring at multiple levels of the ecology and the risk for problems is increased. Thus, understanding the protective functions of attachment, coping and resilience across the ecology is relevant to this review.

### **The Current Review**

This introduction highlights the existing empirical literature in relation to the concepts of attachment, coping and resilience following child maltreatment. There is a wealth of literature associated with the development of insecure attachment styles in maltreated children (Crittenden, 1992) and the use of emotion-focused or avoidant coping strategies in abused populations. Research into resilience among maltreated samples

informs us that positive adaptation following adversity is possible. Protective factors such as secure attachment styles and problem-focused coping strategies are two relevant mechanisms in the process of resilience. The scoping search emphasised the limited amount of research that has been conducted when investigating the relationships between these constructs. Therefore, the purpose of the current review was to explore the effects of attachment and/or coping styles on resilience following child maltreatment among child, adolescent or adult populations. This review defines resilience as more than the absence of psychopathology as the only measure of adaptation. Whilst this review will not be limited to exploring specifically those articles that measure resilience across multiple domains, it is interested in determining the impact of a socio-ecological approach to the concepts of resilience, attachment and coping upon following child maltreatment as highlighted in chapter one. Often attachment and coping are tested at the individual level with limited research exploring the dynamics and impact of both in a socio-ecological context.

## Methodology

### **Existing Literature Review assessment**

A scoping search was conducted on 14<sup>th</sup> May 2014 in order to ascertain whether the current systematic review was justified. Similar search terms to those identified for the search strategy were included in this exercise. The following databases formed part of the scoping search and where possible, searches were limited to reviews:

- Cochrane Database of Systematic Reviews

- Campbell Collaboration Library
- Web of Science
- PsycINFO
- Medline

During the scoping exercise, no previous reviews were located in relation to the effects of attachment and/or coping styles upon resilience following child maltreatment. Therefore, further exploration in this area of research was deemed necessary.

### **Sources of Literature**

Electronic databases were searched on 31<sup>st</sup> October, 1<sup>st</sup> and 6<sup>th</sup> November 2014. The following databases were included in the search:

- PsychINFO (1967 to October Week 5, 2014)
- EMBASE (1974 to October 30, 2014)
- Medline (1946 to October Week 4, 2014)
- Web of Science (1970 to 2014)
- Applied Social Sciences Index and Abstracts (ASSIA) (1987 to 2014) (Including PILOTS: Published International Literature on Traumatic Stress, 1871-current; Social Services abstracts, 1979-current; Sociological abstracts, 1952-current)

## **Search Strategy**

The databases were accessed electronically which allowed for the application of specific limitations to the searches. These related to studies that were published in English, as there were financial and time implications associated with translating foreign articles. Furthermore, editorials, opinion papers and unpublished literature were omitted from the search in order to reduce the bias of individual perspectives that are not supported by empirical research. The date parameters for the searches were left to the search default settings unless otherwise stated so that a wide number of articles could be accessed.

The same search limits and search terms were applied to all electronic databases although the method to glean the required data from the databases varied as did the output. The initial search results were subsequently filtered by hand using the title and abstracts of articles in order to remove studies that were unrelated to the current review or were duplications.

## **Search Terms**

The following search terms were utilised when searching the above databases:

### *Combination One*

child\* OR infan\* OR youth OR adolescen\* OR teen\* OR young\* OR juvenile OR  
abuse\* OR neglect\* OR maltreat\*

AND

attach\* OR bond\*

AND

psycholog\* OR positive resilien\* OR endur\* OR hard\* OR adapt\* OR adaptation OR  
adjust\* OR adjustment

#### *Combination Two*

child\* OR infan\* OR youth OR adolescen\* OR teen\* OR young\* OR juvenile OR  
abuse\* OR neglect\* OR maltreat\*

AND

coping OR cope OR coping behaviour OR stress\*

AND

psycholog\* OR positive resilien\* OR endur\* OR hard\* OR adapt\* OR adaptation OR  
adjust\* OR adjustment

Full search syntax can be found in Appendix 1.

### **Study Selection**

All studies were screened using a pre-defined inclusion and exclusion criteria that was formulated on the basis of the initial scoping searches and a review of previous literature in the research area. The PECO (Population, Exposure, Comparator and Outcomes) inclusion/exclusion criteria are outlined in Table 2 on pages 71-72

In order to maximise the scope of this study, it was deemed relevant to include males and females (aged 12 and above) in order to capture the breadth of abuse and experience of effects of attachment and coping styles upon resilience.



Before applying the formal inclusion/exclusion criteria, the initial results were searched by hand in order to eliminate any studies that were clearly irrelevant to the systematic review as judged by the title and/or abstract. Any duplicate papers were also excluded during this sift.

Those papers that remained were then examined in relation to the inclusion/exclusion criteria and discarded or kept accordingly. Abstracts were assessed in relation to the criteria, and where this was not possible, full articles were retrieved and reviewed. Details and reasons for all studies excluded from this review according to the exclusionary criteria can be found in Appendix 2. Full articles were retrieved for all papers where the inclusion criteria were met.

*Table 2: PECO (Population, Exposure, Comparator, Outcomes) inclusion/exclusion criteria*

	<b>Inclusion</b>	<b>Exclusion</b>
<b>Population</b>	Male and Females  Children/Adolescents (12-17 years)  Young Adults (18-21 years)  Adults (21 years and over)	
<b>Exposure</b>	Child maltreatment	No experience of child maltreatment

<b>Comparator</b>	N/A	N/A
<b>Outcomes</b>	Attachment styles and/or coping styles and resilience or positive adjustment or adaptation (in the context of resilience)	<p>Studies that do not address attachment and/or coping with resilience or positive adjustment or adaptation</p> <p>Studies that only measure psychopathology for adjustment or psychological adjustment in the context of psychopathology without reference to the resilience literature.</p>
<b>Study Design</b>	Cohort studies, cross-sectional studies, longitudinal studies, case control studies, retrospective studies.	Reviews, opinion papers, editorials, commentaries, unpublished papers, dissertations, case studies, papers not written in the English language.

The number of articles identified at each stage and a flow chart detailing the number of studies at each phase of the selection process is presented in Figure 1 on page 75.

## **Quality Assessment**

Once the inclusion/exclusion criteria had been applied using the PECO, each included article was subject to quality assessment in relation to its methodological value and significance of findings.

A quality assessment checklist was formulated (Appendix 3) using criteria modified from the Critical Appraisal Skills Programme (CASP, 2013) for case control and cohort studies and by referring to the Quality Assessment of Studies of Diagnostic Accuracy Included in Systematic Reviews (QUADAS, 2003) protocol. Key variables such as the quality of the aims and hypotheses of the study, validity and reliability of the measures utilised, quality of the outcome information, statistical analyses, elimination of bias, reliability and applicability of findings and limitations to the study were assessed using this protocol. Each item on the quality assessment form was appraised using a three-point scale. A score of two was given if the item was present, a score of one was given if the item was partially present and a score of zero if the item was not present. Where there was insufficient information or the item was not applicable, a rating of 'unclear' or 'not applicable' was given; there was no numerical value attached to this score. Following this, an overall quality score was obtained by adding the scores for each item, with a total possible score of 42.

Scores were subsequently converted into percentages and each paper was accorded an individual percentage score. As there do not appear to be any standardised guidance in relation to appropriate benchmark cut-off scores for quality assessment, all articles with a quality assessment score of 50% or above were considered of a good standard. All the remaining six studies met this threshold (see Table 3 on page 77).

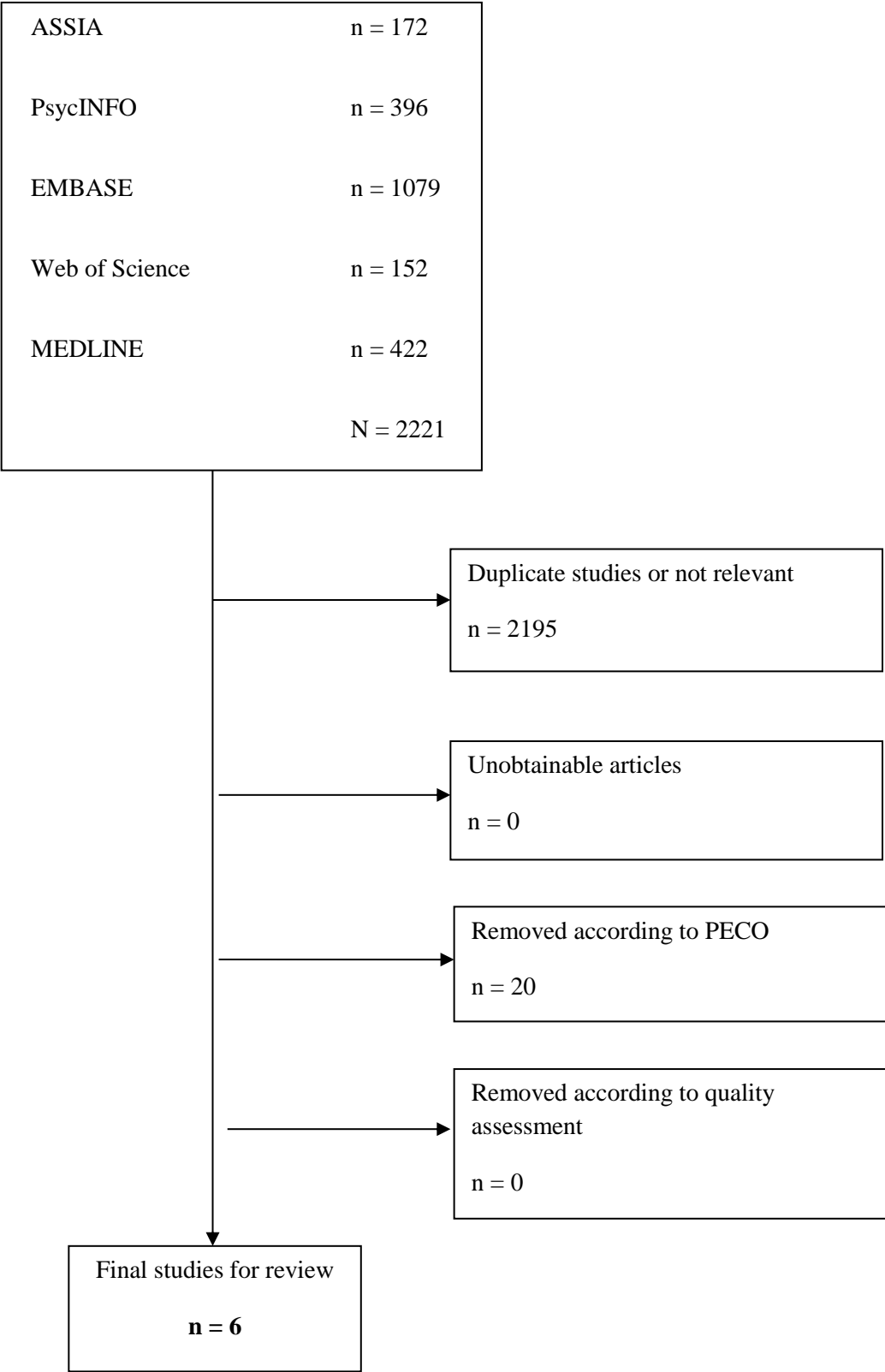
## **Data Extraction**

A data extraction proforma, designed by the researcher was used to extract relevant information from the remaining articles (see Appendix 4). The following information was included on the form:

- Study details
- Re-verification of applicability to PECO criteria
- Population information, such as eligibility, target population and recruitment procedures
- Sample characteristics
- Exposure to child maltreatment and whether this was assessed using a structured assessment
- Outcome data in terms of what was measured post exposure and the findings, whether validated assessments were utilised, drop-out rates and reasons for this
- Statistical analyses and the assessment of confounding variables
- Overall clarity of the report
- Number of unclear assessment responses
- Overall study quality

The form allowed a strategic and consistent approach to assessing information, thus permitting the researcher to take an unbiased approach when appraising the findings. The information was subsequently synthesized and has been presented in Table 4 on page 78.

Figure 1: Study Selection Process



## Results

The initial literature search of the electronic databases resulted in 2221 hits of which 2195 were either duplicates or irrelevant. There were no unobtainable articles and the remaining 26 articles were subject to further scrutiny utilising the inclusion/exclusion criteria (Table 2). Based on this criteria, a further 20 articles were removed. All remaining six articles fulfilled the PECO and were subsequently subject to quality assessment using a pre-prepared quality assessment form (Appendix 3). The quality scores ranged from 52.4% (Futa, Nash, Hansen & Garbin, 2003) to 69% (Limke, Showers & Ziegler-Hill, 2010). The differences between these scores are noticeable and were primarily due to the differences in selection and sampling bias between the two studies. The process of study selection is outlined in Figure 1 and displays how many studies were excluded at each stage of the review process.

### **Descriptive Data Synthesis**

The quality assessment (Table 2) and data extraction process (Table 3) allowed for a systematic and standardised comparison process of both the homogenous and heterogeneous aspects between each of the included studies. An understanding of each study's characteristics and quality was therefore achieved in this way.

*Table 3: Quality Assessment of Included Studies*

<b>STUDY AND SCORE TOTAL</b>	<b>INITIAL SCREENING (4)</b>	<b>STUDY DESIGN (4)</b>	<b>SELECTION &amp; SAMPLING BIAS (10)</b>	<b>MEASUREMENT &amp; DETECTION BIAS (6)</b>	<b>ATTRITION BIAS (6)</b>	<b>STATISTICS &amp; RESULTS (8)</b>	<b>APPLICABILITY OF FINDINGS (4)</b>	<b>QUALITY SCORE (42)</b>
Banyard & Cantor (2004)	<b>4 (100%)</b>	<b>4 (100%)</b>	<b>4 (40%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>5 (62.5%)</b>	<b>0 (0%)</b>	<b>54.8%</b>
Campbell-Sills, Cohan & Stein (2006)	<b>4 (100%)</b>	<b>4 (100%)</b>	<b>5 (50%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>6 (75%)</b>	<b>0 (0%)</b>	<b>59.5%</b>
Futa, Nash, Hansen & Garbin, (2003)	<b>3 (75%)</b>	<b>4 (100%)</b>	<b>3 (30%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>6 (75%)</b>	<b>0 (0%)</b>	<b>52.4%</b>
Limke, Showers & Ziegler-Hill (2010)	<b>3 (75%)</b>	<b>4 (100%)</b>	<b>8 (80%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>8 (100%)</b>	<b>0 (0%)</b>	<b>69%</b>
O'Dougherty Wright, Fopma-Loy & Fischer (2005)	<b>4 (100%)</b>	<b>4 (100%)</b>	<b>3 (30%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>6 (75%)</b>	<b>0 (0%)</b>	<b>57.1%</b>
Walsh, Blaustein, Knight, Spinazzola & van der Kolk (2007)	<b>4 (100%)</b>	<b>4 (100%)</b>	<b>3 (30%)</b>	<b>6 (100%)</b>	<b>0 (0%)</b>	<b>6 (75%)</b>	<b>0 (0%)</b>	<b>57.1%</b>

Table 4: Data Synthesis for Included Studies

Authors/Years Study Type Country of Origin	Aims and Hypotheses	Sample Characteristics/ Attrition rates	Valid/Standardised outcome measure	Statistical Analysis/Outcomes found
Banyard & Cantor (2004)  Cross-sectional  USA	<p>To examine the role of intra and interpersonal variables in predicting variance in positive adjustment to college among survivors of traumatic stress.</p> <p>Hypothesised that:</p> <p>Students who had a history of exposure to traumatic stressors, internal locus of control, fewer avoidant coping strategies, positive attachment to parents and peers, greater perceived social support, and the ability to make some positive meaning from the trauma would be related to greater resilience.</p>	<p>N= 367</p> <p>F= 80.4%</p> <p>M= 19.6%</p> <p>University students sample</p> <p>Mean age – 18.2 years</p> <p>No attrition rate details</p>	<p>All participants completed the same standardised measures</p> <p>Stressful Life Events Screening Questionnaire</p> <p>Student Adaptation to College Questionnaire (measuring academic, social and personal adjustment)</p> <p>Scales of Psychological Well-being</p> <p>Ways of Coping Questionnaire</p> <p>Index of Resilient Functioning (as calculated by the authors using subscales from the SACQ, Ways of coping and Scales of Psychological Well-being Questionnaire)</p>	<p>MANOVAs, bivariate and multiple regression methods.</p> <p>Of the types of trauma, physical abuse was significantly correlated with resilience (higher resilience among those who did not experience physical abuse in childhood). Greater resilience related to higher levels of reported meaning making, higher maternal and peer attachment, lower external locus of control and higher satisfaction with social support.</p> <p>Internal locus of control, higher levels of social support and meaning making about traumatic events were linked to positive adjustment.</p> <p>Trauma survivors with greater levels of attachment to family and friends and who see social support to be present and beneficial at greater levels are more resilient as they enter college. Individuals with lower levels of social support or lower attachment to parents and friends are less resilient.</p> <p>Women who are survivors of trauma use coping mechanisms and social supports in different ways to males, allowing them to easily adjust, respond quicker. Locus of control and social</p>



			Inventory of Parent and Peer Attachment  Social Support Questionnaire  Internal-External Locus of Control  Post-Traumatic Growth Inventory	support key for both males and females in sample.  Women report higher levels of personal growth, purpose in life, peer attachment and better perceived social support in the aftermath of trauma compared to males.
Campbell-Sills, Cohan & Stein (2006)  Cross-sectional  USA	To enhance the understanding of the relationship of resilience in young adulthood with personality traits, coping styles and psychiatric symptoms.  Hypothesised that:  1) Resilience would demonstrate meaningful relationships to Costa and McCrae's (1992) five-factor model personality constructs.  2) Coping styles would contribute to resilience.  3) Resilience would moderate	N= 132  F= 72%  M= 28%  University students sample  Mean age – 18 years  No attrition rate details	All participants completed the same standardised measures  Connor Davidson Resilience Scale (CD-RISC)  NEO Five Factor Inventory (NEO-FFI)  Coping Inventory for Stressful Situations: Short Form (CISS-SF)  Childhood Trauma Questionnaire: Short Form (CTQ-SF)  Brief Symptom Inventory 18	Correlational and multiple regression methods.  Correlations of resilience with neuroticism, extraversion, conscientiousness, openness and agreeableness.  Regression co-efficients show both task-oriented coping and emotion –oriented coping contributed significantly to the prediction of resilience.  Individuals reporting significant emotional neglect and low resilience are highly symptomatic and those reporting high resilience are virtually asymptomatic.  Conscientiousness and task-oriented coping demonstrated a positive relationship to resilience.  Convergent and discriminant validity of CD-RISC also supported by results of current study.

	the relationship between retrospective reports of childhood trauma and psychiatric symptoms		(BSI)  Resilience was measured at the individual level only	
Futa, Nash, Hansen & Garbin, (2003)  Cross-sectional  USA	To examine how adults with and without an abuse history are currently coping with memories associated with the abuse or other childhood stressors, as well as whether a history of abuse affects the ways women cope with current stressors. The relationship among abuse history, coping mechanisms and psychological adjustment were also explored.  No hypotheses stated	N= 196 females  University students sample  Mean age – 19.2 years  No attrition rate details	All participants completed the same standardised measures  Childhood Experiences Form  Assessment of Childhood Memories Form  Assessment of Recent Stressors Form  Ways of Coping Checklist-Revised  College Adjustment Scales  Perception of Childhood Experiences  Adaptation measure took into consideration external domains of functioning	Discriminant function analysis, multiple regression analysis and ANOVAs conducted.  Analysis of Variance indicated a difference between the two groups (abused and non-abused) on the CAS indicating poorer overall adjustment.  Multiple regression analyses final model included social support seeking, self-isolation, self-blame and wishful thinking as reliable contributors adjustment.  For the abused group, results found lower scores on the social support seeking and self-isolating and higher scores on self-blaming and wishful thinking when dealing with childhood memories. Higher scores on self-isolating tendencies when dealing with current stressors were predictive of poorer adjustment.  For no-abuse group, poorer adjustment was associated with higher scores on self-isolating and self-blaming when dealing with childhood memories and higher scores on emphasising the positive and wishful thinking when dealing with current

				<p>stressors.</p> <p>Those with physical and sexual abuse history used a wider range of coping strategies than those with a single abuse type or without an abuse history.</p>
<p>Limke, Showers &amp; Ziegler-Hill (2010)</p> <p>Case control study</p> <p>USA</p>	<p>To examine the mediational effects of anxious and avoidant attachment in a sample of college students who reported histories of childhood emotional and/or sexual maltreatment compared to a control group in order to determine the exact role of attachment in the link between childhood maltreatment and long-term psychological consequences.</p>	<p>N= 356</p> <p>Emotionally maltreated</p> <p>M= 34%</p> <p>F= 66%</p> <p>Sexually maltreated</p> <p>F= 100%</p> <p>College students</p> <p>1,457 students, 791 invited to participate, 356 actually attended the laboratory sessions</p>	<p>All participants completed the same standardised measures in a laboratory session</p> <p>Life Experiences Questionnaire</p> <p>Scales of Psychological Well-being</p> <p>Ways of Coping Scale</p> <p>Beck Depression Inventory</p> <p>Defense Styles Questionnaire</p> <p>Symptom Checklist-90</p> <p>Simpson's Attachment Questionnaire</p> <p>Resilience measured at the individual level only.</p>	<p>MANOVA and mediational analysis.</p> <p>For emotional maltreatment -anxious attachment was a significant mediator of maltreatment status effects for environmental mastery, positive relations with others, purpose in life, self-acceptance, total well-being, negative affectivity, maladaptive defences, splitting and the global severity index.</p> <p>For sexual maltreatment – anxious attachment was also a significant mediator of maltreatment status effects for environmental mastery, positive relations with others, self-acceptance and negative affectivity but not for maladaptive defences or global severity index.</p> <p>Emotionally and sexually maltreated individuals similar in their self-reports of insecure attachments on both anxious and avoidant dimensions.</p> <p>Adjustment deficits of emotionally and sexually maltreated samples were similar except for the prevalence of emotion-focused coping in emotionally maltreated individuals.</p> <p>Both maltreated groups showed combination of elevated</p>

				negative coping strategies and no deficit for positive coping strategies suggesting maltreated individuals know a wide range of coping skills; this may be dependent on different environments
O'Dougherty Wright, Fopma-Loy & Fischer (2005)  Cross-sectional  USA	To assess resilience in a community sample of mothers (CSA survivors) across multiple domains of functioning.  Hypothesised:  1) significant but moderate relationships among various domains of functioning  2) older current age and higher SES were hypothesised to be associated with more positive adaptation across domains of resilience  3) reliance on avoidant coping was predicted to be negatively associated with resilience and mediate the relationship between severity of sexual	N= 79  F= 100%  Mothers with experience of CSA  Mean age – 38.2 years  118 eligible women requested questionnaire and 79 completed and returned them representing a 67% return rate	All participants completed the same standardised measures  Child Sexual Abuse Severity Rating  Coping Strategy Indicator  Centre of Epidemiologic Studies – Depression Scale  Marital Satisfaction  Parenting Stress Index  Resilience measured across different domains	Hierarchical regression analysis, bivariate analysis.  81.9% were classified as resilient in at least one domain; 20.5% were classified as resilient in all four domains.  Use of avoidant coping as a strategy to deal with current abuse-related stress most strongly and consistently associated with negative outcome across all the examined domains.  Neither problem-solving coping or seeking social support was significantly associated with outcome in any domain.

	abuse and outcome			
Walsh, Blaustein, Knight, Spinazzola & van der Kolk (2007)  Cross-sectional  USA	<p>To investigate associations between Child Sexual Abuse, self-efficacy, LOC, coping styles and re-victimisation experiences.</p> <p>Hypothesised:</p> <p>1) a significant positive association between a history of CSA and adulthood sexual assault</p> <p>2) a significant negative association between cognitive/coping variables such as internal LOC, positive coping styles and high self-efficacy and adult assault</p> <p>3) cognitive and coping variables will be differentially related to adult assault based on tactics used by the perpetrator.</p>	<p>N= 73</p> <p>F= 100%</p> <p>College students sample</p> <p>Mean age – 20.4 years</p> <p>No attrition rate details</p>	<p>All participants completed the same standardised measures</p> <p>Childhood Trauma Questionnaire (CTQ)</p> <p>Adult Sexual Experiences Measure</p> <p>Ways of Coping – Revised (WOC-R)</p> <p>Internality, Powerful Others, Chance (IPC) Scale</p> <p>Generalised Self-Efficacy Scale (GSS)</p> <p>Adaptation measured at the individual level only</p>	<p>Chi-square, MANOVA, ANOVA, logistic regression.</p> <p>Self-efficacy, use of positive coping skills and LOC differed in women with and without adult sexual victimisation experiences.</p> <p>Univariate analysis indicated that women reporting coerced assault experiences report lower internal LOC, lower levels of positive coping and lower self-efficacy compared to non-coerced females.</p> <p>Cognitive variables such as coping styles, LOC and self-efficacy differ in women with and without adult assault experiences.</p> <p>Low internal LOC and low positive coping were highly associated with coerced victimisation experiences.</p>

## **Study Samples and Characteristics**

Of the six studies, five utilised a college/university student sample with mean ages ranging between 18-20 years of age. One study (O'Dougherty Wright, Fopma-Loy, & Fischer, 2005) used mothers who had a mean age of 38 years. All of the studies were conducted in the United States of America; there were no samples from the United Kingdom. Both genders were recruited for three studies (Banyard & Cantor, 2004; Campbell-Sills, Cohan, & Stein, 2006; Limke, Showers, & Ziegler-Hill, 2010), although females made up a significant proportion of the mixed sample. Only females were recruited for the remaining three studies (Futa, Nash, Hansen, & Garbin, 2003; O'Dougherty et al., 2005; Walsh, Blaunstein, Knight, Spinazzola, & van der Kolk, 2007). In relation to ethnicity, in four of the six studies, White/Caucasian made up over 90% of the research population. In two studies (Campbell-Sills et al., 2006; Walsh et al., 2007), White/Caucasian participants made up approximately 60-65% of the sample. The remainder of the samples consisted of small percentages of other minority ethnic groups such as Asian American, African American, Latino/Hispanic, Filipino and mixed ethnicities.

The cumulative sample size for all six studies was 1,203. The number of participants per study varied from 73 (Walsh et al., 2007) to 356 (Limke et al., 2010). Generally, sample sizes were relatively small and were primarily convenience samples recruited from university or college populations. There were no studies that conducted power calculations to determine the appropriateness of their sample sizes. All the studies, did, however note their sample size/make up as a limitation when considering the generalisability of their findings. Furthermore, details surrounding attrition rates were not reported in any of the studies.

## **Assessment of Child Maltreatment**

Participants in all of the studies that were reviewed reported retrospective experiences of child maltreatment. Maltreatment included physical abuse, emotional/psychological abuse, sexual abuse and neglect. The assessment measures used to capture information relating to child maltreatment varied among studies. For example, different assessments measured different forms and experiences of abuse and, thus, this is likely to have impacted upon the type of information gleaned from participants as well as subsequent interpretation. One study (Banyard & Cantor, 2004) also explored wider traumatic experiences in addition to child maltreatment. The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) and the Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003) were utilised for two studies. Both questionnaires assess five types of childhood trauma; emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse.

Other measures employed included; the Childhood Experiences Form which is a modified version of the Conflicts Tactics and History of Victimization form used by Malinosky-Rummell (1992), who compiled the form from the works of Badgley et al. (1984), Roscoe and Benaske (1985), Straus (1979) and Wolfe, Wolfe, Gentile, and Bordeau (1987). It requires self-report of both sexual and physical abuse. The Stressful Life Events Screening Questionnaire (Goodman, Corcoran, Turner, Yuan, & Green, 1998) was used and asks about exposure to a variety of stressful events often categorised as traumatic, including reporting of actual and attempted sexual abuse and reported physical abuse. The Life Experiences Questionnaire (LEQ; Gibb et al., 2001) is a self-report measure of childhood emotional and sexual maltreatment. The Child Sexual Abuse Severity Rating was the only author developed measure (O'Dougherty

Wright et al., 2005). It used a number of structured and semi-structured items to elicit the abusive history.

### **Conceptualisation and Assessment of Resilience**

The difficulties conceptualising the operational definition of resilience in child maltreatment research have been noted in the wider literature (Luthar et al, 2000; Walsh et al., 2010). In order to limit the same idiosyncratic approaches to conceptualisation, this review did not include studies that only measured the absence of psychopathology as the sole indicator of adaptation or psychological adjustment (where there was no reference to the resilience literature). However, terms such as ‘resilience’, ‘resiliency factors’ and ‘psychological adjustment’ were all used in various ways within the studies. As a result of definitional confusion, the assessment of resilience also varied between studies. For example, some studies have used a battery of scales that the researchers judge as being appropriate to tap into facets of resilience and positive adaptation (such as self-efficacy, autonomy, locus of control etc.) and some employed measures of adjustment in different domains of functioning to explore resilience.

Only one study (Campbell-Sills et al., 2006) utilised an existing resilience measure; as described in chapter two, the Connor Davidson Resilience Scale (CD-RISC; Conner & Davidson, 2003) measures an individual’s ability to cope with stress and adversity. Banyard and Cantor (2004) employed the Scales of Psychological Well-Being measure which assesses aspects such as autonomy, environmental mastery, positive relationships with others, personal growth, purpose in life and self-acceptance. As part of a battery of scales to measure positive adaptation, they also reported developing an index of resilient functioning compiled by performing a median split for three subscales of the Student



Adaptation to Questionnaire (SACQ), five of the subscales of the scales of psychological well-being questionnaire and the escape avoidance subscale of the ways of coping questionnaire; they also utilised an internal-external locus of control scale and a post-traumatic growth inventory.

In measuring psychological adjustment in the context of the resilience literature, Limke et al. (2010) utilised a battery of assessments that were sensitive to the positive aspects of adjustment as well as those assessing pathological symptoms. Walsh et al. (2007) defined resiliency factors as self-efficacy, positive coping and locus of control on the basis of their association to victims of child sexual abuse. They reported using the Generalised Self-Efficacy Scale (GSS; Schwarzer & Jerusalem, 1993) described by the authors as being based on the construct of Perceived Self-Efficacy where individuals believe they are able to cope with adversity and recover from set-backs. In addition, they also used the Internality, Powerful others and Chance (IPC) scale to measure locus of control.

Futa et al. (2003) opted to utilise the College Adjustment Scale (CAS; Anton & Reed, 1990) as the best measure for their new entry college population. This measure consists of a self-report inventory to measure overall adjustment as well as adjustment on nine specific scales: anxiety, depression, suicidal ideation, substance abuse, self-esteem problems, interpersonal problems, family problems, academic problems and career difficulties. Unlike other measures, this scale also took into consideration wider systemic factors such as familial, academic and career difficulties. The authors used the total score on the CAS (overall adjustment problems) to measure psychological adjustment in relation to abuse history and coping strategies; the nine adjustment scales

do not appear to have been calculated separately which limits individual consideration of other domains of adjustment.

In their study, O'Dougherty Wright et al. (2005) reported assessing resilience across multiple domains of functioning, such as the intrapersonal domain, interpersonal domain and intrafamilial domain. Four domains of resilience were assessed employing different measures, such as absence of depressive symptoms, physical health status, perceived parental competence and marital satisfaction.

When considering the multiple domains of resilient functioning in these studies, three studies measured adaptation at an individual level focusing on internal factors (Campbell-Sills et al., 2006; Limke et al., 2010; Walsh et al., 2007) and three considered assessment of wider ecologies as well, such as family, peers, carers, relationships etc. (Banyard & Cantor, 2004; Futa et al., 2003; O'Dougherty Wright et al., 2005). However, whilst this was the case, only one study actually considered this data as part of the study aims and the remaining two did not analyse this information further. Therefore, limited conclusions can be drawn from these studies.

### **Conceptualisation and Assessment of Attachment**

Only two studies that were reviewed measured both attachment and resilience (Banyard & Cantor, 2004; Limke et al., 2010). Both studies acknowledged the relevance of assessing attachment following child maltreatment. However, they both conceptualised attachment differently and therefore varied in their methods of assessment. Banyard and Cantor (2004) did not assess for attachment styles and instead reported the degree of physical proximity to mother, father and peers amongst survivors of child maltreatment, using the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987).

Limke et al. (2010) assessed for the two dimensions of attachment: avoidant and anxious (versus secure) using Simpson's (1990) Attachment Questionnaire.

### **Conceptualisation and Assessment of Coping**

All of the studies that were reviewed assessed for coping styles and resilience. The studies appeared to describe coping processes in similar ways; primarily by acknowledging its reference to an individual's ability to respond to stressful situations using cognitive and behavioural strategies that may take problem-focused, emotion-focused or avoidant pathways. Four of the six studies reported employing the Ways of Coping Checklist- Revised (Folkman & Lazarus, 1988) (Banyard & Cantor, 2004; Futa et al., 2003; Limke et al., 2010; Walsh et al., 2007). This measure assesses the individual's coping responses to a recent stressful situation based on a 66 item checklist. The scale aims to differentiate between problem and emotion focused coping responses. In their study, Campbell-Sills et al (2006) utilised the Coping Inventory for Stressful Situations: Short Form (CISS-SF: Endler & Parker, 1999). This self-report inventory measures task, emotion and avoidance oriented coping.

### **Effects of Attachment and/or Coping upon Resilience**

As discussed earlier, there was disparity in the approaches used to measure resilience amongst the studies and apart from one study no others used existing measures of resilience. Whilst attachment, coping and resilience were assessed in two of the six studies, direct relationships between the three were not investigated. This may have been due to the fact that the studies did not aim to explicitly explore these links or that the presence of other variables and the use of varied measures did not allow for this.

Of the two studies that explored the concepts of attachment and resilience, only one (Limke et al., 2010) assessed attachment styles and found that an anxious attachment style predicted poor psychological adjustment and played a mediational role. This mediation was complete with sexually maltreated individuals reducing maltreatment effects on adjustment to zero, but not so complete with emotionally maltreated individuals suggesting that a proportion of adjustment for this population remained unexplained. The authors postulated that variance in the psychological adjustment of emotionally maltreated individuals may not be attributed to attachment, but may be explained by a negative cognitive style; this idea was not discussed further.

All of the studies explored coping in a maltreated population and generally commented upon the use of coping strategies in such a population. Whilst the impact of coping on resilience was investigated, this was limited and was affected by the assessment of other variables. For example, within their sample, Campbell-Sills et al. (2006) also explored personality traits and found that task-oriented coping was positively associated with resilience in conscientious individuals. They reported that an active problem-solving approach which incorporates a 'flexible' thinking style, as a result of positive affect, may assist towards increasing the personal resources of extraverted individuals during times of adversity (Campbell-Sills et al., 2006).

In their study, Futa et al. (2003) were interested in the relationship between adjustment and coping strategies and whether this differed between abused and non-abused women. They found that women with an abuse history used different coping strategies to non-abused women that were predictive of poorer adult adjustment. These tended to include low social support seeking and higher self-blaming and wishful thinking when dealing with childhood memories. O'Dougherty Wright et al. (2005) found that an avoidant

coping strategy was used to deal with current abuse-related stress in their sample and was most strongly associated with negative outcome across all the examined domains. Neither problem-solving coping nor seeking social support was significantly associated with outcome in any domain (O'Dougherty-Wright et al., 2005). They recommended that further research is conducted into coping strategies to identify which effectively promote resilience. Due to the mixed assessment and conceptualisation approaches utilised in the studies, the effects of attachment and coping upon resilience still remains unclear.

## Discussion

### **Key Findings of the Review**

This systematic literature review aimed to explore the effects of attachment and/or coping on resilience following child maltreatment. Six studies met the inclusion criteria for the review and were quality assessed for their suitability. Upon completing the descriptive data synthesis of these studies, it was found that whilst two studies measured attachment, coping and resilience, neither explicitly explored the effects of attachment and/or coping upon resilience. Therefore, there is a significant lack of empirical research investigating the specific links between these variables and their impact upon each other. Adaptive (as opposed to maladaptive) attachment and coping styles are deemed as protective factors in the process of resilience with a maltreated population, yet research into these inter-relationships is scarce as demonstrated by this review. Paucity of research in this area may be due to how resilience is conceptualised; this confusion was reflected in this review. Furthermore, only six studies were examined as

part of this systematic literature review process and therefore any conclusions drawn are done so with caution.

Consistent with the wider literature (Briere & Scott, 2006; Gipple, Lee, & Puig, 2006; Leitenberg, Gibson, & Novy, 2004; Shapiro & Levendosky, 1999), the studies found a trend towards lower positive coping and higher emotion-focused and avoidant coping among victims of abusive experiences. However, whilst it may be the case that maltreated groups show elevated negative coping styles, Limke et al. (2010) also found that they did not display a deficit of positive coping strategies. As a result, they postulated that maltreated individuals may know a wide range of coping skills, although their ability to apply this may be dependent on different environments. Likewise, Futa et al. (2003) made a salient finding that individuals with both physical and sexual abuse histories used a wider range of coping strategies than those with a history of a single abuse type or no abuse history at all. They hypothesised that the combined trauma of two abuse types might require increased and varied use of coping strategies. Banyard and Cantor (2004) also reported that female victims of abuse may use coping mechanisms and social supports in different ways compared to males. In their sample, they found that females appeared more resourceful with social supports in place to deal with their trauma and this allowed them to adapt to their university environment more quickly. Walsh et al. (2007) reported that many women with child sexual abuse histories are not revictimised in adulthood and hypothesised that just as cognitive factors and particular coping styles may enhance vulnerability to revictimisation, positive coping strategies may serve a protective function to revictimisation.

Amongst the studies, only two explored attachment with maltreated samples and measured them quite differently. Banyard and Cantor (2004) did not measure

attachment styles but reported that trauma survivors with greater levels of proximity and attachment to family and friends who were seen as social support were more resilient as they entered college. In comparison, Limke et al. (2010) investigated insecure attachment styles. Their results revealed that emotionally and sexually maltreated individuals were similar in their self-report of insecure attachments on both anxious and avoidant dimensions, scoring higher than their non-maltreated counterparts.

### **Interpretation of the Findings**

Due to the disparity in the conceptualisation and measurement of key concepts in this review, particularly, resilience, attachment and child maltreatment, and the lack of explicit exploration between attachment styles, coping styles and resilience, it is difficult to draw conclusions about these inter-relationships. Whilst conclusions should be interpreted with caution, this review goes some way towards highlighting the relevance of coping and attachment on resilience. There appears to be evidence to suggest a link between individuals who experience child maltreatment and their development of poorer coping strategies and insecure attachment styles, which in some cases effects psychological adjustment.

The wider literature has explored the links between attachment and coping styles in a maltreated population (Crittenden, 1992; Shapiro & Levendosky, 1999). Crittenden (1992) proposed that the construct of representational models may explain both the development of coping strategies used by children as well as provide a basis for understanding the coherence of behavioural inconsistencies across different situations. She found support for her hypothesis that through experiences with neglectful or abusive parents, children may develop maladaptive coping strategies. Whilst certain

strategies serve a function in the short-term, such as protecting the child in an adverse environment, the longer term consequence may mean that the internal working model is not modified. Therefore, Crittenden (1992) observes that some coping strategies become problematic as the individual carries the internal representations into later life and interpersonal relationships. Given this link, further research is necessary to explore the relationship between both constructs and how they impact upon resilient functioning.

The deleterious effects of child maltreatment have been widely reported in the literature, as have resilient outcomes within this population (Zolkoski & Bullock, 2012). Masten (2001) asserts that individuals possess the basic mechanisms required for positive adaptation. Development in the face of adversity is based upon the strengths of the systems around a child. Should these be compromised before or following a challenge, the risks of further difficulties are likely to be increased. As a result, there has been some focus towards examining resilient outcomes across the various systems that embed the individual. Exploration of risk and protective factors within these domains has been widely reported (Alvord & Grados, 2005; Benzies & Mychasiuk, 2009; Fergus & Zimmerman, 2005; Martinez-Torteya, Bogat, von Eye, & Levendosky, 2009). Resilience is optimised when protective factors are strengthened at each level of the socio-ecological model (Benzies & Mychasiuk, 2009). Ungar (2012) proposed that resilience be assessed as both the quality of the interaction between the child and the child's environment and the competence of each side of the individual x environment equation to ensure well-being. An appropriately resourced environment allows for the child's motivation and characteristics to contribute towards successful outcomes.



Studies in relation to coping suggest that whilst there is a tendency for this population to be attracted to using emotion-focused coping as a way of managing their distress, there is also evidence that individuals who experience child maltreatment may still possess positive coping strategies, their application of which may be affected by the environmental determinants around them (Limke et al. 2010). Thus, it would seem that early intervention focused on enhancing an individual's self-efficacy, self-confidence and resourcefulness would provide them with the opportunity to develop flexible coping strategies that can be enabled under a variety of circumstances and settings. In order to do so, understanding the influence that coping (and attachment) have on the interactions between systems is critical. To this end, further exploration of these concepts under the socio-ecological framework is required, particularly in relation to the availability and stability of positive resources across an individual's ecology.

In addition, another salient finding related to individuals who experienced more than one abuse type are able to use a wider range of coping styles compared to those with a history of single abuse type or no abuse history (Futa et al., 2003). This finding suggests that experience of maltreatment may not affect the development of positive/flexible coping styles, however, the decision to apply emotion-focused coping may be influenced by personality or attachment styles, often as a means of attracting attention to their distress if required. It is possible that individuals with certain personality types and attachments styles are pre-disposed to a particular way of coping than others which maybe further exacerbated by the influence of systemic interactions around them. Further understanding of this relationship would be of benefit.

Understanding the impact and role of gender differences might also allow for a more individualised approach to enhancing coping and resilience factors. Banyard and Cantor

(2004) reported how female victims of abuse may differ in their use of coping mechanisms and social supports compared to males. Thus, females may possibly demonstrate elevated levels of resourcefulness and self-efficacy compared to males that might enable them to adapt to different life stages more confidently. The concept of pre-disposition compared to development between genders within this context requires further exploration.

It is difficult to make conclusive comments in relation to attachment. However, research points to the development of secure attachment styles being associated with increased resilience. Physically, positive attachment to family and friends and increased social support lends itself to greater resilient outcomes compared to poor attachments and low social support (Banyard & Cantor, 2004). Again, the impact of different attachment and coping styles may be influenced by the abuse type experienced. Thus, the interplay between personality, attachment, coping, gender, maltreatment types and resilience represent significant areas of further research in order to be able to draw more accurate and conclusive findings.

### **Strengths and Limitations**

This review employed a thorough systematic review process that allowed for the most relevant studies to be considered and included. Comprehensive search strategies were selected and a pre-defined inclusion criterion was applied so that only those studies that were relevant to the area of interest were sourced and selected. The quality assessment tool formulated according to the study design ensured that only those studies that were of a good quality were included in the review. Using a pre-designed protocol, the data extraction process ensured consistency in the type of data extracted from each study.

This allowed the reviewer to objectively glean information and draw comparisons as required.

Notwithstanding the positive elements of this review process, methodological limitations were inevitably present. A significant limitation was that only six studies were reviewed as part of this process. The time constraints of this review meant that non-English articles and unpublished research papers were not included in this review, introducing the possible presence of publication bias.

In relation to the studies that were examined in this review, several limitations can be observed. Firstly, weaknesses were identified with the study population and characteristics. All of the studies were conducted in the USA, and primarily with a young college/university sample. Therefore, it is difficult to generalise these findings to a general UK population or to a younger or older age group. In addition, females and White/Caucasian ethnicity made up the majority of samples, again limiting the cultural generalizability of results.

Second, limitations were recognised in the conceptualisation of the key concepts explored, particularly resilience. Variation in definitions amongst studies created difficulties for the reviewer to ascertain whether the same concept was being measured across the different studies and to what extent internal and external adaptation or both were being explored. The broad use of terms and measures used to explore resilience created confusion and continues to reflect the wider discussion surrounding the measurement of resilience with this population (Walsh et al., 2010). Masten and O'Dougherty Wright (2010) report the lack of informative data on the issue of multiple domains of adaptation. Existing research is limited by the extent to which multiple

domains have been adequately assessed within a particular culture and across diverse cultures. These limitations prevent us from understanding the extent to which various aspects of adaptation are potentially influenced by differing stressors. Whilst adaptation questionnaires in one study (Futa et al., 2003) explored wider influences such as careers, families and relationships, unfortunately, the findings for these specific domains were not reported.

Third, the assessment of child maltreatment varied between the studies. Each measure differed in its assessment of forms of child maltreatment and experiences; some measured them all, others measured specific types in isolation. Other wider forms of trauma were also measured as part of some of the assessments and therefore, it is difficult to differentiate in these studies, the impact of child maltreatment types alone. As a result of these differences, it is difficult to know whether the same sample type was being assessed.

Finally, in terms of the study designs, a cross-sectional design was used in five out of the six studies. As a result, the relationships discussed within the studies cannot be assumed to be causal in nature. Nevertheless, the studies included in this review were considered to be reasonably methodologically sound based on the quality assessment process. All of the studies relied on a retrospective and self-reporting approach. Retrospective reporting is reliant upon accurate memory recall and can be affected by the passage of time and events that have occurred since the incident/s (Heller et al. 1999). Employing a retrospective approach is typically relied upon when examining past victimisation experiences; future studies could aim to eliminate such bias by adopting a longitudinal design. The studies in this review also employed self-reporting as the principal method of information gathering, primarily through the use of

psychometric measures or questionnaires developed by researchers. As a result, factors such as the accuracy of participant self-report, a potential tendency to minimise current difficulties and past events (as a result of poor self-awareness or social desirability) may have influenced the final results. Therefore, the reliability of participant self-reports should be considered when interpreting the findings of such studies. Attrition rates were also not reported in the studies and consequently, it was difficult to establish how information relating to drop-outs had been managed.

### **Applicability of Findings and Implications for Practice**

Unfortunately, the applicability of the findings of this review are limited due to the small sample sizes employed from a college or university setting with a bias towards young female adults (aged 18-20 years). Outside of one study that recruited mothers who were survivors of child sexual abuse (O'Dougherty Wright et al., 2005), others utilised convenience samples and all were based within the USA. Cultural variability has also not been explored sufficiently and hence, these differences require further exploration. The limitations surrounding applicability of findings was highlighted during the quality assessment process and all studies report their sample characteristics as limitations. Thus, the generalizability of these findings to a United Kingdom population should be considered with caution.

The effects of attachment and/or coping upon resilience were not explicitly explored and therefore conclusions cannot be drawn. The findings of studies that measured either attachment or coping in relation to resilience were limited. However, the conclusions in respect of coping within a maltreated population were noteworthy as already highlighted. These studies reinforced findings in relation to the wider literature

suggesting that individuals with a history of child maltreatment tend to endorse emotion-focused and avoidant coping styles. However, there is also an argument that suggests that despite their tendency to adopt less positive coping strategies, that they may also possess the skills to apply problem-focused and active coping approaches, the application of which may be inhibited by environmental influences.

As a result, practical implications of the findings of the current review suggest that further research exploring the specific relationship between attachment and coping upon resilience outcomes is required. As the wider theoretical literature observes the interesting interplay between the concepts of attachment and coping, it would be useful to know whether one mediates, stabilises or destabilises the other, and how this can be translated when working with maltreated populations specifically in relation to developing resilience.

Interventions aimed at understanding attachment styles for this population can be gauged utilising psychological instruments at an individual level in order to understand internal working models. Interventions here might be aimed at increasing parent-child interactions by focusing parental understanding of building and enhancing attachment relationships with their children. Such work may be facilitated through family systemic interventions where relational schemas are explored. Increased practical advice surrounding creating and maintaining a warm, protective environment for children and adolescents through early intervention work appears to be crucial. Where parental deficits are identified (often as a result of their own parenting experiences), therapeutic interventions offering guidance and practical strategies to allow them to manage their own trauma/attachment relationships should be encouraged. This is also crucial in the wider context where Intimate partner violence may be a concern.

As well as bearing in mind risk factors that would impact upon attachment building in young people, clinicians and practitioners should also bear in mind consideration of the strengths in the wider ecology and how protective relationships can be formed and facilitated should child maltreatment be a concern. Building trusting relationships at different levels with extended family members, peers, teachers and trusted adults is crucial for the young person acting as a protective factor as discussed in chapter one.

Early interventions aimed at enhancing coping strategies and skills are critical in order to allow young people and adults to manage difficult circumstances in a positive way. For individuals, understanding what strategies they regularly use and in what context can allow caregivers and adults in their ecology to identify when these are being used and if necessary direct them to more constructive ways of coping. By providing the appropriate environment opportunities and through positive reinforcement, it is possible that past negative cycles of coping can be intervened.

### Conclusions and Recommendations

The conclusions of this systematic literature review highlight the requirement for more research into the role of attachment and coping and its impact upon resilient outcomes. Some notable findings in relation to coping in a maltreated population were observed and would benefit from further exploration. The quality assessment process highlighted the strengths and weaknesses of the studies. Key areas of strengths for all studies related to their well-defined study design and clear measurement and detection bias. However, limitations for all studies related to the selection and sampling methodology which was subsequently reflected in the applicability of the findings to a UK population. Future

research surrounding conceptualisation and measurement of child maltreatment and resilience is required. Consideration should also be given to ensuring that definitions regarding these concepts have been explicitly stated in order to inform the most appropriate and relevant assessment measures. Standardised measures based on their ability to capture a range of information that present an accurate picture of the key concepts should be utilised, as should consideration of evidencing resilient outcomes in different domains and at different developmental stages. Generalisability of findings should also be considered by ensuring a varied sample, taking into account cultural, age and gender related diversities.

Understanding the pathways between attachment, coping styles and resilience can have significant practical implications for young people/adults who are victims of abuse. A clearer conceptualisation of these issues is likely to lead to more strategic and considered interventions that take into account the individual's personal experiences and engages systemic support. Drawing upon the strengths and protective factors available to the individual from other domains rather than relying upon intrapersonal intervention is likely to have a more sustainable impact upon resilient outcomes for this population. Chapter four takes the findings of this review further by exploring explicitly the relationships between attachment, coping and resilience with a maltreated adult population.



## **Chapter Four**

### **THE IMPACT OF MULTIPLE MALTREATMENT EXPERIENCES ON ATTACHMENT, COPING AND RESILIENCE FOLLOWING CHILD MALTREATMENT**

## Abstract

A number of studies have documented the cumulative effects of various types of child maltreatment, with little empirical attention given to the interplay and effects of multiple maltreatment experiences (relating to number of abuse types, incidents of victimisation and number of perpetrators involved) particularly in relation to attachment patterns, coping styles and resilience. A community sample of 326 females participated in this study. Participants completed seven questionnaires via an on-line survey. Further information pertaining to resilience across multiple domains (i.e., years in education, employment, interpersonal relationships, absence of criminality and psychopathology) was also collected.

Ninety-eight per cent of the sample reported having experienced a form of maltreatment. Almost 85% reported multiple abuse types, 76% reported severe/very severe multiple victimisation incidents and 90% reported the involvement of multiple perpetrators. In relation to resilience, the sample mean score (52.78) on the Connor Davidson Resilience Scale was notably lower than that reported for the general population and other study groups and closer to the population 'PTSD after treatment' (Connor & Davidson, 2003). In comparison, 86% of the sample reported positive adjustment in three or more of the resilience domains.

A range of significant correlations were observed between a dismissing attachment pattern, the use of a cognitive avoidant coping style, a range of trauma symptomatology (endorsing PTSD symptoms), low personal self-esteem with resilient functioning and multiple maltreatment experiences. Despite limitations, clinically, the findings of this

study have implications for both policy makers and clinicians, identifying attachment and resilience as targets for intervention and prevention strategies.

## Introduction

The detrimental effects of child maltreatment have been investigated extensively. There is a sizeable body of literature exploring the relationship between types of child maltreatment and a variety of negative physical and mental health consequences including neurological, psychological, emotional, behavioural and social deficits (Cicchetti, 2013; Herrenkohl, Hong, Klika, Herrenkohl, & Russo, 2012; Hillberg, Hamilton-Giachritsis, & Dixon, 2011; Mills, Scott, Alati, O'Callaghan, Najman, & Strathearn, 2013; Norman, Byambaa, Butchart, Scott, & Vos, 2012; Shaffer, Huston, & Egeland, 2008; Widom, Czaja, Bentley, & Johnson, 2013). Existing research has primarily focused upon individual experiences of maltreatment without considering the wider impact of exposure to multiple forms of maltreatment experiences (i.e., the frequency of victimisation, the number of abuse types and the number of perpetrators involved).

More importantly, recent research has concluded that children exposed to one form of child maltreatment are at increased risk of experiencing multiple victimisations, abuse types and perpetrators, and that multiple maltreatment experiences are associated with poorer outcomes than single abuse experiences (Finkelhor, Ormrod, & Turner, 2007a,b,c; Ford, Elhai, Connor, & Frueh, 2010; Gilbert et al., 2009; Gustafsson, Nilsson, & Svedin, 2009; Higgins & McCabe, 2001). The focus upon resilience following the experience of trauma, and specifically child maltreatment has suggested

that individuals are able to adapt positively and display competence in functioning despite their experiences (Cicchetti, 2013; Klika & Herrenkohl, 2013). Characteristics such as above average intelligence, high self-esteem, active coping styles, social competence, optimism, secure attachment and adaptive functioning skills (Jaffee, Caspi, Moffitt, Polo-Thomas, & Taylor, 2007; Richardson, 2002; Schultz, Tharp-Taylor, Haviland, & Jaycox, 2009) have all been associated with positive adaptation in response to adversity. As identified in Chapter three, further research to understand the inter-relationships between these constructs is necessary, specifically the impact of attachment and coping upon resilience. In addition, there are few studies that have investigated the impact of *multiple* maltreatment experiences (i.e., frequency of victimisation, number of abuse types and the number of perpetrators involved) upon attachment patterns, coping styles and resilience. This chapter was designed to address these gaps in the literature.

## **Victimisation**

The concept of repeat or multiple victimisation has received surprisingly little exploration given its relevance to a variety of offending behaviour. Research by Farrell (1992) found that a small minority of individuals who are subject to repeat offending can account for a disproportionately large number of criminal victimisations (Farrell, 1992; Pease & Laycock, 1996). Research has identified that person-level (individual characteristics such as age, racial background, low socioeconomic status etc.) and place-level (such as location, leaving homes unoccupied for long periods of time, lifestyle etc.) factors are predictive of repeat or multiple victimisations in the context of general offending (Outlaw, Ruback, & Britt, 2002). The same can also be said of repeat or multiple victimisation in the form of child maltreatment.

Risk factors have been identified that are likely to make a young person at risk of child abuse and neglect on multiple occasions (Hamilton & Browne, 1998; Hamilton & Browne, 1999) with increased negative and enduring outcomes across psychological, behavioural and social domains of functioning (Edwards, Holden, Felitti, & Anda, 2003; Margolin, Vickerman, Oliver, & Gordis, 2010). Repeated maltreatment is likely to disrupt the normal developmental trajectory of the child (Cicchetti & Lynch, 1995). Risk factors include a violent adult in the house, parental history of abuse, adult with drug/alcohol dependency, mental illness, the child has physical and mental disabilities and so on (Freysteinsdóttir, 2004; Gilbert et al., 2009). Thus, investigating the concept of repeat victimisation is critical in order to explore risk and protective factors in the context of child maltreatment.

Hamilton and Browne (1998) point out that a number of abused children experience maltreatment on several occasions, rather than as isolated, one-off incidents. The literature base around sexual victimisation suggests that abuse in childhood increases an individual's vulnerability to further sexual abuse in adulthood (Hillberg et al., 2011; Mayall & Gold, 1995). In order to standardise operational definitions, Hamilton and Browne (1999) distinguished between the following:

*Table 5: Hamilton and Browne's (1999) description of terminology used.*

<b>Single victimisation</b>	A single incident of maltreatment involving only one perpetrator, which may be intrafamilial or extrafamilial.
<b>Multiple victimisation</b>	A single incident of maltreatment involving more than one perpetrator. The perpetrators may be family and /or non-family members.

<b>Repeat victimisation</b>	Maltreatment on more than one occasion by the same perpetrator(s). This may be intrafamilial or extrafamilial.
<b>Revictimisation</b>	Maltreatment on more than one occasion by different perpetrators. The initial perpetrator may be either a family or nonfamily member, as may subsequent perpetrators. Incidents of victimisation may move from intrafamilial to extrafamilial and vice-versa.

In relation to repeat and revictimisation patterns, Hamilton and Browne's (1998) UK study revealed that more than half of their sample experienced repeat victimisation (by the same perpetrator), one-quarter experienced revictimisation only, and 17.6% experienced both repeat victimisation and revictimisation. The authors at the time felt that the rates of repeat victimisation and revictimisation reported were likely to have been underestimated (Hamilton & Browne, 1999).

It is reported that individuals who experience victimisation in childhood are at increased vulnerability to revictimisation over the course of their life. The majority of this work has focused upon experiences of sexual abuse (Coid et al., 2001; Widom, Czaja, & Dutton, 2008); few studies have explored the links between physical abuse and revictimisation and even fewer have focused on childhood neglect and its impact upon subsequent victimisation. Research has shown that women with histories of physical and sexual victimisation are at increased risk of future victimisation (Classen, Palesh, & Aggarwal, 2005) and that they have reported subsequent sexual or physical victimisation at rates three to five times greater than females without such histories (Boney-McCoy & Finkelhor, 1995a; Gidycz, Coble, Latham & Latham, 1993; Noll, Horowitz, Bonanno, Tickett, & Putnam, 2003). Thus, it has been argued that sexual

victimisation during childhood is one of the strongest risk factors associated with continued victimisation in adolescence and young adulthood, particularly for females (Siegel & Williams, 2003; Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004). In comparison to a group of females who had not experienced childhood sexual victimisation, sexually abused females were almost twice as likely to have been physically and sexually re-victimised, further substantiating childhood sexual abuse as a risk factor for future victimisation (Barnes, Noll, Putnam, & Trickett, 2009).

Some children also experience multiple victimisation at home, at school and in the community. Finkelhor and colleagues have defined this group as ‘poly-victims’ (Finkelhor, Omrod, Turner, & Holt, 2009; Finkelhor, Omrod, & Turner, 2009). For the purposes of their research, Finkelhor et al. (2009) consider ‘poly-victims’ as those children who experienced four or more victimisation types within the past year. They further subdivided this category into ‘low poly-victims’ (experiencing four to six types) and ‘high poly-victims’ (seven or more types). Their definition encompasses the individual as having experienced multiple victimisations of different kinds, such as sexual abuse, physical abuse, bullying and exposure to family violence, rather than just multiple episodes of the same kind of victimisation, as this appears to highlight a more generalised vulnerability (Finkelhor, Turner, Hamby, & Omrod, 2011). Multiple victimisation may also be a sign that children are poorly supervised or socially isolated and therefore unprotected targets, have poor social interactional skills or a variety of pre-existing psychological and emotional difficulties (Finkelhor et al., 2009).

In summary, research suggests that children victimised in different ways and in different contexts might be more greatly affected than children repeatedly victimised by just one person or in just one context; as such multiply victimised children may also be the ones

most likely to experience less reversible impacts at the psychobiological level (Cohen, Perel, DeBellis, Friedman, & Putman, 2002).

### **Abuse Types**

Whilst empirical research has generally focused upon exploring adjustment problems associated with single maltreatment types in isolation, some individuals experience more than one form of child maltreatment (Freysteinsdóttir, 2004; Hughes, Parkinson & Vargo, 1989). Abuse types do not occur independently and maltreated individuals experience not only repeated episodes of one type of maltreatment, but are likely to be the victims of other forms of abuse or neglect (Higgins & McCabe, 2001). This has been referred to as ‘multi-type abuse’ (Higgins & McCabe, 2000) or ‘multiple victimisation’ (Rossman, Hughes, & Hanson, 1998). It is important to distinguish here that these definitions refer to more than one form of abuse type, not the number of victimisations an individual has experienced (as referred to by Hamilton & Browne, 1999). Higgins and McCabe (1998) define ‘multi-type abuse’ as the concurrent exposure of a child or adult to several types of maltreatment, including, sexual abuse, emotional (psychological) abuse, physical abuse, neglect and witnessing family violence. Individuals reporting a history of childhood sexual abuse were 2.0 to 3.4 times more likely to report experiencing physical abuse, psychological abuse and neglect (Dong, Anda, Dube, Giles & Felitti, 2003).

Research indicates that experiencing multiple types of maltreatment is positively associated with higher internalising (i.e., mental health difficulties, self-harm and suicidality) and externalising (i.e., substance misuse, challenging behaviours and criminal offending) trauma symptomatology (Clemmons, Walsh, DiLillo & Messman-



Moore, 2007; English, Graham, Litrownik, Everson, & Bangdiwala, 2005). The consequences of multiple abuse types are serious and less reversible than in cases of single abuse types (Higgins & McCabe, 2001; Finkelhor et al., 2007a,b,c; Finkelhor, Omrod, Turner, & Hamby, 2005). Edwards, Holden, Felitti and Anda (2003) also found a relationship between the number of different types of abuse experienced and the effects on mental health (i.e., the more types of abuse experienced, the more serious were the consequences).

In addition, research has found that adults reporting three to five forms of child maltreatment experienced higher trauma-related symptoms and lower self-esteem than did those reporting one or two types of abuse (Arata, Langhinrichsen-Rohling, Bowers, & O'Farrill-Swails, 2005; Higgins & McCabe, 2000). The effect of the co-morbidity of maltreatment types has received little attention. Wolfe and McGee (1994) explain that it is unclear whether the deleterious impact of multiple types of maltreatment is due to the number of different maltreatments or a specific combination of types.

### **Perpetrators**

In terms of the identity of perpetrators of child maltreatment, in the US Department of Health and Human Services' (2012) report entitled 'Child Maltreatment', 80.3% of perpetrators of child maltreatment were parents (of which 88.6% were biological parents, 4.1% were step-parents and 0.7% were adoptive parents); 6.1% were relatives other than parents; 4.2% were unmarried partners of parents and; 4.6% were classified as 'other'.

In relation to perpetrator-victim relationships in the UK, Hamilton and Browne (1999) found that the most frequent perpetrators were the child's father (33%), mother (32%)

and step-father or cohabitant (11%). From their data, they concluded that more than half of the children living with either fathers or stepfathers are at risk of maltreatment by them and a third of children were at risk from their mothers. Overall, they found that 78% of children were maltreated by a family member, 15% by an acquaintance or stranger and 7% by an unknown. Notably, Hamilton and Browne (1999) observed that certain family structures (such as single parent families or the presence of step-parents) may increase the risk of both intrafamilial and extrafamilial maltreatment.

The co-occurrence of Intimate partner violence (IPV) and child maltreatment is well established (Dixon, Hamilton-Giachritsis, Browne, & Ostapuik, 2007). Women abused by an intimate partner may be more likely than non-abused women to be aggressive and/or neglectful towards their children (Levendosky & Graham-Bermann, 2000, 2001). Research from Casanueva, Martin, and Runyan (2009) found that among mothers who were reported to the Child Protection Service (CPS) as the alleged perpetrator of child maltreatment, almost half had experienced physical violence from their partner. Furthermore, children of mothers who had experienced IPV were twice as likely than children of mothers without IPV to have re-reports to the CPS where the mother was the alleged perpetrator of the new episode of maltreatment.

The focus of empirical research surrounding multiple perpetrator offending has generally occurred in the context of sexual offending, particularly the dynamics and typologies associated with multiple perpetrator rape (Chambers, Horvath, & Kelly, 2010; Hovarth & Woodhams, 2013). Group or 'gang' offending has tended to focus upon criminal and anti-social activity in the context of the community and often relating to adolescent offenders (Medina et al, 2013). With the exception of research relating to sexual abuse in the family (Brown, 2009), there is a paucity of literature relating to

multiple perpetrator offending within the home and the combinations of offender identities that such multiple perpetrator offending can represent within child maltreatment.

In summary, whilst past literature is informative of single perpetrator types in child maltreatment cases, the dynamics and impact of multiple perpetrators (identities, combination and numbers) in the context of child maltreatment as well as the effects of such co-occurrences are still relatively unknown.

### **Child Maltreatment, Attachment, Coping and Resilience**

As discussed during this introduction, research has tended to focus upon the effects of single experiences of victimisation, studying abuse types and perpetrators in isolation. However, research suggests that multiple experiences of maltreatment are associated with poorer outcomes than single abuse types (Finkelhor, Ormrod, & Turner, 2007a,b,c; Ford, Elhai, Connor, & Frueh, 2010; Gilbert et al., 2009; Gustafsson, Nilsson, & Svedin, 2009; Higgins & McCabe, 2001). Much of the research cited during this introduction tends to relate to either single instances of child maltreatment or fails to differentiate between experiences of single and multiple maltreatment experiences and their impact.

Recent focus has shifted from child maladjustment towards positive adaptation and resilience towards adverse life events. Cicchetti and Rizley (1981) report that children are not uniformly affected by their maltreatment experiences and the concept of ‘multifinality’ (Cicchetti, 2013; Cicchetti & Rogosch, 1996) renders the possibility that some maltreated individuals may function in a competent or resilient manner despite their adverse experiences. Thus, one of the gaps this research project attempts to fulfil is

to explore the impact of multiple maltreatment experiences of victimisation, abuse types and perpetrators and the impact of these upon resilient functioning.

A second area of interest for this research project is the relationship between attachment patterns, coping styles and resilience. Empirical research highlights the negative effects of child maltreatment upon factors such as attachment and coping as discussed in chapters one and three. Chapter three in particular demonstrated how attachment, coping and resilience have been explored as single phenomena with no research studies exploring the impact of attachment and coping upon resilience. Self-esteem and the absence of trauma symptomatology have been used in previous research as a measure of resilient functioning. Therefore, whilst these were not central variables to this study, exploration of both self-esteem and trauma were considered useful in identifying whether any further value could be added to the study hypotheses.

### **Rationale for Present Study**

Whilst a multitude of studies have documented the occurrence and cumulative impact of various types of child maltreatment, there has been limited empirical attention given to the interplay and effects of multiple abuse types, multiple victimisation and multiple perpetrators, particularly in relation to attachment, coping and resilience. To this end, it is difficult to discern whether a child's maladaptive presentation is as a result of a single victimisation incident, single abuse type or single perpetrator or as a result of cumulative multiple adversities. Chapter one explored attachment and coping in the context of child maltreatment and identified both of these as crucial protective factors that facilitate resilient outcomes. Chapter two explored the scientific properties of the Connor Davidson Resilience Scale (CD-RISC) and its application to research. Both

chapter one and two highlighted the methodological difficulties in the measurement of resilience. It was found that in conjunction with measuring resilience at the individual level, it was also necessary to understand resilient functioning across external domains of functioning. Therefore, this research aims to address these issues by utilising a standardised measure of resilience, but also assesses resilience across different domains of functioning. Chapter three specifically aimed to ascertain the relationship between attachment and/or coping upon resilience. The systematic literature review failed to source a study that explored the interplay of all three factors together. Therefore, the present study aims to take address the gaps in the previous chapters by a) investigating multiple maltreatment experiences and their impact upon resilience, b) exploring the effects of attachment and coping upon resilience and, c) using a standardised measure of resilience, as well as assessing resilience across domains of functioning.

As evidenced in this introduction, previous research in this area has used a range of terminology such as ‘multiple victimisation’, ‘repeat victimisation’, revictimisation’ (Hamilton & Browne, 1999), poly-victimisation (Finkelhor et al., 2009), ‘multi-abuse types’ (Higgins & McCabe, 2000), ‘multiple victimisation’ (Rossman, Hughes, & Hanson, 1998) etc. when referring to more than one experience of victimisation, abuse type or perpetrator. Clarity between terms has been difficult to ascertain due to a lack of clear distinction between them. Furthermore, existing terms did not accurately fit the scope of this study. As a result, a new, clearer set of terms have been proposed (see Table six). These have been constructed in order to better distinguish between single and multiple maltreatment experiences of victimisation, abuse types and perpetrators.

## Hypotheses

The hypotheses for the current investigation were as follows:

1. Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with lower resilient functioning.
2. Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.
3. Lower resilient functioning will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.
4. Multiple maltreatment experiences (victimisation, abuse types and perpetrators), insecure attachment patterns and avoidant/emotion focused coping styles will be predictive of lower resilient functioning.

*Table 6: Definitions of terminology for the current study*

<b>Single Abuse Type</b>	<i>A single abuse type is perpetrated by any person, intrafamilial or extrafamilial at any time.</i>
<b>Multiple Abuse Types</b>	<i>Two or more abuse types are perpetrated by any person, intrafamilial or extrafamilial at any time.</i>
<b>Single Perpetrator</b>	<i>A single perpetrator is involved in offending who is intrafamilial or extrafamilial at any time.</i>
<b>Multiple Perpetrators</b>	<i>Two or more perpetrators are involved who are intrafamilial or extrafamilial at any time.</i>

<b>Single Victimisation</b>	<i>A single incident of victimisation has occurred.</i>
<b>Multiple Victimisation</b>	<i>Two or more incidents of victimisation have occurred.</i>

## Methodology

### **Sample**

The original study (Marriott, 2006) obtained data for 544 participants (527 female participants and 17 male participants). For the purpose of the present study, the original database of 544 participants (Marriott, 2006) was subjected to analysis and elimination of unsuitable cases. The following datasets were filtered from the original sample; withdrawal from the study ( $n=1$ ), where consent information could not be verified ( $n=157$ ), male participants ( $n=17$ ), missing data ( $n=7$ ), scores deemed as invalid on the validity scales of the Trauma Symptom Inventory and Culture Free Self Esteem Inventory ( $n=36$ ). This reduced the database size to 326 valid participants.

The mean age of the female participants was 35.34 ( $SD=10.95$ ). In terms of ethnicity, 94.2% ( $n=293$ ) were 'White, British, European' and 5.8% ( $n=18$ ) were classified as 'other'. Regarding relationship status, 70.8% ( $n=230$ ) were either married, cohabiting or in a long-term relationship and 29.2% ( $n=95$ ) were either separated, single or widowed. Of the total sample size, 15.8% ( $n=50$ ) reporting having no academic qualifications, 33.9% ( $n=107$ ) stated they had 'O' level, GCSE or HND equivalent. Fifty per cent ( $n=159$ ) of the sample indicated that they had qualifications equivalent to either 'A' level or degree/PhD. When questioned whether they considered themselves successful in their careers, 52.3% ( $n=169$ ) of the sample reported that they felt they were and 47.7% ( $n=154$ ) stated that they felt they were not.

Resilience was measured using the Connor Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) and a range of resilience domains. When considering the presence or absence of risk factors relating to resilience across different domains, five areas of functioning were assessed; these corresponded to educational achievement, employment, interpersonal relationships, absence of criminality and psychopathology. These domains were selected by Marriott (2006) based on the traditional assessment of resilience through competence, absence of psychopathology and the absence of anti-social behaviour (Marriott, 2006). As described in chapter one, previous studies (e.g., McGloin & Widom, 2001) have classified participants as reporting positive functioning based upon the number of areas they endorsed. For the current study, positive functioning was defined by three or more of the resilience domains being selected (Marriott, 2006). Of this sample, 86% ( $n=276$ ), reported positive functioning by endorsing three or more domains. In comparison, the mean score achieved by this sample on the CD-RISC measure was 52.78 ( $SD=19.76$ ); this score is significantly lower than the mean score of 80.4 ( $SD=12.8$ ) reported by Connor and Davidson (2003) for a general population.

## **Procedure**

Marriott (2006) recruited the majority of participants through two “Newsbeat items” in ‘Take a Break’ magazine, a highly popular female magazine (Marriott, 2006). Additional articles were also written in collaboration with the ‘Birmingham Post’ and ‘Birmingham Evening Mail’ newspapers and links to a press release were also placed on the National Association for People Abused in Childhood (NAPAC), National Society for the Prevention of Cruelty to Children (NSPCC) and The University of



Birmingham websites. Those who responded to the articles were directed to an online survey ([www.experiencesurvey.bham.ac.uk](http://www.experiencesurvey.bham.ac.uk)) hosted by the University of Birmingham.

An authentication add-in to confirm the individual's identity and to increase security was utilised. The Internet is used relatively frequently as a mode of data collection within psychological research and has been found to be comparable to traditional paper and pencil methodologies (Huang, 2006), having a good level of validity. Collation of data via the Internet presents various advantages and disadvantages. Whilst internet administration does not allow for direct researcher/participant interaction, it can enable fast, convenient and simple accessibility and testing. More importantly, it allows for anonymity particularly when researching sensitive topics.

Upon entering the site, participants were given information describing the rationale for the study and contact details of the researcher. Ethical issues in relation to anonymity and confidentiality, ways to withdraw from the study, and suggested organisations to contact if the contents of the questionnaires were found to be distressing, were also presented. Those who wished to participate in the study were subsequently directed to a page that gave them a personalised username and password. They were asked to keep this information safe in case they wished to withdraw from the study at a later date.

Once username and password details were entered, participants were directed to the consent form (Appendix 6) and participants were asked to tick if they had read and understood the information previously presented and if they wanted to continue to participate in the study. Participants were also asked whether they would like to receive a summary of the study findings. Participants were subsequently directed to the questionnaires in turn. On completion, the participants were taken to a final page

thanking them for their participation in the study. Additional methods of online safeguarding for participants could have been considered such as completion of an online safety plan questionnaire. This plan could have detailed certain mood triggers and a subsequent action plan to seek social support which the participant followed should distress be experienced. Furthermore, a follow-up questionnaire could have been sent to participants approximately four weeks after completion in order to gauge mood and psychological well-being.

### **Ethical Considerations**

The original research (Marriott, 2006) was approved by the University of Birmingham's School of Psychology Human Research Ethics Committee. Due to the sensitive nature of this topic, a great deal of care was taken to ensure that the well-being of those participating in the study was protected, as emphasised by the British Psychological Society's Ethical Principles (1990, 2009).

The current study is a re-analysis of existing data. Given the new hypotheses and research questions, an amendment request was submitted to the Chair of the University of Birmingham's Science, Technology, Mathematics and Engineering (STEM) Ethical Review Committee for their approval. This proposal was subsequently accepted by the committee and permission was granted to conduct a re-analysis of the data for the present study.

### **Measures**

This study utilised the seven questionnaires from the original study (Marriott, 2006) in order to collate the data relating to the areas being researched:

### *1) Screening Questionnaire*

Participants were issued with a screening questionnaire relating to academic qualifications, friendships, psychopathology, criminal behaviour, employment and demographic details. These questions required either a 'yes' or 'no' response or an answer from a selection of choices.

### *2) Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003)*

The Connor-Davidson Resilience scale was developed in order to provide a brief self-rated scale of resilience. The authors report that the content of their scale was taken from various sources such as that from Kobasa's construct of 'hardiness' (Kobasa, 1979), Rutter's work into resilience (Rutter, 1985) and from Lyons' work surrounding positive adjustment following trauma (Lyons, 1991). The CD-RISC comprises of 25 items based on a five factor model. Respondents rate items on a five point scale (0-4) as follows: 0 (not true at all), 1 (rarely true), 2 (sometimes true), 3 (often true) and 4 (true nearly all the time) based upon their experiences in the last month. The full scores range from between 0 to 100, with higher scores indicating greater resilience. The CD-RISC was originally validated upon specific adult samples and mean scores were reported in Connor and Davidson's research article published in 2003 as follows; General Population (USA) (80.7), Primary care patients (71.8), Psychiatric outpatients (68.0), Generalised anxiety disorder patients (62.4), Post-Traumatic Stress Disorder patients (47.8 & 52.8). The scale reports good internal consistency (Cronbach's alpha 0.89), test-retest reliability (ICC=0.87) and good convergent and discriminant validity. Chapter two of this thesis provides a more detailed critique of the CD-RISC.

3) *The Parent-Child Conflict Tactics Scale (CTS-PC; Straus, Hamby, Finkelhor, Moore & Runyan, 1998)*

A concatenated version of the Straus et al (1998) Parent-Child Conflict Tactics scale (Hamilton-Giachritsis & Dixon, unpublished) was used in this study. The original version of the CTS-PC consists of 39 items which assess the frequency and severity of maltreatment. However, due to the length of this scale, the authors decided that the concatenated version would be a more appropriate measure for brevity. The concatenated CTS-PC reduced the original 39 items to eight questions comprising the severity scales (minor, severe, very severe) relating to psychological maltreatment, physical maltreatment, neglect, sexual abuse and non-violent discipline. Participants rated each question on a five point Likert scale: 0 (never), 1 (once), 2 (sometimes), 3 (often) and 4 (always) as to how frequently, each tactic was used by their 'father', 'mother' or 'other' (added to the scale). If the participant was selecting 'other', they were asked to specify what relationship the other person had to them. The authors of the concatenated version of the Parent-Child Conflict Tactics scale (Hamilton-Giachritsis & Dixon, unpublished) report combining all the stray items for each category based upon the severity of the abuse type. Reliability or validity data is unavailable for the concatenated version of the measure.

4) *Trauma Symptom Inventory (TSI; Briere, 1995)*

This inventory is used to assess whether participants experienced psychological responses to childhood traumatic events and was specifically devised for use with individuals who have experienced abuse, as well as other types of trauma. It consists of 100 items split into three validity scales (atypical response, response level, inconsistent

response) and ten clinical scales that assess a broad range of psychological symptoms (anxious arousal, depression, anger/irritability, intrusive experiences, defensive avoidance, dissociation, sexual concerns, dysfunctional sexual behaviour, impaired self-reference and tension reduction behaviour). Responses are recorded on a four item Likert scale: 0 (never) to 3 (often) based upon the individual's experiences in the last six months. Scores on the atypical response subscale of 90 or higher, response level subscale of 73 or higher and inconsistent response subscale of 75 or higher are judged as invalid profiles. This measure displays strong internal consistency (Cronbach's  $\alpha=0.86$ ) as well as good criterion, construct, convergent and discriminant validity.

5) *The Relationship Questionnaire (R.Q, Bartholomew & Horowitz, 1991) and The Relationship Scales Questionnaire (R.S.Q, Griffin & Bartholomew, 1994).*

The Relationship Questionnaire provides four descriptions of attachment styles (secure, fearful, preoccupied and dismissing) based upon research literature suggesting that attachment reflects both the individual's models of themselves and others (Stein, Jacobs, Fergusson, Allen & Fonagy, 1998). Participants are asked to rate each of the descriptions on a seven point Likert scale, from 'not at all like me' (1) to 'very like me' (7) and to state which attachment style they feel most closely describes their response to close relationships. Test-retest validity was found to vary between adequate to strong (0.71 for secure, 0.69 for fearful, 0.59 for preoccupied and 0.49 for dismissing over 8 months) and factor analysis of this measure suggests that this questionnaire does incorporate the two models of self and others (Stein et al, 1998).

Whereas the primary aim of the Relationship Questionnaire is to classify participants into groups, the Relationship Scales Questionnaire uses the same conceptual framework

to measure dimensions related to positive or negative models of self and others through 30 items describing ways in which the individual relates to others. Participants are asked to rate each item on a five point Likert scale, from 'not at all like me' (1) to 'very much like me' (5) based upon their past and present romantic relationships. Scores can be calculated for each of the adult attachment patterns (secure, fearful, dismissing and preoccupied). Construct, convergent and discriminant validities have been demonstrated. Test-retest reliability have ranged from  $r = .81$  to  $.84$  for view of self and  $.72$  to  $.85$  for view of other (Muller, Sicoli & Lemieux, 2000). Both measures have been used successfully by McLewin and Muller (2006) in their study of the attachment styles of young adults with and without a history of physical maltreatment.

*6) The Coping Responses Inventory (Moos, 1990)*

The Coping Responses Inventory assesses the strategies people use to cope with difficult situations. This measure has been widely used and validated in adult, general medical and psychiatric clients as well as the general population. Participants were requested to rate the 48 items on a four point Likert scale, indicating how often then used a particular strategy ('No' 0 to 'Yes Fairly Often' 3) in response to a recent difficult episode they had experienced. The participants' scores are divided into eight subscales addressing four dimensions of coping (cognitive, behavioural, approach and avoidance). This measure has achieved good reliability and validity (Moos, 1986). For women, the internal consistency (Cronbach's alpha) of this measure, ranged from 0.58 for the Emotional Discharge subscale, to 0.71 for the Positive Reappraisal and Seeking Alternative Rewards subscales.

### 7) *The Culture Free Self-Esteem Inventory (Battle, 1992)*

On this 40 item measure, participants are requested to answer yes/no to questions relating to several separate constructs (overall, general, social, personal and lie). The general subscale refers to an individual's overall perception of worth; the social subscale refers to perceptions of relationships with friends, whilst the personal subscale refers to an individual's intimate perception of his or her own self-worth. The lie subscale assesses whether the participant is demonstrating defensiveness or whether they are attempting to answer in a socially desirable manner. Good internal consistency and validity scores have been reported for this measure and the author reports concurrent validity scores (with other tests) ranging from .71 to .80.

Marriott (2006) sought permission to republish each of these questionnaires on the internet from the publishers and authors of these measures.

### **Treatment of Data**

The concatenated version of the Straus et al (1998) Parent-Child Conflict Tactics scale (Hamilton-Giachritsis & Dixon, unpublished) divides physical abuse and neglect into scales of either minor, severe or very severe categories. Data was analysed based upon participant responses to the scales in respect of 'mother', 'father' and 'other'. Due to the differing severity subscales (for physical abuse and neglect), frequency responses (never, once, sometimes, often and always) and perpetrator types, it was decided that the most robust way of capturing victimisation data was by weighting and scaling it. A composite frequency for each abuse type was created on the basis of severity, frequency and perpetrator. This data was then combined in order to produce a final variable to capture multiple victimisation. It was decided not to include minor physical abuse and

minor neglect scales within these variables due to the difficulties that are present when determining whether minor abuse falls outside the normal range of human experience. Descriptive data analysis revealed that the minor scales were distorting the overall responses contributing to a high prevalence rate. Upon further data analysis, it was found that there were no participants who reported psychological abuse in isolation to other abuse types. Therefore, for the purpose of this study, it was decided that psychological abuse would not form an abuse category.

The data set generated was analysed using SPSS v.21 for Windows. Descriptive analyses of the sample characteristics were conducted with frequencies, percentages and means generated to assess the prevalence of the number of abuse types, number and types of perpetrators involved and frequency and severity of victimisation reported, demographic variables, resilience, attachment and coping scores. Further detailed analyses could not be conducted between the abused and non-abused categories due to the uneven sample sizes (the non-abused category being particularly small); any such analysis would not provide meaningful information

Explorations for associations between the data were conducted. Data that did not meet the assumptions for a parametric test were analysed using Spearman's Rho Correlation Coefficient in order to test for correlations between multiple maltreatment experiences, resilient functioning and outcome measures. Spearman's Rho Correlation Coefficient was employed in order to assess whether the CD-RISC score and the number of resilience domains endorsed correlated. The output showed that there was a significant, positive association between them ( $r = .320, p = <.001$ ).



It was not possible to conduct multiple regression analyses due to multicollinearity between multiple maltreatment experiences and the psychometric measures used. As a result, alternative tests to measure differences between resilience scores, abuse characteristics, multiple maltreatment experiences and outcome measures were conducted. The CD-RISC score was categorised into two groups using one standard deviation below the mean (based upon the mean and standard deviation of the general population as reported by Connor & Davidson, 2003). Parametric tests such as one way ANOVAS and independent T-tests were employed where the assumptions were met such as were no significant outliers in the two groups between the two variables, the dependent variable was normally distributed and homogeneity of variance was met (Levene's test of equality of variances). Non-parametric equivalent tests (Mann-Whitney U test or Kruskal-Wallis H test) were utilised where necessary.

All results significant at 0.05 or less are reported despite a Bonferroni adjustment not having been applied. Whilst this adjustment is normally applied to multiple comparisons in order to control for Type I error, it was felt that due to the large sample size, by applying such a stringent level, a Type 2 error may occur resulting in significant information being missed and thus not interpreted further.

## Results

### **Full Sample Descriptive**

Of the full sample of 326 participants, 98.2% ( $n=320$ ) reported experiencing a form of maltreatment and 1.8% ( $n=6$ ) reported no maltreatment in their childhood. Table 7

provides descriptive data of individual abuse types corresponding to the abused and non-abused groups.

*Table 7: Full sample descriptive of abuse types and demographic variables (N=326)*

Variable (n)	Abuse type reported as		Abuse not	
	occurring (n=320)	not occurring n (%)	occurred at all (n=6)	n (%)
<b>Physical abuse</b>	297 (92.8)	23 (7.2)	6 (100)	
Minor	286 (89)	36 (11)	6 (100)	
Severe	271 (84.7)	49 (15.3)	6 (100)	
Very Severe	156 (48.8)	163 (50.9)	6 (100)	
<b>Neglect</b>	253 (79.1)	67 (20.9)	6 (100)	
Minor	240 (75)	80 (25)	6 (100)	
Severe	133 (41.6)	187 (58.4)	6 (100)	
<b>Sexual abuse</b>	191 (59.7)	129 (40.3)	6 (100)	
<b>Psychological abuse</b>	261 (81.6)	59 (18.4)	6 (100)	
<b>Age (Mean, s.d.)</b>	35.22, 10.8		41.67, 16.2	
<b>Ethnicity</b>	(n=305)		(n=6)	
White, British, European	287 (94.1)		6 (100)	
Other	18 (5.9)		0	
<b>Marital Status</b>	(n=319)		(n=6)	
Married, cohabiting, in a relationship	227 (71.2)		3 (50)	
Separated, single, widow	92 (28.8)		3 (50)	
<b>Academic qualifications</b>	(n=320)		(n=6)	
No qualifications	60 (18.8)		0	
Qualifications	260 (81.3)		6 (100)	
<b>Friendships</b>	(n=319)		(n=6)	
Acquaintances or alone	120 (37.6)		1(16.7)	
Close friendships	199 (62.4)		5 (83.3)	

<b>Career</b>	<b>(n=320)</b>	<b>(n=6)</b>
Successful	164 (50.3)	5 (83.3)
Not successful	156 (51.3)	1 (16.7)
<b>Criminal Convictions</b>	<b>(n=320)</b>	<b>(n=6)</b>
Present	42 (13.1)	1 (16.7)
Not Present	278 (86.9)	5 (83.3)
<b>Addiction to Substances</b>	<b>(n=314)</b>	<b>(n=5)</b>
Present	89 (28.3)	1 (20)
Not Present	225 (71.7)	4 (80)
<b>History of Self-Harm</b>	<b>(n=319)</b>	<b>(n=6)</b>
Present	188 (58.9)	0
Not Present	131 (41.1)	6 (100)
<b>History of</b>		
<b>Psychopathology</b>	<b>(n=320)</b>	<b>(n=6)</b>
Present	74 (23.1)	4 (66.7)
Not Present	246 (76.9)	2 (33.3)

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### Multiple Maltreatment Experiences Categories

Table 8a summarises the responses of participants based upon the number of abuse types and perpetrators. The data revealed that over 80% of the sample reported two or more abuse types or perpetrators. Table 8b displays the weighted and scaled combined multiple victimisation data. This variable was generated on the basis of the frequency and severity responses on the different abuse scales by perpetrator. Over 75% of the sample reported experiencing two or more severe or very severe incidents of victimisation.

*Table 8a: Multiple maltreatment experiences based on number of abuse types and perpetrators (N=326)*

	<b>None n (%)</b>	<b>One n (%)</b>	<b>Two n (%)</b>	<b>Three n (%)</b>
<b>Number of Abuse types</b>	6 (1.8)	44 (13.5)	131 (40.2)	145 (44.5)
<b>Number of Perpetrators</b>	6 (1.8)	25 (7.7)	54 (16.6)	241 (73.9)

*Table 8b: Multiple maltreatment experience based on number of severe or very severe incidents of victimisation (N=326)*

<b>Multiple Victimisation</b>	0	1	2	3	4	5	6	7
<b>n (%)</b>	23 (7.1)	56 (17.2)	75 (23.0)	68 (20.9)	49 (15.0)	35 (10.7)	13 (4.0)	7 (2.1)

## **Descriptive Data of Maltreated Sample**

### ***Number of Abuse Types Experienced***

Table 9 shows the number of abuse types experienced across all abuse types and severity scales by perpetrator. Mothers were found to be the most common perpetrator of physical abuse and neglect in isolation and combined (with the father). Also, 87% of the sample reported that at least one parent had perpetrated physical abuse towards them, and almost half of the sample reported having had both parents physically maltreat them. Eighteen percent of the sample reported that at least one parent perpetrated all forms of maltreatment towards them. In comparison to the parent data, abuse from ‘others’ came primarily in the form of sexual abuse.

*Table 9: Reported abuse types perpetrated by Father, Mother and Other (N=320)*

	<b>Father</b>	<b>Mother</b>	<b>One parent</b>	<b>Both parents</b>	<b>Other</b>
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
<b>One abuse type reported</b>					
Physical abuse	194 (59.5)	246 (75.5)	284 (87.1)	156 (47.9)	105 (32.2)
Neglect	182 (55.8)	221 (67.8)	250 (76.7)	153 (46.9)	61 (18.7)
Sexual abuse	65 (19.9)	13 (4.0)	73 (22.4)	5 (1.5)	148 (45.4)
<b>Two abuse types reported</b>					
Physical abuse & neglect	139 (42.6)	188 (57.7)	230 (70.6)	101 (31)	56 (17.2)
Physical abuse & sexual abuse	56 (17.2)	13 (4)	69 (21.2)	4 (1.2)	62 (19)
Neglect & sexual abuse	49 (15)	13 (4)	61 (18.7)	5 (1.5)	41 (12.6)
<b>Three abuse types reported (all forms)</b>					
Physical abuse, sexual abuse and neglect	46 (14.1)	13 (4)	60 (18.4)	4 (1.2)	39 (12)

### ***Number of Times Victimisation Occurred***

Table 10 categorises rates of victimisation by a parent or ‘other’ on all abuse types and severity scales. When considering the severity and frequency of abuse, a large percentage of the sample reported multiple incidents of victimisation from the mother

and father using severe or very severe maltreatment. Over half of the sample reported the mother as the perpetrator of physical abuse and neglect on more than one occasion.

*Table 10: Number of times victimisation occurred by Father, Mother and Other (N=326)*

		<b>Never</b> <i>n</i> (%)	<b>Once</b> <i>n</i> (%)	<b>Sometimes</b> <i>n</i> (%)	<b>Often</b> <i>n</i> (%)	<b>Always</b> <i>n</i> (%)
<b>FATHER</b>						
<b>Physical</b>						
	Minor	145 (44.5)	50 (15.3)	31 (9.5)	50 (15.3)	50 (15.3)
	Severe	178 (54.6)	37 (11.3)	19 (5.8)	41 (12.6)	51 (15.6)
	Very Severe	249 (76.4)	23 (7.1)	18 (5.5)	17 (5.2)	19 (5.8)
<b>Neglect</b>						
	Minor	153 (46.9)	37 (11.3)	23 (7.1)	43 (13.2)	70 (21.5)
	Severe	253 (77.8)	17 (5.2)	25 (7.7)	13 (4.0)	17 (5.2)
<b>Sexual</b>						
		261 (80.1)	11 (3.4)	9 (2.8)	12 (3.7)	33 (10.1)
<b>MOTHER</b>						
<b>Physical</b>						
	Minor	96 (29.4)	54 (16.6)	41 (12.6)	52 (16.0)	83 (25.5)
	Severe	117 (35.9)	50 (15.3)	35 (10.7)	45 (13.8)	79 (24.3)
	Very Severe	233 (71.5)	27 (8.3)	9 (2.8)	20 (6.1)	37 (11.3)
<b>Neglect</b>						
	Minor	117 (35.9)	27 (8.3)	27 (8.3)	54 (16.6)	101 (31.0)
	Severe	218 (66.9)	28 (8.6)	34 (10.4)	24 (7.4)	22 (6.7)
<b>Sexual</b>						
		313 (96)	5 (1.5)	2 (0.6)	5 (1.5)	1 (0.3)
<b>OTHER</b>						
<b>Physical</b>						
	Minor	242 (74.2)	19 (5.8)	12 (3.7)	26 (8.0)	27 (8.3)
	Severe	236 (72.4)	19 (5.8)	18 (5.5)	23 (7.1)	30 (9.2)
	Very Severe	270 (82.8)	15 (4.6)	8 (2.5)	12 (3.7)	21 (6.4)
<b>Neglect</b>						

Minor	272 (83.4)	11 (3.4)	11 (3.4)	10 (3.1)	22 (6.7)
Severe	299 (91.7)	4 (1.2)	12 (3.7)	5 (1.5)	6 (1.8)
<b>Sexual</b>	178 (54.6)	39 (12)	22 (6.7)	40 (12.3)	47 (14.4)

In order to capture the various severity scales and frequency responses perpetrated by father, mother or other, a composite frequency was created for each abuse type by weighting and scaling the data. For this purpose, minor physical abuse and neglect scales were removed and only severe or very severe responses (in respect of physical abuse and neglect) have been reported. As a result, the prevalence rate for these two abuse types have reduced; 20% reported two or three severe neglect victimisation and 50% reported two or three severe or very severe physical victimisation (although this figure is still concerning). In contrast, almost 49% of the sample reported one incident of sexual victimisation. As there are no severity scales attached to the sexual abuse scale, this figure covers a range of sexually motivated incidents.

*Table 11: Victimisation based on abuse type and frequency (N=326)*

	<b>None</b>	<b>One</b>	<b>Two</b>	<b>Three</b>
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
<b>Physical Victimisation</b>	54 (16.6)	109 (33.4)	123 (37.7)	40 (12.3)
<b>Neglect Victimisation</b>	193 (59.2)	66 (20.2)	60 (18.4)	7 (2.1)
<b>Sexual Victimisation</b>	135 (41.4)	158 (48.5)	31 (9.5)	2 (0.6)

### ***Number of Perpetrators Involved***

Table 12 displays the number of perpetrators involved in maltreatment on all abuse types and severity scales. Over half of the sample reported physical abuse and neglect being perpetrated by more than one individual. Almost half reported sexual abuse being

committed by a single perpetrator (father, mother or other). Table 13 shows that 66% of the sample reported both parents as perpetrators of abuse, followed by the combination of mother and other.

*Table 12: Number of perpetrators involved in abuse (N=326)*

	<b>None</b> <i>n (%)</i>	<b>One</b> <i>n (%)</i>	<b>Two</b> <i>n (%)</i>	<b>Three</b> <i>n (%)</i>
<b>Physical abuse</b>	29 (8.9)	101 (31.0)	144 (44.2)	52 (16.0)
<b>Neglect</b>	73 (22.4)	79 (24.2)	137 (42.6)	37 (11.3)
<b>Sexual abuse</b>	135 (41.4)	158 (48.5)	31 (9.5)	2 (0.6)

*Table 13: Combination of perpetrators (N=326)*

<b>Combinations of perpetrators</b>	<b>Frequency <i>n (%)</i></b>
Father and Mother	215 (66)
Father and Other	143 (43.9)
Mother and Other	167 (51.2)

## **Resilience**

Participants were asked to complete the Connor Davidson Resilience Scale (CD-RISC; 2003) as part of the battery of measures in order to measure resilient functioning. Table 14 displays the mean and median scores for the current sample and those reported by Connor and Davidson (2003). Connor and Davidson (2003) report that the higher the score on the resilience scale (0-100), the greater the resilience; they offer no further guidance in relation to cut-off scores.



In order to assess the level of resilience within this sample against Connor and Davidson's general population mean score, scores were categorised into two groups on the basis of one standard deviation below and above their mean (80.4). This categorisation is referred to as the Connor Davidson cut-off score and allows for a better understanding of resilient functioning within this sample. Approximately 78% (n=255) of the sample fell into the 0-68 score range and 22% (n=71) achieved scores of 69 and above.

*Table 14: Comparison between Connor and Davidson (2003) study groups and current study participant scores on the Connor Davidson Resilience Scales (CD-RISC)*

<b>Study group</b>	<b>N</b>	<b>Mean (s.d.)</b>	<b>Median (1<sup>st</sup>, 4<sup>th</sup> Q)</b>
Current Study	326	52.78 (19.76)	54 (40, 66)
General Population	577	80.4 (12.8)	82 (73, 90)
Primary Care	139	71.8 (18.4)	75 (60, 86)
Psychiatric outpatients	43	68 (15.3)	69 (57, 79)
GAD patients	24	62.4 (10.7)	64.5 (53, 71)
PTSD patients	22	47.8 (19.5)	47 (31, 61)
PTSD patients after treatment	22	52.8 (20.4)	56 (39, 61)

The screening questionnaire asked participants to self-report information relating to their achievement of academic qualifications, interpersonal relationships, employment, absence of criminal convictions and the absence of psychopathology. Participants were classified as resilient if they demonstrated positive functioning on three of the five

resilience domains. Table 15 shows that 86% ( $n=276$ ) of the abused group endorsed between three to five domains and 13% endorsed up to two domains. All six participants who did not report victimisation endorsed three to five resilience domains.

*Table 15: Frequencies of number of resilience domains endorsed (out of five) by the abused and non-abused groups ( $N=326$ )*

<b>Number of Resilience domains endorsed</b>	<b>Abused <i>n</i> (%)</b>	<b>Not abused <i>n</i> (%)</b>
0 - 2	44 (13.7)	0
3 - 5	276 (86.3)	6 (100)

### **Bivariate Analysis**

Bivariate analyses were utilised to explore associations between variables further and to investigate the hypotheses presented in the introduction.

#### ***1. Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with lower resilient functioning.***

Spearman's Rho Correlation Coefficient was used to analyse the data between multiple maltreatment experiences and resilience measures. The analysis revealed that there was an inverse relationship between multiple maltreatment experiences and resilience domains, indicating that as multiple maltreatment experiences increased, there was decreased resilience across domains. Conversely, multiple victimisation was positively associated with CD-RISC scores suggesting that as the experience of multiple victimisation increased, so did resilience.

*Table 16: Spearman's Rho Correlation Coefficients for the Connor Davidson Resilience Scale, Connor Davidson Resilience cut-off score, resilience domains and multiple maltreatment experiences (N=326)*

<b>Maltreatment Experiences</b>	<b>CD-RISC score</b>	<b>CD-RISC cut-off score</b>	<b>Resilience Domains</b>
<b>Multiple Abuse Types</b>	$r = .052$	$r = .077$	$r = -.228^{**}$
<b>Multiple Victimisation</b>	$r = .112^{*}$	$r = .119^{*}$	$r = -.232^{**}$
<b>Multiple Perpetrators</b>	$r = .057$	$r = .070$	$r = -.113^{*}$
<b>Multiple Physical</b>	$r = .008$	$r = .048$	$r = -.193^{**}$
<b>Multiple Neglect</b>	$r = .174^{**}$	$r = .154^{**}$	$r = -.104^{*}$
<b>Multiple Sexual</b>	$r = .035$	$r = .025$	$r = -.203^{*}$

\* Significant at 0.05 level

\*\* Significant at 0.01 level

**2. Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.**

Table 17 shows only one significant association was observed between cognitive avoidance and multiple victimisation. In relation to attachment, positive associations were observed between fearful and dismissing attachment patterns and multiple maltreatment experiences and negative associations were observed between a secure attachment style and multiple maltreatment experiences.. A dismissing attachment style was seen to increase as multiple maltreatment experiences increased. In relation to trauma, a number of positive associations were observed between abuse subscales and multiple maltreatment experiences suggesting that multiple maltreatment experiences were positively associated with increased trauma symptomatology.

Table 17: Spearman's Rho Correlation Coefficient for multiple maltreatment experiences and outcome measures

Measure	Multiple Physical Victimisation	Multiple Neglect Victimisation	Multiple Sexual Victimisation	Multiple Victimisation	Multiple Perpetrators	Multiple Abuse Types
<b>CFSEI Subtests</b>						
<b>Social (n=284)</b>	$r = .043$	$r = .017$	$r = .022$	$r = .050$	$r = .054$	$r = .013$
<b>General (n=276)</b>	$r = .014$	$r = -.055$	$r = -.034$	$r = -.033$	$r = .003$	$r = -.064$
<b>Personal (n=282)</b>	$r = .037$	$r = -.045$	$r = .039$	$r = .016$	$r = .037$	$r = -.008$
<b>Classification of total score (n=244)</b>	$r = .011$	$r = -.100$	$r = .020$	$r = -.032$	$r = -.012$	$r = -.073$
<b>RSQ Scores</b>						
<b>Secure (n=290)</b>	$r = -.092$	$r = -.116^*$	$r = -.099$	$r = -.154^{**}$	$r = -.093$	$r = -.158^{**}$
<b>Fearful (n=290)</b>	$r = .138^*$	$r = .151^*$	$r = .184^{**}$	$r = .252^{**}$	$r = .163^{**}$	$r = .222^{**}$
<b>Preoccupied (n=290)</b>	$r = .031$	$r = .035$	$r = -.007$	$r = .037$	$r = .053$	$r = .018$
<b>Dismissing (n=290)</b>	$r = .096$	$r = .186^{**}$	$r = .143^*$	$r = .227^{**}$	$r = .164^{**}$	$r = .221^{**}$

\* Significant at 0.05 level

\*\* Significant at 0.01 level

<b>Trauma Symptom Inventory</b>	<b>Multiple Physical Victimization</b>	<b>Multiple Neglect Victimization</b>	<b>Multiple Sexual Victimization</b>	<b>Multiple Victimization</b>	<b>Multiple Perpetrators</b>	<b>Multiple Abuse Types</b>
<b>Anxious Arousal (n=289)</b>	$r = .204^{**}$	$r = .017$	$r = -.065$	$r = .150^*$	$r = .130^*$	$r = .112$
<b>Depression (n=290)</b>	$r = .181^{**}$	$r = -.016$	$r = .112$	$r = .141^*$	$r = .111$	$r = .124$
<b>Anger/Irritability (n=289)</b>	$r = .197^{**}$	$r = .039$	$r = .025$	$r = .143^*$	$r = .089$	$r = .062$
<b>Intrusive Experiences (n=290)</b>	$r = .277^{**}$	$r = .071$	$r = .268^{**}$	$r = .301^{**}$	$r = .169^{**}$	$r = .291^{**}$
<b>Defensive Avoidance (n=290)</b>	$r = .250^{**}$	$r = .065$	$r = .173^{**}$	$r = .239^{**}$	$r = .130^*$	$r = .172^{**}$
<b>Dissociation (n=290)</b>	$r = .195^{**}$	$r = .008$	$r = .111$	$r = .173^{**}$	$r = .069$	$r = .102$
<b>Sexual Concerns (n=288)</b>	$r = .078$	$r = -.001$	$r = .280^{**}$	$r = -.149^*$	$r = .103$	$r = .200^{**}$
<b>Dysfunctional Sexual Behaviour (n=288)</b>	$r = .033$	$r = .001$	$r = .080$	$r = .047$	$r = .053$	$r = .042$
<b>Impaired Self-Reference (n=289)</b>	$r = .128^*$	$r = .004$	$r = .050$	$r = .106$	$r = .079$	$r = .070$
<b>Tension Reduction Behaviour (n=290)</b>	$r = .115^*$	$r = -.028$	$r = .082$	$r = .079$	$r = .065$	$r = .042$

\* Significant at 0.05 level

\*\* Significant at 0.01 level

<b>Coping Response Inventory</b>	<b>Multiple Physical Victimisation</b>	<b>Multiple Neglect Victimisation</b>	<b>Multiple Sexual Victimisation</b>	<b>Multiple Victimisation</b>	<b>Multiple Perpetrators</b>	<b>Multiple Abuse Types</b>
<b>Logical Analysis (n=326)</b>	$r = .048$	$r = .048$	$r = .028$	$r = .054$	$r = .017$	$r = .046$
<b>Positive Reappraisal (n=326)</b>	$r = .075$	$r = .063$	$r = .044$	$r = .083$	$r = .080$	$r = .085$
<b>Seeking Guidance and Support (n=326)</b>	$r = .013$	$r = .095$	$r = -.065$	$r = .021$	$r = -.008$	$r = -.008$
<b>Problem-Solving (n=326)</b>	$r = .042$	$r = .051$	$r = -.028$	$r = .031$	$r = -.020$	$r = .023$
<b>Cognitive Avoidance (n=326)</b>	$r = .132^*$	$r = .075$	$r = .012$	$r = .112^*$	$r = .067$	$r = .037$
<b>Acceptance or Resignation (n=326)</b>	$r = .099$	$r = .041$	$r = -.008$	$r = .067$	$r = .060$	$r = .024$
<b>Seeking Alternative Rewards (n=326)</b>	$r = .097$	$r = .014$	$r = -.005$	$r = .069$	$r = .044$	$r = .013$
<b>Emotional Discharge (n=326)</b>	$r = .073$	$r = .039$	$r = .098$	$r = .100$	$r = .039$	$r = .029$

\* Significant at 0.05 level

\*\* Significant at 0.01 level

**3. Lower resilient functioning will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.**

*Table 18: Spearman's Rho Correlation Coefficient for the Connor Davidson Resilience Scale, Connor Davidson Resilience cut off score, resilience domains and outcome measures*

Measures	CD RISC Score	CD-RISC cut-off score	Resilience Domains
<b>CFSEI Subtests</b>			
<b>Social (n=284)</b>	$r = -.034$	$r = -.060$	$r = .007$
<b>General (n=276)</b>	$r = -.050$	$r = -.036$	$r = .026$
<b>Personal (n=282)</b>	$r = -.106^*$	$r = -.069$	$r = -.068$
<b>Classification of total score (n=244)</b>	$r = .107^*$	$r = -.103$	$r = .016$
<b>RSQ Scores</b>			
<b>Secure (n=284)</b>	$r = -.039$	$r = -.039$	$r = .039$
<b>Fearful (n=284)</b>	$r = -.192^{**}$	$r = -.202^{**}$	$r = -.271^{**}$
<b>Preoccupied (n=284)</b>	$r = -.174^{**}$	$r = -.138^{**}$	$r = -.160^{**}$
<b>Dismissing (n=284)</b>	$r = .199^{**}$	$r = .091$	$r = .106^*$
<sup>*</sup> Significant at 0.05 level <sup>**</sup> Significant at 0.01 level			
Trauma Symptom Inventory	CD RISC Score	CD-RISC cut-off score	Resilience Domains
<b>Anxious Arousal (n=283)</b>	$r = -.399^{**}$	$r = -.299^{**}$	$r = -.234^{**}$
<b>Depression (n=284)</b>	$r = -.552^{**}$	$r = -.406^{**}$	$r = -.354^{**}$
<b>Anger/Irritability (n=283)</b>	$r = -.349^{**}$	$r = -.236^{**}$	$r = -.201^{**}$
<b>Intrusive Experiences</b>	$r = -.262^{**}$	$r = -.164^{**}$	$r = -.260^{**}$

(*n*=284)

**Defensive Avoidance** *r* = -.174\*\* *r* = -.160\*\* *r* = -.145\*\*  
(*n*=284)

**Dissociation** (*n*=284) *r* = -.272\*\* *r* = -.203\*\* *r* = -.254\*\*

**Sexual Concerns** (*n*=282) *r* = -.259\*\* *r* = -.211\*\* *r* = -.245\*\*

**Dysfunctional Sexual Behaviour** (*n*=282) *r* = -.182\*\* *r* = -.114\*\* *r* = .189\*\*

**Impaired Self-Reference** (*n*=283) *r* = -.481\*\* *r* = -.384\*\* *r* = -.264\*\*

**Tension Reduction Behaviour** (*n*=284) *r* = -.327\*\* *r* = -.226\*\* *r* = -.216\*\*

\* Significant at 0.05 level

\*\* Significant at 0.01 level

<b>Coping Response Inventory</b>	<b>CD RISC Score</b>	<b>CD-RISC cut-off score</b>	<b>Resilience Domains</b>
<b>Logical Analysis</b> ( <i>n</i> =319)	<i>r</i> = -.020	<i>r</i> = -.013	<i>r</i> = .034
<b>Positive Reappraisal</b> ( <i>n</i> =320)	<i>r</i> = .000	<i>r</i> = .053	<i>r</i> = .022
<b>Seeking Guidance and Support</b> ( <i>n</i> =319)	<i>r</i> = -.097*	<i>r</i> = -.035	<i>r</i> = .013
<b>Problem-Solving</b> ( <i>n</i> =320)	<i>r</i> = -.034	<i>r</i> = -.010	<i>r</i> = .016
<b>Cognitive Avoidance</b> ( <i>n</i> =305)	<i>r</i> = .108*	<i>r</i> = .147**	<i>r</i> = .080
<b>Acceptance or Resignation</b> ( <i>n</i> =316)	<i>r</i> = .011	<i>r</i> = .029	<i>r</i> = .007
<b>Seeking Alternative Rewards</b> ( <i>n</i> =306)	<i>r</i> = -.014	<i>r</i> = .038	<i>r</i> = .043
<b>Emotional Discharge</b> ( <i>n</i> =286)	<i>r</i> = .004	<i>r</i> = .037	<i>r</i> = .071

\* Significant at 0.05 level

\*\* Significant at 0.01 level



The above tables display a number of significant positive and negative associations between resilience and outcome measures. Of particular note are the strong negative associations between resilience and the subscales of the Trauma Symptoms Inventory, suggesting that as the experience of trauma increased, resilience decreased. In relation to coping, a positive association was observed between the CD-RISC scale and cognitive avoidance suggesting that as resilience increased, so did an avoidant-focused coping style. A positive association was found between the overall self-esteem score and the CD-RISC score, although a negative one was observed between the personal subtest and CD-RISC score. In relation to attachment, significant negative correlations were observed between resilience measures, a fearful and preoccupied attachment style and a significant positive association with a dismissing attachment pattern.

***4. Multiple maltreatment experiences (victimisation, abuse types and perpetrators), insecure attachment patterns and avoidant/emotion focused coping styles will be predictive of lower resilient functioning.***

It was not possible to directly test this hypothesis as multiple regression analyses were unable to be completed due to test assumptions being violated (e.g., multicollinearity). This was not surprising given the overlap between multiple maltreatment experiences and the high abuse prevalence rates reported in this sample. Therefore, it has not been feasible to fully answer the hypothesis above. However, observed correlations described earlier in this section point towards multiple victimisation, attachment patterns and a cognitive avoidant style of coping being significantly associated with resilient functioning (with both CD-RISC scores and resilience domains).

Given that multiple regression analyses were unable to be performed, the above hypothesis was amended. As an alternative, individual variables were explored in order to determine any differences on the basis of resilience scores. The sample was categorised into two groups (using one standard deviation below the mean) referred to as ‘CD-RISC cut-off score’ below. Where the outcome variable met parametric assumptions, independent t-tests or one-way ANOVAs were performed. Where the outcome variable was recorded as nominal/ordinal data, a non-parametric tests such as the Kruskal-Wallis H test was utilised. Tests were performed between the two groups; CD-RISC score and the CD-RISC cut-off score and multiple maltreatment experiences, individual resilience domains and patterns of attachment and coping response subscales. Results are reported in table 19. Where Levene’s test was significant (homogeneity of variance was not met), it was not possible to interpret this result.

*Table 19: Tests of differences between the groups CD-RISC score and the CD-RISC cut-off score with other variables*

<b>Variable/Group</b>	<b>CD-RISC score</b>	<b>CD-RISC cut-off score</b>
	<i>One-way ANOVAs</i>	<i>Kruskal-Wallis Test</i>
<b>Multiple Victimisation (n=325)</b>	$p = .650$	$k = .244$
<b>Multiple Perpetrators (n=325)</b>	$p = .235$	$k = .394$
<b>Multiple Abuse Types (n=325)</b>	$p = .346$	$k = .377$
<b>Multiple Violence Victimisation (n=325)</b>	$p = .892$	$k = .621$
<b>Multiple Sexual Victimisation (n=325)</b>	$p = .627$	$k = .301$
<b>Multiple Neglect Victimisation (n=325)</b>	$p = .003^*$	$k = .017^*$
	<i>One-way ANOVAs</i>	<i>One-way ANOVAs</i>
<b>RSQ Secure (n=289)</b>	$p = .710$	$p = .916$
<b>RSQ Fearful (n=289)</b>	$p = .053$	Levene’s test not met

<b>RSQ Preoccupied (n=289)</b>	<i>p</i> = .064	<i>p</i> = .369
<b>RSQ Dismissing (n=289)</b>	<i>p</i> = .059	<i>p</i> = .796
<b>CRI Logical Analysis (n=325)</b>	<i>p</i> = .950	<i>p</i> = .062
<b>CRI Positive Reappraisal (n=325)</b>	<i>p</i> = .304	<i>p</i> = .438
<b>CRI Seeking Guidance and Support (n=325)</b>	<i>p</i> = .230	<i>p</i> = .325
<b>CRI Problem Solving (n=325)</b>	<i>p</i> = .500	<i>p</i> = .608
<b>CRI Cognitive Avoidance (n=325)</b>	<i>p</i> = .598	<i>p</i> = .570
<b>CRI Acceptance and Resignation (n=325)</b>	<i>p</i> = .222	<i>p</i> = .080
<b>CRI Seeking Rewards (n=325)</b>	<i>p</i> = .836	<i>p</i> = .616
<b>CRI Emotional Discharge (n=325)</b>	<i>p</i> = .545	<i>p</i> = .513
	<b><i>Independent t-test</i></b>	<b><i>Independent t-test</i></b>
<b>Academic Resilience (n=325)</b>	<i>p</i> = .145	<i>p</i> = .981
<b>Relationship Resilience (n=325)</b>	<i>p</i> = .160	<i>p</i> = .129
<b>Career Resilience (n=325)</b>	Levene's test not met	Levene's test not met
<b>Crime Resilience (n=325)</b>	<i>p</i> = .871	<i>p</i> = .312
<b>Psychopathology Resilience (n=325)</b>	<i>p</i> = .001**	<i>p</i> = .005*

\* Significant at 0.05 level  
\*\* Significant at 0.01 level

*There will be a difference in CD-RISC scores based on multiple maltreatment experiences (victimisation, abuse types and perpetrators).*

Other than a significant difference observed at the 0.05 level for multiple neglect victimisation, no other differences were observed in relation to CD-RISC scores and multiple maltreatment experiences.

***There will be a difference in CD-RISC scores based on attachment patterns (secure, fearful, preoccupied and dismissing).***

The results did not reveal any significant differences between resilience scores and attachment patterns.

***There will be a difference in CD-RISC scores based on coping styles.***

No significant differences were observed between resilience scores and coping styles. Further analyses were conducted based on the resilience domains. A statistically significant difference was observed between CD-RISC/CD-RISC cut off scores and psychopathology resilience,  $t(324) = -2.84$ ,  $p = <.005$  suggesting that there was a difference in resilience scores on the basis of psychopathology (absence of drugs, self-harming and psychopathology).

## Discussion

The current study aimed to explore how multiple maltreatment experiences impact attachment patterns, coping styles and resilience following child maltreatment. Bivariate analyses were utilised to assess for correlations between multiple maltreatment experiences, resilience and measures of attachment, coping, self-esteem and trauma. This study intended to utilise regression analyses in order to determine whether multiple maltreatment experiences, insecure attachment patterns and avoidant/emotion-focused coping styles would be predictive of lower resilient functioning. However, multicollinearity proved problematic and therefore this method of analysis could not be

employed. Instead tests for differences were conducted between resilience scores and a range of variables.

### **Summary of Findings**

Utilising a retrospective reporting method, approximately 98% of the females participating in this study reported having experienced a form of maltreatment. Whilst these rates are generally higher than previously reported studies (Cawson et al., 2000; Radford et al., 2011), Widom et al. (2008) reported a similar percentage (98.9%). This sample reported high levels of multiple maltreatment experiences; participants did not report experiences in isolation. Almost 85% of the sample reported being victims of multiple abuse types, 90% reported having experienced abuse from multiple perpetrators and 76% reported severe or very severe multiple victimisation experiences. It is highly likely that the method of recruitment utilised for this study (e.g., self-selection) contributes to this overall high prevalence figure.

When considering multiple victimisation experiences, frequency, severity and perpetrators were utilised to calculate composite frequencies on the basis of abuse types. For these variables, it was decided that the minor physical abuse and minor neglect scales would not be included. Descriptive data analysis revealed that the minor scales appeared to be distorting the overall prevalence rate, especially the minor neglect scale. There was also a significant overlap between participants endorsing both minor and severe physical abuse scales (80%). Furthermore, it was felt that respondents endorsing minor physical abuse and minor neglect scales in isolation may not view themselves as victims of abuse (as defined in the measure), accepting such practice as part of a collective childhood experience. It is possible that given the mean age of this sample

(35 years), this age group witnessed the use of excessive and routine physical chastisement, particularly from parents. It is probable that 35 years ago, such maltreatment went unreported or undetected due to limited awareness of safeguarding measures, less stringent reporting methods and possible cultural acceptance.

When considering multiple abuse types, 13.5% reported having experienced one form of maltreatment whilst 85% reported two or more abuse types. Commonly reported co-occurring maltreatment types were physical abuse and neglect. Other studies (Clemmons et al., 2007) have recorded co-occurrences which include psychological abuse. However, for the purpose of this study, psychological abuse did not form an abuse category. Whilst psychological abuse can occur in isolation, it has been argued that psychological/emotional abuse is inherent in all other forms of maltreatment and cannot therefore be disentangled (O'Hagan, 1995; Butchart et al., 2006). Difficulties continue to exist when determining the extent to which there are co-occurrences between abuse types, the accuracy of the reporting method and the true impact of such a co-occurrence upon the victim.

The participants' in this study reported the involvement of more than one perpetrator in the offence accounting for 60% of physical abuse and 53% of neglect. Of these, the combination of mother and father as perpetrators was the highest (66%) with mother and other (51%) following. These findings concur with existing literature indicating parents as the primary perpetrators of maltreatment towards their children (US Department of Health and Human Services report 'Child Maltreatment', 2012). Specific reasons for this in relation to this study are unknown, although parental mental health and substance misuse have not been accounted for. Another hypothesis for this prevalence might be explained by the parental relationship. Issues such as abuse within

the relationship and the dynamics between caregivers are relevant. This finding bears resemblance to previous literature surrounding higher abuse and neglect rates from mothers who are victims of Intimate partner violence (Dixon et al., 2007).

In terms of resilience, analysis revealed that the resilience domains and the CD-RISC score were significantly correlated with each other. However, when looking at both measures in isolation, the sample mean score for the Connor Davidson Resilience Scale is notably lower than that reported by Connor and Davidson (2003) for the general population and other study groups including psychiatric patients, patients in primary care settings and those with generalised anxiety, and interestingly closer to the population 'PTSD after treatment'. In contrast to the CD-RISC score, 86% of the sample report positive adjustment in three or more of the resilience domains. This finding may be related to the ongoing debate surrounding the measurement of resilience insofar as the CD-RISC tapping into one element of an individual's resilient functioning abilities (internal mechanisms and responses), and the resilience domains accessing external achievements and functioning.

Due to the variability that exists when operationalising and defining resilience, the opportunities to compare maltreated samples both across and within studies continues to prove problematic (Haskett et al., 2006) and enforces the view that resilience researchers may be measuring different phenomenon (Cicchetti et al., 1993; Luthar et al., 2000). Examining resilience among adults who experienced maltreatment as children, McGloin and Widom (2001) found that 22% of the maltreated individuals were deemed resilient (based upon receiving a score of six or more out of eight domains of functioning). They reported that these rates are comparable to those reported by Bolger and Patterson (2003) and Cicchetti et al. (1993). Given the highly victimised

nature of this sample, it is surprising that rates for resilience (as measured by the resilience domains) in this study are higher than those previously reported. A hypothesis for this presentation may be related to the protective factors present within the ecology, and the opportunities afforded to respondents in various domains to mitigate exposure to risk factors despite their adversity (e.g., supportive and stable caregivers, peers, school and community related factors). Whilst it is not known which additional protective factors were present for this sample, there is evidence that abused and neglected individuals can function remarkably well over the life course (McGloin & Widom, 2001).

Therefore, in terms of resilience, it would appear that the females within this sample displayed resilience insofar as competence in psycho-social functioning is concerned. However, the results of the CD-RISC suggest that the rates of resilience reported by the majority of this population are lower than that of the general population (as reported by Connor Davidson, 2003) and akin to a population who have received treatment after a diagnosis of PTSD. It is possible that this population were generally able to manage manifestations of externalising behaviours, but perhaps their trauma led to their experience of internalising difficulties (as demonstrated through the outcome measures) and reduced individual resilience traits as reflected in the CD-RISC mean score.

### **Evaluation of Findings in Relation to Previous Literature**

***Hypothesis One: Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with lower resilient functioning.***

Past research has tended to focus primarily upon single incidences of maltreatment experience, exploring abuse histories in isolation to each other. This study aimed to



investigate the impact of multiple maltreatment experiences, particularly in relation to resilient functioning. Using bivariate analyses, results revealed a significant negative association between multiple maltreatment experiences, victimisation by abuse type and resilience domains suggesting that as multiple maltreatment experiences increased, resilient functioning (as measured through the resilience domains) decreased. Although this sample reported positive adjustment in three or more resilience domains, the correlational analysis displays how multiple maltreatment experiences does have an identifiable impact upon external resilience functioning. The criteria for adaptation and how resilience should be judged has received substantial debate (Luthar et al., 2000). Considering how many domains should be assessed and when continues to remain a topical issue. However, measuring and understanding resilience across multiple domains of functioning is key to enabling understanding of resilience and psychopathology (O'Dougherty Wright et al., 2013).

In contrast to the above result, a positive association was found between multiple victimisation, multiple neglect victimisation and the CD-RISC scores suggesting that as the frequency and severity of victimisation increased, so did the resilience score (although the resilience score is generally lower and thus relative to overall low resilience in this study). This is an interesting finding and links back to the idea of understanding the inter-relationship between internal and external manifestation and experience of resilience. This sample report increased internal resilience when having experienced severe and frequent victimisation, particularly neglect. An explanation for this may be related to individuals within this sample having to revert to internal mechanisms to deal with their experiences despite their trauma. Whilst this experience of resilience allowed individuals to progress through life, the effects of their adversities

were manifest in the form of reduced functioning across external domains of their life. This idea is reinforced by earlier findings that internal and external symptomatology is linked over time and exhibited across domains of functioning and competence (Masten, Burt & Coatsworth, 2006).

***Hypothesis Two: Multiple maltreatment experiences (victimisation, abuse types and perpetrators) will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.***

In relation to attachment, the Relationships Scales Questionnaire (RSQ) was used for the purpose of analysis. The RSQ asks participants to rate on a five point Likert scale the extent to which each statement best describes their characteristic style in close relationships (Griffin & Bartholomew, 1994). Statements utilised in this questionnaire correlate to the four different attachment styles being measured (secure, fearful, preoccupied and dismissing).

As hypothesised, a significant positive correlation was found between multiple maltreatment experiences, fearful and dismissing attachment patterns. Secure attachment also decreased as multiple victimisation and multiple abuse types increased. Thus, exposure to maltreatment is correlated with an insecure attachment style (Baer & Martinez, 2006; Crittenden, 1992). Consistent with past literature, research into the attachment styles of maltreated children concludes that they tend to develop insecure attachment reactions and behaviour (Crittenden, 1992). In the current study, participants have reported negative internal models about themselves and others that are likely to be as a result of their maltreatment experience. Research suggests that victims of sexual abuse often develop a fearful attachment style (Liem & Bourdewyn, 1999) and whilst

they may desire to have emotionally close relationships, they experience difficulty and discomfort managing emotional intimacy underpinned by negative views of themselves as being unworthy of love and affection and displaying mistrust at other's intentions.

Similar to a fearful attachment style, dismissing individuals seek less intimacy, frequently suppressing their emotions. However, they tend to display a more positive model of themselves by embracing their independence at the expense of dismissing any dependence needs for fear of rejection and to protect themselves from disappointment. A dismissing attachment style was significantly associated with multiple maltreatment experiences. It is possible that this positive model of the self may have served as a protective factor for respondents in this study; this idea will be explored further in this discussion. Whilst the direction of causality cannot be assumed, it is possible that an insecure attachment may also exacerbate the effects of maltreatment. This may be the case, especially in the absence of specified timeframes within research instruments. However, it can also be hypothesised that a victim who has experienced multiple adversities is at an increased risk of developing insecure attachment styles.

In relation to the Trauma Symptom Inventory (TSI), bivariate analysis revealed significant associations across multiple maltreatment experiences and clinical scales of anxious arousal, depression, anger/irritability, intrusive experiences, defensive avoidance, dissociation, sexual concerns, impaired self-reference and tension reduction behaviour. Intrusive experiences refer to post-traumatic reactions and symptoms including nightmares, flashbacks, upsetting memories triggered by current events and repetitive thoughts of an unpleasant previous experience (Briere, 1995). This subscale was strongly associated with multiple maltreatment experiences. Furthermore, the defensive avoidance and dissociation scales were also endorsed. Briere (1995) states

that the presentation of a combination of intrusive experiences, defensive avoidance and dissociation scales relate to post-traumatic symptomatology. This combination was present across multiple physical victimisation and multiple victimisation suggesting a significant correlation to PTSD symptomatology. This may also explain why the CD-RISC mean score for this sample was akin to that of a PTSD population as described by Connor and Davidson (2003).

In relation to multiple abuse types, these results concur with Higgins and McCabe (2000) who found that males and females with higher levels of multi-type maltreatment experienced greater adjustment problems than those who experienced either single or two type combinations. Fox and Gilbert (1994) reported that multiple abuse types led to increased trauma and was associated with more adjustment problems than single forms of maltreatment. Higgins and McCabe (2001) found that experiencing more than one type of maltreatment was associated with greater adjustment problems than experiencing a single form of maltreatment (Arata et al., 2005; Briere & Runtz, 1989; Clemmons et al., 2003; Higgins & McCabe, 2001).

Consistent with previous literature, multiple incidents of victimisation is highly associated with trauma symptomatology and severe emotional and behavioural symptoms (Finkelhor et al., 2009; Maughan & Cicchetti, 2002). Widom et al. (2008) found that those who experienced multiple forms of child abuse and neglect reported significantly higher lifetime traumas and victimisation experiences. McIntyre and Widom (2011) report that those with a history of childhood maltreatment are at increased risk for physical and sexual victimisation. Coid et al. (2001) also found that 'multiple abusive' experiences in childhood increased the risks of multiple experiences of abuse and trauma in adulthood. Most of the literature relating to revictimisation

explores the impact of childhood abusive experiences upon increased risks in adulthood. Whilst this study did not specifically explore this effect, there is increasing evidence to conclude that multiple exposure to adversity in early life can impact upon susceptibility to trauma and victimisation in later life thus impacting upon resilient functioning.

No significant associations were observed regarding self-esteem. In relation to coping, a significant positive correlation was noted between multiple victimisation and cognitive avoidance. This finding is supported by earlier research of the predominant use of emotion/avoidant coping responses (Hagen & Runtz, 2012) amongst this population as discussed during earlier chapters.

***Hypothesis Three: Lower resilient functioning will be associated with avoidant/emotion focused coping styles, insecure attachment patterns, lower self-esteem and increased trauma symptomatology.***

In relation to attachment, the CD-RISC score and resilience domains were significantly negatively associated with both a fearful and preoccupied attachment pattern. Thus, as a fearful and preoccupied attachment pattern increased, resilient functioning decreased. A fearful attachment style indicates a sense of unworthiness combined with the expectation that others will be negatively disposed (untrustworthy and rejecting). By involving close attachment to others, this style allows individuals to protect themselves against anticipated rejection by others. A preoccupied attachment style reflects a negative model of the self and a positive model of others. A preoccupied individual seeks a sense of safety through acceptance and approval of others (Bartholomew and Horowitz, 1991). Although literature exploring attachment and resilience is scarce, this

outcome is consistent with previous research supporting the link between maltreatment and attachment.

As found with multiple maltreatment experiences, a significant positive correlation was observed between a dismissing attachment style and resilient functioning. Bartholomew and Horowitz (1991) describe a dismissing attachment style as indicating a sense of love-worthiness combined with a negative disposition towards other people. In a bid to protect themselves against disappointment, these individuals avoid close relationships and maintain a sense of independence and invulnerability. Avoiding intimacy as a result of disappointment and experience of aversive consequences leads the individual to maintain a positive self-regard and develop self-reliance.

Adopting this attachment pattern in the face of maltreatment appears to have played a protective role for this population. It is possible that a dismissing attachment style allowed some of the participants to develop their sense of self-dependence and self-sufficiency in order to meet their day-to-day needs and challenges despite their adverse experiences. This hypothesis would require further exploration but may provide an explanation for why use of such an attachment style might enable abused and neglected individuals to continue to strive and display internal and external resilient functioning despite experience of early trauma.

Attachment and resilience have traditionally been studied as two separate concepts with limited overlap. However, Luthar (2006) concludes during a review of resilience studies that, "...resilience rests, fundamentally, on relationships" (p.780). Masten and Obradovic (2008) also report that adaptation and the potential for resilience appear to rely upon the quality of attachment and relationships with parent figures. Research has

demonstrated a link between secure attachment and competence (George, 1996; Mata, Arend & Sroufe, 1978). Bartholomew and Horowitz (1991) note that a basic principle of attachment theory is that attachment relationships continue to be important throughout the life span (Ainsworth, 1982, 1989; Bowlby, 1980, 1982).

Despite early research, it would appear that there is some level of contention about whether attachment is prone to change (Morton & Browne, 1998) and Bolen (2000) hypothesises that attachment may be both stable and dynamic, changing as a result of alterations in a child's environment, but becoming more resistant to change over time. The results of Waters, Hamilton and Weinfield (2000) 20-year longitudinal study examining the extent of change or stability in attachment patterns from infancy to adulthood, support Bowlby's theory that secure base use and attachment are stable across significant portions of the lifespan, and throughout childhood, attachment representations remain open to revision in light of real experiences. This links into more recent theories of attachment particularly in relation to the Dynamic Maturational Model (DMM) of attachment and adaptation (Crittenden, 2005). This model considers an individual's response in the face of danger suggesting that all the attachment strategies have their own functionality given the contexts within which they are used. A particular style may be a strength in one situation, but potentially problematic in another. Whilst a dismissing attachment style is conceptualised as an insecure attachment pattern, in the context of the experience of abuse, a dismissive style demonstrates its own strengths and functionality as seen with this population.

Bivariate analyses revealed that reduced resilient functioning (CD-RISC score and resilience domains) were strongly associated with all the clinical scales of the Trauma Symptoms Inventory (TSI). As mentioned previously, it is possible that given the highly

victimised nature of this sample, that although undiagnosed, may be experiencing symptomatology common to PTSD and other psychopathology.

The relationship between resilient functioning, self-esteem and coping following childhood maltreatment has been previously referred to in the resilience literature (Cicchetti et al., 1993; Flores, Cicchetti, & Rogosch, 2005; Moran & Eckenrode, 1992). A significant positive association was observed between total score classification and the CD-RISC score suggesting that overall self-esteem increased with resilience. Conversely however, a negative association was noted between the personal subscale and the CD-RISC score. Battle (1992) describes personal self-esteem as referring to the individual's most intimate perceptions of self-worth. It is possible that such experiences of feelings of low self-worth and low positive self-view may have impacted upon an individual's ability to feel confident or able thus resulting in reduced resilience. Another hypothesis is that whilst individuals endorsing a dismissing attachment pattern display an exterior positive self-model, this facade may cover up inherent low perceptions of self-worth.

In relation to coping, cognitive avoidance was positively associated with the CD-RISC score for resilience, suggesting that this method of coping increased with resilience. This is in contrast to the hypothesis suggesting that the use of an avoidant coping style might decrease as resilience increased. Cognitive avoidance was also significantly associated with multiple maltreatment experiences. This finding may be best explained when considered in the context of the conclusions already drawn. As discussed earlier, a dismissing attachment pattern has been significantly associated with this population. Avoidance of close relationships and intimacy in order to protect oneself against disappointment or vulnerability is a key survival strategy. Avoiding thinking



realistically about problems or events appears to be a fundamental coping strategy associated with a dismissing attachment style. Thus, it is possible that a cognitive avoidant coping style is directly associated with a dismissing attachment pattern.

***Hypothesis Four: Multiple maltreatment experiences (victimisation, abuse types and perpetrators), insecure attachment patterns and avoidant/emotion focused coping styles will be predictive of lower resilient functioning.***

As described in the results section, it was not possible to complete multiple regression analyses due to test assumptions being violated (e.g., multicollinearity). As an alternative, tests for differences were performed to establish whether differences existed between the CD-RISC score, CD-RISC cut-off score, multiple maltreatment experiences, individual resilience domains, patterns of attachment and coping response subscales.

There were no significant differences between the resilience scores and attachment patterns or multiple maltreatment experiences. No significant differences were observed between resilience and coping styles. However, a significant difference between resilience and psychopathology was observed. This result corresponds with those described earlier suggesting resilience scores were different based upon the presence or absence of psychopathology.

### **Limitations of the Current Study**

There is a shortage of empirical literature that has aimed to study the relationships between multiple maltreatment experiences, attachment, coping and resilience. Therefore, the present study displays a number of strengths in offering further steps towards understanding the dynamics between these concepts. Furthermore, by exploring

these areas, it has been possible to gain a better understanding of the psychological profile and resilient functioning of females who have experienced child maltreatment.

However, along with strengths, as with all empirical research, there are limitations that also need to be taken into consideration. Firstly, this relates to the methodology adopted; this study relied upon retrospective accounts of events being provided by participants. Difficulties in accurate recollection of events, especially those that would trigger memories of trauma would be present. Additionally, specified timeframes have not been stipulated when data was gathered during this study. Therefore, the effects of maltreatment across different time periods remain unknown.

Potential recall and bias of respondent's childhood events and relationships could also influence responses (Higgins & McCabe, 1994, Kinard, 1994) and no verification or clarification took place of the accounts that were presented in this study. Also, Heller et al. (1999) note that the point at which information is gathered is also relevant. For example, retrospective reporting from adult survivors of child maltreatment may differ from children and adolescents who have had recent maltreatment experiences, and memory can be affected by the passing of time and by events that have taken place since the incident occurred. In assessing retrospective accounts of childhood adversity, Pinto, Correia, and Maia (2014) found good to excellent agreement between self-reported experiences and concluded that the reliability of health reports is not related to the health state at the time of reporting.

Secondly, the majority of participants were recruited through 'Take a Break' magazine (adult women's magazine), thus appealing to a certain demographic of readers (Marriott, 2006). Also, selection bias may have been present as participants' self-

selected for the study and thus, those with a victimisation history may have been more inclined to participate by seeing its potential value; this could explain the elevated rates of child maltreatment experiences reported. Thirdly, the original study (e.g., Marriott, 2006) utilised the internet as a means of collating data. This methodology may also have biased findings as those who could have been eligible to participate in the study may have been unable to do so without internet access.

Furthermore, while the current study aimed to measure the experience of single versus multiple maltreatment experiences, it is important to acknowledge that the pathology of victimisation is highly complex and thus, it is difficult to discern what is truly a single incident compared to the experience of multiple maltreatment experiences and indeed, what constitutes these. For example, it is possible that physical and sexual assault can occur as part of a single episode. In addition, the relative impact of particular abuse types upon victimisation and the difficulties associated with different types, severities, frequencies and combinations is difficult to ascertain. Also, as previously stated, contentions over operationalization and definition of resilience continue to remain. In order to address this point, this study utilised two approaches to assess resilience (CD-RISC and resilience domains).

Finally, there are difficulties in relation to generalizability. Due to the filtration process, a number of participants were lost and therefore the control group size reduced; as a result, the current study did not use a control group. Thus, direct comparisons between an abused and control group could not be drawn. Also, the respondents of this study were all female, and as such, the psychological profiles discussed earlier would be limited to a female population. Given the cross-sectional design of the study, it is not possible to determine cause and effect between significant variables. The current

research provides insight into participants' experiences of multiple maltreatment experiences at one point in time. Due to the potentially variable nature of competence (Cicchetti & Toth, 1995; Egland et al., 1993), Heller et al. (1999) note that researchers purport the significance of a longitudinal approach in order to measure resilience at different points in time and during various developmental stages in order to gauge a clearer understanding of this phenomenon.

### **Directions for Future Research**

Despite its limitations, this study has provided an insight into the associations between multiple maltreatment experiences and factors such as attachment, coping and resilience following child maltreatment. Each of these multiple maltreatment experiences requires further exploration. For example, multiple perpetrators of childhood maltreatment have received little empirical attention, particularly in relation to perpetrator identity, number, and combination. In this study, both parents were the primary perpetrators of abuse; further investigation is required about the dynamics associated with this perpetrator couple. These findings bear significant relevance given the number of parent offenders as well as mother and 'other' combinations as found in this study. General risk factors into child maltreatment are well known, however, their relevance to particular parental roles requires further exploration, especially given the absence of a protective primary caregiver.

It would also be beneficial to explore the individual and combined impact of different abuse types and severity of abuse upon resilient functioning. Abuse variables have typically been treated in a homogenous way with little attention paid to the idiosyncrasies that exist between different abuse types and in relation to resilience. This

study aimed to distinguish between victimisation on the basis of severity, number of abuse types and perpetrators and its association with resilience and outcome measures. To take this further, future investigations could take place retrospectively again, but include a male sample or could be completed longitudinally over the course of childhood and adolescence.

There was a difference in responses between participants on the CD-RISC (measuring internal resilience) and the resilience domains (measuring external resilience). Whilst a large majority of the sample reported positive adjustment in three or more domains, the CD-RISC means score was similar to that of a population experiencing PTSD. This discrepancy is interesting and raises questions about the relationship between internal and external resilience and which factors may mitigate/impact this relationship; this requires further investigation. Of interest and requiring further investigation is the psychological profile of this maltreated sample. A significant correlation was observed between multiple maltreatment experiences and resilience with a dismissing attachment pattern, the use of a cognitive avoidant coping style, a range of trauma symptomatology and psychopathology (endorsing PTSD symptoms) and a low personal self-esteem. In addition to the measures utilised in this study, the correlation between attachment patterns, personality styles, personality disorders and resilient functioning would be useful to understand further, particularly given the growing literature on the links between attachment and the development of personality disorder. The concept and clinical application of resilience continues to attract interest, especially insofar as utilising findings to assist with risk assessment and intervention. By gaining an understanding of particular profile types associated with victims of multiple maltreatment experiences (especially those displaying attachment or psychological

difficulties), it is possible that intervention plans and care pathways can be developed sooner in order to promote protective factors in the individual's ecology in order to mitigate risk. Furthermore, drawing on the socio-ecological setting of the individual is likely to provide a fuller understanding of the abuse that has occurred. It would be useful to identify the presence of risk factors throughout the systems that allows abuse to perpetuate and whether any protective factors may be enabled to allow a different turn of events. This study consisted of a white female sample and therefore, the conclusions are limited. However, it would be useful to replicate this study to consider males as well as individuals from wider cultural communities and different socio-economic backgrounds.

## Conclusions

Overall, this study found some interesting relationships between multiple maltreatment experiences, attachment, coping and resilience. Whilst this sample reported high rates of victimisation, and despite their experience of trauma symptomatology, a significant proportion demonstrated resilience as evidenced within the resilience domains in their day-to-day functioning. Insecure attachment styles were significantly associated with resilience and multiple maltreatment experiences, particularly a dismissing attachment pattern. The development of this significantly critical process bears relevance to resilience outcomes within a maltreated population. Given this link, attention should be given to stringent methods of assessment for the presence of multiple maltreatment experiences, but also to consider the impact and role of the individual's ecology where

protective factors can be promoted and exposure to adversity and risk can be identified sooner.

## **Chapter Five**

### **THESIS DISCUSSION**



Four decades' worth of empirical research has focused upon the phenomenon of resilience, its dynamics, and its measurement under a range of adverse experiences. Researchers have aimed to investigate the processes that facilitate positive adaptation following trauma as well as factors that might impede resilient functioning. The aim of this thesis was to explore the role of attachment patterns, coping styles and resilience following child maltreatment within a socio-ecological framework. Specific emphasis was given to the protective role of attachment and coping styles and how these constructs impact upon resilience and how all of these constructs are influenced at multiple levels of functioning. By enhancing our awareness of the interactions between these developmentally essential factors and their relevance at each level of systemic functioning, it is hoped that our understanding and ability to be able to mitigate risky circumstances can be achieved sooner. The conclusions and limitations of each chapter are discussed below.

### **Summary of Chapter Two: Critique of a Psychometric Measure**

This chapter aimed to critically evaluate the Connor Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003), one of the more widely used and validated resilience scales noted in the literature. The purpose of the review was to investigate the strengths and limitations of the CD-RISC by exploring its theoretical formulation and application across a range of clinical and cultural settings. The CD-RISC is a brief, self-rated scale comprising 25 items. It is also used as a measure of resilience in chapter four and hence gaining an understanding of its clinical applicability was deemed necessary.

Key strengths of the CD-RISC were that the scale has received significant research interest to validate the use of the tool across a range of cultures and population types.

Mean scores of community samples have been reported in the USA, China, Portugal and Korea (Connor & Davidson, 2011) to mention a few. Research into the psychometric properties of the CD-RISC has highlighted that there are a range of studies that testify to its sound validity and reliability.

However, further research is still required to establish this measure as a robust assessment of the construct of resilience across diverse cultures. For example, clarity is required when considering the use of the scale amongst different studies (for example establishing whether it is measuring the construct of resilience or if it is being used to measure resilience pre and post treatment). A significant limitation of the CD-RISC relates to its unstable factor structure that ranges from a two factor to a five factor solution. This has raised questions about the true applicability of the factor structure to international populations and whether the measure is sensitive to be applied generally and cross-culturally. Furthermore, the absence of subscales within the measure does not allow for an understanding of the how the differing factor components are operating at an individual level and across different cultures. Linked to this, there are no cut-off scores, or indicators of resilience when scoring the measure. This critique found there are no UK community samples and therefore its applicability to UK populations is yet to be established.

In addition, the theoretical formation of this tool focused on utilising resilience ideas that were based on characteristics of ‘internal’ resilience as opposed to taking into account emerging research in relation to resilience such as the exploration of developmental competence and the impact of social ecologies. Whilst this is a limitation, it would seem that this scale would best be applied amongst a battery of assessments that extracts resilient functioning across multiple domains.

### **Summary of Chapter Three: Systematic Literature Review**

The aim of the literature review was to utilise a systematic process in order to examine the effects of attachment and/or coping styles on resilience following child maltreatment. The relationship between attachment, coping and resilience were of key interest to this study in order to determine their relevance and functionality across multiple domains of functioning. Following an initial scoping exercise in order to establish the usefulness of such a review, a literature search was conducted utilising systematic research principles. An inclusion and exclusion criteria was applied to the search results which were subsequently subject to a quality assessment process. Only six articles were deemed appropriate to be included in the final review and were subsequently subjected to data extraction and synthesis.

Although six articles measured attachment and/or coping styles and resilience, the exploration of this relationship was limited and there were no studies that explicitly measured the inter-relationships between all three. There is a need for further research in this area given the low number of studies assessing these constructs and as such, it has been difficult to draw any firm conclusions. Significant problematic areas related to the variation of definitions, particularly resilience, and a lack of a standardised methodological approach to assess child maltreatment, resilience, attachment and coping in this context. Very few studies examined these constructs across multiple levels of functioning.

Additional limitations related to the samples and characteristics utilised in the studies. These were limited to a primarily college/university aged, white female population based in the USA. Furthermore, the cross-sectional design used makes it impossible to infer causality. Self-report and retrospective reporting was the predominant method of

data collection. Both are affected by the passage of time and social desirability. Despite its limitations, some interesting results were yielded in relation to the impact of coping styles and resilience suggesting that whilst individuals with child maltreatment experiences may choose to adopt a less constructive method of dealing with their difficulties, they do not display a deficit of positive coping strategies. Understanding further the relationship between attachment, coping and resilience is therefore required and formed the basis for the research project.

#### **Summary of Chapter Four: Research Project**

The review of the literature in chapter three identified the rationale for further research to explore the impact of multiple maltreatment experiences (victimisation, perpetration and abuse type) upon attachment, coping and resilience with a maltreated population. In addition to this, there is a lack of research on multiple maltreatment experiences, attachment and coping and to what extent these constructs are associated with resilience. Given also the difficulties associated with measuring resilience in this population as highlighted in chapter one, this research project explored resilience using the Connor Davidson Resilience Scale (CD-RSIC) and resilience across multiple domains of functioning (i.e., years in education, employment, interpersonal relationships, absence of criminality and psychopathology).

The results of the study found that 98% of the sample reported having experienced a form of maltreatment. Almost 85% reported multiple abuse types, 76% reported severe/very severe multiple victimisation incidents and 90% reported that multiple perpetrators were involved. Of these, the combination of mother and father as perpetrators was most common (66%) followed by mother and 'other' (51%). In relation to resilience, the sample mean score (52.78) on the Connor Davidson Resilience

Scale was notably lower than that reported for the general population and other study groups and closer to the population 'PTSD after treatment' (Connor & Davidson, 2003). In comparison, however, 86% of the sample reported positive adjustment in three or more of the resilience domains. Given the low CD-RISC scores and a high percentage of the sample endorsing positive adjustment on the resilience domains, there is evidence that the presence of protective factors in an individual's ecology effects external adaptation which may assist with the management of internal trauma as reported by this maltreated sample.

Results revealed that a fearful and preoccupied attachment style were associated with reduced resilient functioning. The psychological profile associated with this maltreated sample found a significant correlation between a dismissing attachment pattern, the use of a cognitive avoidant coping style, a range of trauma symptomatology (endorsing PTSD symptoms), low personal self-esteem with resilient functioning and multiple maltreatment experiences. This particular combination of attachment patterns and coping strategies may possibly impact the way in which resilience is experienced and subsequently manifest through domains of functioning. Further research exploring the links between attachment, personality styles, the development of personality disorder and resilient functioning would be useful given the growing theoretical literature relating to attachment and personality disorder.

There is a paucity of studies that have considered the impact of multiple maltreatment experiences upon attachment, coping and resilience following child maltreatment and therefore, this study goes some way to begin to explore these relationships and fulfils the aim of this thesis. Limitations are related to the retrospective reporting method, the recruitment of participants, generalizability of the findings of this study and difficulties

discerning the impact of single versus multiple maltreatment experiences and whether a single maltreatment experience truly exists. In addition, this study utilised an exclusively female sample and therefore, replication of this research piece with males would also provide some insight into possible differences between the psychological profiles of the two genders.

### Applicability of Findings and Recommendations

The findings presented in each chapter have clear implications for interventions targeted at each level of an individual's ecology as well as future directions for research. The applicability of the key findings and recommendations for services and interventions are discussed below.

#### **Recommendations for Services**

Chapter four of this thesis made a number of salient findings that have implications for services. It is clear that multiple maltreatment experiences have devastating effects upon individuals and that some of these experiences can lead to reduced resilient functioning. Therefore, in relation to current practice, it would be advantageous for child protection services to incorporate into their pre-existing risk assessment protocols questions that specifically gather information about multiple maltreatment experiences and to be vigilant against indicators of these risks.

Whilst the study did not specifically measure parental mental health or substance misuse, a key finding was the role of the mother as the key perpetrator of abuse. The mother-father perpetrator combination was the most highly reported, followed by

mother and 'other'. There are several crucial points to highlight here. Firstly, far from acting as a protector, the mother was the most frequently reported perpetrator of abuse (particularly physical abuse and neglect). Whilst disturbing, potential reasons for this are hypothesised. Most crucially, we are unaware of the mental health of the mother at the time this abuse occurred. Various factors associated with substance misuse, Intimate partner violence, external stressors, acting as the primary caregiver, pre-disposed psychological and physical conditions as well as experience of their own parenting were all likely to have had an impact on the mother's mental health. In addition, physical abuse of all severities was perpetrated by the mother-father combination, suggesting that services should be mindful of this particularly where risk factors such as parental mental health/substance misuse/Intimate partner violence are of concern. Mothers alongside 'other' (possibly boyfriend/partner) were the second most highly reported perpetrator combination. Again, the same risk factors highlighted above should be kept in mind.

The post-natal psychological well-being of new mothers is promoted as crucial to successful bonding and attachment with a new born infant. Thus, the role of attachment styles in the promotion of resilient functioning as identified in chapter four is crucial. Services, particularly those on the front line such as health visitors and nurses are critical in identifying and raising concerns should risk factors relating to mother's mental health or attachment to the child be compromised. This information is likely to be elicited through the use of careful questioning and observations of the mother and child in their natural surroundings. Regular training should be offered to new and existing front-line workers about gathering observational data and screening for emotional and mental well-being.

Both chapters three and four highlight the crucial role of the individual's ecology and the key protective function this can offer in the context of child maltreatment. Positive relationships between the young person and influential and trusted adults should be encouraged. These may be extended family members, peers, teachers and alike. Services should therefore adopt a systemic approach when considering the young person's welfare and build on the strengths the other systems may be able to offer, particularly where maltreatment is suspected.

In terms of broader applications, all adults having contact with children in any capacity should be attentive to indicators of multiple maltreatment experiences and reduced resilient functioning. Crucially, the overlapping aspects of multiple maltreatment experiences and further types of trauma necessitate that parents, relatives, teachers and other professionals look beyond a child or young person's presenting issues and consider alternative experiences of victimisation that may also be occurring in other contexts.

### **Implications for Assessment and Interventions**

Clarity in relation to definitions of child maltreatment, resilience, attachment and coping are necessary in order to ensure standardised measures are utilised appropriately particularly in the context of research. This issue has been raised in all the chapters of this thesis. Assessment of these concepts should take into account both individual factors and characteristics as well as ensuring systemic variables are considered. This will allow for a better understanding of proximal and distal risk and protective factors within the ecology. Furthermore, resilience measures may be best utilised amongst a



battery of assessments that provides a comprehensive understanding of both internal and external resilient functioning.

Enhancing and nurturing resilience early in life through the provision of classes within educational facilities as part of developing personal, social and health education appears to be an essential way forward. This can be achieved for all children from different socio-economic backgrounds. Furthermore, providing information and awareness sessions to parents and significant caregivers in a young person's ecology about the importance of forming secure attachments with their child is crucial. This work should ideally be completed during the pre-natal stage or soon after birth in order to facilitate positive interactions and bonding with a child immediately from birth. Should concerns be raised about a caregiver's ability to do this, relevant protective individuals/factors should be enabled within the other systems surrounding the child earlier.

General interventions around 'building resilience' have been designed irrespective of experience of maltreatment, understanding attachment styles or considering developmental stages. Furthermore, these interventions have tended to focus upon the individual and their intrapersonal functioning, rather than consider the input of systemic variables. The findings of this thesis emphasise the importance of incorporating and building systemic interventions that will enable an individual to access external opportunities. Utilising a socio-ecological approach with children, adolescents and young adults presents a number of advantages for professionals who are intervening.

As identified in chapter one, a maltreated population will additionally present with a range of mental health needs through presentation of internalising and/or externalising behaviour. Resilience building modules/programmes are widely available (through the

internet and through various organisations) that aim to address self-esteem, develop flexible approaches to problematic situations, increase self-efficacy and build positive outlooks. Whilst these are positive and are generally based upon conclusions of resilience research, unfortunately, as with many such programmes, a ‘one size fits all’ approach continues to remain, and one that does little to engage wider systemic factors.

A strengths-focused approach aimed at enhancing protective factors in and around young people, that collaborates with the wider systems should be utilised. Efforts to intervene by using access to extended familial support, appropriate peers, school, college or community based support services should be considered as opposed to focussing at the ontogenetic level. Creating awareness of the young person’s needs in the different systems will ensure that intervention is being reinforced from different directions and against a variety of environments and circumstances. This will allow the individual to become confident, resourceful and flexible when applying different coping approaches. Such a method provides a more sustainable solution that is not reliant upon formal support systems or extended professional involvement.

## **Future Research**

A more long-term aim of this thesis would be to use the findings to inform future research, particularly by exploring the relationship between resilience following child maltreatment and a range of other factors that might promote a protective function such as personality types, self-esteem, further investigation into attachment styles (particularly dismissing) and the function of different coping styles. Populations should include forensic and clinical samples, exploring both genders from a range of socio-economic backgrounds to allow for a more generalizable sample. Furthermore, similar

research ideas would pertain to examining these relationships specifically to different abuse types. This will allow for a better understanding of the dynamics of particular abuse types in conjunction with these variables. Extending the current empirical study would therefore contribute to existing knowledge about broader issues in relation to this area.

Furthermore, the current thesis highlights the value of utilising comprehensive standardised measures particularly in relation to studies examining child maltreatment and resilience. Future research in this area should therefore give consideration to capturing a broad definition, such as including all abuse types and measuring resilience across multiple domains of functioning in order to draw accurate and precise conclusions. In addition, it is essential that more longitudinal research is encouraged in order to validate findings from cross-sectional studies over time and through key developmental periods.

## Conclusions

Empirical research into child maltreatment has demonstrated its enduring and devastating impact upon the physical and psychological well-being of individuals. The current thesis highlights the importance of understanding the processes of attachment, coping and resilience following child maltreatment and within the context of a socio-ecological framework. By addressing and building protective factors of attachment and coping across all the systems that embed an individual, it is hoped that families and professionals can access a range of resources in order to enhance resilience. This thesis concludes that positive adaption in the face of childhood adversity is possible. There is a

range of internal or ontogenetic pre-dispositions that favour resilient outcomes such as self-esteem/self-efficacy, cognitive ability, absence of psychopathology, internal locus of control etc.; however, equally, there are a range of systemic opportunities such as secure relationships and interactions with family and peers, positive school engagement, access to support services, participation in the community etc., that are crucial and require earlier consideration. The significance of the role of prompt systemic intervention should not be overlooked.

## **References**

- Afifi, T. O., & MacMillan, H. L. (2011). Resilience following child maltreatment: A review of protective factors. *Canadian Journal of Psychiatry*, 56, 266-272.
- Ahmad, S., Feder, A., Lee, E.J., Wang, Y., Southwick, S. M., Schlackman, E., et al. (2010). Earthquake impact in a remote South Asian population: psychosocial factors and posttraumatic symptoms. *Journal of Traumatic Stress*, 23, 408-412.
- Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behaviour* (pp. 3-30). New York: Basic books.
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist*, 44, 709-716.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, N.J.: Erlbaum.
- Alexander, C. (1998). *The Endurance: Shackleton's legendary Antarctic expedition*. New York: Alfred A. Knopf.
- Alexander, P. C. (1992). Introduction to the special section on adult survivors of childhood sexual abuse. *Journal of Consulting and Clinical Psychology*, 50, 165-166.
- Alvord, M., & Grados, J. (2005). Enhancing resilience in children: A proactive approach. *Professional Psychology, Research and Practice*, 36, 238-245.
- Anthony, E. J., & Cohler, B. J. (Eds.). (1987). *The invulnerable child*. New York: Guilford Press.
- Anton, W. D., & Reed, J. R. (1990). *College Adjustment Scales: Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Arata, C. (2000). From child victim to adult victim: A model for predicting sexual revictimisation. *Child Maltreatment*, 5, 28-38.

- Arata, C., Langhinrichsen-Rohling, J., Bowers, D., & O'Farrill-Swails, L. (2005). Single versus multitype maltreatment: An examination of the long-term effects of child abuse. *Journal of Aggression, Maltreatment & Trauma, 11*, 29-52.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454.
- Arrington, E. G., & Wilson, M. N. (2000). A re-examination of risk and resilience during adolescence: Incorporating culture and diversity. *Journal of Child and Family Studies, 9*, 221-230.
- Asmussen, K. (2010). *Key facts about child maltreatment*. NSPCC Research Briefing: London.
- Atwool, N. (2006). Attachment and resilience: Implications for children in care. *Child Care in Practice, 12*, 315-330.
- Badgley, R., Allard, H., McCormick, N., Proudfoot, P., Fortin, D., Ogilvie, D., Rae-Grant, Q., Gelinas, P., Pepin, L., & Sutherland, S. (1984). *Sexual offences against children, Vol 1*. Ottawa, Canada: Canadian Government Publishing Centre.
- Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment. *Journal of Reproductive and Infant Psychology, 24*, 187-197.
- Bailey, H. N., DeOliveira, C. A., Wolfe, V. V., Evans, E. M., & Hartwick, C. (2012). The impact of childhood maltreatment history on parenting: A comparison of maltreatment types and assessment methods. *Child Abuse & Neglect, 36*, 236-246.
- Baim, C., & Morrison, T. (2011). *Attachment-based practice with adults: Understanding strategies and promoting positive change*. Pavillion Publishing and Media.
- Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2009). The first 10,000 adult attachment interviews: distributions of adult attachment representations in clinical and non-clinical groups. *Attachment and Human Development, 11*, 223-263.

- Banyard, V. L., & Cantor, E. N. (2004). Adjustment to college among trauma survivors: An exploratory study of resilience. *Journal of College Student Development, 45*, 207-221.
- Barnes, J. E., Noll, J. G., Putnam, F. W., & Trickett, P. K. (2009). Sexual and physical revictimisation among victims of severe childhood sexual abuse. *Child Abuse & Neglect, 33*, 412-420.
- Barnett, D., Manly, J. T., & Cicchetti, D. (1993). Defining child maltreatment: The interface between policy and research. In D. Cicchetti & S. L. Toth (Eds.), *Child abuse, child development and social policy* (pp. 7-73). Norwood, NJ: Ablex.
- Bartholomew, K. & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226-244.
- Bartone, P.T., Ursano, R., Wright, K., & Ingraham, L. (1989). The impact of military air disaster on the health of assistance workers. *Journal of Nervous and Mental Disease, 177*, 317-328.
- Battle, J. (1992). *Culture-Free Self-Esteem Inventories* (2<sup>nd</sup> edition.). Austin, TX: Pro-Ed.
- Beeghly, M. & Cicchetti, D. (1994). Child maltreatment, attachment and the self-system: Emergence of an internal state lexicon in toddlers at high social risk. *Development and Psychopathology, 6*, 5-30.
- Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist, 35*, 320-335.
- Benzies, K., & Mychasuik, R. (2009). Fostering family resiliency: A review of the key protective factors. *Child and Family Social Work, 14*, 103-114.
- Bernstein, D. P., & Fink, L. (1998). *Childhood Trauma Questionnaire: A retrospective self-report questionnaire and manual*. San Antonio, TX: The Psychological Corporation.

- Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., et al. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, 27, 169-190.
- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, 70, 349-361.
- Bolen, R. M. (2000). Validity of attachment theory. *Trauma, Violence, & Abuse*, 1, 128-153.
- Bolger, K. E., & Patterson, C. J. (2003). Sequelae of child maltreatment: Vulnerability and resilience. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 156-181). New York: Cambridge University Press.
- Boney-McCoy, S., & Finkelhor, D. (1995a). Prior victimisation: A risk factor for child sexual abuse and for PTSD-related symptomatology among sexually abused youth. *Child Abuse & Neglect*, 19, 1401-1421.
- Bonnano, G. A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 20-28.
- Bowlby, J. (1969). *Attachment and loss: Vol. I. Attachment*. London, UK; Hogarth Press.
- Bowlby, J. (1980). *Attachment and loss: Vol. III. Loss: Sadness and depression*. London, UK; Hogarth Press.
- Bowlby, J. (1982). *Attachment and loss: Vol. I. Attachment* (2<sup>nd</sup> ed.). London, UK; Hogarth Press.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Brand, B. L., & Alexander, P. C. (2003). Coping with incest: The relationships between



recollections of childhood coping and adult functioning in female survivors of incest. *Journal of Traumatic Stress*, 16, 285–293.

Briere, J. (1992). *Child abuse trauma: Theory and treatment of the lasting effects*. Newbury Park, CA; Sage.

Briere, J. (1995). *Trauma Symptom Inventory (TSI) Professional Manual*. Psychological Assessment Resources, Inc.

Briere, J. (2002). Treating adult survivors of severe childhood abuse and neglect: Further development of an integrative model. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, T. Reid, & C. Jenny (Eds.), *The APSAC handbook on child maltreatment* (2<sup>nd</sup> ed.) (pp. 175-203). Thousand Oaks, CA: Sage Publications Inc.

Briere, J., & Scott, C. (2006). *Principles of trauma therapy: A guide to symptoms, evaluations and treatment*. Thousand Oaks, CA: Sage.

Briere, J., & Runtz, M. (1989). The Trauma Symptom Checklist (TSC-33): Early data on a new scale. *Journal of Interpersonal Violence*, 4, 151-163.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Browne, K. D. (1988). The nature if child abuse and neglect: An overview. In K. Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 15-30). Chichester, UK: John Wiley & Sons.

Browne, K. D. (1995b). Predicting maltreatment. In P. Reder, & C. Lucey (Eds.), *Assessment of parenting: Psychiatric and psychological contributions* (pp. 118-135). London, UK: Routledge.

Browne, K. D. (2009). Working to prevent sexual abuse in the family. In A. R. Beech, L. A. Craig, & K. D. Browne (Eds.), *Assessment and treatment of sex offenders* (pp. 491-515). Chichester, UK: John Wiley & Sons.

- Browne, C., & Winkelman, C. (2007). The effect of childhood trauma on later psychological adjustment. *Journal of Interpersonal Violence*, 22, 684-697.
- Browne, K. D., & Saqi, S. (1988a). Mother-infant interaction and attachment in physically abusing families. *Journal of Reproductive and Infant Psychology*, 6, 163-182.
- Bruwer, B., Emsley, R., Kidd, M., Lochner, C., & Seedat, S. (2008). Psychometric properties of the Multidimensional Scale of Perceived Social Support in youth. *Comprehensive Psychiatry*, 49, 195-201.
- Butchart, A., Phinney Harvery, A., Kahane, T., Mian, M., & Furniss, T. (2006). *Preventing child maltreatment: a guide to action and generating evidence*. Geneva: World Health Organization and International Society for Prevention of Child Abuse & Neglect.
- Caliso, J. A., & Milner, J. S. (1992). Childhood history of abuse and child abuse screening. *Child Abuse & Neglect*, 16, 647-659.
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, 44, 585-599.
- Campbell-Sills, L. & Stein, M.B. (2007). Psychometric analysis and refinement of the Connor–Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20, 1019–1028.
- Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K. (1989b). Disorganised/disoriented attachment relationships in maltreated infants. *Developmental Psychology*, 25, 525-531.
- Casanueva, C., Martin, S. L., & Runyan, D. K. (2009). Repeated reports for child maltreatment among intimate partner violence victims: Findings from the National survey of child and adolescent well-being. *Child Abuse & Neglect*, 33, 84-93.

- 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; London.
- Chambers, J. C., Horvath, M. A. H., & Kelly, L. (2010). An offender based typology of multiple perpetrator rape. *Criminal Justice and Behaviour*, 37, 1114-1139.
- Cicchetti, D. (2010). Resilience under conditions of extreme stress: a multilevel perspective. *World Psychiatry*, 9, 145-154.
- Cicchetti, D. (2013). Annual Research Review: Resilient functioning in maltreated children – past, present and future perspectives. *Journal of Child Psychology and Psychiatry*, 54, 402-422.
- Cicchetti, D., & Lynch, M. (1993). Towards an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry*, 56, 96-118.
- Cicchetti, D., & Lynch, M. (1995). Failures in the expectable environment and their impact on individual development: The case of child maltreatment. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology (2<sup>nd</sup> ed.): Risk, disorder and adaptation* (pp. 32-71). New York, NY: Wiley.
- Cicchetti, D., & Rizley, R. (1981). Developmental perspectives on the etiology, intergenerational transmission and sequelae of child maltreatment. *New Directions in Child Development: Development Perspectives on Child Maltreatment*, 11, 31-56.
- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8, 597-600.
- Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organisation in the promotion of resilience in maltreated children. *Development and Psychopathology*, 9, 797-815.

- Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development & Psychopathology*, 5, 629-647.
- Cicchetti, D., & Valentino, K. (2006). An Ecological Transactional Perspective on Child Maltreatment: Failure of the Average Expectable Environment and Its Influence Upon Child Development. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology* (2nd ed.): Risk, disorder, and adaptation (pp. 129-201). New York, NY: Wiley.
- Classen, C. C., Palesh, O. G., & Aggarwal, R. (2005). Sexual revictimisation: A review of the empirical literature. *Trauma, Violence & Abuse*, 6, 103-129.
- Clauss-Ehlers, C., & Wibrowski, C. R. (2007). Building educational resilience and social support: The effects of the educational and opportunity fund program among first and second generation college students. *Journal of College Student Development*, 48, 574-584.
- Clemmons, J. C., Walsh, K., DiLillo, D. K., & Messman-Moore, T. L. (2007). Unique and combined contributions of multiple child abuse types and abuse severity to adult trauma symptomatology. *Child Maltreatment*, 12, 172-181.
- Crittenden, P. M. (2008). Raising parents: Attachment, parenting and child safety. Routledge, London.
- Crittenden, P. M. (1992). Children's strategies for coping with adverse home environments: An interpretation using attachment theory. *Child Abuse & Neglect*, 16, 329-343.
- Coffey, P., Leitenberg, H., Henning, K., Turner, T., & Bennett, R. T. (1996). Mediators of the long term impact of child sexual abuse: Perceived stigma, betrayal, powerlessness, and self-blame. *Child Abuse & Neglect*, 20, 447-455.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behaviour*, 24, 386-396

- Cohen, J., Perel, J., DeBellis, M., Friedman, M., & Putnam, F. (2002). Treating traumatised children: Clinical implications of the psychobiology of Post-Traumatic Stress Disorder. *Trauma, Violence & Abuse*, 3, 91-108.
- Coid, J., Petruckevitch, A., Feder, G., Chung, W., Richardson, J., & Moorey, S. (2001). Relation between child sexual and physical abuse and risk of revictimisation in women: A cross-sectional survey. *The Lancet*, 358, 450-454.
- Conner, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18, 76-82.
- Connor, K.M., & Davidson, J.R.T. (2011). Overview: Connor-Davidson Resilience Scale (CD-RISC). Retrieved on 29<sup>th</sup> March 2012 from [www.cd-risc.com](http://www.cd-risc.com).
- Department for Education (2013). *Working together to safeguard children: A guide to inter-agency working to safeguard and promote the welfare of children*. London: Department for Education.
- Dixon, L., Hamilton-Giachritsis, C., Browne, K. D., & Ostapuk, E. (2007). The co-occurrence of child and intimate partner maltreatment in the family: Characteristics of the violent perpetrators. *Journal of Family Violence*, 22, 675-689.
- Dodding, C. J., Nael, D. D., Murphy, M., & Howell, C. (2008). All in for mental health: A pilot study of group therapy for people experiencing anxiety and/or depression and a significant other of their choice. *Mental Health in Family Medicine*, 5, 41-49.
- Dong, M., Anda, R. F., Dube, S. R., Giles, W. H., & Felitti, V. J. (2003). The relationship of exposure to childhood sexual abuse to other forms of abuse, neglect and household dysfunction during childhood. *Child Abuse & Neglect*, 27, 625-639.

- Edwards, V., Holden, G., Felitti, V. J., & Anda, R. F. (2003). Relationships between multiple forms of childhood maltreatment and mental health in community respondent: Results from the adverse childhood experiences study. *American Journal of Psychiatry*, 160, 1453-1460.
- Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and Psychopathology*, 5, 517-528.
- Egeland, B., & Farber, E. (1987). Invulnerability among abused and neglected children. In E. J. Anthony & B. J. Cohler (Eds.), *The invulnerable child* (pp. 253-288). New York: Guilford.
- Egeland, B., & Sroufe, A. (1981a). Developmental sequelae of maltreatment in infancy. *New directions for child development*, 11, 77-92.
- Egeland, B., & Sroufe, A. (1981b). Attachment and early maltreatment. *Child Development*, 52, 1080-1088.
- Endler, N. S., & Parker, J. D. A. (1999). *Coping Inventory for Stressful Situations (CISS) manual* (2<sup>nd</sup> ed.). Toronto, Canada: Multi-Health Systems.
- Engel, G. L. (1980). The clinical application of the biopsychosocial model. *American Journal of Psychiatry*, 137, 535-544.
- English, D. J., Graham, J. C., Litrownik, A. J., Everson, M., & Bangdiwala, S. I. (2005). Defining maltreatment chronicity: Are there differences in child outcomes? *Child Abuse & Neglect*, 29, 575-595.
- Farrell, G. (1992). Multiple victimisation: Its extent and significance. *International Review of Victimology*, 2, 85-102.
- Farrington, D. P. (1997). Human development and criminal careers. In M. Maguire, R. Morgan & R. Reiner (Eds.) *The Oxford Handbook of Criminology* (2nd ed., pp. 361-408). Oxford: Clarendon Press.

- Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399-419.
- Field, A. (2009). *Discovering statistics using SPSS* (Third Edition). London: Sage.
- Finkelhor, D., & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualisation. *American Journal of Orthopsychiatry, 55*, 1297-1312.
- Finkelhor, D., Omrod, R. K., Turner, H. A. (2007a). Poly-victimisation and trauma in a national longitudinal cohort. *Development and Psychopathology, 19*, 149-166.
- Finkelhor, D., Omrod, R. K., Turner, H. A. (2007b). Poly-victimisation: A neglected component in child victimisation trauma. *Child Abuse & Neglect, 31*, 7-26.
- Finkelhor, D., Omrod, R. K., Turner, H. A. (2007c). Revictimisation patterns in a national longitudinal sample of children and youth. *Child Abuse & Neglect, 31*, 479-502.
- Finkelhor, D., Omrod, R. K., Turner, H. A., & Holt, M. (2009). Pathways to poly-victimisation. *Child Maltreatment, 14*, 316-329.
- Finkelhor, D., Omrod, R. K., Turner, H. A. (2009). Lifetime assessment of poly-victimisation in a national sample of children and youth. *Child Abuse & Neglect, 33*, 403-411.
- Finkelhor, D., Turner, H. A., Hamby, & Omrod, R. K. (2011). Poly-victimisation: Children's exposure to multiple types of violence, crime and abuse. *Juvenile Justice Bulletin*. Retrieved from [www.ojp.usdoj.gov](http://www.ojp.usdoj.gov)
- Folkman, S., & Moskowitz, J. T. (2004). Coping: pitfalls and promise. *Annual Review of Psychology, 55*, 745-774.
- Ford, J. D., Elhai, J. D., Connor, D. F., & Frueh, B. C. (2010). Poly-victimization and risk of posttraumatic, depressive, and substance use disorders and involvement in delinquency in a national sample of adolescents. *Journal of Adolescent Health, 46*, 545-552.

- Fox, K. M., & Gilbert, B. O. (1994). The interpersonal and psychological functioning of women who experienced childhood physical abuse, incest and parental alcoholism. *Child Abuse & Neglect*, 18, 849-858.
- Freysteinsdóttir, F. J. (2004). Risk factors for repeated child maltreatment. Unpublished doctoral dissertation, University of Iowa.
- Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: What are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, 12, 65-76.
- Futa, K. T., Nash, C. L., Hansen, D. J., & Garbin, C. P. (2003). Adult survivors of childhood abuse: An analysis of coping mechanisms used for stressful childhood memories and current stressors. *Journal of Family Violence*, 18, 227-239.
- Fyncham, D.S., Altes, L.K., Stein, D.J., & Seedat, S. (2009). Posttraumatic stress disorder symptoms in adolescents: risk factors versus resilience moderation. *Comprehensive Psychiatry*, 50, 193-199.
- Ganzel, B. L., Morris, P. A., & Wethington, E. (2010). Allostatis and the human brain: Integrating models of stress from the social and life sciences. *Psychological Review*, 117, 134-174.
- Garnezy, N., & Rutter, M. (1985). Acute stress reactions. In M. Rutter, & L. Hersob (Eds.), *Child and adolescent psychology: modern approaches*. Oxford: Blackwell.
- George, C. (1996). A representational perspective of child abuse and prevention: Internal working models of attachment and caregiving. *Child Abuse & Neglect*, 20, 411-424.
- Gibb, B. E., Alloy, L. B., Abramson, L. Y., Rose, D. T., Whitehouse, W. G., Donovan, P., Hogan, M. E., Cronholm, J., & Tierney, S. (2001). History of childhood maltreatment, negative cognitive styles and episodes of depression in adulthood. *Cognitive Therapy and Research*, 25, 425-446.



- Gibson, L. E., & Leitenberg, H. (2001). The impact of child sexual abuse and stigma on methods of coping with sexual assault among undergraduate women. *Child Abuse & Neglect*, 25, 1343-1361.
- Gidycz, C. A., Coble, C. N., Latham, L., & Latham, M. J. (1993). Sexual assault experience in adulthood and prior victimisation experiences: A prospective analysis. *Psychology of Women Quarterly*, 17, 151-168.
- Giesbrecht, T., Abidi, K., Smeets, T., Merckelbach, H., van Oorsouw, K., Raymaekers, L. (2009). Adversity does not always lead to psychopathology: cognitive reactivity is related to longitudinal changes in resilience. *Netherlands Journal of Psychology*, 65, 62-68.
- Gilbert, R., Spatz-Widom, C., Browne, K., Fergusson, D., Webb, E., & Jansson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *Lancet*, 373, 68-81.
- Gipple, D. E., Lee, S. M., & Puig, A. (2006). Coping and dissociation among female college students: Reporting childhood abuse experiences. *Journal of College Counselling*, 9, 33-46.
- Goldberg, S., Muir, R., & Kerr, J. (2000). *Attachment theory: Social, developmental and clinical perspectives*. Hillsdale, NJ: The Analytic Press Inc.
- Goodman, L. A., Corcoran, C., Turner, K., Yuan, N., & Green, B. L. (1998). Assessing traumatic event exposure: General issues and preliminary findings for the stressful life events screening questionnaire. *Journal of Traumatic Stress*, 11, 521-542.
- Griffin, D. W. & Bartholomew, K. (1994). Models of the self and others: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology*, 67, 430-445.
- Gucciardi, D. F., Jackson, B., Coulter, T. J., & Mallett, C. J. (2011). The Connor-Davidson Resilience Scale (CD-RISC): Dimensionality and age-related measurement invariance with Australian cricketers. *Psychology of Sport and Exercise*, 12, 423-433.

- Gustafsson, P. E., Nilsson, D., & Svedin, C. G. (2009). Polytraumatization and psychological symptoms in children and adolescents. *European Child & Adolescent Psychiatry, 18*, 274-283.
- Ha, R. Y., Kang, J. I., An, S.K., & Cho, H. S. (2009). Some psychological correlates affecting recognition of neural facial emotion in young adults. *Journal of Korean Neuropsychiatric Association, 48*, 481-487.
- Hagar, A. D., & Runtz, M. G. (2012). Physical and psychological maltreatment in childhood and later health problems in women: An exploratory investigation of the roles of perceived stress and coping strategies. *Child Abuse & Neglect, 36*, 393-403.
- Hamilton, C. E., & Browne, K. D. (1998). The repeat victimisation of children: should the concept be revised? *Aggression and Violent Behaviour, 3*, 47-60.
- Hamilton, C. E., & Browne, K. D. (1999). Recurrent maltreatment during childhood: A survey of referrals to police child protections units in England. *Child Maltreatment, 4*, 275-286.
- Haskett, M. E., Nears, K., Sabourin Ward, C., & McPherson, A. V. (2006). Diversity in adjustment of maltreated children: Factors associated with resilient functioning. *Clinical Psychology Review, 26*, 796-812.
- Heller, S. S., Larrieu, J. A., D'Imperio, D., & Boris, N. W. (1999). Research on resilience to child maltreatment: Empirical considerations. *Child Abuse & Neglect, 23*, 321-338.
- Herrenkohl, T. I. (2011). Resilience and protection from violence exposure in children: Implications for prevention and intervention programs with vulnerable populations. In T. I. Herrenkohl, E. Aisenberg, J. H. Williams, & J. M. Jenson (Eds.), *Violence in context: Current evidence on risk, protection and prevention*. New York: Oxford.

- Herrenkohl, E. C., Herrenkohl, R. C., & Egolf, M. (1994). Resilient early school-age children from maltreating homes: Outcomes in late adolescence. *American Journal of Ortho-Psychiatry*, 64, 301-309.
- Herrenkohl, T. I., Hong, S., Klika, B., Herrenkohl, R. C., & Russo, M. J. (2012). Developmental impacts of child abuse and neglect related to adult mental health, substance use and physical health. *Journal of Family Violence*, 28, 191-199.
- Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Moylan, C. (2008). Intersection of child abuse and children's exposure to domestic violence. *Trauma, Violence & Abuse*, 9, 84-99.
- Higgins, D. J., & McCabe, M. P. (1998). Parents perceptions of maltreatment and adjustment in children. *Journal of Family Studies*, 4, 53-76.
- Higgins, D. J., & McCabe, M. P. (2000). Multi-type maltreatment and the long-term adjustment of adults. *Child Abuse Review*, 9, 6-18.
- Higgins, D. J., & McCabe, M. P. (2001). Multiple forms of child abuse and neglect: Adult retrospective reports. *Aggression and Violent Behaviour*, 6, 547-578.
- Higgins, D. J., & McCabe, M. P. (2003). Maltreatment and family dysfunction in childhood and the subsequent adjustment of children and adolescents. *Journal of Family Violence*, 18, 107-120.
- Hillberg, T., Hamilton-Giachritsis, C., & Dixon, L. (2011). Review of meta-analyses on the association between child sexual abuse and adult mental health difficulties: A systematic approach. *Trauma, Violence & Abuse*, 12(1), 38-49.
- Himelein, M., & McElrath, A. (1996). Resilient child sexual abuse survivors: Cognitive coping and illusion. *Child Abuse & Neglect*, 20, 747-758.
- Holmes, J. (2001). *The search for the secure base: Attachment theory and psychotherapy*. Hove, East Sussex: Brunner-Routledge.

- Horvath, M. A. H., & Woodhams, J. (2013). *Handbook on the study of multiple perpetrator rape: A multi-disciplinary response to an international problem*. Abingdon, Oxford; Routledge.
- Howes, C., Matheson, C. C., & Hamilton, C. E. (1994). Maternal, teacher and child care history correlates of children's relationships with peers. *Child Development*, 65, 264-273.
- Huang, H. (2006). Do print and web surveys provide the same results? *Computers in Human Behaviour*, 22.
- Huang, M. F. (2010). *Resilience in chronic disease: the relationship among risk factors, protective factors, adaptive outcomes and the level of resilience in adults with diabetes*. Unpublished doctoral dissertation, Queensland University of Technology, Brisbane.
- Hughes, H. M., Parkinson, D., & Vargo, M. (1989). Witnessing spouse abuse and experiencing physical abuse: a "double whammy"? *Journal of Family Violence*, 4, 197-209.
- Hull, J.G., Van Treuren, R.R., & Virnelli, S. (1987). Hardiness and health: a critique and alternative approach. *Journal of Personality and Social Psychology*, 53, 518–530.
- Ito, M., Nakajima, S., Shirai, A., & Kim, Y. (2009). *Cross-cultural validity of the Connor-Davidson Scale: data from Japanese population*. 25<sup>th</sup> Annual Meeting, International Society of Traumatic Stress Studies (ISTSS): Atlanta.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Thomas, M., & Taylor, A. (2007). Individual, family and neighbourhood factors distinguish resilient from non-resilient maltreated children: A cumulative stressors model. *Child Abuse & Neglect*, 31, 231-253.
- Jorgensen, I.E., & Seedat, S. (2008). Factor structure of the Connor-Davidson Resilience Scale in South African adolescents. *International Journal of Adolescent Medical Health*, 20, 23-32.

- Juster, R. P., McEwen, B. S., & Lupien, S. J. (2010). Allostatic load biomarkers of chronic stress and impact on health and cognition. *Neuroscience and Biobehavioural Reviews*, 35, 2-16.
- Kafetsios, K., & Sideridis, G. (2006). Attachment, social support and well-being in young and older adults. *Journal of Health Psychology*, 11, 863-876.
- Karreman, A., & Vingerhoets, J. J. M. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual Differences*, 53, 821-826.
- Kaufman, J. (1991). Depressive disorders in maltreated children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 257-265.
- Kaufman, J., Cook, A., Arny, L., Jones, B. A., & Pittinsky, T. (1994). Problems defining resiliency: Illustrations from the study of maltreated children. *Development and Psychopathology*, 6, 215-229.
- Kaufman, J., & Zigler, E. (1989). The intergenerational transmission of child abuse and the prospect of predicting future abusers. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Research and theory on consequences of child abuse and neglect* (pp. 129-150). New York: Cambridge University Press.
- Keenan, E. K. (2010). Seeing the Forest *and* the Trees: Using Dynamic Systems Theory to Understand “Stress and Coping” and “Trauma and Resilience”. *Journal of Human Behaviour in the Social Environment*, 20, 1038-1060.
- Khoshouei, M.S. (2009). Psychometric evaluation of the Connor-Davidson Resilience Scale (CD-RISC) using Iranian students. *International Journal of Testing*, 9, 60-66.
- Kinard, E. M. (1994). Methodological issues and practical problems in conducting research on maltreated children. *Child Abuse & Neglect*, 18, 654-656.
- Klika, J. B., & Herrenkohl, T. I. (2013). A review of developmental research on resilience in maltreated children. *Trauma, Violence & Abuse*, 14, 222-234.

- Klika, J. B., Herrenkohl, T. I., & Lee, J. O. (2013). School factors as moderators of the relationship between physical child abuse and pathways of antisocial behavior. *Journal of Interpersonal Violence*, 28, 862-867.
- Kline, P. (1986). *A handbook of test construction. Introduction to psychometric design*. London: Methuen & Co Ltd.
- Kim, J., & Cicchetti, D. (2004). A process model of mother-child relatedness and psychological adjustment among maltreated and nonmaltreated children: The role of self-esteem and social competence. *Journal of Abnormal Child Psychology*, 32, 341-354.
- Kobasa, S.C. (1979). Stressful life events, personality and health: an inquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1-11.
- Kuyken, W., & Brewin, C.R. (1994). Intrusive memories of childhood abuse during depressive episodes. *Behaviour Research and Therapy*, 32, 525-528.
- Lamond, A.J., Depp, C.A., Allison, M., Langer, R., Reichstadt, J., Moore, D.J., et al. (2008). Measurement and predictors of resilience among community-dwelling older women. *Journal of Psychiatry Research*, 43, 148-154.
- Larose, S., & Bernier, A. (2001). Social support processes: Mediators of attachment state of mind and adjustment in later late adolescence. *Attachment and Human Development*, 3, 96-120.
- Lavy, S., & Littman-Ovadia, H. (2011). All you need is love? Strengths mediate the negative associations between attachment orientations and life satisfaction. *Personality and Individual Differences*, 50, 1050-1055.
- Lazarus, R. S. (1993). Coping theory and research: Past, present and future. *Psychosomatic Medicine*, 55, 234-247.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

- Leitenberg, H., Gibson, L. E., & Novy, P. L. (2004). Individual differences among undergraduate women in methods of coping with stressful events: The impact of cumulative childhood stressors and abuse. *Child Abuse & Neglect*, 28, 181-192.
- Levendosky, A. A., & Graham-Bermann, S. A. (2000). Behavioral observations of parenting in battered women. *Journal of Family Psychology*, 14, 80-94.
- Levendosky, A. A. & Graham-Bermann, S. A. (2001). Parenting in battered women: The effects of domestic violence on women and children. *Journal of Family Violence*. 16, 171-192.
- Lewis, M. (1988). What can child development tell us about child abuse? In K. Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 3-12). Chichester, UK: John Wiley and Sons.
- Liem, J. H., & Bourdewyn, H. C. (1999). Contextualising the effects of childhood sexual abuse on adult self and social functioning: An attachment theory perspective. *Child Abuse & Neglect*, 23, 1141-1157.
- Liem, J. H., James, J. B., O'Toole, J.G. (1997). Assessing resilience in adults with histories of childhood sexual abuse. *American Journal of Orthopsychiatry*, 67, 594-606.
- Limke, A., Showers, C. J., & Ziegler-Hill, V. (2010). Emotional and sexual maltreatment: Anxious attachment mediates psychological adjustment. *Journal of Social and Clinical Psychology*, 29, 347-367.
- Luthar, S. S. (1991). Vulnerability and resilience: A study of high risk adolescents. *Child Development*, 62, 600-616.
- Luthar, S. S. (1999). Poverty and children's adjustment. Sage, Newbury Park: CA.
- Luthar, S. S., Doernberger, C. H., & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a prospective study on inner-city adolescents. *Development and Psychopathology*, 5, 703-717.

- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, 12, 857-885.
- Lynch, M., & Cicchetti, D. (1998). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence and children's symptomatology. *Development and Psychopathology*, 10, 235-257.
- Lyons, J. (1991). Strategies for assessing the potential for positive adjustment following trauma. *Journal of Traumatic Stress*, 4, 93-111.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganised/disorientated during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the pre-school years: Theory, research and innovation* (pp. 121-160). London: The University of Chicago Press.
- Malinosky-Rummell, R. R. (1992). *Relationship of childhood physical abuse with college women's self-reported interpersonal behaviour and ratings of assertiveness, passiveness and aggressiveness in heterosexual interactions*. Unpublished doctoral dissertation, West Virginia University, Morgantown.
- Manly, J. T., Kim, J., Rogosch, F. A., & Cicchetti, D. (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. *Development and Psychopathology*, 13, 759-782.
- Margolin, G., Vickerman, K. A., Oliver, P. H., & Gordis, E. B. (2010). Violence exposure in multiple interpersonal domains: Cumulative and differential effects. *Journal of Adolescent Health*, 47, 198-205.
- Marriott, C. (2006). *Resilience following childhood maltreatment*. Unpublished doctoral dissertation: University of Birmingham.



- Martinez-Torteya, C., Bogat, G., von Eye, A., & Levendosky, A. A. (2009). Resilience among children exposed to domestic violence: the role of risk and protective factors. *Child Development, 80*, 562-577.
- Masten, A. S. (2001). Ordinary magic: resilience processes in development. *American Psychologist, 56*, 227-238.
- Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice and translational synergy. *Development and Psychopathology, 23*, 493-506.
- Masten, A. S., & Coastworth, J. D. (1998). The development of competence in favourable and unfavourable environments: Lessons from research on successful children. *American Psychologist, 53*, 205-220.
- Masten, A. S., Burt, K. B., & Coatsworth, J. D. (2006). Competence and psychopathology in development. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology (2<sup>nd</sup> ed.): Risk, disorder and adaptation* (pp. 696-738). New York, NY: Wiley.
- Masten, A. S., & Garmezy, N. (1985). Risk, vulnerability and protective factors in developmental psychopathology. In B. Lahey & A. Kazdin (Eds.), *Advances in Clinical Child Psychology* (pp. 1-52). Plenum Press: New York.
- Masten, A. S., & Obradovic, J. (2006). Competence and resilience in development. *Annals New York Academy of Sciences, 1094*, 13-27.
- Masten, A. S., & Obradovic, J. (2008). Disaster preparation and recovery: Lessons from research on resilience in human development. *Ecology and Society, 13*, 9-24.
- Masten, A. S., & O'Dougherty Wright, M. (2010). Resilience over the lifespan: Developmental perspectives on resistance, recovery and transformation. In J. W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adult resilience* (pp. 213-237). New York, NY: Guilford.
- Masten, A. S., & Powell, J. L. (2003). A resilience framework for research, policy and practice. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the*

*context of childhood adversities* (pp. 1-25). New York, NY: Cambridge University Press.

Maughan, A., & Cicchetti, D. (2002). The impact of child maltreatment and interadult violence on children's emotion regulation abilities. *Child Development, 73*, 1525-1542.

Mayall, A., & Gold, S. R. (1995). Definitional issues and mediating variables in revictimisation of women sexually abused as children. *Journal of Interpersonal Violence, 10*, 26-42.

McGloin, J. M., & Widom, C. S. (2001). Resilience among abused and neglected children grown up. *Developmental Psychopathology, 13*, 1021-1038.

McIntyre, J. K., & Widom, C. S. (2011). Childhood victimization and crime victimization. *Journal of Interpersonal Violence, 26*, 640-663.

McLewin, L. A. & Muller, R. T. (2006). Attachment and social support in the prediction of psychopathology among young adults with and without a history of physical maltreatment. *Child Abuse & Neglect, 30*.

Medina, J., Cebulla, A., Ross, A., Shute, J., & Aldridge, J. (2010). *Children and young people in gangs: A longitudinal analysis*. Nuffield Foundation: Manchester.

Mikulincer, M., & Nachshon, O. (1991). Attachment style and self-disclosure. *Journal of Personality and Social Psychology, 61*, 321-331.

Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: structure, dynamics, and change*. New York: Guilford Press.

Mills, R., Scott, J., Alati, R., O'Callaghan, M., Najman, J. M., & Strathearn, L. (2013). Child maltreatment and adolescent mental health problems in a large birth cohort. *Child Abuse & Neglect, 37*, 292-302.

Moos, R. H. (1990). *Coping Responses Inventory Manual*. California: Centre for Health Care Evaluation.

- Moran, P. B., & Eckenrode, J. (1992). Protective personality characteristics among adolescent victims of maltreatment. *Child Abuse & Neglect*, 16, 743-754.
- Morton, N., & Browne, K. D. (1998). Theory and observation of attachment and its relation to child maltreatment: A review. *Child Abuse & Neglect*, 22, 1093-1104.
- Muller, R. T. (2009). Trauma and dismissing (avoidant) attachment: intervention strategies in individual psychotherapy. *Psychotherapy: Theory, Research, Practice, Training*, 46, 68-81.
- Muller, R. T. (2010). *Trauma and the avoidant client: attachment based strategies for healing*. New York: W. W. Norton.
- Muller, R. T., Sicoli, L. A., & Lemieux, K. E. (2000). Relationship between attachment style and post-traumatic stress symptomatology among adults who report the experience of childhood abuse. *Journal of Traumatic Stress*, 13.
- National Society for the Prevention of Cruelty to Children (2015). Child protection register statistics UK: 2010-2014. Retrieved on 19<sup>th</sup> April 2015 from <http://www.nspcc.org.uk/preventing-abuse/research-and-resources/statistics/>
- Neugarten, B. J., Havighurst, R. J., & Tobin, S. S. (1961). The measurement of life satisfaction. *Journal of Gerontology*, 16, 134-143.
- Noll, J. G., Horowitz, L. A., Bonanno, G. A., Tackett, P. K., & Putnam, F. W. (2003). Revictimisation and self-harm in females who experienced childhood sexual abuse: Results from a prospective study. *Journal of Interpersonal Violence*, 18, 1452-1471.
- Noll, J. G., Trickett, P. K., Harris, W. W., & Putnam, F. W. (2009). The cumulative burden borne by offspring whose mothers were sexually abused as children. *Journal of Interpersonal Violence*, 24, 424-449.
- 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, no page specified.

- Paulhus, D. L. (1998). *Paulhus Deception Scales*. Multi-health Systems.
- Paulhus, D.L., & Reid, D.B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.
- Pease, K., & Laycock, G. (1996). Revictimisation: Reducing the heat on hot victims. *NIJ Research in Action*. Washington, DC: US Department of Justice.
- Pinto, R., Correia, L., & Maia, A. (2014). Assessing the reliability of retrospective reports of adverse childhood experiences among adolescents with documented childhood maltreatment. *Journal of Family Violence*, 29, 431-438.
- O'Dougherty Wright, M., Fopma-Loy, J., & Fischer, S. (2005). Multidimensional assessment of resilience in mothers who are child sexual abuse survivors. *Child Abuse & Neglect*, 29, 1173-1193.
- O'Dougherty Wright, M., Crawford, E., & Del Castillo, D. (2009). Childhood emotional maltreatment and later psychological distress among college students: The mediating role of maladaptive schemas. *Child Abuse & Neglect*, 33, 59-68.
- O'Dougherty Wright, M., Masten, A. S., & Narayan, A. J. (2013). Resilience processes in development: Four waves of research on positive adaptation in the context of adversity. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of resilience in children* (2<sup>nd</sup> ed.) (pp. 15-37). New York: Springer.
- O'Hagan, K. P. (1995). Emotional and psychological abuse: Problems of definition. *Child Abuse & Neglect*, 19, 449-461.
- Outlaw, M., Ruback, B., & Britt, C. (2002). *Repeat and multiple victimisations: The role of individual and contextual factors*. Unpublished report submitted to the US Department of Justice.
- Quale, A. J., & Schanke, A. K. (2010). Resilience in the face of coping with a severe physical injury: A study of trajectories of adjustment in a rehabilitation setting. *Rehabilitation Psychology*, 55, 12-22.

- Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N., & Collishaw, S. (2011). *Child abuse & neglect in the UK today*. NSPCC: London.
- Rew, L., Esparza, D., & Sands, D. (1991). A comparative study among college students of sexual abuse in childhood. *Archives of Psychiatric Nursing*, 10, 331-340.
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58, 307-321.
- Robboy, J., & Anderson, K. G. (2011). Intergenerational child abuse and coping. *Journal of Interpersonal Violence*, 26, 3526-3541.
- Roche, D. N., Runtz, M. G., & Hunter, M. A. (1999). Adult attachment: A mediator between child sexual abuse and later psychological adjustment. *Journal of Interpersonal Violence*, 14, 184-207.
- Rogosch, F. A., Dackis, M. N., & Cicchetti, D. (2011). Child maltreatment and allostatic load: Consequences for physical and mental health in children from low income families. *Development and Psychopathology*, 23, 1107-1124.
- Roscoe, B., & Benaske, N. (1985). Courtship violence experienced by abused wives: Similarities in patterns of abuse. *Family Relationships*, 34, 419-424.
- Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Rosenstein, D. S., & Horowitz, H. A. (1996). Adolescent attachment and psychopathology. *Journal of Consulting and Clinical Psychology*, 64, 244-253.
- Rossman, B. B. R., Hughes, H. M., & Hanson, K. L. (1998). The victimisation of school-age children. *Journal of Aggression, Maltreatment and Trauma*, 2, 87-106.
- Roy, A., Sarchiapone, M., & Carli, V. (2007). Low resilience in suicide attempters: relationship to depressive symptoms. *Depression and Anxiety*, 24, 273-274.
- Runtz, M. G., & Schallow, J. R. (1997). Social support and coping strategies as mediators of adult adjustment following childhood maltreatment. *Child Abuse & Neglect*, 21, 211-226.

- Rutter, M. (1985). Resilience in the face of adversity: protective factors and resistance to psychiatric disorders. *British Journal of Psychiatry*, 147, 598–611.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57, 316-331.
- Rutter, M (2000). Resilience reconsidered: conceptual considerations, empirical findings, and policy implications. In J.P. Shonkoff & S.J. Meisels (Eds.), *Handbook of Early Childhood Intervention*. Cambridge: Cambridge University Press
- Scandell, D. J. (2000). Development and initial validation of validity scales for the NEO-Five Factor Inventory. *Personality and Individual Differences*, 29, 1153-1162.
- Schneider-Rosen, K., & Cicchetti, D. (1984). The relationship between affect and cognition in maltreated infants: Quality of attachment and the development of visual self-recognition. *Child Development*, 55, 648-655.
- Schwarzer, R., & Jerusalem, M. (1993). Generalised Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in Health Psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.
- Schultz, D., Tharp-Taylor, S., Haviland, A., & Jaycox, L. (2009). Relationship Between Protective Factors and Outcomes for Children Investigated for Maltreatment. *Child Abuse & Neglect*, 33, 684-698.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology. *American Psychologist*, 55, 5–14.
- Shaffer, A., Huston, L., & Egeland, B. (2008). Identification of child maltreatment using prospective and retrospective methodologies: a comparison of maltreatment incidence and relations to later psychopathology. *Child Abuse & Neglect*, 32, 682-692.

- Shapiro, D. L., & Levendosky, A. A. (1999). Adolescent survivors of childhood sexual abuse: The mediating role of attachment style and coping in psychological and interpersonal functioning. *Child Abuse and Neglect*, 23, 1175-1191.
- Sheehan, D. V., Raj, A. B., Harnett Sheehan, K. (1990). Is buspirone effective for panic disorder? *Journal of Clinical Psychopharmacology*, 10, 3-11.
- Siegel, J. A., & Williams, L. M. (2003). Risk factors for sexual victimisation of women. *Violence Against Women*, 9, 902-930.
- Simon, N. M., Herlands, N. N., Marks, E. H., Mancini, C., Letemendi, A., Li, Z., Pollack M. H., van Ameringen, M., & Stein, M. B. (2009). Childhood maltreatment linked to greater symptom severity and poorer quality of life and function in social anxiety disorder. *Depression and Anxiety*, 26, 1027-1032.
- Simpson, J. A. (1990). Influences of attachment styles of romantic relationships. *Journal of Personality and Social Psychology*, 59, 971-980.
- Singh, K., & Yu, X. (2010). Psychometric evaluation of the Connor-Davidson Resilience Scale (CD-RISC) in a sample of Indian students. *Journal of Psychology*, 1, 23-30.
- Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., Bernard, J. (2008). The Brief Resilience Scale: assessing the ability to bounce back. *International Journal of Behavioural Medicine*, 15, 194-200.
- Stein, H., Jacobs, N. J., Fergusson, K. S., Allen, J. G., & Fonagy, P. (1998). What do adult attachment scales measure. *Bulletin of the Menninger Clinic*, 62, 33-82.
- Steinhardt, M.A., Mamerow, M.M., Brown, S.A., & Jolly, C.A (2009). A resilience intervention in African American adults with type 2 diabetes. *The Diabetic Educator* 2009, doi:10.1177/0145721708329698.
- Straus, M. A. (1979). Measuring interfamily conflict and violence: The Conflict Tactics (CT) scales. *Journal of Marriage and Family*, 41, 75-88.

- Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the parent-child Conflicts Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect*, 22, 249-270.
- Sutherland, J. A., Cook, L., Stetina, P., Hernandez, C. (2009). Women in substance abuse recovery: Measures of resilience and self-differentiation. *Western Journal of Nursing*, 31, 905-922.
- Svanberg, P. O. (1998). Attachment, resilience and prevention. *Journal of Mental Health*, 7, 543-578.
- Tolan, P. H., & Henry, D. (1996). Patterns of psychopathology among urban poor children. *Journal of Consulting and Clinical Psychology*, 64, 1094-1099.
- Tremblay, C., Hebert, M., & Piche, C. (1999). Coping strategies and social support as mediators of consequences in child sexual abuse victims. *Child Abuse & Neglect*, 23, 929-945.
- Trickett, P. K., Noll, J. G., & Putnam, F. W. (2011). The impact of sexual abuse on female development: Lessons from a multigenerational longitudinal research study. *Development and Psychopathology*, 23, 453-476.
- Trickett, P. K., & Susman, E. J. (1989). Perceived similarities and disagreements about child rearing practices in abusive and nonabusive families: Intergenerational and concurrent family processes. In D. Cicchetti, & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp.280-301). Cambridge, UK: Cambridge University Press.
- Ungar, M. (2005). Introduction: Resilience across cultures and contexts. In M. Ungar (Ed.), *Handbook for working with children and youth: Pathways to resilience across cultures and contexts* (pp. xv-xxxix). Thousand Oaks, CA: Sage Publications.
- Ungar, M. (2008). Resilience across cultures. *British Journal of Social Work*, 38, 218-235.



- Ungar, M. (2012). Social ecologies and their contribution to resilience. In M. Ungar (Ed.), *The social ecology of resilience: A handbook of theory and practice* (pp. 13-32). New York, NY: Springer.
- Ungar, M., Ghazinour, M., & Richter, J. (2013). Annual research review: What is resilience within the social ecology of human development? *Journal of Child Psychology and Psychiatry*, 54, 348-366.
- Child Maltreatment (2012). Unpublished report for the Department of Health and Human Services, USA.
- Vaishnavi, S, Connor, K.M., & Davidson, J.R.T. (2007). An abbreviated version of the Connor-Davidson Resilience Scale (CD-RISC), the CD-RISC 2: psychometric properties and application in psychopharmacological trials. *Psychiatry Research*, 152, 293-297.
- Valentine, L., & Feinauer, L. L. (1993). Resilience factors associated with female survivors of childhood sexual abuse. *The American Journal of Family Therapy*, 21, 216-224.
- Vetter, S., Dulaev, I., Mueller, M., Henley, R. R., Gallo, W. T., & Kanukova, Z. (2010). Impact of resilience enhancing programs on youth surviving the Beslan school siege. *Child an Adolescent Psychiatry and Mental Health*, 4, 11.
- Wagnild, G.M., & Young, H.M. (1993). Development and psychometric validation of the Resilience Scale. *Journal of Nursing Measurement*, 1 (2), 165–178.
- Walsh, K., Blaustein, M., Knight, W. G., Spinazzola, J., & van der Kolk, B. A. (2007). Resiliency factors in the relation between childhood sexual abuse and adulthood sexual assault in college-age women. *Journal of Child Sexual Abuse*, 16, 1-17.
- Walsh, W. A., Dawson, J., & Mattingly, M. J. (2010). How are we measuring resilience following childhood maltreatment? Is the research adequate and consistent? What is the impact on research, practice and policy? *Trauma, Violence & Abuse*, 11, 27-41.

- Walsh, K., Fortier, M. A., & DeLillo, D. (2009). Adult coping with childhood sexual abuse: A theoretical and empirical review. *Aggression and Violent Behaviour, 15*, 1-13.
- Ward, C. (1988). Stress, coping and adjustment in victims of sexual assault: The role of psychological defense mechanisms. *Counselling Psychology Quarterly, 1*, 165-178.
- Ward, M. J., Kessler, D. B., & Altman, S. C. (1993). Infant-mother attachment in children with failure to thrive. *Infant Mental Health Journal, 14*, 208-220.
- Waters, E., Hamilton, C. E., & Weinfield, N. S. (2000). The stability of attachment security from infancy to adolescence and early adulthood: General introduction. *Child Development, 71*, 678-683.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Wei, M., Liao, K., Ku, Y., & Shaffer, P. A. (2011). Attachment, self-compassion, empathy and subjective well-being among college students and community adults. *Journal of Personality, 79*, 191-221.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable but not invincible: A longitudinal study of resilient children and youth*. New York, NY: McGraw Hill.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.
- Widom, C. S., Czaja, S. J., & Dutton, M. A. (2008). Childhood victimisation and lifetime victimisation. *Child Abuse & Neglect, 32*, 785-796.
- Widom, C. S., Czaja, S. J., Bentley, T., & Johnson, M. S. (2012). A prospective investigation of physical health outcomes in abused and neglected children: New findings from a 30-year follow-up. *American Journal of Public Health, 102*, 1135-1144.

- Windle, G., Bennett, K.M., Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes*, 9 (8), 1-18.
- Wolfe, D. A., & McGee, R. A. (1994). Dimensions of child maltreatment and their relationship to adolescent adjustment. *Developmental Psychopathology*, 6, 165-181.
- Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A.-L., & Grasley, C. (2004). Predicting abuse in adolescent dating relationships over 1 year: The role of child maltreatment and trauma. *Journal of Abnormal Psychology*, 113, 406-415.
- Wolfe, V. V., Wolfe, D. A., Gentile, C., & Bordeau, P. (1987). *History of victimisation form*. Unpublished manuscript. University of Ontario: London, Ontario.
- World Health Organisation (2014). Child Maltreatment factsheet. Retrieved from <http://www.who.int/mediacentre/factsheets/fs150/en/>
- Yates, T. M., & Masten, A. S. (2004). Fostering the future: Resilience theory and the practice of positive psychology. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 521-539). Hoboken, NJ: Wiley.
- Yi-Frazier, J. P., Smith, R. E., Vitaliano, P. P., Yi, J. C., Mai, S., Hillman, M., & Weinger, K (2010). A person-focused analysis of resilience resources and coping in patients with diabetes. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 26, 51-60.
- Yu, X. N., Lau, J. T. F., Mak, W. W. S., Lv, Y. H., Cheng, Y. M., & Zhang, J. X. (2009). Risk and protective factors in association with mental health problems among people living with HIV who were former plasma/blood donors in rural China. *Aids Care*, 21, 645-654.
- Yu, X., & Zhang, J. (2007a). Factor analysis and psychometric evaluation of the Connor-Davidson Resilience Scale (CD-RISC) with Chinese people. *Social, Behavioural Personality*, 35, 19-30.

- Yu, X., & Zhang, J. (2007b). A comparison between the Chinese version of Ego Resiliency Scale and Connor-Davidson Resilience Scale. *Psychological Science*, 30, 5.
- Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67, 361–370.
- Zimrin, H. (1986). A profile of survival. *Child Abuse & Neglect*, 10, 339-349.
- Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Child and Youth Services Review*, 34, 2295-2303.

## **Appendices**

## Appendix 1: Search Syntax

*PsychINFO (1967 to October Week 5 2014)*

1 attach\*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

39642

2 bond\*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

14815

3 ((parent\* or mother\* or father\* or child\*) adj3 relat\*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] 88644

4 coping behavior/

38288

5 stress/

43432

6 "resilience (psychological)"/

7202

7 psychological endurance/

624

8 resilien\*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

17442

9 ((child\* or infan\* or youth or adolescen\* or teen\* or young\* or juvenile) adj3 (abuse\* or neglect\* or maltreat\*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

37173

10 4 or 5

75119

11 1 or 2 or 3	
129337	
12 Adjustment/	
13482	
13 Adaptation/	6009
14 6 or 7 or 8 or 12 or 13	
36567	
15 6 or 7 or 8 or 12 or 13	
36567	
16 9 and 11 and 14	271
17 9 and 10 and 14	125

*Embase (1974 to October 30, 2014)*

attach*.mp. [mp=title, abstract, subject headings, heading word, drug trade	
1 name, original title, device manufacturer, drug manufacturer, device trade name, 183074	
keyword]	
2 bond*.mp. [mp=title, abstract, subject headings, heading word, drug trade name,	249098
original title, device manufacturer, drug manufacturer, device trade name, keyword]	
((parent* or mother* or father* or child*) adj3 relat*).mp. [mp=title, abstract, subject	
3 headings, heading word, drug trade name, original title, device manufacturer, drug	98366
manufacturer, device trade name, keyword]	
4 coping behavior/	35732
5 stress/	106013
6 "resilience (psychological)"/	35732
7 psychological endurance/	0
8 resilien*.mp. [mp=title, abstract, subject headings, heading word, drug trade name,	14183
original title, device manufacturer, drug manufacturer, device trade name, keyword]	
9 ((child* or infan* or youth or adolescen* or teen* or young* or juvenile) adj3	38697

(abuse\* or neglect\* or maltreat\*))).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

10 4 or 5	137745
11 1 or 2 or 3	514466
12 Adjustment/	4285
13 Adaptation/	73787
14 6 or 7 or 8 or 12 or 13	123528
16 9 and 11 and 14	333
75 coping.mp.	58628
76 10 or 75	159568
77 9 and 14 and 76	746

*Medline (1946 to October Week 4, 2014)*

attach*.mp. [mp=title, abstract, original title, name of substance word,	
1 subject heading word, keyword heading word, protocol supplementary	161350
concept word, rare disease supplementary concept word, unique identifier]	
bond*.mp. [mp=title, abstract, original title, name of substance word,	
2 subject heading word, keyword heading word, protocol supplementary	173324
concept word, rare disease supplementary concept word, unique identifier]	
((parent* or mother* or father* or child*) adj3 relat*).mp. [mp=title,	
3 abstract, original title, name of substance word, subject heading word,	75728
keyword heading word, protocol supplementary concept word, rare disease	
supplementary concept word, unique identifier]	
4 coping behavior/	77755
5 stress/	0
6 "resilience (psychological)"/	1793
7 psychological endurance/	0
resilien*.mp. [mp=title, abstract, original title, name of substance word,	
8 subject heading word, keyword heading word, protocol supplementary	10957
concept word, rare disease supplementary concept word, unique identifier]	



((child* or infan* or youth or adolescen* or teen* or young* or juvenile) adj3 (abuse* or neglect* or maltreat*)).mp. [mp=title, abstract, original title, 9 name of substance word, subject heading word, keyword heading word, 31292 protocol supplementary concept word, rare disease supplementary concept word, unique identifier]		
10 4 or 5		77755
11 6 or 7 or 8		10957
12 1 or 2 or 3		397460
14 Adjustment/		21800
15 Adaptation/		0
16 6 or 7 or 8 or 14 or 15		32510
33 coping.mp.		32982
34 10 or 33		91686
35 9 and 16 and 34		204
36 9 and 12 and 16		218

*Web of Science (1970 to October 2014)*

# 1 [985,537](#) TOPIC: ((parent\* or child\* or mother\* or father\*) near/3 relat\*) OR TOPIC: (attach\*)  
OR TOPIC: (bond\*)

# 2 [1,299,247](#) TOPIC: (coping or cope or stress\*)

# 3 [8,751](#) TS=(psycholog\* near/3 (resilien\* or endur\* or hard\* or adapt\* or adjust\*))

# 4 [33,344](#) TOPIC: ((child\* or infan\* or youth or adolescen\* or teen\* or young\* or juvenile)  
near/3 (abuse\* or neglect\* or maltreat\*))

# 5 [2,239,671](#) #2 OR #1

# 6 [129](#) #5 AND #4 AND #3

# 7 [23](#) #4 AND #3 AND #2 AND #1

*Applied Social Sciences Index and Abstracts (ASSIA) (1987 to 2014)*

*(Including PILOTS: Published International Literature on Traumatic Stress, 1871-current; Social Services abstracts, 1979-current; Sociological abstracts, 1952-current)*

(all(((child\* OR infan\* OR youth\* OR adolescen\* OR teen\* OR young\* OR juvenile\*)  
NEAR/3 (abuse\* OR neglect\* OR maltreat\*)) AND ab((parent\* OR child\* OR mother\*  
OR father\*) NEAR/3 (relat\* OR attach\* OR bond\*)) AND all((psycholog\* OR  
positive\*) NEAR/3 (resilien\* OR endur\* OR hard\* OR adjust\* OR adapt\*)))  
70

(all(((child\* OR infan\* OR youth OR adolescen\* OR teen\* OR young\* OR juvenile) NEAR/3  
(abuse\* OR neglect\* OR maltreat\*)) AND ab(coping OR cope OR stress\* ) AND  
all((psycholog\* OR positive\*) NEAR/3 (resilien\* OR endur\* OR hard\* OR adjust\* OR  
adapt\*)))  
102

## Appendix 2: Table of Excluded Studies based on Full Text

Details of Excluded Study	Reason for Exclusion
Hager, A. D., & Runtz, M. G. (2012). Physical and psychological maltreatment in childhood and later health problems in women: An exploratory investigation of the roles of perceived stress and coping strategies.	Coping processes measured, but no resilience outcomes measured.
Campbell-Sills, L., Forde, D. R., & Stein, M. B. (2009). Demographic and childhood environmental predictors of resilience in a community sample.	Coping processes or attachment styles were not explored or measured.
Soffer, N., Gilboa-Schechtman, E., & Shahar, G. (2008). The relationship of childhood emotional abuse and neglect to depressive vulnerability and low self-efficacy.	Coping processes or attachment styles were not explored or measured.
Lansford, J.E., Malone, P.S., Steven, K.I., Dodge, K.A., Bates, J.E., & Pettit, G.S. (2006). Developmental trajectories of externalising and internalising behaviours: Factors underlying resilience in physically abused children.	Coping processes or attachment styles were not explored or measured.
O'Dougherty Wright, M., Crawford, E., & Del Castillo, D. (2009). Childhood emotional maltreatment and later psychological distress among college students: The mediating role of maladaptive schemas.	Coping processes or attachment styles were not explored or measured.
Asberg, K., & Renk, K. (2012). Perceived stress, external locus of control and social support as predictors of psychological adjustment among female inmates with or without a history of sexual abuse.	Coping processes or attachment styles were not explored or measured.
Leeson, F.J., & Nixon, R, D.V. (2011). The role of children's appraisals on adjustment following psychological maltreatment: A pilot study.	Coping processes or attachment styles were not explored or measured.
Chandler Ray, K., & Jackson, J.L. (1997). Family environment and child sexual victimisation: A test of the buffering hypothesis.	Coping processes or attachment styles were not explored or measured.

Shapiro, D.L., & Levendosky, A.A. (1999). Adolescent survivors of childhood sexual abuse: The mediating role of attachment style and coping in psychological and interpersonal functioning.	Coping and attachment explored; adjustment assessed using depression and trauma scales and did not measure other domains.
Runtz, M.G., & Schallow, J.R. (1997). Social support and coping strategies as mediators of adult adjustment following childhood maltreatment.	Coping measured; BSI used to measure psychiatric symptomatology.
Coffey, P., Leitenberg, H., Henning, K., Turner, T., & Bennet, R.J. (1996). The relation between methods of coping during adulthood with a history of childhood sexual abuse and current psychological adjustment.	Coping measured; BSI used to measure psychiatric symptomatology.
Leitenberg, H., Greenwald, E., & Cado, S. (1992). A retrospective study of long-term methods of coping with having been sexually abused during childhood.	Coping measured; BSI used to measure psychiatric symptomatology.
Browne, C., & Winkelman, C. (2007). The effect of childhood trauma on later psychological adjustment.	Coping measured; TSI used to measure trauma symptomatology.
Merrill, L., Thomsen, C.J., Sinclair, B.B., Gold, S.R., & Milner, J.S. (2001). Predicting the impact of child sexual abuse on women: The role of abuse severity, parental support and coping strategies.	Coping measured; TSI used to measure trauma symptomatology.
Roche, D.N., Runtz, M.G., & Hunter, M. A. (1999). Adult attachment: A mediator between child sexual abuse and later psychological adjustment.	Attachment measured; TSI used to measure trauma symptomatology.
Muller, R.T., Thornback, K., & Bedi, R. (2012). Attachment as a mediator between childhood maltreatment and adult symptomatology.	Attachment measured; TSI used to measure trauma symptomatology.
Hebert, M., Tremblay, C., Parent, N., Daignault, I.V., & Piche, C. (2006). Correlates of behavioural outcomes in sexually abused children.	Coping measured but no resilience outcomes assessed.
Spaccarelli, S., & Soni, K. (1995). Resilience criteria and factors associated with resilience in sexually abused girls.	Coping measured; depression and psychiatric symptomatology measured (only)

	psychopathology).
Himelein, M. J., & McElrath, J. A. V. (1996). Resilient child sexual abuse survivors: Cognitive coping and illusion.	Coping styles were not measured.
Sagy, S., & Doton, N. (2001). Coping resources of maltreated children in the family: a salutogenic approach.	Coping styles were not measured.

### Appendix 3: Quality Assessment Tools

#### Quality Assessment Tools for Cross-Sectional / Cohort Studies

QUESTION	Y (2)	P (1)	N (0)	U/ NA	COMMENTS
<b>INITIAL SCREENING</b>					
<i>Are the aims and hypotheses clearly stated?</i>					
<i>Is the research addressing the effects of attachment or coping upon resilience?</i>					
<b>STUDY DESIGN</b>					
<i>Has the study addressed the research question being asked?</i>					
<i>Is a cross-sectional / cohort design an appropriate method of addressing the research question?</i>					
<b>SELECTION BIAS</b>					
<i>Were the participants' representative of the defined population?</i>					
<i>Was a large enough sample size used?</i>					
<i>Were all participants similar on demographic variables e.g., age, etc.?</i>					
<i>Were the groups comparable in relation to important confounding variables?</i>					
<i>Was there any control or adjustments for the effects of confounding variables (e.g., by matching or through statistics)?</i>					
<b>MEASUREMENT AND DETECTION BIAS</b>					
<i>Were the assessments used clearly</i>					

<i>defined and validated?</i>					
<i>Were self-report measures used?</i>					
<i>Were the measurements for the outcome objective?</i>					
<i>Was the outcome assessed in the same way across groups?</i>					
<b>ATTRITION BIAS</b>					
<i>Were reasons explained for those declining to participate in the study?</i>					
<i>Were the study attrition rates explicitly reported?</i>					
<i>Was data from dropouts appropriately excluded from the study?</i>					
<b>STATISTICS AND RESULTS</b>					
<i>Was the statistical analysis used correctly?</i>					
<i>Were there statistical attempts to deal with missing data?</i>					
<i>Are the results clearly reported?</i>					
<i>Are the results significant?</i>					
<i>Have the limitations been discussed?</i>					
<b>APPLICABILITY OF FINDINGS</b>					
<i>Are the participants' representative of a UK sample population?</i>					
<i>Can the results be applied to the UK population?</i>					
<i>Can the results be applied to a population sample irrespective of culture and size?</i>					

## Quality Assessment Tools for Case Control Study

QUESTION	Y (2)	P (1)	N (0)	U/ NA	COMMENTS
<b>INITIAL SCREENING</b>					
<i>Are the aims and hypotheses clearly stated?</i>					
<i>Is the research addressing the effects of attachment or coping upon resilience or psychological adjustment?</i>					
<b>STUDY DESIGN</b>					
<i>Has the study addressed a clearly focused research question?</i>					
<i>Is a case control design an appropriate method of addressing the research question?</i>					
<b>SELECTION &amp; SAMPLING BIAS</b>					
<i>Were the cases recruited in an appropriate way? Were they representative of the defined population? E.g., Gender, age, ethnicity, occupation, incidence of trauma, geographical location.</i>					
<i>Was there an established selection process?</i>					
<i>Were the controls selected in an acceptable way? Were they representative of a defined population?</i>					
<i>Was the description of background/demographic factors clear and comprehensive?</i>					



<i>Are the cases and controls comparable with respect to demographic/potential confounding variables such as maltreatment?</i>					
<b>MEASUREMENT AND DETECTION BIAS</b>					
<i>Was the exposure accurately measured to minimise bias? Were the assessors blinded?</i>					
<i>Were the measurements objective and validated?</i>					
<i>Was the exposure assessed in the same way across all groups of participants?</i>					
<b>ATTRITION BIAS</b>					
<i>Were reasons explained for those declining to participate in the study?</i>					
<i>Were the study attrition rates explicitly reported?</i>					
<i>Was data from dropouts appropriately excluded from the study?</i>					
<b>STATISTICS AND RESULTS</b>					
<i>Was the statistical analysis used correctly?</i>					
<i>Were potential confounding factors taken into account in the analysis?</i>					
<i>Are the results clearly reported?</i>					
<i>Have the limitations been discussed?</i>					
<i>Are the participants' representative of a UK sample population?</i>					
<i>Can the results be applied to the UK population?</i>					

## Appendix 4: Data Extraction Form

### General Information

Date of data extraction: .....

Article Title:.....

Author:.....

Identification of the reviewer:.....

Notes

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### Re-verification of study eligibility

Population:	Children, adolescents and adults (all ages)	Y	N	?
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Exposure:	Child maltreatment	Y	N	?
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Comparator:	N/A			
-------------	-----	--	--	--

Outcome:	The effects of attachment	Y	N	?
----------	---------------------------	---	---	---

	The effects of coping	Y	N	?
--	-----------------------	---	---	---

	Resilience outcome	Y	N	?
--	--------------------	---	---	---

Study Design:	Cohort	Case control	Cross-sectional
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### Specific Information

#### Population

1. Target population (describe)

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2. Eligibility criteria

3. Recruitment procedures used

**Characteristics of Participants**

Number of participants:

Male:

Female:

Age range:

Ethnicity:

Other information:

**Exposure to child maltreatment**

a) Use of structured assessment?

b) Which assessment tool was used?

1. What was measured at baseline?
  - a)
  - b)
  - c)
2. What was measured after exposure?
  - a)
  - b)
  - c)
3. What outcomes were found?
  - a)
  - b)
  - c)
4. Who carried out the measurement? Was assessor blinded?
5. What was the measurement tool?
6. Were the tools validated? If so, how?
7. Was self-report used? If so, to what extent?
8. Was there a follow-up period? If so, how long was the follow-up period?
9. Drop out rates?
10. Reason for drop outs?
11. Limitations?
  - a)
  - b)
  - c)
12. Notes

--

## Analysis

1. Which statistical tests were used?

2. Were confounding variables assessed? Y/N

3. Was attrition dealt with appropriately? Y/N

4. Were the statistics and results clearly reported?

5. Overall study quality?    **Good**        **Reasonable**        **Poor**

6. Number of unclear / unanswered assessment items?

7. Additional Notes

# **Are you female?**



## **Aged 21-41 yrs?**

# **If so, we need you!**



Researchers at Birmingham University are carrying out an online study to assess resilience in women who have had difficult childhood experiences. We also need women aged 21-41 who have NOT had these experiences to act as a comparison group, to see whether women who had a difficult childhood are the same in adulthood as those who had a happy childhood.

If you would like to take part, please visit

## Appendix 6: Research Consent Form

# RESILIENCE STUDY

## CONSENT FORM

Please sign and return this form to us if you have read and understood all of the information presented to you, and would like to participate in this study. You are under no obligation to participate and if you would like to withdraw after you have returned your questionnaires, please contact us and we will destroy all of the information that you have given us. All information will remain anonymous and confidential. Finally, please use the support suggested if you find any of the contents of the questionnaires distressing.

Thank you one again for your interest in this study.

-----✂-----

**Please tick the following if applicable**

I have read and understood all of the information provided to me

☐

I would like to participate in this study

☐

I would like a summary of the findings of this study

☐

Signed.....

Date.....

Address (only if you would like a summary).....

.....

.....

.....

The information provided on this form will be kept separately from the questionnaires, and not used for any other purpose than previously outlined.



## Appendix 7: Screening Questionnaire and Measures

### INFORMATION SHEET

We are interested in why many people are able to deal with difficult childhood experiences, such as physical punishment in childhood (from smacking to physical violence). Responses will be confidential (your postcode is asked for demographic purposes, not to identify you) and not shared with any other party without your permission. If you would like to take part in a further, more detailed study, give your name and address and we will be in touch.

For further information, or if you wish to withdraw your data at any point, contact

For withdrawals, you will need your codename; you choose this yourself, as it just lets us find your questionnaire more easily, without breaking anonymity. **Further help: The Samaritans (08457 90 90 90). NHS direct (08457 46 47) or alternatively contact your GP.**

Please could you provide us with some information about yourself?		Code Name: _____		Gender: M / F		Age: _____		Postcode : _____					
Ethnicity: _____		Marital Status: Single <input type="checkbox"/>		In a long-term relationship (1yr+) <input type="checkbox"/>		Co-habiting <input type="checkbox"/>		Married <input type="checkbox"/>		Separated/Divorced <input type="checkbox"/>		Widowed <input type="checkbox"/>	
Academic qualifications: None		O'level/GCE/GCSE		A' level/NVQ/HND <input type="checkbox"/>		Degree		Masters/PHD		Other _____			

#### Your time at school:

1. Would you consider yourself to have: lots of close friends ☐ a few close friends ☐ friends but no-one close ☐ Largely acquaintances ☐ prefer your own company ☐

2. Do you find it easy to make relationships with other people? Yes ☐ No ☐ 3. Did you enjoy your time at school? Yes ☐ No ☐

If No what is that due to (please specify the question you are referring to): \_\_\_\_\_

4. Would you class yourself as being successful in your career? Yes ☐ No ☐

**How you deal with challenges in your life? How true of you are these statements: Not True at all (0) Rarely True (1) Sometimes True (2) Often True (3) True Nearly all of the time (4)**

	Able to adapt to change	0 1 2 3 4	Under pressure, focus and think clearly	0 1 2 3 4	Best effort no matter what	0 1 2 3 4
1.	Close and secure relationships	0 1 2 3 4	Prefer to take the lead in problem solving	0 1 2 3 4	You can achieve your goals	0 1 2 3 4
2.	Sometimes fate or god can help	0 1 2 3 4	Not easily discouraged by failure	0 1 2 3 4	You work to attain your goals	0 1 2 3 4
	Can deal with whatever comes	0 1 2 3 4	Think of self as a strong person	0 1 2 3 4	Know where to turn for help	0 1 2 3 4
3.	Past success gives confidence for new challenge	0 1 2 3 4	Make unpopular or difficult decisions	0 1 2 3 4	Pride in your achievements	0 1 2 3 4
4.	See the humorous side of things	0 1 2 3 4	Can handle unpleasant feelings	0 1 2 3 4	I like challenges	0 1 2 3 4
5.	Coping with stress strengthens	0 1 2 3 4	Have to act on a hunch	0 1 2 3 4	In control of your life	0 1 2 3
4.						
6.	Tend to bounce back after illness or hardship	0 1 2 3 4	Strong sense of purpose	0 1 2 3 4		
7.	Things happen for a reason	0 1 2 3 4	When things look hopeless, I don't give up	0 1 2 3 4		

5. Have you ever been convicted of a criminal offence ☐ Yes ☐ No If yes, was it A violent crime? Or A non-violent ☐ time?\*

\* This does not include speeding and parking fines etc, but does include driving without a license or drink driving

6. Have you ever been addicted to alcohol or drugs? ☐ Yes ☐ No 7. Have you ever self harmed or attempted suicide? ☐ Yes ☐ No

8. Would you consider yourself to be currently experiencing: Depression ☐ Anxiety ☐ Psychosis/Schizophrenia ☐

☐ An Eating Disorder ☐ A Phobia ☐ Obsessive Compulsive Disorder ☐ Other \_\_\_\_\_

Here is a list of things that your **mother or father figure** may have done when trying to resolve a disagreement with you. Taking all situations into account **through your childhood and adolescence (up to 18 years)** please indicate how each parent acted towards you. Using the following code, **circle the number that best describes**

**the most frequent tactic used in each question:**

0=never

1=once

2=sometimes

3=often

4=always

Father to You

Mother to You

Other to You

1. Shouted, yelled or screamed at you, swore or cursed at you, said they'd throw you out, called you names (e.g., stupid) or threatened to hit you (but didn't). 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4
2. Hit you with a fist or kicked you hard; hit you with hard object (not on bottom), threw or knocked you down, slapped you on the face, head or ears. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4
3. Couldn't take care of you because too drunk or high or were so caught up in own problems, they did not show or tell you they love you or left you home alone inappropriately. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4
4. Shook you, hit you on bottom with a hard object (e.g., brush) or bare hand, slapped you on the hand, arm or leg; or pinched you. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4
5. Grabbed you around the neck and choked you, beat you up (hit over and over as hard as could), burned or scalded you on purpose, threatened you with a knife or gun. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4

6. Explained why something was wrong, sent you to your room, gave you something else to do, took away privileges or grounded you. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4

7. Were unable to take you for hospital care or provide you with food when you needed it. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4

8. When you did not want to, has anyone touched you or made you touch them in a sexually inappropriate way, insisted or forced you to perform oral or penetrative sex with them or forced you to watch sexual acts between them and their partner. 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4

If 'other' please specify \_\_\_\_\_

9. Has a romantic partner ever physically/sexually assaulted you? Yes ☐ No ☐

If yes, did this happen: a) On more than one occasion by the same person? ☐ Yes ☐ No  
b) On more than one occasion by different people? ☐ Yes ☐ No

If you would like to participate in a further study that looks at this area in more depth, please give your details below. You can withdraw your consent at any time, by contacting us at the address or telephone number above.

Name : \_\_\_\_\_

Address: \_\_\_\_\_

Take a Break would like to run an article about people who have experienced some of the difficulties that this questionnaire addresses.

If you would be happy for us to include some of your information in a completely anonymous summary that Take a Break could use for this purpose, please tick this box  
(your, name, address and postcode will not be included) ☐ ☐

Or tick this box if you are happy for Take a Break to be given your address so that they can contact you directly

