

Literature review on the outcomes for survivors of child maltreatment in residential care or birth families.

Report for the Scottish Child Abuse Inquiry

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EXECUTIVE SUMMARY

This is a report of a literature review on the outcomes for survivors of child maltreatment, with a particular focus on the outcomes of child abuse which occurred within the context of long-term residential child care. We have used the phrase ‘outcomes for survivors of child abuse’ rather than ‘effects of child abuse’ because much of the research reviewed in this report is retrospective, rather than prospective, and so we cannot be 100% certain that the outcomes for survivors of child abuse were actually caused by maltreatment. These outcomes may have been due to other factors including adversities which occurred before, during, or after child abuse, or to personal biological, psychological or social vulnerabilities or disabilities. Having said that, as will become clear in the executive summary below and the body of the report, the adverse outcomes for survivors of child abuse are so consistent across a wide range of domains in a large number of studies involving thousands of survivors, that we can say with a degree of confidence that these probably occurred as a result of maltreatment in childhood.

1. Child abuse and maltreatment

Child abuse reflects the international consensus about what constitutes unacceptable child care and the violation of children’s human rights. In this review, child maltreatment refers primarily to physical and sexual abuse, with associated emotional or psychological abuse and neglect.

2. Outcomes of child abuse, structural neglect, and maltreatment within residential child care settings

The literature review described in this report includes three elements. The first is concerned with individuals who experienced child maltreatment while living with their birth families. The second addresses the issue of ‘structural neglect’ in congregate care institutions which care for large groups of children, with inadequate and unstable staffing, and limited physical resources. The third part of the review focuses on individuals abused as children while in long-term residential child care. In these literature searches 5,828 records were identified and screened, and 178 included in the literature review. Searches, data extraction, and study quality assessment were conducted by pairs of researchers. There was good inter-rater reliability for study selection and data extraction, and the scientific quality of studies included in the review was moderate, so confidence may be placed in the conclusions drawn from this review.

3. Outcomes of child abuse for survivors raised in birth families

The aim of this systematic review (the first of three) was to determine the outcome of child maltreatment across the lifespan for individuals raised in birth families. It is contained in chapter 2.

3.1 Method. Because of the vastness of the research literature in this field, this systematic review was limited to the identification of previous systematic reviews and meta-analyses. Searches of 10 electronic databases were conducted supplemented with manual searches. 1,730 separate records were identified. 111 papers which met inclusion criteria were selected for review.

3.2 Characteristics of included systematic reviews and meta-analyses. There were

46 systematic reviews and 65 meta-analyses. The 111 systematic reviews and meta-analyses synthesized results from over 2,500 independent studies which involved over 30 million participants, of whom more than half a million had been maltreated. Sixty-seven percent of systematic reviews and meta-analyses addressed studies of multiple forms of child maltreatment. Twenty-nine percent focused exclusively on studies of sexual abuse, 3% on physical abuse, 2% on neglect, and there were no papers exclusively on studies of emotional abuse. The proportion of papers that were concerned mainly with physical health, mental health, and psychosocial adjustment outcomes were 18%, 37% and 45% respectively. Both children and adults, and males and females were involved in studies covered in systematic reviews and meta-analyses reviewed here. The mean age of samples ranged from one and a half to 45 years, with an overall mean of 25 years. The proportion of females in studies ranged from 0% to 100%, with a mean of 38%.

3.3 Physical health outcomes. Child abuse was associated with a range of physical health problems including neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, gynaecological, genitourinary, metabolic, sleep, and psychosomatic disorders as well as a variety of pain conditions; and increased risk of developing diabetes and cancer. Survivors of child maltreatment also had significant physiological abnormalities, notably abnormalities in the structure and functioning of the brain and endocrine system associated with mental health problems, and a pro-inflammatory state associated with reduced immune system efficiency.

3.4 Mental health outcomes. Child abuse was associated with a range of mental health problems and disorders including post-traumatic stress disorder, anxiety disorders, depression, bipolar disorder, substance use disorders, eating disorders, psychotic disorders, disruptive behaviour disorders, dissociative disorders, psychosomatic disorders, and personality disorders. Child maltreatment was also associated with an unfavourable clinical course for some conditions, notably depression and bipolar disorder.

3.5 Adverse psychosocial outcomes. Child maltreatment was associated with a wide range of negative psychosocial outcomes across the lifespan, including deficits in cognitive functioning, language delay, insecure attachment, school attainment problems, antisocial behaviour and aggression, sexual aggression, risky sexual behaviour, parenting problems, self-harm, and suicide. Child abuse was also associated with deficits in emotion recognition, understanding and knowledge; deficits in perspective taking, theory of mind, and social competence; hostile attributional bias; low self-esteem; interpersonal dependency; negative personality traits; gambling problems; poor educational and occupational adjustment; poor adjustment within family and peer relationships; and a negative quality of life.

3.6 Risk and protective factors. The extent to which child abuse survivors experienced negative outcomes was associated with a range of personal and contextual risk and protective factors. Poorer outcomes occurred where survivors were exposed to multiple types of severe abuse over long periods of time. Factors associated with resilience among survivors included social support from the family and wider network, positive engagement in education, interpersonal and emotional competence, active coping, optimism, a belief in the capacity to control one's life, and blaming the perpetrator rather than the self for abuse.

4. Outcomes of structural neglect

The aim of this systematic review (the second of three) was to determine the outcomes for individuals exposed to structural neglect in congregate-care institutions, such as orphanages. In this context, structural neglect refers to failure to meet children's basic physical,

developmental, and emotional needs due to inadequate and unstable staffing, and limited physical resources. This review is contained in chapter 3.

4.1 Method. Because of the volume of the research literature in this field, this systematic review was limited to the identification of previous systematic reviews and meta-analyses. Searches of 10 databases were conducted, supplemented with manual searches. 921 separate records were identified. Eighteen papers which met inclusion criteria were selected for review.

4.2 Characteristics of included systematic reviews and meta-analyses. Of the 18 papers in this review, nine were systematic reviews and nine were meta-analyses. Two focused on physical health outcomes, four on mental health outcomes, four on attachment, and eight on cognitive development. Four of these eight papers on cognitive development also addressed attachment and mental health outcomes. The 18 systematic reviews and meta-analyses on outcomes of structural neglect covered over 550 separate primary studies in which 160,000 survivors of structural neglect and 1.5 million control group cases participated. All reviews focused predominantly on child samples, with a mean age of 2 years when they left care, and a mean age of 9 years when outcomes were assessed. The samples contained approximately equal numbers of males and females. About two thirds (68%) of studies in the reviews covered in this chapter 3 concerned participants who had experienced structural neglect in orphanages in developing countries in Eastern Europe, Asia, Africa and South America before being adopted to developed countries in Europe and North America, as well as Australia and New Zealand.

4.3 Physical health outcomes. Structural neglect was associated with short stature, low weight, and smaller head circumference. At about 2 or 3 years of age shortly after the transition from orphanages to adoptive families, children exposed to structural neglect were 3 kgs lighter and 8 cm shorter than children raised in birth families. Structural neglect was also associated with abnormal neurobiological development affecting a range of brain structures and functions, implicated in cognitive and psychosocial difficulties.

4.4 Mental Health outcomes. Structural neglect was associated with higher rates of mental health problems and mental health service usage.

4.5 Adverse psychosocial outcomes. Structural neglect was associated with delayed cognitive development as indexed by lower IQ, school attainment problems, and specific learning disorders. On average the IQs of children raised in institutions were 17-20 IQ points lower than those of children raised in families. Structural neglect was also associated with insecure attachment, especially insecure disorganized attachment. Rates of disorganized attachment were about three times higher in survivors of institutional neglect compared with children raised in birth families. Disorganized attachment is a risk factor for later difficulties making and maintaining relationships across the lifespan.

4.6 Risk and protective factors. Significant, but incomplete, developmental catch-up occurred when children exposed to structural neglect were adopted. The degree and rate of catch-up depended on the outcome domain, the severity and duration of structural neglect, and the presence of a range of personal and contextual risk and protective factors. A large degree of relatively rapid catch-up occurred in weight, height, and IQ. A lesser degree and slower rate of catch-up occurred in head circumference and attachment security. Exposure to severe deprivation over longer time periods in understaffed, poorly resourced institutions in underdeveloped countries were risk factors for poorer outcomes. Early adoption was a protective factor for better outcomes.

5. Outcomes for survivors of child abuse in long-term care

The aim of this systematic review (the third of three) was to determine the outcome for survivors of child maltreatment in long-term residential care. This review is contained in chapter 4.

5.1 Method. In searches of 10 data bases supplemented with a search of grey literature and manual searches, 3077 documents were identified. Forty-nine documents describing 21 primary studies and 25 secondary studies were selected for review. There were 40 quantitative studies and 6 qualitative studies.

5.2 Participants. Participants in primary studies included 3,856 child abuse survivors and 1,577 controls. In six primary studies survivors were under 18 years, and participants in the remaining primary studies were adults with a mean age of 54 years. The mean proportions of females in primary studies of children (under 18) and adults were 52% and 39% respectively.

5.3 Countries. Reviewed studies were conducted in the UK, USA, Finland, Romania, Tanzania, Canada, Ireland, Australia, the Netherlands, Germany, Austria, and Switzerland.

5.4 Child care experiences. Participants were child abuse survivors from Catholic institutions in eight studies, from state foster care in seven studies, from non-religious institutions in two studies, and from a range of contexts in the remaining studies. The average age when participants entered residential care was five years, and the average duration of their time in care was 9 years.

5.5 Maltreatment experiences. Average rates of sexual, physical and emotional abuse within long-term care were 67%, 63% and 71% respectively, and most participants had experienced multiple forms of child abuse.

5.6 Mental health outcomes. There were significant associations between having experienced child abuse in long-term residential care and mental health outcomes. In the mental health domain in descending order of average frequency of occurrence, the main outcomes were as follows. Eighty-four percent had lifetime mental health problems diagnosed with the Structured Clinical Interview for Axis I or II Disorders of DSM IV; 67% had general mental health problems; 58% had lifetime anxiety disorders; 51% had lifetime post-traumatic stress disorder; 44% had lifetime depressive disorders; 41% had current personality disorders; 37% had lifetime drug and alcohol use disorders; and 19% had current complex PTSD. These rates are far higher than those found in surveys of mental health problems the general population.

5.7 Physical health and psychosocial adjustment outcomes. There were significant associations between having experienced child abuse in long-term residential care and physical health and psychosocial outcomes. In the domains of physical health and psychosocial adjustment in descending order of average frequency of occurrence, the main outcomes were as follows. Fifty-nine percent had educational problems; 56% lived in poverty; 39% had marital adjustment problems; 37% had committed non-violent crime; 31% had sexual problems; 30% had committed violent crime; 30% had frequent physical illness; 29% reported suicidality and self-harm; 28% had been frequently hospitalized for physical health problems; 25% had anger control problems in intimate relationships; 21% were homeless; 13% had anger control problems with children; 12% had been imprisoned; and 4% had their children taken into care.

5.8 Risk and protective factors. The associations between institutional child abuse and physical health, mental health and psychosocial outcomes were influenced by the

constellation of risk and protective factors experienced across the lifespan. Risk factors included severe prolonged institutional maltreatment, especially sexual abuse, intrafamilial abuse prior to institutional care, additional trauma after leaving institutional care, experiencing severe traumatization as a result of institutional abuse, the use of maladaptive coping strategies, and an insecure adult attachment style. Protective factors included socially supportive relationships, personal strengths and competencies, adaptive coping strategies, and a secure adult attachment style. Survivors exposed to more risk factors and fewer protective factors had poorer outcomes. In contrast, better outcomes occurred for those with more protective factors and fewer risk factors.

6. Overall conclusions

Survivors of child maltreatment have adverse outcomes across the lifespan in the domains of physical health, mental health, and psychosocial adjustment. These adverse outcomes occur for survivors who experienced abuse while living with birth their families, for survivors who experienced structural neglect while living in under-resourced orphanages, and for survivors of abuse in long-term residential child care. It is probable that child maltreatment largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the number of different types of maltreatment experienced as well as the duration and severity of these, and the presence of protective factors such as supportive relationships and personal strengths. The many adverse outcomes associated with child maltreatment documented in this review highlight the importance of implementing evidence-based child protection policies and practices to prevent maltreatment and treat child abuse survivors.

CHAPTER 1: INTRODUCTION

This is a report of a literature review on the outcomes for survivors of child maltreatment with a particular focus on the outcomes of child abuse which occurred within the context of substitutive child care. It was prepared for the Scottish Child Abuse Inquiry (SCAI, <https://www.childabuseinquiry.scot/>). It is one element of a research programme. The overall research programme contains three studies: a literature review, a quantitative study of SCAI witness statements, and a qualitative study of a sample of these documents.

1.1 Child abuse and maltreatment

Child abuse reflects the international consensus about what constitutes unacceptable child care and the violation of children's human rights (United Nations' Convention on the Rights of the Child, 1992). In this review child maltreatment refers primarily to physical and sexual abuse, with associated emotional or psychological abuse and neglect. The terms maltreatment and abuse are used interchangeably in this report, except when referring specifically to neglect.

1.2 Adjustment across the lifespan

In this review, the outcomes for survivors of child abuse across the lifespan in a range of domains were investigated, since there is an international consensus that the outcomes of maltreatment are pervasive (Corby et al., 2014; Korbin & Krugman, 2013; Myers 2011). Studies of the outcomes of child maltreatment in both childhood and adulthood were reviewed. Outcomes in three broad domains of adjustment were investigated: physical health, mental health, and psychosocial adjustment. Within each of these domains a very wide range of difficulties was considered.

1.3 Physical health

Outcomes considered in the domain of physical health included all forms of illness and disease, medical conditions, frequent health service use, delayed physical growth, disease processes such as inflammation, and abnormal brain development.

1.4 Mental health

Outcomes considered in the domain of mental health included all types of mental health problems, and a variety of mental health disorders, for example post-traumatic stress disorder, depressive disorders, anxiety disorders and personality disorders.

1.5 Psychosocial adjustment problems

In the domain of psychosocial adjustment, a range of adverse social outcomes were considered. These included unemployment, homelessness, anger control problems in intimate relationships, anger control problems with children, violent crime, imprisonment for violent crime, non-violent crime, imprisonment for non-violent crime, separation or divorce, children taken into care, intergenerational transmission of child abuse (including significant parenting problems), cognitive deficits, attachment problems, educational or school problems, juvenile delinquency (including violent and non-violent offences), poverty, revictimization, high-risk

sexual behaviour (including unprotected sex, promiscuity, and prostitution), sexually abusing others, and low quality of life.

1.6 Child care

In the current report, child care refers to long-term substitutive care outside the family. It covers foster care, kinship care, and residential care in religious and non-religious institutions. This care may be provided in child care centres, orphanages, reformatories, borstals young offender institutions, secure units, boarding schools, industrial or farming facilities, long stay health care facilities, and group homes.

1.7 Systematic reviews and meta-analyses

In the review described in this report, systematic review and meta-analysis methodologies played a central role (Moher et al., 2009; Petticrew & Roberts. 2006; Smith et al., 2011). Systematic reviews are literature reviews that follow a transparent, replicable methodology for searching electronic data-bases for relevant primary research studies, augmenting these electronic searches with manual searches, synthesizing the results of these, and drawing conclusions with due regard for the scientific quality of studies selected for review. Meta-analyses are similar to systematic reviews with one exception. In meta-analyses, results of reviewed primary studies are quantitatively synthesised. Meta-analyses yield overall effect size statistics indicating, for example, the associations between child abuse and adult adjustment.

1.8 Child abuse, structural neglect, and maltreatment within residential child care settings

The literature review described in this report includes three elements. The first, contained in chapter 2, is concerned with individuals who experienced child maltreatment while growing up within their birth families. The second, contained in chapter 3, addresses the issue of ‘structural neglect’ in orphanages which care for large groups of children, with inadequate and unstable staffing, and limited physical resources (van Ijzendoorn et al., 2011). In these institutions children experience severe emotional neglect due to the absence of stable and sensitive caregiver-child relationships, and physical neglect, for example malnutrition. The third, contained in chapter 4, focuses on individuals abused as children while in long-term residential child care.

1.9 Outcome of child abuse: Review strategy

Thousands of studies have been published on the outcomes of child maltreatment for individuals without a history of being in care as children. The results of many of these studies have been synthesised in previous systematic reviews and meta-analyses. For this element of the current literature review, a systematic review was conducted, limited to the identification of previous systematic reviews and meta-analyses (rather than primary empirical studies). This ‘review of reviews’ strategy is a particularly useful way for synthesising a vast scientific literature (Smith et al., 2011).

1.10 Outcome of structural neglect: Review strategy

Hundreds of primary studies have been conducted on the effects of structural neglect, especially where it occurred in orphanages in developing countries. A number of systematic reviews and meta-analyses have been published which synthesize the results of these studies. For this element of the current literature review, a systematic review was conducted, limited to the identification of these previous systematic reviews and meta-analyses.

1.11 Outcomes of child abuse while in long term care: Review strategy

A systematic review was also conducted of primary empirical studies, of the outcomes for survivors of child maltreatment, especially physical and sexual abuse, carried out within long-term residential care. There are relatively few studies on the outcome of child abuse for individuals who were abused while in care. It was therefore most appropriate to review all available individual empirical studies in this section of the current literature review (Moher et al., 2009).

1.12 Outcomes v effects

We have used the phrase ‘outcomes for survivors of child abuse’ rather than ‘effects of child abuse’ because much of the research reviewed in this report is retrospective, rather than prospective, and so we cannot be 100% certain that the outcomes for survivors of child abuse were actually caused by maltreatment. These outcomes may have been due to other factors including adversities which occurred before, during, or after child abuse, or to personal biological, psychological or social vulnerabilities or disabilities. Having said that, as will become clear in the chapters that follow, the adverse outcomes for survivors of child abuse are so consistent across a wide range of domains in a large number of studies involving thousands of survivors, that we can say with a degree of confidence that these probably occurred as a result of maltreatment in childhood.

1.13 Review registration

To inform professional colleagues in the child protection field about this work the three reviews, contained in chapters 2, 3 and 4 of this report, were registered with PROSPERO at the Centre for Reviews and Dissemination, University of York (<https://www.crd.york.ac.uk/PROSPERO/registerReview.php#index.php>). The registration number of the review in chapter 2 entitled - The impact of child maltreatment across the lifespan on physical and mental health and social adjustment, for individuals who were living with their families and not in long-term care during childhood: a systematic review of reviews – is CRD42017065082. The registration number of the review in chapter 3 entitled - The effect of structural neglect or deprivation on physical and mental health, cognitive development; and social adjustment across the lifespan: a systematic review of reviews - is CRD42017065095. The registration number of the review in chapter 4 entitled - The impact of child maltreatment carried out within long-term care on the physical health, mental health and social adjustment of individuals across the lifespan: a systematic review – is CRD42017065088.

CHAPTER 2: OUTCOMES OF CHILD ABUSE

2.1 SUMMARY

The aim of the systematic review described in this chapter was to determine the outcome of child maltreatment (including physical, sexual, and emotional abuse, and neglect) across the lifespan. Outcomes in the domains of physical and mental health, and psychosocial adjustment were investigated. The focus was on abuse survivors who had mainly been raised within their own families rather than in residential child care.

2.1.1 Method. In this systematic review of previous systematic reviews and meta-analyses, searches of 10 databases were conducted supplemented with manual searches. 1,730 separate records were identified. 111 papers which met inclusion and exclusion criteria were selected for review; their quality was assessed; and data were extracted and synthesized.

2.1.2 Characteristics of included systematic reviews and meta-analyses. There were 46 systematic reviews and 65 meta-analyses. The 111 systematic reviews and meta-analyses synthesized results from over 2,500 independent studies which involved over 30 million participants, of whom more than half a million had been maltreated. Sixty-seven percent of systematic reviews and meta-analyses addressed studies of multiple forms of child maltreatment. Twenty-nine percent focused exclusively on studies of sexual abuse, 3% on physical abuse, 2% on neglect, and there were no papers exclusively on studies of emotional abuse. The proportion of papers that were concerned mainly with physical health, mental health, and psychosocial adjustment outcomes were 18%, 37% and 45% respectively. Both children and adults, and males and females were involved in studies covered in systematic reviews and meta-analyses reviewed here. The mean age of samples ranged from one and a half to 45 years, with an overall mean of 25 years. The proportion of females in studies ranged from 0% to 100%, with a mean of 38%.

2.1.3 Physical health outcomes. Child abuse was associated with a range of physical health problems including neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, gynaecological, genitourinary, metabolic, sleep, and psychosomatic disorders as well as a variety of pain conditions; and increased risk of developing diabetes and cancer. Survivors of child maltreatment also had significant physiological abnormalities, notably abnormalities in the structure and functioning of the brain and endocrine system associated with mental health problems, and a pro-inflammatory state associated with reduced immune system efficiency.

2.1.4 Mental health outcomes. Child abuse was associated with a range of mental health problems and disorders including post-traumatic stress disorder, anxiety disorders, depression, bipolar disorder, substance use disorders, eating disorders, psychotic disorders, disruptive behaviour disorders, dissociative disorders, psychosomatic disorders, and personality disorders. Child maltreatment was also associated with an unfavourable clinical course for some conditions, notably depression and bipolar disorder.

2.1.5 Adverse psychosocial outcomes. Child maltreatment was associated with a wide range of negative psychosocial outcomes across the lifespan, including deficits in cognitive functioning, language delay, insecure attachment, school attainment problems, antisocial behaviour and aggression, sexual aggression, risky sexual behaviour, parenting problems, self-harm, and suicide. Child abuse was also associated with deficits in emotion recognition, understanding and knowledge; deficits in perspective taking, theory of mind, and social competence; hostile attributional bias; low self-esteem; interpersonal dependency; negative personality traits; gambling problems; poor educational and occupational adjustment; poor adjustment within family and peer relationships; and a negative quality of

life.

2.1.6 Risk and protective factors. The extent to which child abuse survivors experienced negative outcomes was associated with a range of personal and contextual risk and protective factors. Poorer outcomes occurred where survivors were exposed to multiple types of severe abuse over long periods of time. Factors associated with resilience among survivors included social support from the family and wider network, positive engagement in education, interpersonal and emotional competence, active coping, optimism, a belief in the capacity to control one's life, and blaming the perpetrator rather than the self for abuse.

2.1.7 Strengths and limitations. While robust, these conclusions should be tempered by a consideration of the scientific quality of the studies on which they are based. Forty-six of 111 (41%) reviews and meta-analyses in this review of reviews were of high quality, with AMSTAR scores between 7 and 11. Sixty-two (56%) had AMSTAR scores between 3 and 6 and were of moderate quality. The primary studies included in systematic reviews and meta-analyses were relatively well designed, allowing confidence to be placed in their results.

2.1.8 Conclusions. There are significant associations between a history of child maltreatment, and adjustment in the domains of physical health, mental health, and psychosocial adjustment in a very wide range of areas. It is probable that child abuse largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the number of different types of child abuse experienced as well as the duration and severity of these, and the presence of protective factors. The many adverse outcomes associated with child maltreatment documented in this review highlight the importance of implementing evidence-based child protection policies and practices to prevent maltreatment and treat child abuse survivors.

2.2 INTRODUCTION

Child abuse reflects the international consensus about what constitutes unacceptable child care and the violation of children's human rights (United Nations' Convention on the Rights of the Child, 1992). Child abuse is a vast global problem. In a series of meta-analyses involving 244 international studies, Stoltenborgh and colleagues (2011, 2012, 2013a, b, 2016) found that more than a third of all children around the world experience child maltreatment. Overall prevalence rates for self-report studies (which mainly assessed ever having experienced maltreatment in childhood) were 363/1000 for emotional abuse, 226/1000 for physical abuse, 127/1000 for sexual abuse (76/1000 among boys and 180/1000 among girls), 163/1000 for physical neglect, and 184/1000 for emotional neglect. The overall prevalence rates for studies based on informant reports were 4/1000 for sexual abuse, 3/1000 for physical abuse, and 3/1000 for emotional abuse. Rates based on informant reports were lower than those based on self-reports partly because they mainly assessed the 1-year prevalence, rather than the overall childhood prevalence of maltreatment.

The aetiology of child maltreatment is complex and multidimensional. A wide range of factors associated with perpetrators, children, the nature of maltreatment, and the immediate and broader social, economic and cultural context within which maltreatment occurs have been implicated in the aetiology of child abuse (Corby et al., 2014; Korbin & Krugman, 2013; Myers 2011; Stith et al., 2009).

The impact of maltreatment on adjustment is pervasive. Child abuse may affect development across the lifespan in three broad domains: physical health (e.g., Wegman & Steltler, 2009), mental health (e.g., Carr et al., 2013), and psychosocial adjustment (e.g., Weber et al., 2016; Zielinski, 2009).

Many studies have been conducted on the effects of child maltreatment on adjustment. The results of large numbers of primary studies have been synthesised in previous systematic reviews and meta-analyses (such as those cited in the previous paragraph). However, these many reviews of the effects of child maltreatment on multiple outcome domains have not been synthesised. In this chapter, a systematic review is described which was limited to the identification of previous systematic reviews and meta-analyses (rather than primary empirical studies). This ‘review of reviews’ strategy is a particularly useful way for synthesising a vast scientific literature (Smith et al., 2011).

The aim of the systematic review described in this chapter was to determine the outcomes (on physical and mental health, and psychosocial adjustment) of child maltreatment (including physical, sexual, and emotional abuse, and neglect) across the life span (including childhood (up to 18 years) and adulthood (over 18 years)) in individuals who had mainly been raised within their own families (rather than in child care).

2.3 METHOD

Guidelines for conducting systemic reviews of systematic reviews were followed in developing a protocol for this review (Smith et al., 2011). The protocol specified the aim, databases to be searched, search terms, study selection criteria, supplementary manual search strategies, data extraction system, study quality assessment procedures, and data synthesis methods. A data extraction and quality assessment form is contained in Appendix A.

2.3.1 Search terms

Record titles, abstracts, and keywords were searched in the electronic databases listed in the next section. Using appropriate Boolean operators, terms denoting the terms *child maltreatment* or *child abuse* or a range of other synonyms were combined with terms reflecting a range of possible physical and mental health and social adjustment problems, which in turn were combined with the terms *systematic review* or *meta-analysis*. The search was limited to individuals who had not been in residential child care. Where appropriate, Medical Subject Heading (MeSH) terms were used relating to *child abuse* which varied depending on the database. The search was conducted in June 2017.

The following is the specific search string that was used ("Child abuse" MeSH term) OR ((maltreat* OR "mistreatment" OR "sexual abuse" OR "physical abuse" OR "emotional abuse" OR "psychological abuse" OR neglect) AND (child OR children)) OR "child abuse" OR "abuse of children") AND (health OR Illness OR Death OR Mortality OR Longevity OR "Medically unexplained symptoms" OR "functional somatic symptoms" OR Somatization OR Somatisation OR syndrome OR "Irritable bowel syndrome" OR Seizures OR "chronic fatigue" OR "pelvic pain" OR chronic OR fibromyalgia OR STD OR disease OR Psych* OR Behav* OR Emotion* OR Depress* OR Bipolar OR Anxiety OR PTSD OR "post-traumatic stress disorder" OR Stress OR Obsess* OR Panic OR Phob* OR Eating OR Anorexia OR Bulimia OR outcome OR condition OR Binge OR Obesity OR Drug OR Substance OR Alcohol OR Gambling OR Personality OR Psychosis OR Schiz* OR Paranoi* OR Dissociat* OR "mental health" OR Self-esteem OR Suicide OR Self-harm OR Self-mutilation OR Promiscuity OR Prostitut* OR Revictim* OR Violence OR Aggression OR Anger OR Hostility OR Fire OR disorder OR Criminality OR Crime OR Criminal OR Delinquency OR resilience OR "Juvenile delinquency" OR Offence OR Offend* OR symptom OR Arrest OR Prison OR Imprison* OR Incarcerat* OR Separation OR Divorce OR Unemploy* OR Socioeconomic OR poverty OR Homeless* OR Education OR School OR drop-out OR

adjustment OR Intergeneration* OR attachment) AND ("systematic review" OR meta-analysis) NOT (care OR "residential care" OR "foster care" OR Institution OR "Looked after").

2.3.2 Databases

The following eleven databases were searched: PsycINFO, PubMed, Academic Search Complete, EMBASE, Sociological Abstracts, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science, Applied Social Sciences Index and Abstracts (ASSIA), Education Resource Information Centre (ERIC), and Cochrane Library.

2.3.3 Inclusion and exclusion criteria

Inclusion and exclusion criteria were used to identify high quality systematic reviews and meta-analyses relevant to the research question. Papers were included if they reported systematic reviews and meta-analyses of longitudinal controlled studies, cross-sectional controlled studies, or single group cohort primary studies of the effects of child maltreatment on physical and mental health and social adjustment of human participants across the lifespan, for individuals, who as children lived mainly with their families and not in long-term residential care or foster care. If there was reference to some studies in a review which included teenagers who were detained for brief periods for delinquency, or had multiple brief placements as children, these reviews were included.

Systematic reviews and meta-analyses that did not meet three of the following four basic AMSTAR (Shea et al., 2009) systematic review quality criteria were excluded: (1) described an a priori design with a research question and inclusion criteria, (2) conducted a comprehensive literature search of at least two databases with appropriate search terms, (3) provided a table of characteristics of included studies (author, date, participant age and gender, type of maltreatment, type of outcome), and (4) took the quality of studies into account in drawing conclusions. AMSTAR contains 11 criteria. A very high degree of confidence may be placed in conclusions from reviews and meta-analyses that meet all 11 criteria. The four basic AMSTAR criteria included in study selection criteria for the current review were chosen because conclusions from review papers and meta-analyses which do not meet these basic criteria have limited validity.

Narrative, integrative, non-systematic reviews, discursive papers, theoretical papers, papers describing individual quantitative or qualitative studies (rather than reviews of multiple studies), editorials, and letters were excluded. Systematic reviews of previous systematic reviews and meta-analyses were also excluded. Papers not published in English language peer reviewed journals were excluded. Conference proceedings, books, chapters, dissertations, and grey literature were also excluded.

2.3.4 Search process

Records identified in electronic searches were downloaded to EndNote (<http://endnote.com>). Covidence (<https://www.covidence.org/>) was used for record screening. In addition to the electronic data-base search, a supplementary manual search was conducted. Bibliographies of review papers and tables of contents of relevant journals (Child abuse and Neglect, Child Abuse Review, Child Maltreatment, Child Welfare, Trauma Violence and Abuse) were searched. Established researchers in the field were also contacted.

Figure 2.1 contains a PRISMA (Moher et al., 2009) flow diagram of the search process. Through electronic and manual searches 1,730 separate records were identified after duplicates were removed. When the titles and abstracts of these were screened, 241 relevant papers were downloaded for full text screening. A final set of 111 papers, which met inclusion criteria were selected for review. The quality of these papers was assessed with AMSTAR (Shea et al., 2009).

2.3.5 Inter-rater agreement

Two research assistants were trained in using the systematic review protocol. Both research assistants independently conducted searches, study selection, data extraction and study quality assessments. Disagreements were identified on the 'resolve conflicts' page of Covidence and these were resolved by discussion. Percentage agreement and Krippendorff's alpha (Hayes & Krippendorff, 2007) were used to determine inter-rater agreement and reliability. From Table 2.1. it may be seen that there was a high level of inter-rater agreement. For screening records and full texts agreement rates were 93% and 85% respectively. For quality assessment agreement rates ranged from 87% to 100% for AMSTAR items. There was 95% agreement for total AMSTAR scores, and the Krippendorff's alpha value was 0.9. For data extraction agreement rates ranged from 86% to 100% and the Krippendorff's alpha values ranged from 0.76 to 1.00.

2.3.6 Study sequence in tables

Study quality ratings and data extracted from review papers were summarized in three tables. AMSTAR study quality scores are presented in Table 2.2. Study design features and sample characteristics are given in Table 2.3. Key findings are set out in Table 2.4. To aid synthesis of the vast amount of information contained in 111 complex and comprehensive review papers, they have been grouped thematically in the same order within Tables 2.2., 2.3 and 2.4. In the first instance, they have been grouped by the main type of outcome assessed (physical health, mental health, psychosocial adjustment), and then by subcategories of outcome within each of these main groupings. Within each subgroup, papers have been sequenced, predominantly by the main type of abuse (multiple forms of maltreatment, mainly sexual abuse, mainly physical abuse), although in some instances sequences have been based on other features of review papers (such as date of publication, or specific findings) to form a more coherent narrative.

2.3.7 Study quality

AMSTAR review quality scores given in Table 2.2 show that 46 (41%) reviews and meta-analyses were of high quality, with AMSTAR scores between 7 and 11. Sixty-two (56%) reviews had AMSTAR scores between 3 and 6 and were of moderate quality. Fewer than half included pairs of raters for record screening and data extraction, searched the grey literature, provided a list of excluded studies, provided individual quality ratings of primary studies, and assessed risk of bias. Half or more described an a priori design, used a comprehensive search strategy, tabulated study characteristics, took study quality into account when drawing conclusions, tested for study homogeneity and took account of this in data analysis, and indicated conflicts of interests.

2.4 RESULTS

The 111 papers in the review were published between 1988 and 2017. Five (5%) were published before 2000. Twenty-six (23%) were published between 2001 and 2010. Eighty (72%) were published between 2011 and 2017.

2.4.1 Study design features and sample characteristics

The following account of design features and sample characteristics is based on data in Table 2.3. Seventy-four (67%) papers were concerned with outcomes for a range of different types of maltreatment including physical, sexual and emotional abuse, and neglect. Thirty-two (29%) papers focused mainly on sexual abuse, 3 (3%) mainly on physical abuse, and 2 (2%) mainly on neglect. There were no papers which focused mainly on emotional abuse. Twenty (18%) papers addressed physical health outcomes of maltreatment, 41 (37%), mental health outcomes, and 50 (45%), adverse psychosocial outcomes. A small number of papers ($k = 7$, 6%) dealt with outcomes for child abuse survivors in more than one of these three domains.

There were 46 (41%) systematic reviews and 65 (59%) meta-analyses. The number of databases searched in these studies ranged from 1 to 20. The mean number of databases searched was 5. In most papers ($N = 87$, 78%) five or fewer databases were searched. The most frequently searched database was Medline/PubMed ($N = 96$), followed by PsycINFO ($N = 73$), Excerpta Medica database (EMBASE, $N = 46$), Web of Science/Web of Knowledge ($N = 24$), Cumulative Index of Nursing and Allied Health (CINAHL, $N = 21$), Education Resource Information Centre (ERIC, $N = 20$), Scopus ($N = 11$), Sociological Abstracts ($N = 10$), Cochrane Library ($N = 9$), Dissertation Abstracts ($N = 7$), Social Work Abstracts ($N = 6$), Current Contents ($N = 5$), Sociofile ($N = 5$), Scientific Electronic Library Online (SciELO, $N = 5$), Google Scholar ($N = 5$), Social Science Citation Index ($N = 4$), Published International Literature on Traumatic Stress (PILOTS, $N = 4$), Applied Social Sciences Index and Abstracts (ASSIA, $N = 4$), The Allied and Complementary Medicine Database (AMED, $N = 3$), Psychological Abstracts ($N = 3$), Science Direct ($N = 3$), SocINDEX ($N = 3$), and Violence and Abuse Abstracts ($N = 3$). Each of the following databases were searched in only two review papers: American College of Physicians Journal Club, International Bibliography of Social Sciences, Dissertation Abstracts, Academic Search Complete, Database of Abstracts of Reviews of Effects, and Health Management Information Consortium. Each of the following data bases were searched in only one review paper: PsycNet, Communication Abstracts, Latin American and Caribbean Health Sciences Literature, Family and Social Studies, KoreaMed, KCI-Korean, Korean Journal Database, Academic Search Premier, Australian Education Index, Database of Abstracts and Reviews of Effectiveness, National Criminal Justice Reference Service Abstracts Database, Networked Digital Library of Theses and Dissertations, Anthropological Literature, National Council on Family Relations, Child Development Abstracts, Open Grey, System for Information on Grey Literature in Europe, Centre for Clinical and Translational Research, Chinese National Knowledge Infrastructure, and the British Education Index.

The number of studies (k) covered in papers included in this review ranged from 5 to 184, with a mean of 30. The total number of participants (N) within these review papers ranged from 152 to 12,819,487, with a mean of 286,566 and a median of 12,752. Greater confidence may be placed in the validity of conclusions drawn from reviews where a larger proportion of studies involved strong research designs, especially prospective (rather than retrospective) studies, controlled (rather than uncontrolled) studies, and studies of representative probability samples (rather than unrepresentative convenience samples).

Studies of clinical samples are also of particular interest, since they throw light on the association between clinically significant physical and mental health problems and maltreatment. In the current review of 111 systematic reviews and meta-analyses the proportion of prospective studies ranged from 0% to 100% with a mean of 20%; the proportion of controlled studies ranged from 0% to 100%, with a mean of 67%; the proportion of studies of probability samples ranged from 0% to 100%, with a mean of 18%; and the proportion of studies of clinical samples ranged from 0% to 100% with a mean of 47%.

Both children (under 18 years) and adults (over 18 years), and males and females were involved in studies covered in systematic reviews and meta-analyses reviewed in this paper. The proportion of studies of mainly adult samples ranged from 0% to 100% with a mean of 61%. The mean age of samples ranged from one and a half to 45 years, with an overall mean of 25 years. The proportion of studies of all female samples ranged from 0% to 100% with a mean of 33%. The proportion of females in studies ranged from 0% to 100%, with a mean of 38%.

2.4.2 Overlap in primary studies included in review papers

There was overlap in the primary studies included in 111 systematic review papers and meta-analyses selected for the current systematic review of review papers. In total, there were 2533 independent studies reviewed in these 111 systematic review and meta-analyses. The proportion of review papers in which each primary study was included ranged from 0.9% to 5.4%, with a mean of 1.34%. The proportion of all 2533 independent studies included in each review paper ranged from 0.2% to 7.3%, with a mean of 1.2%. In total across all 2533 independent studies there were 30,375,962 participants. Of these more than 518,022 had been maltreated.

2.4.3 Key findings

Key findings from the 111 meta-analyses and systematic reviews are given in Table 2.5. What follows is an integrative summary of findings from that table on the adverse outcomes of child maltreatment in the domains of physical health, mental health, and psychosocial adjustment.

2.4.3.1 Physical health outcomes of child maltreatment

There were 20 systematic reviews or meta-analyses which concluded that child maltreatment was associated with negative physical health outcomes or physiological abnormalities across the lifespan. Four meta-analyses and one systematic review, which focused on general physical health, showed that there were significant associations between a history of various types of child abuse and a range of physical health problems including neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, gynaecological, genitourinary, metabolic, sleep, and psychosomatic disorders as well as a variety of pain conditions (Fry et al., 2012; Irish et al. 2010; Norman et al., 2012; Paras et al., 2009; Wegman & Stetler, 2009). Two systematic reviews and two meta-analyses found significant associations between a history of child maltreatment and risk of developing specific conditions including diabetes (Huang et al., 2015), chronic pain (Davis et al., 2005), fibromyalgia (Häuser et al., 2011), and cancer (Holman et al., 2016). Four meta-analyses and five systematic reviews, which were concerned with abnormalities in the structure and/or functioning of the brain and endocrine

system, showed that there were significant associations between a history of child abuse and reduced hippocampal and amygdala volumes (especially where adult survivors had post-traumatic stress disorder), amygdala hyperactivation to faces expressing emotions, abnormalities in the structure of the prefrontal cortex, and dysregulation of the hypothalamic-pituitary-adrenal axis (Ahmed-Leitao et al., 2016; Bernard et al., 2017; Bicanic et al., 2007; Frodl & O'Keane, 2013; Hein & Monk, 2017; Hulme, 2011; Lim et al., 2014; Paquola et al., 2016; Woon & Hedges, 2008). These physical abnormalities in the structure and functioning of the brain and endocrine system may subserve adverse mental health outcomes of abuse survivors. One meta-analysis and one systematic review concluded that there was a significant association between a history of child abuse and a pro-inflammatory state in adulthood, suggesting a potential molecular pathway by which child abuse confers vulnerability to physical and mental health problems in adulthood by reducing the efficiency of the immune system (Baumeister et al., 2016; Coelho et al., 2014).

2.4.3.2 Mental health outcomes of child maltreatment

There were 45 systematic reviews and meta-analyses which concluded that child maltreatment was associated with negative mental health outcomes across the lifespan. Seven meta-analyses and six systematic reviews, each of which was concerned with a wide range of general mental health problems and disorders, concluded that there was a significant association between various types of child abuse and some or all of the following: post-traumatic stress disorder, dissociative disorders, anxiety disorders, depression, bipolar disorder, substance use disorders, eating disorders, psychotic disorders, disruptive behaviour disorders, and personality disorders (Amado et al., 2015; Carr et al., 2013; Chen et al., 2010; Fry et al., 2012; Ip et al., 2016; Jumper et al., 1995; Martins et al., 2011; Matheson et al., 2013; Norman et al., 2012; Paolucci et al., 2001; Schneeberger et al., 2014; Spies et al., 2012; Weich et al., 2009).

2.4.3.2.1 Depression. Five meta-analyses and three systematic reviews, with a predominant focus in depression, found a significant association between a history of child abuse and depression, including perinatal depression, in adulthood (Alvarez-Segura et al., 2014; Choi & Sikkema, 2016; Li et al., 2016; Lindert et al., 2014; Mandelli et al., 2015; Nanni et al., 2012; Nelson et al., 2017; Wosu et al., 2015). Compared with normal controls, survivors of child abuse had double the risk of developing depression, developed depression earlier in their lives, were less responsive to treatment, and were at increased risk of chronic depression. Surviving multiple forms of severe abuse, especially sexual and emotional abuse increased the risk of developing depression, particularly in females. Borderline personality disorder, which involves significant dysphoria, was also found in a meta-analysis to have a significant association with child maltreatment in adolescents (Winsper et al., 2016).

2.4.3.2.2 Anxiety. In two meta-analyses that focused predominantly on depression and anxiety there was a significant association between recollections of any type of child abuse and anxiety disorders (Li et al., 2016; Lindert et al., 2014). Child abuse doubled the risk of developing an anxiety disorder in adulthood.

2.4.3.2.3 Bipolar disorder. Two meta-analyses and three systematic reviews which focused predominantly on bipolar disorder found a significant association between child abuse and both the occurrence of bipolar disorder and an unfavourable clinical course for those who developed this condition (Agnew-Blais & Danese, 2016; Daruy-Filho et al., 2011; Maniglio, 2013a; Maniglio, 2013b; Palmier-Claus et al., 2016). An unfavourable clinical course for bipolar disorder was characterized by early onset, delay in diagnosis and treatment,

rapid cycling pattern, severe manic and depressive symptoms, psychotic symptoms, comorbid substance use disorder and PTSD, and suicidality.

2.4.3.2.4 Psychosis. Two meta-analyses and two systematic reviews focused predominantly on psychosis (Bendall et al., 2008; Trotta et al., 2015; Varese et al., 2012; Velikonja et al., 2015). The earliest of these reviews drew no firm conclusions due to the methodological limitations of available evidence. In the three more recent papers it was concluded that there was a significant association between child abuse on the one hand, and psychosis, first episode psychosis, and schizotypy in adulthood on the other. Schizotypy is genetic vulnerability to psychosis that falls on a continuum between healthy functioning and severe mental health problems including schizophrenia.

2.4.3.2.5 Eating disorders and obesity. Six meta-analyses and two systematic reviews which focused predominantly on eating disorders concluded that there was a significant association between these conditions in adolescence and adulthood and various types of child abuse (Caslini et al., 2016; Danese 2014; Hemmingsson et al., 2014; Irish et al. 2010; Midei & Matthews, 2011; Pignatelli et al., 2017; Smolak & Murnen, 2002; Wang et al. 2015). In this context eating disorders include bulimia nervosa, binge eating disorder, anorexia nervosa, and obesity.

2.4.3.2.6 Alcohol and drug use disorders. One meta-analysis and four systematic reviews which focused predominantly on alcohol and drug use disorders concluded that there was a significant association between various features of these conditions in adolescence and adulthood and child maltreatment (Butt et al., 2011; Draucker & Mazurecyk, 2013; Kristman-Valente & Wells, 2014; Langeland & Hartgers, 1998; Tonmyr et al., 2010). Child abuse was associated with earlier onset, and more harmful patterns of substance use.

2.4.3.2.7 Non-epileptic seizures. In two meta-analyses there was a significant association between child abuse and non-epileptic seizures in adulthood (Paras et al., 2009; Sharpe & Faye, 2006).

2.4.3.3 Adverse psychosocial outcomes of child maltreatment

Fifty-five systematic reviews and meta-analyses concluded that child maltreatment was associated with a wide range of negative psychosocial outcomes across the lifespan including deficits in cognitive functioning, language delay, insecure attachment, school attainment problems, antisocial behaviour and aggression, sexual aggression, risky sexual behaviour, parenting problems, self-harm and suicide, and deficits in a range of other areas of psychosocial functioning that impact on quality of life.

2.4.3.3.1 Cognitive functioning deficits. In one meta-analysis and three systematic reviews predominantly concerned with cognition it was concluded that there was a significant association between child abuse and impaired cognitive functioning (Irigaray et al., 2013; Maguire et al., 2015; Masson et al., 2016; Veltman & Browne, 2001). Child abuse was associated with deficits in global cognitive functioning as indexed by IQ, and also with specific deficits, particularly in the areas of memory and executive functions. Exposure to multiple types of abuse for long periods of time was associated with greater deficits. The impact of a combination of maltreatment and the presence of psychiatric disorders (mainly post-traumatic stress disorder) on cognitive functioning was greater in childhood than in adulthood.

2.4.3.3.2 Language delay. In two meta-analyses and one systematic review it was concluded that there was a significant association between child maltreatment and delayed

development of language, particularly expressive skills (Lum et al., 2015; Sylvestre et al., 2016; Veltman & Browne, 2001)

2.4.3.3.3 Insecure attachment. In two meta-analyses it was concluded that maltreated infants and toddlers under four years of age were significantly more likely to have an insecure attachment style than normal controls (Baer & Martinez, 2006; Cyr et al., 2010). The children in these studies were being parented by young disadvantaged mothers.

2.4.3.3.4 School attainment problems. In one meta-analysis and two systematic reviews it was concluded that there was a significant association between child abuse and school attainment problems (Maguire et al., 2015; Paolucci et al., 2001; Veltman & Browne, 2001). Significantly more abused children had school attainment problems compared with normal controls.

2.4.3.3.5 Antisocial behaviour and aggression. In four meta-analyses and four systematic reviews it was concluded that there was a significant association between child abuse on the one hand and antisocial behaviour and aggression on the other (Braga et al., 2017; Byrd & Manuck, 2014; Fry et al., 2012; Maas et al., 2008; Maniglio, 2014, 2015; Norman et al. 2012; Wilson et al., 2009). Compared with normal controls, more adolescent and adult abuse survivors engaged in antisocial behaviour and aggression, especially if they had been exposed to multiple forms of severe abuse. In a Gene X Environment interaction, child maltreatment was more strongly associated with antisocial behaviour in the low-activity, relative to high-activity MAOA genotype. MAOA is the gene encoding monoamine oxidase-A which preferentially deaminates the neurotransmitters, serotonin and norepinephrine, which subserve the expression of aggression.

2.4.3.3.6 Sexual aggression. In three meta-analyses and four systematic reviews there was a significant association between child abuse and sexual aggression (Fry et al., 2012; Hanson & Slater, 1988; Jespersen et al., 2009; Maas et al., 2008; Mallie et al., 2011; Paolucci et al., 2001; Smith-Marek et al., 2015). Compared with normal controls, significantly more child abuse survivors sexually abused others or engaged in intimate partner violence.

2.4.3.3.7 Risky sexual behaviour. In eight meta-analyses and five systematic reviews it was concluded that there was a significant association between child abuse, especially child sexual abuse, and risky sexual behaviour in adolescence and adulthood. (Abajobir et al., 2017; Arriola et al., 2005; Draucker & Mazurczyk, 2013; Fry et al., 2012; Homma et al., 2012; Lloyd & Operario, 2012; Madigan et al., 2014; Noll et al., 2009; Norman et al., 2012; Paolucci et al., 2001; Schneeberger et al., 2014; Senn et al., 2008; Spies et al., 2012). In this context risky sexual behaviour included earlier age of first intercourse, having an older first sex partner, unprotected sex, sex with multiple partners, sex with strangers, more bisexual relationships, multiperson sex, sex while intoxicated, sex trading, and sexual revictimization. There was also a significant association between child sexual abuse and adverse outcomes of risky sexual behaviour including STD or HIV infection, and unplanned teenage pregnancy involvement.

2.4.3.3.8 Parenting problems. In four systematic reviews there was evidence for a significant association between a history of child abuse and parenting problems (Hughes & Cossar, 2016; Hugill et al., 2017; Thornberry et al., 2012; Vaillancourt et al., 2017). In this context parenting problems covered a broad spectrum ranging from experiencing greater parenting stress than normal controls, through lack of sensitivity to children's cues, to engaging in abusive parenting practices.

2.4.3.3.9 Self-harm and suicidality. In five meta-analyses and six systematic reviews there was a significant association between child abuse and self-harming or suicidal

phenomena (Chen et al., 2010; Devries et al., 2014; Evans et al., 2005; Fry et al., 2012; Klonsky & Moyer, 2008; Miller et al., 2013; Mironova et al., 2011; Norman et al., 2012; Paolucci et al., 2001; Rhodes et al., 2011; Schneeberger et al., 2014). In this context self-harming and suicidal phenomena refer to a broad spectrum of activity including non-suicidal self-harm (such as self-inflicted cuts or burns), suicidal ideation, and attempted suicide. Survivors of multiple forms of severe abuse were more likely to engage in self-harm or suicidal phenomena.

2.4.3.3.10 Other psychosocial outcomes. In five meta-analyses and 10 systematic reviews it was concluded that there were significant associations between child maltreatment and a range of psychosocial outcomes (not previously mentioned above) including deficits in emotion recognition, understanding and knowledge; perspective taking, theory of mind, and social competence deficits; hostile attributional bias; low self-esteem; interpersonal dependency; negative personality traits; gambling problems; sleep problems; poor educational and occupational adjustment; poor adjustment within family and peer relationships; and negative quality of life (Barbosa et al., 2014; Benarous et al., 2015; Bornstein, 2005; da Silva Ferreira et al., 2014; de Jong et al., 2015; Khaleque, 2015; Lane et al., 2016; Luke & Banerjee, 2013; Naughton et al., 2013; Rind & Tromovitch, 1997; Rind et al., 1998; Spies et al., 2012; Steine et al., 2012; Weber et al., 2016). On the positive side factors associated with resilience among survivors of child sexual abuse included social support from the family and the wider network, and positive engagement in education (Domhardt et al., 2015). Other protective factors included interpersonal and emotional competence, active coping, optimism, a belief in the capacity to control one's life, and blaming the perpetrator rather than the self for sexual abuse.

2.5 CONCLUSIONS

There are significant associations between a history of child maltreatment, and adjustment in the domains of physical health, mental health, and psychosocial adjustment in a very wide range of areas. It is probable that child abuse largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the number of different types of child abuse experienced as well as the duration and severity of these, and the presence of protective factors. The many adverse outcomes associated with child maltreatment documented in this review highlight the importance of implementing evidence-based child protection policies and practices to prevent maltreatment and treat child abuse survivors.

Figure 2.1. PRISMA flow diagram of literature search on outcomes of child abuse

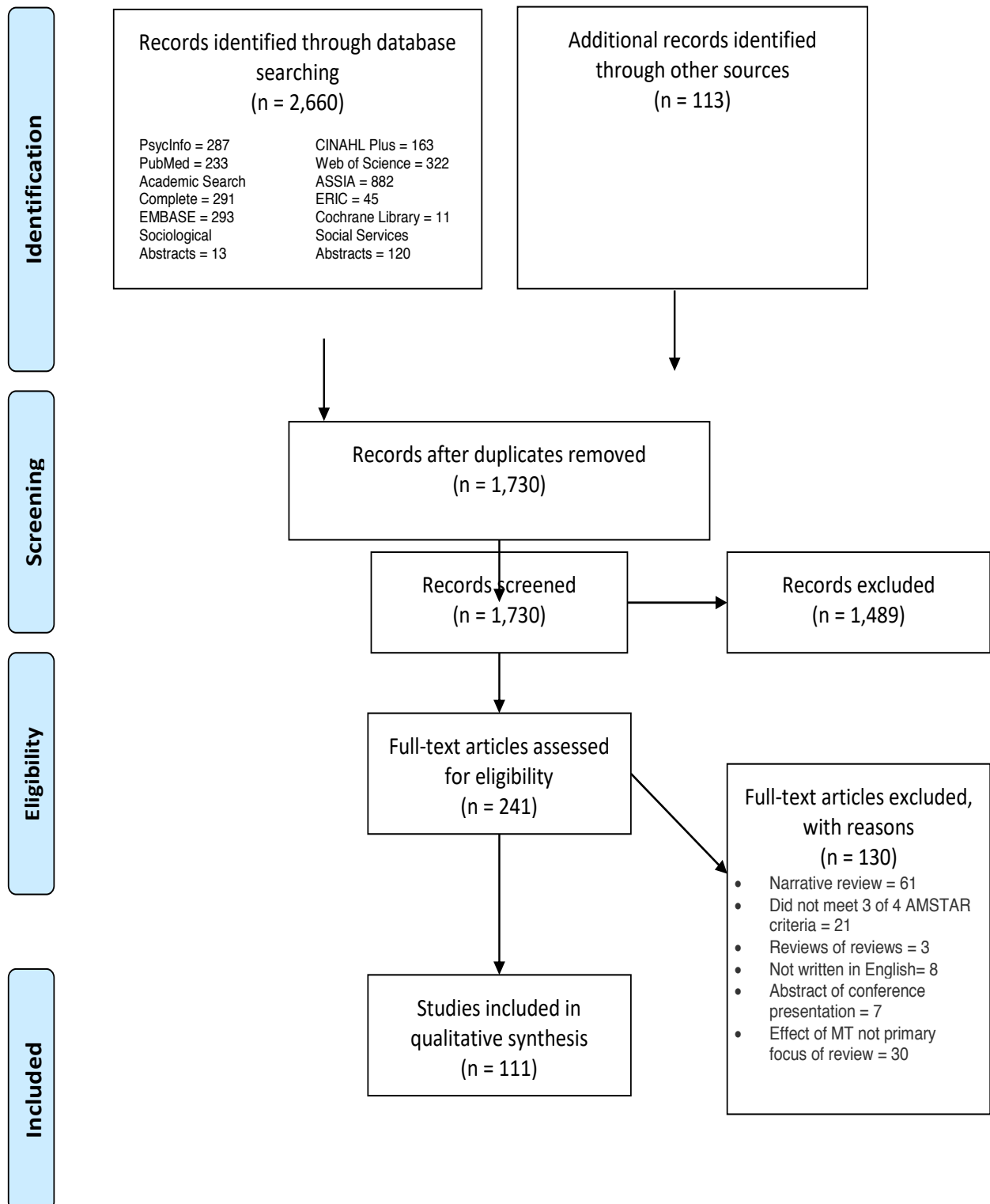


Table 2.1. Inter-rater reliability in literature review on outcomes of child maltreatment

	% Agreement	Krippendorff's Alpha
Screening records	92.70	-
Screening full texts	85.12	-
Amstar 1^s	94.59	-
Amstar 2	91.89	0.84
Amstar 3	96.40	0.90
Amstar 4	91.89	0.74
Amstar 5	99.10	0.79
Amstar 6	90.99	0.72
Amstar 7	100.00	1.00
Amstar 8^s	87.39	-
Amstar 9	98.20	0.96
Amstar 10	98.20	0.96
Amstar 11	98.20	0.96
AMSTAR Total	95.17	0.90
Main type of abuse	98.20	0.98
Main outcome	100.00	1.00
Data synthesis	100.00	1.00
Data bases searched	97.30	0.99
Number of data bases searched	97.30	0.99
Number of primary studies (k)	99.10	0.99
Number of participants (N)	92.79	0.99
% prospective studies	91.89	0.76
% controlled studies	90.99	0.89
% probability sample studies	90.99	0.89
% clinical sample studies	93.69	0.95
% mainly adult samples	86.49	0.90
Mean age of participants (when adjustment was assessed)	96.40	0.90
% all female samples	99.10	0.98
% of female participants	98.20	0.99
Key findings	96.40	0.89

Table 2.2. AMSTAR study quality scores in literature review on outcomes of child abuse

	Category and theme	First Author	Date	AMSTAR Total	1. Described a priori design with research question and inclusion criteria.	2. Used two independent data extractors and a consensus procedure for disagreements.	3. Used a comprehensive literature search of at least 2 data bases with appropriate search terms and years of search indicated, and manual search of one of the following: references of studies found, review papers, current contents, textbooks, experts.	4. Searched for reports regardless of publication type and did not exclude reports based on language or publication type (e.g. theses, report grey literature etc.).	5. Provided a list of included and excluded studies (in the refs or as an electronic link).	6. Provided characteristics of included studies in a table (author, date, participant age and gender, type of maltreatment, type of outcome).	7. Provided ratings of the scientific quality of studies (e.g. high or low quality) and not just a summary score for all studies.	8. Took the quality of studies into account in drawing conclusions and making recommendations (e.g. result should be interpreted cautiously due to poor quality of studies).	9. Provided a test of homogeneity (e.g. chi square or I ²) to check if results of studies could be validly pooled. Used a random effects (not a fixed effects) model if heterogeneity was present.	10. Assessed publication bias (using funnel plots or Egger regression test or Hedges Olken test etc.) if there were more than 10 studies.	11. Acknowledged sources of support for systematic review and included studies (to indicate conflict of interest).
Physical Health: General															
1		Wegman	2009	7	1	0	1	0	0	1	0	1	1	1	1
2		Paras	2009	10	1	1	1	1	0	1	1	1	1	1	1
3		Irish	2010	6	1	1	1	0	0	1	0	0	1	0	1
4		Norman	2102	8	1	1	1	0	0	1	0	1	1	1	1
5		Fry	2012	6	1	0	1	1	0	1	1	0	0	0	1
Physical Health: Neuro-endocrine abnormalities															
6		Woon	2008	5	1	0	1	0	0	1	0	0	1	1	0
7		Frodl	2013	4	1	0	0	0	0	1	0	1	0	0	1
8		Lim	2014	5	1	0	0	0	0	1	0	1	1	0	1
9		Paquola	2016	4	1	0	0	0	0	1	0	0	1	1	0
10		Ahmed-Leitao	2016	8	1	1	1	0	0	1	0	1	1	1	1
11		Hein	2017	2	0	0	0	0	0	0	0	1	0	0	1
12		Bicanic	2007	4	1	1	0	0	0	1	0	1	0	0	0
13		Hulme	2011	4	1	0	0	0	0	1	0	1	0	0	1
14		Bernard	2017	5	1	0	1	0	0	1	0	1	1	0	0

Physical Health: Inflammation														
15	Coelho	2014	7	1	1	1	0	0	1	1	1	0	0	1
16	Baumeister	2016	7	1	1	0	0	0	1	0	1	1	1	1
Physical Health: Diabetes, pain, fibromyalgia, and cancer														
17	Huang	2015	9	1	1	1	0	0	1	1	1	1	1	1
18	Davis	2005	5	1	0	0	0	0	1	0	1	1	1	0
19	Häuser	2011	8	1	1	0	0	0	1	1	1	1	1	1
20	Holman	2016	5	1	1	0	0	0	1	0	1	0	0	1
Mental Health: General														
21	Weich	2009	5	1	1	0	0	0	1	1	1	0	0	0
22	Martins	2011	2	1	0	0	0	0	0	0	1	0	0	0
23	Carr	2013	4	1	0	1	0	0	0	0	1	0	0	1
24	Spies	2012	4	1	0	1	0	0	1	0	0	0	0	1
25	Schneeberger	2014	6	1	0	1	1	0	1	0	1	0	0	1
26	Matheson	2012	10	1	1	1	1	0	1	1	1	1	1	1
27	Jumper	1995	5	1	0	1	1	0	0	0	1	1	0	0
28	Paolucci	2001	3	1	0	0	0	0	0	0	1	0	1	0
29	Chen	2010	8	1	1	0	1	0	1	1	1	1	1	0
30	Amado	2015	7	1	1	0	0	0	1	0	1	1	1	1
31	Ip	2016	9	1	1	1	0	0	1	1	1	1	1	1
Mental health: Depression and borderline personality disorder														
32	Lindert	2014	7	1	1	1	0	0	1	0	1	1	1	0
33	Li	2016	9	1	1	1	0	0	1	1	1	1	1	1
34	Mandelli	2015	8	1	0	1	0	0	1	1	1	1	1	1
35	Nelson	2017	7	1	1	1	0	0	0	0	1	1	1	1
36	Nanni	2012	9	1	1	1	0	0	1	1	1	1	1	1
37	Alvarez-Segura	2014	6	1	0	1	0	0	1	1	1	0	0	1
38	Choi	2016	6	1	0	1	0	0	1	0	1	1	0	1
39	Wosu	2015	7	1	0	1	0	0	1	1	1	1	0	1
40	Winsper	2016	8	1	0	1	0	0	1	1	1	1	1	1
Mental Health: Bipolar disorder														
41	Daruy-Filho	2011	7	0	1	1	0	0	1	1	1	0	0	1
42	Palmier-Claus	2016	9	1	1	1	0	0	1	1	1	1	1	1
43	Agnew-Blais	2016	9	1	1	1	0	0	1	1	1	1	1	1
44	Maniglio	2013a	7	1	1	1	0	0	1	1	1	0	0	1
45	Maniglio	2013b	7	1	1	1	0	0	1	1	1	0	0	1
Mental Health: Psychosis														
46	Bendall	2008	5	1	0	1	0	0	1	0	1	0	0	1
47	Varese	2012	9	1	1	1	1	0	1	0	1	1	1	1
48	Trotta	2015	7	1	0	1	0	0	0	1	1	1	1	1
49	Velikonja	2015	5	1	0	0	0	0	1	1	1	0	0	1
Mental Health Eating disorders and obesity														
50	Caslini	2016	7	1	1	0	0	0	1	0	1	1	1	1
51	Smolak	2002	6	1	0	1	1	0	1	0	1	1	0	0
52	Pignatelli	2017	6	1	0	1	1	0	1	0	1	1	0	0
53	Midei	2011	6	1	0	1	0	0	1	1	1	0	0	1

54	Danese	2014	9	1	1	1	0	0	1	1	1	1	1	1
55	Hemmingsson	2014	7	1	1	1	0	0	0	0	1	1	1	1
56	Wang	2015	6	1	1	1	0	0	0	0	0	1	1	1
Mental Health: Alcohol and drug use														
57	Langeland	1998	4	1	0	1	0	0	0	0	1	0	0	1
58	Tonmyr	2010	4	1	0	0	0	0	1	0	1	0	0	1
59	Butt	2011	5	1	0	1	0	0	1	1	1	0	0	0
60	Kristman-Valente	2014	4	1	0	0	0	0	1	0	1	0	0	1
Mental Health: Non-epileptic seizures														
61	Sharpe	2006	4	0	0	1	0	0	1	0	1	1	0	0
Psycho-social Adjustment: Cognition														
62	Irigaray	2013	4	1	0	1	0	0	1	0	1	0	0	0
63	Masson	2016	6	1	0	1	0	0	1	0	1	1	1	0
Psychosocial Adjustment: Language														
64	Lum	2015	7	1	0	0	0	0	1	1	1	1	1	1
65	Sylvestre	2016	7	1	1	1	0	0	0	0	1	1	1	1
Psychosocial Adjustment: Attachment														
66	Baer	2006	5	1	1	1	0	0	0	0	1	1	0	0
67	Cyr	2010	7	1	1	1	1	0	1	0	0	1	1	0
Psychosocial Adjustment: School problems														
68	Veltman	2001	3	1	0	1	0	0	1	0	0	0	0	0
69	Maguire	2015	7	1	1	1	0	0	1	1	1	0	0	1
Psychosocial Adjustment: Antisocial behaviour and aggression														
70	Maas	2008	3	1	0	0	0	0	1	0	1	0	0	0
71	Wilson	2009	7	1	1	1	0	0	1	0	1	1	0	1
72	Byrd	2014	4	1	0	0	0	0	1	0	0	0	1	1
73	Braga	2017	9	1	1	1	1	0	1	0	1	1	1	1
74	Maniglio	2014	6	1	1	1	0	0	1	1	1	0	0	0
75	Maniglio	2015	7	1	1	1	0	0	1	1	1	0	0	1
Psychosocial Adjustment: Sexual aggression														
76	Smith-Marek	2015	7	1	1	1	0	0	0	0	1	1	1	1
77	Hanson	1988	4	1	1	1	0	0	0	0	1	0	0	0
78	Jespersen,	2009	8	1	1	1	0	0	1	0	1	1	1	1
79	Mallie	2011	7	1	1	1	1	0	1	0	1	1	0	0
Psychosocial Adjustment: Risky sex														
80	Arriola	2005	5	1	1	1	0	0	0	0	1	1	0	0
81	Senn	2008	5	1	0	1	0	0	1	0	1	0	0	1
82	Homma	2012	7	1	1	1	0	0	0	0	1	1	1	1
83	Lloyd	2012	6	1	0	1	1	0	1	0	1	1	0	0
84	Draucker	2012	4	1	0	1	0	0	1	0	1	0	0	0
85	Abajobir	2017	9	1	1	1	0	0	1	1	1	1	1	1
86	Noll	2009	6	1	1	1	0	0	0	0	1	1	0	1
87	Madigan	2014	8	1	1	1	0	0	1	0	1	1	1	1

Psychosocial Adjustment: Parenting														
88	Thornberry	2012	6	1	1	1	0	0	0	1	1	0	0	1
89	Vaillancourt	2017	6	1	0	1	0	0	1	1	1	0	0	1
90	Hughes	2016	6	1	0	1	0	1	1	1	1	0	0	0
91	Hugill	2017	5	1	0	1	0	0	1	1	1	0	0	0
Psychosocial Adjustment: Self-harm and suicide														
92	Evans	2005	6	1	0	1	1	0	1	0	1	0	0	1
93	Miller	2013	5	1	0	1	0	0	1	0	1	0	0	1
94	Rhodes	2011	5	1	1	1	0	0	1	0	1	0	0	0
95	Devries	2014	7	1	0	0	0	0	1	1	1	1	1	1
96	Klonsky	2008	6	1	0	1	0	0	1	0	0	1	1	1
97	Mironova	2011	5	1	1	0	0	0	1	0	1	0	0	1
Psychosocial Adjustment: General														
98	Da Silva	2014	5	1	0	1	0	0	1	0	1	0	0	1
99	Luke	2013	7	1	0	1	1	0	1	0	1	1	1	0
100	Benarous	2015	4	1	1	0	0	0	1	0	1	0	0	0
101	Barbosa Pacheco	2014	2	1	0	0	0	0	0	0	1	0	0	0
102	Bornstein	2005	5	1	0	1	0	0	1	0	0	0	1	1
103	Weber	2016	8	1	1	1	1	0	1	0	1	1	0	1
104	Lane	2016	3	0	0	1	0	0	0	0	1	0	0	1
105	Rind	1997	5	1	0	1	0	0	1	0	1	1	0	0
106	Rind	1996	5	1	1	1	1	0	0	0	0	1	0	0
107	Steine	1012	3	1	0	0	0	0	1	0	1	0	0	0
108	De Jong	2015	3	1	0	0	0	0	1	0	1	0	0	0
109	Domhardt	2015	6	1	0	1	0	0	1	1	1	0	0	1
110	Naughton	2013	8	1	1	1	1	0	1	1	1	0	0	1
111	Khaleque	2015	6	1	0	1	1	0	0	0	1	1	1	0
	Total			107/111	53/111	82/111	19/111	1/111	89/111	37/111	99/111	60/111	45/111	73/111
	%			96	48	74	17	1	80	33	89	56	41	66

Table 2.3. Study design features and sample characteristics in literature review on outcomes of child abuse

Category and theme	First Author	Date	Main type of abuse	Main outcome	Data synthesis	Databases searched	No. of databases searched	No. of primary studies (k)	No. of participants (N)	% prospective studies	% controlled studies	% probability sample studies	% clinical sample studies	% mainly adult sample studies	Mean age in years	% female samples studies	% females
Physical Health: General																	
1	Wegman	2009	MT	PH	M	PsycINFO, PubMed	2	24	48,801	0	100	-	-	100	38	67	91
2	Paras	2009	SA	PH	M	MEDLINE, EMBASE, CINAHL, Current Contents, PsycINFO, American College of Physicians Journal Club, Cochrane Controlled Trials Registry, Cochrane Database of Systematic Reviews, Database of Abstracts and Reviews of Effectiveness	9	23	4,640	0	83	-	78	91	35	70	-
3	Irish	2010	SA	PH	M	PsycINFO, MEDLINE, PILOTS	3	31	95,081	-	100	-	42	-	-	65	-
4	Norman	2102	MT	PH	M	Medline, EMBASE, PsycINFO	3	12	1,188,429	13	5	54	2	-	-	19	62
5	Fry	2012	MT	PH	SR	PubMed/Medline, ProQuest, PsycINFO, ScienceDirect, CINAHL-ebSCO, EMBASE, ERIC, NCJRS, Violence and Abuse Abstracts, Social Work Abstracts, SocIndex, Family and Society Studies, Worldwide Google, Google Scholar, SSCI, Korea Med	16	10	258,800	-	9	40	8	37	-	-	-
Physical Health: Neuro-endocrine abnormalities																	
6	Woon	2008	MT	PH	M	PubMed, PsycINFO	2	8	396	0	100	0	100	50	23	38	62
7	Frodl	2013	MT	PH	SR	PubMed, Science Direct Scopus, EMBASE	4	24	3,691	8	96	0	38	67	-	25	-
8	Lim	2014	MT	PH	M	PubMed, ScienceDirect, Web of Knowledge, Scopus	4	12	693	0	100	-	92	75	26	25	64
9	Paquola	2016	MT	PH	M	PubMed, Scopus, Web of Science	3	38	3,161	0	92	0	71	100	33	27	67
10	Ahmed-Leitao	2016	MT	PH	SR	PubMed, Web of Science, ScienceDirect, PsycINFO	4	10	330	0	100	0	100	100	34	80	94
11	Hein	2017	MT	PH	M	Google Scholar, PsycINFO, PubMed	3	20	1,733	-	100	-	-	45	-	-	-
12	Bicanic	2007	SA	PH	SR	Medline	1	7	>152	-	100	-	-	0	11	43	78

13	Hulme	2011	SA	PH	SR	Pre-CINAHL, CINAHL, PsycINFO, PubMed	4	10	461	0	100	0	20	100	-	70	86
14	Bernard	2017	MT	PH	M A	PubMed, PsycINFO	2	27	3,898	-	100	-	-	52	22	44	70
Physical Health: Inflammation																	
15	Coelho	2014	MT	PH	SR	PubMed, ISI, EMBASE, PsycINFO	4	20	7,506	20	80	0	60	90	34	25	-
16	Baumeister	2016	MT	PH	M A	Medline/PubMed, PsycINFO, EMBASE, Scopus	4	25	17,716	12	28	-	40	100	42	20	63
Physical Health: Diabetes, pain, fibromyalgia, and cancer																	
17	Huang	2015	MT	PH	SR M A	PubMed, EMBASE	2	7	87,251		100	14	-	100	32	29	-
18	Davis	2005	MT	PH	M A	PubMed/Medline, PsycINFO	2	16	5,299	0	100	0	75	100	-	38	63
19	Häuser	2011	MT	PH	M A	EMBASE, Google Scholar, Medline, PsycINFO	4	18	13,095	0	100	6	89	94	45	56	92
20	Holman	2016	MT	PH	SR	PubMed	1	12	119,100	42	8	-	0	100	45	-	-
Mental Health: General																	
21	Weich	2009	MT	M H	SR	Medline, PsycINFO, Sociological Abstracts	3	23	20,984	10 0	-	-	100	69	24	0	44
22	Martins	2011	MT	M H	SR	PubMed, SciELO	2	31	-	-	55	-	100	100	-	19	-
23	Carr	2013	MT	M H	SR	PubMed, SciELO, LILACS, PsycINFO	4	44	145,507	0	43	0	100	100	-	23	-
24	Spies	2012	MT	M H P	SR	PubMed, Social Science Citation Index, Cochrane Library Cochrane Developmental, Psychosocial and Learning Problems, HIV/AIDS, and Depression, Anxiety and Neurosis registers	5	34	14,935	6	18	0	-	100	-	38	57
25	Schneeberger	2014	MT	M H P	SR	Medline/PubMed, Web of Science, Google Scholar, PsycNET	4	73	306,986	1	38	32	0	100	-	33	-
26	Matheson	2012	MT	M H A	M	Medline, EMBASE, PsycINFO	3	25	4,758	-	28	0	100	92	35	12	54
27	Jumper	1995	SA	M H A	M	Psychological Abstracts, Sociofile, ERIC, Dissertation Abstracts	4	26	6,878	-	100	0	21	100	-	81	76
28	Paolucci	2001	SA	M H A	M	PsycLIT, Sociofile, ERIC	3	37	25,367	0	100	-	-	-	-	-	-
29	Chen	2010	SA	M H P	SR	Medline, EMBASE, CINAHL, Current Contents, PsycINFO, ACP Journal Club, CCTR, CDSR, DARE	9	37	3,162,318	54	46	-	49	65	27	43	-
30	Amado	2015	SA	M H	M A	Web of Science, Core Collection, Current Contents, Medline, Scielo, KCI-Korean	6	78	19,360	-	86	0	-	-	-	-	-
31	Ip	2016	PA	M H	M A	EMBASE, CINAHL, Scopus, PsycINFO, PubMed, Chinese, National Knowledge Infrastructure	6	22	17,234	0	45	0	23	68	23	-	-

Mental health: Depression and borderline personality disorder

32	Lindert	2014	MT	M H A	M A	PubMed, EMBASE, PsycINFO	3	19	115,579	0	-	79	0	74	42	11	55
33	Li	2016	MT	M H	SR M A	PubMed/Medline, PsycINFO, EMBASE, Cochrane Library	4	8	3,152,497	10 0	-	75	0	100	26	-	-
34	Mandelli	2015	MT	M H A	M A	PubMed, EMBASE, PsycINFO, ISI Web of Science	4	26	37,593	19	19	0	12	100	43	27	74
35	Nelson	2017	MT	M H A	M A	MEDLINE, PsycINFO, PILOTS	3	18 4	-	-	-	-	-	100	-	-	-
36	Nanni	2012	MT	M H A	M A	Medline, PsycINFO, EMBASE	3	26	26,642	-	38	-	65	85	36	15	66
37	Alvarez-Segura	2014	MT	M H	SR	Medline/PubMed, EMBASE, PsycINFO, Cochrane Library	4	43	35,554	-	-	0	9	100	-	10 0	100
38	Choi	2016	MT	M H	SR	MEDLINE, PsycINFO, MBASE, CINAHL	4	35	26,239	-	0	0	69	88	27	10 0	100
39	Wosu	2015	SA	M H	SR M A	PubMed, EMBASE, PsycINFO, CINAHL Web of Science, BIOSIS Science Direct	7	12	17,473	36	100	-	-	100	-	10 0	100
40	Winsper	2016	MT	M H	M A	EMBASE, PsycINFO, PubMed/Medline	3	61	28,571	19	100	0	65	0	14	28	69
Mental Health: Bipolar disorder																	
41	Daruy-Filho	2011	MT	M H	SR	Medline, ISI database, EMBASE, PsycINFO, Centre for Reviews and Dissemination, Databases of Thomson Reuters	6	19	3,938	0	42	0	100	78	-	-	-
42	Palmier-Claus	2016	MT	M H	SR M A	Medline, EMBASE, PsycINFO, Web of Science	4	28	2,175,719	-	100	-	100	-	-	-	-
43	Agnew-Blais	2016	MT	M H	SR M A	MEDLINE. PsycINFO, EMBASE	3	30	9,739	0	-	3	93	97	38	0	54
44	Maniglio a	2013	SA	M H	SR	EBSCO, ERIC, Medline/PubMed/ PubMed Central, PsycINFO, ScienceDirect	5	20	3,407	0	45	0	100	75	30	10	53
45	Maniglio b	2013	SA	M H	SR	EBSCO, ERIC, Medline/PubMed/ PubMed Central, PsycINFO, ScienceDirect	5	18	2,996	6	100	-	100	83	-	0	-
Mental Health: Psychosis																	
46	Bendall	2008	MT	M H	SR	PsycINFO, Medline, EMBASE	3	46	3,153,850	0	43	7	93	-	-	20	-
47	Varese	2012	MT	M H	SR M A	Medline, EMBASE, PsycINFO, Web of Science		40	98,165	20	58	-	-	88	35	-	-
48	Trotta	2015	MT	M H A	SR M A	Medline/PubMed, EMBASE, PsycINFO	3	20	20,596	10 0	-	45	40	-	-	5	-
49	Velikonja	2015	MT	M H	SR	PsycINFO, PubMed, EMBASE, Web of Science	4	25	81,529	4	20	36	-	92	31	4	62
Mental Health Eating disorders and obesity																	
50	Caslini	2016	MT	M	SR	PubMed, EMBASE, PsycINFO, PILOTS	4	32	15,714	-	100	-	47	97	26	72	86

				H	M														
51	Smolak	2002	SA	M	M	PsycINFO, Medline, ERIC, Dissertation Abstracts	4	53	41,304	-	100	-	51	75	-	10	100		
				H	A											0			
52	Pignatelli	2017	NE	M	M	EMBASE, PsycINFO, PubMed, Cochrane Library	4	7	1,039	0	57	0	100	83	31	43	-		
				H	A														
53	Midei	2011	MT	M	SR	Medline, PsycINFO	2	18	52,657	-	11	-	33	94	39	44	-		
				H	A														
54	Danese	2014	MT	M	M	Medline, PsycINFO, EMBASE	3	41	190,285	-	100	44	-	76	31	41	74		
				H	A														
55	Hemmingsson	2014	MT	M	SR	Medline/PubMed, PsycINFO, CINAHL	3	23	112,708	17	100	-	-	100	37	-	-		
				H	M														
				H	A														
56	Wang	2015	MT	M	M	PubMed/Medline, Web of Science, EMBASE	3	22	-	14	-	-	-	100	-	-	-		
				H	A														
Mental Health: Alcohol and drug use																			
57	Langeland	1998	MT	M	SR	PsycLIT, Medline		34	-	-	-	-	-	100	-	-	-		
				H	A		2												
58	Tonmyr	2010	MT	M	M	CINAHL, PsycINFO, ERIC, Medline/PubMed, Social Policy & Practice	5	31	143,928	3	100	55	0	0	15	10	-		
				H	A														
59	Butt	2011	MT	M	SR	PsycINFO, Medline, EMBASE	3	18	108,714	11	22	22	50	73	33	0	0		
				H	A														
60	Kristman-Valente	2014	MT	M	SR	PsycINFO, PubMed	2	6	5,263	10	-	-	-	83	25	0	55		
				H	A				0										
Mental Health: Non-epileptic seizures																			
61	Sharpe	2006	SA	M	SR	Medline, PsycINFO	2	34	2,753	-	53	0	100	-	-	9	74		
				H	M														
				H	A														
Psycho-social Adjustment: Cognition																			
62	Irigaray	2013	MT	P	SR	Medline, PsycINFO, EMBASE, Amed	4	17	1,340	0	100	-	-	65	25	-	64		
63	Masson	2016	MT	P	M	Medline, PsycINFO, EMBASE	3	12	734	0	100	0	100	27	21	42	69		
					A														
Psychosocial Adjustment: Language																			
64	Lum	2015	MT	P	M	ERIC, CINAHL, Medline, PsycINFO	4	26	2,112	-	100	0	-	0	7	0	46		
					A														
65	Sylvestre	2016	MT	P	M	PubMed, EMBASE, CINAHL, ERIC, PsycINFO, SCOPUS	6	22	1,420	-	100	-	-	0	6	-	-		
					A														
Psychosocial Adjustment: Attachment																			
66	Baer	2006	MT	P	M	Psychological Abstracts, Medline	2	8	791	-	100	0	-	0	2	-	-		
					A														
67	Cyr	2010	MT	P	M	PsycINFO, Dissertation Abstracts, Medline	3	10	456	0	90	-	-	0	2	0	56		
					A														
Psychosocial Adjustment: School problems																			

68	Veltman	2001	MT	P	SR	Medline, PsychLit	2	92	7,721	-	75	-	-	0	8	7	-
69	Maguire	2015	MT	P	SR	ASSIA, CINAHL, Cochrane Central Register of Controlled Trials , EMBASE, ERIC, HMIC, IBSS, Medline, Medline In-Process & Other Non-Indexed Citations., PsycINFO, SCOPUS, Open Grey up to 2005, Social Care Online, Social Services Abstracts, Sociological Abstracts, Web of Science: Conference Proceedings, Web of Science: Science Citation Index, Web of Science: Social Sciences Citation Index	18	30	7,807	26 67	77	-	-	0	9	-	-
Psychosocial Adjustment: Antisocial behaviour and aggression																	
70	Maas	2008	MT	P	SR	PsycINFO, Social Work Abstracts, Sociological Abstracts, PubMed	4	8	8,659	10 0	38	25	-	0	17	0	31
71	Wilson	2009	MT	P	M	PsycINFO, Medline	2	18	18,245	44	100	0	22	0	-	0	-
72	Byrd	2014	MT	P	M	PubMed	-	27	19,411	-	15	-	-	44	23	15	34
73	Braga	2017	MT	P	M A	Communication Abstracts, ERIC, LISTA, Academic Search Complete, EconLit Full Text, Political Science Complete, Regional Business News (all accessed through EBSCOhost), Elsevier, PsycARTICLES, PsycINFO, PubMed/Medline, Scopus, Taylor & Francis online, Wiley online library, InterScience, Web of Science Core Collection, Current Contents Connect, Korean Journal Database, Science Citation Index	19	33	23,973	10 0	100	-	-	0	15	6	-
74	Maniglio	2014	SA	P	SR	Cambridge Journals, JSTOR, PsycINFO, PubMed Central, Oxford Journals, Sagepub, ScienceDirect, Springer, Taylor and Francis online, Wiley online Library	10	23	7,256	-	70	-	83	13	16	9	64
75	Maniglio	2015	SA	P	SR	Cambridge Journals, JSTOR, PsycINFO, PubMed Central, Oxford Journals, Sage-pub, ScienceDirect, Springer, Taylor and Francis online, Wiley online Library	10	36	185,358	3	100	0	100	38	20	17	51
Psychosocial Adjustment: Sexual aggression																	
76	Smith-Marek	2015	PA	P	M A	PsycLIT, Sociological Abstracts, Social Science Abstracts Medline, ERIC. Social Sciences Citation Index, Dissertation, Abstracts International, Web of Science, PsycINFO	9	12	305,601	4	-	-	-	100	-	-	-
77	Hanson	1988	SA	P	M A	PsycINFO, Psychological Abstracts	2	18	1,717	0	0	0	-	100	-	0	0
78	Jespersen,	2009	MT	P	M A	PsycINFO, ProQuest Digital Dissertations, Academic Search Premier	3	26	4,747	0	100	0	-	100	36	4	-
79	Mallie	2011	MT	P	M A	PsycINFO, National Criminal Justice Reference Service	2	11	1,542	91	0	0	-	0	15	0	-
Psychosocial Adjustment: Risky sex																	
80	Arriola	2005	SA	P	M A	Medline, PsycINFO, Social Sciences Index, Dissertations Abstracts	46	33,849	-	100	19	27	100	27	10	100	0
81	Senn	2008	SA	P	SR	PsycINFO, Medline	2	73	113,570	-	100	-	27	63	-	55	-
82	Homma	2012	SA	P	M A	Medline, PsycINFO, Web of Science	3	10	42,685	0	0	90	0	0	16	16	0
83	Lloyd	2012	SA	P	SR	PubMed/Biomed Central/Medline, PsycINFO, ERIC, SocINDEX, AMED,	6	12	15,622	8	100	33	0	100	37	0	0

					M A SR	CINAHL CINAHL, PubMed, PsycINFO														
84	Draucker	2012	SA	P M H			3	41	242,719	24	5	20	10	41	18	34	70			
85	Abajobir	2017	SA	P	M A	Medline/PubMed, EMBASE, PsycINFO, Google Scholar	8	38,989	38	100	-	0	88	27	0	53				
86	Noll	2009	SA	P	M A	PubMed (Medline), CINAHL, PsycARTICLES, PsycINFO	4	20	47,836	-	67	-	-	0	-	10	100			
87	Madigan	2014	MT	P	M A	MEDLINE, EMBASE, PsycINFO, Social Work Abstracts, Web of Science	5	36	75,390	16	100	0	0	21	17	10	100			
Psychosocial Adjustment: Parenting																				
88	Thornberry	2012	MT	P	SR	PsycINFO, Sociological Abstracts	2	47	-	4	77	13	-	-	-	-	-			
89	Vaillancourt	2017	MT	P	SR	PsycINFO, MEDLINE, EMBASE	14	6,282	-	-	21	-	93	28	10	100				
90	Hughes	2016	MT	P	SR	PsycINFO, EMBASE, Medline, Sociological Abstracts	4	12	3,758	-	0	-	0	100	30	10	100			
91	Hugill	2017	SA	P	SR	PsycINFO, Academic Search Complete, CINAHL, Medline/PubMed, Web of Science, PILOTS	6	11	1,545	36	27	0	27	100	31	10	100			
Psychosocial Adjustment: Self-harm and suicide																				
92	Evans	2005	MT	P	SR	PsycLIT, Medline, EMBASE, Sociological Abstracts, ERIC, Australian Education Index, British Education Index	7	9	38,935	0	0	10	0	11	16	0	50			
93	Miller	2013	MT	P	SR	PsycINFO, PsycARTICLES, Medline	3	54	186,732	11	15	15	22	17	16	4	52			
94	Rhodes	2011	SA	P	SR M A	Medline, All EBM reviews, EMBASE, CINAHL, PsycINFO, ASSIA, ERIC, Social Sciences Citation Index, Social Services Abstracts, Sociological Abstracts, Violence and Abuse Abstracts, Social Work Abstracts	12	16	283,674	0	0	-	0	0	16	0	51			
95	Devries	2014	SA	P	M A	-	20	9	12,819,487	67	22	22	-	67	28	0	59			
96	Klonsky	2008	SA	P	M A	PubMed, PsycINFO, Web of Knowledge Science Citation, Social Science Citation Indices	4	43	13,687	-	7	-	72	82	28	47	80			
97	Mironova	2011	PA	P	SR	Medline, All EBM reviews, EMBASE CINAHL, PsycINFO, ASSIA, ERIC, Social Sciences Citation Index, Social Services Abstracts, Sociological Abstracts, Violence and Abuse Abstracts, Social Work Abstracts	12	5	12,262	40	0	80	0	0	-	0	-			
Psychosocial Adjustment: General																				
98	Da Silva	2014	MT	P	SR	PubMed, PsycINFO, SciELO	3	17	793	0	100	0	100	0	7	0	57			
99	Luke	2013	MT	P	SR M A	PsycINFO, Web of Science	2	51	11,621	-	82	0	0	12	11	-	-			
100	Benarous	2015	MT	P	SR	PsycINFO, PubMed, Scopus	3	12	196	-	100	0	0	0	7	0	43			

101	Barbosa Pacheco	2014	MT	P	SR	Medline, PsycINFO, EMBASE, Amed	4	19	8,014	-	100	-	5	21	11	-	-
102	Bornstein	2005	MT	P	M	PsycINFO, Medline	2	9	2,283	-	100	-	44	100	30	44	-
103	Weber	2016	MT	P	SR	EMBASE, Medline/PubMed, CINAHL, PsycINFO, PSYINDEX, Cochrane Database of Systematic Reviews, ProQuest Digital Dissertations, NDLDT, Dissonline.de	9	19	118,073	-	67	-	63	79	36	21	61
104	Lane	2016	MT	P	SR	PubMed, EMBASE, Scopus, PsycINFO, SocIndex, CINAHL	6	18	>53,659	-	72	-	-	-	-	-	-
105	Rind	1997	SA	P	M	Dissertation Abstracts International, Sociofile, PsycLIT, ERIC	4	7	12,409	0	71	10	0	71	33	0	-
106	Rind	1998	SA	P	SR	PsycLIT, PsycINFO, Sociofile, Dissertation Abstracts, ERIC	5	59	35,682	0	100	-	0	100	-	53	62
107	Steine	1012	SA	P	SR	PsycINFO, PubMed	2	22	5,897	-	73	9	41	36	19	27	79
108	De Jong	2015	SA	P	SR	Web of Knowledge, PsycINFO	2	51	251,659	8	100	45	25	100	33	63	-
109	Domhardt	2015	SA	P	SR	PsycINFO, Medline, PubMed, Web of Science, PSYINDEXplus	4	37	31,442	6	-	6	74	50	21	50	-
110	Naughton	2013	MT	P	SR	ASSIA, CINAHL, Cochrane Central, Register of Controlled Trials, EMBASE, ERIC, Health Management Information Consortium, International Bibliography of the Social Sciences, Medline, Medline In-Process and Other Non-Indexed Citations, Open SIGLE, PsycINFO, SCOPUS, Social Care Online, Social Services Abstracts, Sociological Abstracts, Web of Knowledge – ISI Proceedings, Web of Knowledge - ISI Science Citation Index, Web of Knowledge – ISI Social Science Citation Index	18	42	5,785	29	83	0	-	0	3	0	45
111	Khaleque	2015	NE	P	M	PsycINFO, Current Contents, Dissertation Abstract International, Social Work Abstract, Sociological Abstracts, Anthropological Literature Sociofile, Child Development Abstracts, National Council on Family Relations, ERIC	10	33	11,755	-	-	-	-	0	12	-	48

Note: MT = Multiple forms of maltreatment (physical, sexual, emotional/psychological, neglect). SA = mainly sexual abuse. PA = mainly physical abuse. EA = mainly emotional or psychological abuse. NE = mainly neglect. PH = physical health. MH = Mental health. P = Psychosocial adjustment. MA = Meta-analysis. SR = Systematic review with narrative synthesis.

Table 2.4. Key findings from literature review on outcomes of child abuse

	First Author	Date	Key findings
Physical Health: General			
1	Wegman	2009	In controlled retrospective studies of convenience samples of adults there were significant associations between a history of any type child abuse and physical health problems in adulthood ($d = 0.42$ [0.39, 0.45] $k = 24$). Neurological ($d = 0.94$ [0.89, 0.99] $k = 3$) and musculoskeletal ($d = 0.81$ [0.76, 0.86] $k = 3$) problems yielded the largest effect sizes, followed by respiratory problems ($d = 0.71$ [0.67, 0.75] $k = 8$), cardiovascular disease ($d = 0.66$ [0.63, 0.70] $k = 7$), gastrointestinal ($d = 0.63$ [0.59, 0.67] $k = 10$), and metabolic ($d = 0.37$ [0.33, 0.41] $k = 8$), disorders. Effect sizes were larger when the sample was exclusively female and when the abuse was assessed via self-report rather than objective, independently verifiable methods.
2	Paras	2009	In mainly controlled retrospective studies of clinical and community convenience samples of adults there were significant associations between a history of sexual abuse and a range of physical health problems. The strongest association was with lifetime diagnoses of non-epileptic seizures (OR = 2.96 [1.12, 4.69] $k = 3$), followed by chronic pelvic pain (OR = 2.73 [1.73, 4.30] $k = 10$), functional gastrointestinal disorders (OR = 2.43 [1.36, 4.31] $k = 5$), and nonspecific chronic pain (OR = 2.20 [1.54, 3.15] $k = 1$). There were no significant associations between a history of sexual abuse and a lifetime diagnosis of fibromyalgia, obesity or headache.
3	Irish	2010	In controlled retrospective studies of clinical and community convenience samples of adults, there was a significant association between a history of child sexual abuse and higher rates of subsequent physical health symptoms. The strongest association was with gastrointestinal symptoms ($d = 0.75$ [0.47, 1.03] $k = 7$), followed by gynaecological symptoms ($d = 0.64$ [0.48, 0.80] $k = 9$), obesity ($d = 0.55$ [0.44, 0.66] $k = 7$), pain ($d = 0.50$ [0.38, 0.62] $k = 12$), general health problems ($d = 0.39$ [0.31, 0.47] $k = 3$), and cardiopulmonary symptoms ($d = 0.31$ [0.23, 0.39] $k = 6$). These associations occurred on categorical but not continuous measures of these physical health problems.
4	Norman	2102	In retrospective and prospective controlled studies of probability and convenience samples of adults there was a significant association between a history of non-sexual child maltreatment (physical and emotional abuse and neglect) and indices of physical health, mental health and psychosocial adjustment. In the domain of physical health there were significant associations (in order of descending strength) between physical abuse and ulcers (OR = 1.71 [1.44, 2.02], $k = 7$), arthritis, (OR = 1.52 [1.28, 1.80], $k = 4$), and headaches or migraine (OR = 1.42 [1.24, 1.62], $k = 6$). In the domain of mental health abuse was associated with depressive, anxiety, eating, and substance use disorders. There were significant associations (in order of descending strength) between emotional abuse (OR = 3.06 [2.43, 3.85] $k = 9$), neglect (OR = 2.11 [1.61, 2.77] $k = 14$) and physical abuse (OR = 1.54 [1.16, 2.04], $k = 36$) and depressive disorders. There were significant associations (in order of descending strength) between emotional abuse (OR = 3.21 [2.05, 5.03] $k = 4$), neglect (OR = 1.82 [1.51, 2.20] $k = 8$) and physical abuse (OR = 1.51 [1.27, 1.79], $k = 59$), and anxiety disorders. There were significant associations (in order of descending strength) between neglect (OR = 2.99 [1.53, 5.83], $k = 2$), physical abuse (OR = 2.58 [1.17, 5.70], $k = 6$), and emotional abuse (OR = 2.56 [1.41, 4.65], $k = 2$), and eating disorders. There were significant associations (in order of descending strength) between physical abuse (OR = 1.92 [1.67–2.20] $k = 43$), emotional abuse (OR = 1.41 [1.11, 1.79] $k = 8$) and neglect (OR = 1.36 [1.21, 1.54] $k = 41$) and substance use disorders. In the domain of psychosocial adjustment abuse was associated with child and adolescent suicidal behaviour, antisocial behaviour, and risky sexual behaviour. There were significant associations (in order of descending strength) between physical abuse (OR = 3.40 [2.17, 5.32], $k = 58$), emotional abuse (OR = 3.37 [2.44, 4.67], $k = 11$), and neglect (OR = 1.95 [1.13, 3.37] $k = 15$) and suicidal behaviour. There were significant associations (in order of descending strength) between physical abuse (OR = 2.29 [1.76, 2.97], $k = 12$) and neglect (OR = 2.01 [1.42, 2.84], $k = 12$) and child and adolescent antisocial behaviour (conduct disorders). There were significant associations (in order of descending strength) between physical abuse (OR = 1.78 [1.50, 2.10] $k = 33$), emotional abuse (OR = 1.75 [1.49, 2.04] $k = 5$), and neglect (OR = 1.57 [1.39, 1.78] $k = 30$) and sexually transmitted infections and risky sexual behaviour. The strongest associations across all types of non-sexual abuse and problems in all domains were with depressive and eating disorders and suicidal behaviour.
5	Fry	2012	In quantitative retrospective controlled and uncontrolled studies of probability and convenience samples and qualitative studies conducted in East Asia and the Pacific region there was a significant association between child maltreatment and a range of adult outcomes including physical and mental health problems, and psychosocial adjustment problems, notably, suicidal behaviour, risky sexual behaviour, and exposure to intimate partner violence. In the domain of physical health , compared with normal controls, survivors of child maltreatment, in adolescence and adulthood had an increased risk of general ill health and specific problems

such as headaches, abdominal and chest pain, genitourinary symptoms, sleep disturbance, and psychosomatic disorders.

In the domain of **mental health**, compared with normal controls, survivors of child sexual and physical abuse, in adolescence and adulthood had a twofold increase in risk of mental health problems (mainly depressive, and anxiety disorders, but also eating and substance use disorders).

In the domain of **psychosocial adjustment**, compared with normal controls, survivors of child sexual and physical abuse, in adolescence and adulthood had a fourfold increase in risk of suicidal ideation or behaviour, and were also at increased risk for antisocial behaviour, aggression, risky sexual behaviour, and intimate partner violence.

Physical Health: Neuro-endocrine abnormalities

6	Woon	2008	<p>In case-control studies of clinical samples there was bilateral reduction of the hippocampal volume in adult survivors of physical, sexual and emotional abuse with PTSD compared to healthy controls. This deficit did not occur in children with maltreatment-related PTSD, suggesting hippocampal volume deficits from childhood maltreatment may not be apparent until adulthood.</p> <p>Effect sizes in adults were $d = -0.64$ [-0.98, -0.29] $k = 4$ and $d = -0.41$ [-0.75, -0.07] $k = 4$ for the left and right hippocampus.</p> <p>Effect sizes in children were $d = -0.07$ [-0.35, 0.20] $k = 3$ and $d = -0.09$ [-0.36, -0.19] $k = 3$ for the left and right hippocampus.</p> <p>Left and right amygdala volume in children with maltreatment-related PTSD did not differ from that in healthy controls.</p> <p>Effect sizes in children were $d = -0.20$ [-0.48, 0.07] $k = 3$ and $d = -0.25$ [-0.53, 0.02] $k = 3$ for the left and right amygdala.</p>
7	Frodl	2013	<p>In mainly case-control studies there was a significant association between child abuse and abnormalities in the development of HPA axis, with excessive cortisol secretion during the day and a consequent reduction in hippocampal volume.</p> <p>Reduced hippocampal volume (notably on the left) was found in adult survivors of physical and sexual child abuse.</p> <p>Cortisol abnormalities were found in child and adult abuse survivors.</p>
8	Lim	2014	<p>In mainly case-control studies of clinical samples of children and adults, grey matter abnormalities in abuse survivors were found in relatively late-developing ventrolateral prefrontal limbic-temporal brain regions which mediate cognitive and emotional self-regulation typically compromised in this population.</p> <p>Survivors of physical and sexual child abuse had significantly smaller grey matter volumes in the right orbitofrontal/superior temporal gyrus extending to the amygdala, insula, and parahippocampal and middle temporal gyri and in the left inferior frontal and postcentral gyri.</p> <p>They had larger grey matter volumes in the right superior frontal and left middle occipital gyri.</p> <p>Deficits in the right orbitofrontal-temporal-limbic and left inferior frontal regions occurred in a subgroup analysis of unmedicated participants.</p> <p>Abnormalities in the left postcentral and middle occipital gyri were found only in older maltreated individuals, relative to controls.</p>
9	Paquola	2016	<p>In mainly case-control studies of clinical samples adult survivors of child abuse showed grey matter abnormalities in prefrontal-limbic brain regions.</p> <p>They had smaller bilateral hippocampus ($d = -0.52$ $k = 17$) and amygdala ($d = -0.56$ $k = 13$) volumes.</p> <p>They had reduced grey volumes matter in the right dorsolateral prefrontal cortex, right postcentral gyrus and right hippocampus ($k = 19$).</p> <p>Age, gender, mental health and abuse history moderated the effects of abuse on brain abnormalities.</p> <p>Greatest abnormalities occurred in older males with depression, PTSD or BPD and a history of physical or sexual abuse (compared to other types of trauma).</p>
10	Ahmed-Leitao	2016	<p>In mainly case-control studies there was bilateral reduction of both the hippocampus and amygdala in adult survivors of physical, sexual and emotional abuse with PTSD compared to healthy controls.</p> <p>Effect sizes were $d = -0.66$ [-0.93, -0.39] $k = 7$ and $d = -0.77$ [-1.26, -0.29] $k = 7$ for the left and right hippocampus.</p> <p>Effect sizes were $d = -1.08$ [-1.92, -0.23] $k = 4$ and $d = -1.15$ [-1.19, -0.39] $k = 4$ for the left and right amygdala</p>
11	Hein	2017	<p>In mainly case-control studies of children and adults there was a significant association between child abuse and increased bilateral amygdala activation to emotional faces.</p> <p>There was a significant association between child abuse and hyperactivity of the social information processing network (SIPN) detection node involving the right superior temporal gyrus. This node subserves identifying whether a stimulus is social and threatening in nature.</p> <p>There was a significant association between child abuse and increased activation of the parahippocampal gyrus (possibly associated with PTSD), and the right insula (possibly associated with empathy and emotion processing).</p>
12	Bicanic	2007	<p>In mainly case-control studies of children and adolescents sexual abuse was associated with heightened sympathetic nervous system activity.</p> <p>Findings on abnormal HPA axis activity were inconclusive.</p>
13	Hulme	2011	<p>In mainly case-control studies of adults with PTSD and depression there was a significant association between a history of child sexual abuse and HPA axis dysregulation.</p>
14	Bernard	2017	<p>In mainly case-control studies of children and adults referred for assessment of child abuse there was a significant association between child abuse and reduced wake-up cortisol levels ($d = 0.24$ [0.07, 0.42], $k = 5$).</p> <p>This association did not occur for survivors who self-reported (and therefore had possibly less severe) child abuse.</p>

There was no significant association between child abuse and cortisol awakening response, or the diurnal cortisol slope.

Physical Health: Inflammation

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|----|------------|------|---|
| 15 | Coelho | 2014 | In retrospective and prospective controlled studies of clinical convenience samples and community probability samples there was a significant association between a history of child abuse and a pro-inflammatory state in adulthood suggesting a potential molecular pathway by which child abuse confers vulnerability to physical and mental health problems in adulthood by reducing the efficiency of the immune system.
A history of child abuse was associated with increased levels of C-reactive protein, fibrinogen and pro-inflammatory cytokines such as Interleukin-6 and Tumour necrosis factor- α . |
| 16 | Baumeister | 2016 | In retrospective and prospective controlled studies of clinical and community samples there was a significant association between a history of child abuse and a pro-inflammatory state in adulthood suggesting a potential molecular pathway by which child abuse confers vulnerability to physical and mental health problems in adulthood by reducing the efficiency of the immune system.
Child abuse survivors had significantly elevated baseline levels of pro-inflammatory markers including the cytokines tumour necrosis factor- α ($z = 0.23 [0.14, 0.32] k = 10$) and interleukin-6 ($z = 0.08 [0.03, 0.14] k = 15$), and peripheral levels of C-reactive protein ($z = 0.10 [0.05, 0.14] k = 18$)
When grouped into one inflammatory factor, the effect size was small yet significant ($z=0.11 [0.08, 0.14] k = 43$) |

Physical Health: Diabetes, pain, fibromyalgia and cancer

- | | | | |
|----|--------|------|---|
| 17 | Huang | 2015 | In prospective and retrospective studies of community and clinical convenience and probability samples of children and adults there was a significant association between a history of child maltreatment and the risk of diabetes [OR = 1.32 [1.16, 1.51] $k = 10$].
The risk of diabetes was greater following neglect (OR = 1.92 [1.43, 2.57] $k = 3$) than physical abuse (OR = 1.30 [1.19, 1.42] $k = 4$) or sexual abuse (OR = 1.39 [1.28, 1.52] $k = 4$). |
| 18 | Davis | 2005 | In controlled retrospective studies of community and clinical convenience samples of adults there was a significant association between a history of child maltreatment (including abuse and neglect) and chronic pain in adulthood ($d = 0.33 [0.15, 0.51] k = 9$). |
| 19 | Häuser | 2011 | In retrospective case-control studies of adult clinical samples there were significant associations between fibromyalgia and self-reported physical (OR = 2.49 [1.81, 3.42], $k = 9$), sexual (OR = 1.94 [1.36, 2.75] $k = 10$), and combined physical and sexual (OR = 2.02 [1.06, 3.87] $k = 3$) abuse in childhood. |
| 20 | Holman | 2016 | In prospective and retrospective, controlled and uncontrolled studies of convenience and probability adult samples there was a significant association between physical and emotional abuse on the one hand and risk of developing cancer on the other. |

Mental Health: General

- | | | | |
|----|---------|------|---|
| 21 | Weich | 2009 | In prospective studies with follow-up over 10-37 years and at least 100 cases and there was a significant association between maltreatment (abuse or neglect) and depressive and anxiety disorders, PTSD and suicidal behaviour.
In most studies range of confounding variables were controlled for. |
| 22 | Martins | 2011 | In retrospective and prospective case-control and single cohort studies there was a significant association between child maltreatment and a range of psychiatric disorders and suicidal behaviour in adulthood.
Maltreatment included physical, sexual and emotional abuse, and physical and emotional neglect.
Psychiatric disorders included depressive, anxiety, substance use, eating, dissociative, psychotic, and personality disorders.
There was a particularly strong and consistent association between child sexual abuse and borderline personality disorder. |
| 23 | Carr | 2013 | In mainly retrospective controlled studies there were significant associations between specific types of child maltreatment and adult mental health problems.
Physical and sexual abuse were associated with unipolar and bipolar mood disorders, anxiety, eating, substance use, disruptive behaviour, and personality disorders (especially borderline personality disorder), schizophrenia and PTSD.
Emotional abuse and emotional neglect were associated with depressive, anxiety, eating, substance use, and personality disorders, and schizophrenia.
Physical neglect was associated with personality disorders and schizophrenia. |
| 24 | Spies | 2012 | In the domain of mental health in predominantly retrospective studies of HIV positive adults, there were significant associations between child maltreatment and PTSD, and depressive, anxiety |

			and substance use disorders. Median rates were PTSD 38% ($k = 8$), depression 37% ($k = 6$), and substance use 50% ($k = 11$). In the domain of psychosocial adjustment in predominantly retrospective studies of HIV positive individuals, there were significant associations between child maltreatment and poor adherence to anti-retroviral treatment, risky sexual behaviour, and poor quality of life.
25	Schneeberger	2014	In mainly retrospective studies of LGBT adults in probability samples the rates of sexual, physical and emotional abuse were 21%, 29% and 48% respectively. In mainly retrospective studies of LGBT adults in non-probability samples the rates of sexual, physical and emotional abuse were 34%, 24% and 49% respectively. In mainly retrospective controlled and uncontrolled studies, in the domain of mental health within LGBT populations there were significant associations between child abuse and symptoms of depressive, anxiety, eating and substance use disorders and PTSD. In mainly retrospective controlled and uncontrolled studies, in the domain of psychosocial adjustment within LGBT populations there were significant associations between child abuse and suicidal behaviour, risky sexual behaviour and revictimization in adulthood.
26	Matheson	2012	In retrospective case-control and comparative studies of adult patients with schizophrenia there was a significant association between schizophrenia and a history of child abuse compared with normal controls (OR = 3.60 [2.08, 6.23] $k = 7$), and patients with anxiety disorders (OR = 2.54 [1.29, 5.01] $k = 7$). There was no significant association between schizophrenia and a history of child abuse compared with other psychoses, unipolar and bipolar mood disorders, and borderline personality disorder, or all personality disorders combined. There was a higher rate of child abuse in cases with dissociative disorders compared with schizophrenia (OR = 0.03 [0.01, 0.15] $k = 4$).
27	Jumper	1995	In retrospective controlled studies of community and clinical convenience samples there was a significant association between child sexual abuse and psychological symptoms ($d = 0.27$ [0.20, 0.32] $k = 23$), depression ($d = 0.22$ [0.21, 0.35] $k = 20$), and self-esteem ($d = 0.17$ [0.14, 0.34] $k = 12$) in adulthood. The association was stronger in clinical and community samples than in student samples.
28	Paolucci	2001	In retrospective controlled studies of clinical and community convenience samples in the mental health domain there was a significant association between child sexual abuse and depression ($d = 0.44$ [0.41, 0.47] $k = 25$) and PTSD ($d = 0.40$ [0.37, 0.43] $k = 26$) in adulthood. In the psychosocial adjustment domain there was a significant association (in order of decreasing strength) between child sexual abuse and suicidal behaviour ($d = 0.44$ [0.40, 0.48] $k = 10$), risky sexual behaviour ($d = 0.29$ [0.25, 0.32] $k = 14$), sexually abusing others ($d = 0.16$ [0.11, 0.21] $k = 7$), and academic underperformance ($d = 0.19$ [0.12, 0.26] $k = 6$) in adulthood. Gender, SES, type of abuse, age when abused, relationship to perpetrator and number of incidents of abuse did not moderate the effects of child abuse on adult adjustment.
29	Chen	2010	In retrospective case-control and prospective uncontrolled cohort studies in the mental health domain there was a significant association between child sexual abuse and increased risk of a lifetime diagnosis of multiple psychiatric disorders in adulthood. In decreasing order of strength of association these included anxiety (OR = 3.09 [2.43, 3.94] $k = 8$), eating (OR = 2.72 [2.04, 3.63] $k = 11$), and depressive (OR = 2.66 [2.14, 3.30] $k = 16$) disorders, and PTSD (OR = 2.34 [1.59, 3.43] $k = 3$). In one study there was a very strong association between child sexual abuse and sleep disorders (OR = 16.17 [2.06, 126.76] $k = 1$). Sex and age at which abuse occurred did not moderate the effects of child abuse on adult adjustment. There was no significant association between child sexual abuse and schizophrenia or somatoform disorders. In the psychosocial adjustment domain there was a significant association between child sexual abuse and suicidal behaviour (OR = 4.14 [2.98, 5.76] $k = 19$).
30	Amado	2015	In retrospective controlled and uncontrolled studies of convenience samples there was a significant association between child sexual abuse and indices of adult mental health. In order of decreasing strength of association, these included general mental health ($d = 0.58$ [0.56, 0.60] $k = 91$), anxiety ($d = 0.53$ [0.51, 0.56] $k = 62$) and depression ($d = 0.49$ [0.47, 0.51] $k = 87$). Gender and type of abuse moderated the effects of child sexual abuse on adult adjustment, with females and survivors of penetrative sexual abuse having higher rates of depressive and anxiety disorders than males and survivors of non-contact abuse.
31	Ip	2016	In retrospective controlled and uncontrolled Chinese studies of adult convenience samples there was a significant association between physical child abuse, general adult mental health (OR = 2.16 [1.87, 2.49] $k = 24$) and both axis I disorders and axis II personality disorders. In order of decreasing strength of association, axis I disorders included PTSD (OR = 2.36 [2.05, 2.70] $k = 2$), anxiety disorders (OR = 1.97 [1.16, 3.32] $k = 2$), and depression (OR = 1.68 [1.36, 2.08] $k = 6$). In order of decreasing strength of association, axis II personality disorders included antisocial personality disorder (OR = 3.12 [2.24, 4.36] $k = 5$), borderline personality disorder (OR = 2.23 [1.65, 3.01] $k = 5$), and cluster-B personality disorders (OR = 2.17 [1.33, 3.54] $k = 2$). The association between physical abuse and personality disorders (OR = 2.62, [2.13, 3.22] $k = 12$) was greater than the association between physical abuse and axis I disorders such as depression or anxiety (OR = 1.85 [1.58, 2.17] $k = 12$).

Mental health: Depression and borderline personality disorder

32	Lindert	2014	<p>In retrospective studies of predominantly probability samples there were significant associations between sexual (OR = 2.04 [1.65, 2.53], $k = 14$) and physical (OR = 1.49 [1.29, 1.72] $k = 7$) abuse in childhood and depression in adulthood.</p> <p>There were also significant associations between sexual (OR = 2.52 [2.12, 2.98] $k = 13$) and physical (OR = 1.70 [1.33, 2.18] $k = 7$) abuse in childhood and anxiety in adulthood. Compared with normal controls, child sexual abuse doubled the odds of developing depression or anxiety in adulthood, and this effect was stronger than that of physical abuse. Age and gender did not moderate the effects of child abuse on adult mental health.</p>
33	Li	2016	<p>In prospective studies where abuse was assessed by observation or official records (not self-report), there was a significant association between any type of child maltreatment and anxiety (OR = 2.70 [2.10, 3.47] $k = 4$) and depressive (OR = 2.03 [1.37, 3.01] $k = 5$) disorders in adulthood. Child maltreatment doubled the odds of these disorders developing.</p> <p>For specific types of maltreatment and depressive or anxiety disorders, the association was strongest for sexual abuse (OR = 2.66 [1.88, 3.75; $k = 5$) followed by physical abuse OR = 2.00 [1.25, 3.19] $k = 3$, and neglect (OR = 1.74 [1.35, 2.23] $k = 3$).</p> <p>Population attributable fractions (based on odds ratios and abuse prevalence rates in the general population) suggest that over one-half (59%) of cases of depressive and anxiety disorders in the general populations are potentially attributable to self-reported childhood maltreatment.</p>
34	Mandelli	2015	<p>In controlled retrospective studies of convenience samples and uncontrolled prospective studies or probability samples there were significant associations between child maltreatment in general and depression in adulthood (OR = 2.80).</p> <p>There were also significant associations between various types of child maltreatment and adult depression. Emotional abuse showed the strongest association (OR = 2.78 [1.89, 4.09] $k = 8$) followed by neglect (OR = 2.75 [1.59, 4.74] $k = 6$), sexual abuse (OR = 2.42 [1.94, 3.02] $k = 14$), and physical abuse (OR = 1.98 [1.68, 2.33] $k = 10$).</p>
35	Nelson	2017	<p>In community convenience samples of adult survivors of child maltreatment, compared with normal controls, the risk of depression was 2.8 times higher for survivors of any type of abuse (OR = 2.81 [2.35, 3.36] $k = 35$), and 3.6 times higher for survivors of multiple forms of abuse (OR = 3.61 [2.00, 6.52] $k = 7$).</p> <p>The increased risk of depression was highest for emotional abuse (OR = 3.73 [2.88, 4.83] $k = 15$), followed by emotional neglect (OR = 3.54 [2.48, 5.04] $k = 9$), sexual abuse (OR = 2.66 [2.38, 2.98] $k = 57$), physical abuse (OR = 2.68 [2.28, 3.12] $k = 38$), and physical neglect (OR = 2.45 [1.63, 3.68] $k = 7$).</p> <p>Depression occurred 4 years earlier in survivors of child maltreatment compared with normal controls (27 v. 23 years, $k = 10$).</p> <p>Depression was twice as likely to take a chronic course in survivors of child maltreatment compared with normal controls (OR = 2.05 [1.40, 3.00] $k = 11$).</p> <p>Depressed survivors of child maltreatment were less likely to respond to treatment, than non-abused depressed patients (OR = 1.9 [1.05, 3.46] $k = 5$).</p> <p>Gender and age, but not design quality moderated the effects of child maltreatment on adult depression. Samples with more women had higher rates of sexual abuse, and rates of maltreatment were greater in younger samples.</p> <p>In clinical samples 46% of depressed adults had experienced some form of child maltreatment (OR = 45.59 [42.48, 51.74] $k = 46$) and 19% had experienced more than one type of maltreatment (OR = 19.13 [8.71, 36.99] $k = 9$).</p> <p>In clinical samples of depressed adults, emotional neglect was the most prevalent form of child maltreatment at 43% (OR = 43.20 [36.22, 50.46] $k = 14$), followed by emotional abuse at 37% (OR = 36.72 [30.28, 43.66] $k = 23$), physical neglect at 36% (OR = 36.18 [28.53, 44.60] $k = 12$), physical abuse at 28% (OR = 27.59 [23.68, 31.87] $k = 50$), and sexual abuse at 25% (OR = 25.27 [22.28, 28.52] $k = 81$).</p> <p>There was a significant association between the severity of child maltreatment and the severity of depressive symptoms ($d = 0.61$ [0.49, 0.72] $k = 180$).</p> <p>The association was strongest for emotional abuse ($d = 0.61$ [0.52, 0.70] $k = 24$), followed by emotional neglect ($d = 0.54$ [0.41, 0.68] $k = 15$), physical abuse ($d = 0.41$ [0.32, 0.49] $k = 27$), physical neglect ($d = 0.41$ [0.30, 0.52] $k = 12$); and sexual abuse ($d = 0.35$ [0.24, 0.43] $k = 30$).</p>
36	Nanni	2012	<p>In 16 retrospective studies of probability and convenience samples there was a significant association between child maltreatment and recurrent and persistent depressive episodes over periods ranging from 1-46 years in adulthood (OR = 2.27 [1.80, 2.87] $k = 16$).</p> <p>In 10 controlled trials there of pharmacological and psychological treatments there was a significant association between childhood maltreatment and lack of treatment response in adulthood over periods ranging from 6-52 weeks (OR = 1.43 [1.11, 1.83] $k = 10$).</p> <p>The effects of child maltreatment on persistence of depression was not moderated by age, lifetime prevalence of depression, study quality, publication bias, or type of outcome measure.</p>
37	Alvarez-Segura	2014	<p>In retrospective and prospective studies of clinical and community convenience adult samples there was a significant association between child abuse and perinatal depression.</p>
38	Choi	2016	<p>In retrospective and prospective studies of clinical and community convenience predominantly adult samples there was an association between childhood maltreatment and perinatal depression and PTSD, but not other anxiety disorders or symptoms.</p> <p>The average rate of maltreatment across 35 studies was 30%.</p> <p>Average rates of antenatal and postpartum depression were 24% ($k = 13$) and 18% ($k = 13$) respectively.</p> <p>Rates of perinatal anxiety disorders (including PTSD) and symptoms ranged from 4-63%.</p> <p>The association between childhood maltreatment and perinatal mood and anxiety disorders was not due to sociodemographic, psychiatric, perinatal, and other psychosocial factors.</p>

			The effect of child maltreatment on perinatal mood and anxiety disorders was moderated in some studies by risk factors such as later victimization and protective factors such as positive early relationships.
39	Wosu	2015	In retrospective and prospective studies of clinical and community convenience adult samples there is a significant association between child sexual abuse and prenatal, but not post-partum depression.
40	Winsper	2016	In retrospective and prospective studies of clinical and community convenience samples there was a significant association between child maltreatment and borderline personality disorder in adolescents. The increased risk of borderline personality was greatest for sexual abuse (OR= 4.88 [3.30,7.21] k = 12) followed by neglect (OR = 3.40 [2.27, 5.11] k = 6), emotional abuse (OR = 3.28 [2.67, 4.03] k = 7), and physical abuse (OR = 2.79 [2.03, 3.84] k = 11).
Mental Health: Bipolar disorder			
41	Daruy-Filho	2011	In controlled and uncontrolled retrospective studies of adult clinical samples there was a significant association between childhood maltreatment, especially physical abuse, and an unfavourable clinical course for bipolar disorder characterized by early onset, delay in diagnosis and treatment, rapid cycling pattern, severe manic symptoms, psychotic symptoms, comorbid substance use disorder and PTSD, and suicidality.
42	Palmier-Claus	2016	In retrospective case-control and uncontrolled cohort studies of probability samples there was a significant association between childhood trauma (predominantly child maltreatment) and bipolar disorder in adulthood (OR = 2.63 [2.00, 3.47] k = 18). The strongest association was between bipolar disorder and emotional abuse (OR = 4.04 [3.12, 5.22] k = 9) followed by physical abuse (OR = 2.86 [2.22, 3.69] k = 12), emotional neglect (OR = 2.62 [2.03, 3.38] k = 7), sexual abuse (OR = 2.58 [2.08, 3.20] k = 12), and physical neglect (OR = 2.26 [1.74, 2.93] k = 7). Rates of child maltreatment were greater among patients with bipolar disorder than depression (OR = 1.54 [1.19, 2.00] k = 7), but not schizophrenia.
43	Agnew-Blais	2016	In retrospective comparative studies of adult clinical samples child maltreatment was associated with unfavourable clinical features and course in bipolar disorder. Compared to patients with bipolar disorder without childhood maltreatment, abuse survivors with bipolar disorder had greater mania severity (OR = 2.02 [1.21, 3.39] k = 6), greater depression severity (OR = 1.57 [1.25, 1.99] k = 8), greater psychosis severity (OR = 1.49, [1.10, 2.04] k = 7), higher risk of comorbidity with PTSD (OR = 3.60 [2.45, 5.30] k = 8), anxiety disorders (OR = 1.90 [1.39, 2.61] k = 7), substance use disorders (OR = 1.84 [1.41, 2.39] k = 11), and alcohol use disorder (OR = 1.44 [1.13, 1.83] k = 8), earlier age of bipolar disorder onset (OR = 1.85 [1.43, 2.40] k = 14), higher risk of rapid cycling (OR = 1.89, [1.45, 2.48] k = 8), greater number of manic episodes (OR = 1.26 [1.09, 1.47] k = 7), greater number of depressive episodes (OR = 1.38 [1.07, 1.79] k = 8) and higher risk of suicide attempt (OR = 2.26 [1.88, 2.70] k = 13). The association between maltreatment and course of bipolar disorder was not markedly moderated by participants' demographic characteristics or study quality features.
44	Maniglio	2013a	In retrospective controlled and uncontrolled studies of adult clinical samples, the prevalence of child sexual abuse among patients with bipolar disorder was 24%. There was a significant association between child sexual abuse and bipolar disorder in adulthood. Compared to healthy individuals, patients with bipolar disorder reported higher rates of child sexual abuse. Compared to patients with other disorders, those with bipolar disorder reported similar or lower rates of child sexual abuse.
45	Maniglio	2013b	In retrospective controlled studies of adult clinical samples there was a significant association between child sexual abuse and a number of features of the course of bipolar disorder. Child sexual abuse was strongly (and perhaps directly) associated with comorbid PTSD; and less strongly (and probably indirectly) related to early age of onset of bipolar disorder, and psychotic symptoms, comorbid substance use disorders, and suicidal behaviour. At a multivariate level, a history of sexual abuse in adolescents was independently associated with lifetime PTSD, a longer duration of bipolar disorder, and lifetime conduct disorder.
Mental Health: Psychosis			
46	Bendall	2008	Due to methodological limitations of available studies, there was limited evidence for an association between child maltreatment and psychosis in adulthood. Studies of rates of abuse among those with psychosis and rates of psychosis among abuse survivors had inadequate control groups; samples were unrepresentative; data were collected retrospectively rather than prospectively; and some used inadequate measures of maltreatment.
47	Varese	2012	In retrospective clinical case-control and uncontrolled community studies, and prospective cohort studies there was a strong significant association between childhood adversity, (predominantly child abuse) and psychosis in adulthood (OR = 2.78 [2.34, 3.31] k = 36). There were significant associations between different types of child maltreatment and psychosis in adulthood. The strongest association was with emotional abuse (OR = 3.40 [2.06, 5.62] k = 6), followed by physical abuse (OR = 2.95 [2.24, 3.88] k = 13), neglect (OR = 2.90 [1.71, 4.92] k = 7), and sexual abuse (OR = 2.38 [1.98, 2.87] k = 20). A population attributable risk analysis showed that were childhood adversities (predominantly child maltreatment) removed from the population, the number of adults with psychosis would be reduced by 33%.

48	Trotta	2015	In longitudinal investigations there was a significant association between childhood adversity, predominantly child maltreatment, and the persistence of psychotic symptoms in first episode psychosis in general population studies (OR = 1.76 [1.19, 2.32] $k = 5$) and studies of clinical populations (OR = 1.55 [0.32, 2.77] $k = 4$).
49	Velikonja	2015	In retrospective and prospective studies of convenience and probability samples there was a significant association between childhood trauma (predominantly child maltreatment including physical and sexual abuse and neglect) and schizotypy in adulthood. Schizotypy is genetic vulnerability to schizophrenia that falls on a continuum between healthy functioning and severe mental health problems including psychosis.
Mental Health Eating disorders and obesity			
50	Caslini	2016	In retrospective controlled studies of clinical and community convenience samples there was a significant association between child maltreatment (including physical, sexual and emotional abuse) and eating disorders in adulthood (including bulimia nervosa, binge eating disorder, and anorexia nervosa) (OR = 3.21 [2.29, 4.51] $k = 13$). Emotional abuse was most strongly associated with eating disorders, followed by physical abuse, and sexual abuse. There were significant associations between emotional abuse and bulimia nervosa (OR = 4.14 [2.71, 6.37] $k = 2$), and binge eating disorder (OR = 3.70 [2.07, 6.60] $k = 2$). There were significant associations between physical abuse and bulimia nervosa (OR = 3.44 [2.56, 4.61] $k = 9$), binge eating disorder (OR = 3.10 [2.49, 3.88] $k = 4$), and anorexia nervosa (OR = 3.35 [1.43, 7.85] $k = 4$). There were significant associations between sexual abuse and bulimia nervosa (OR = 2.73 [1.96, 3.97] $k = 26$), and binge eating disorder (OR = 2.31 [1.66, 3.20] $k = 6$).
51	Smolak	2002	In controlled retrospective studies of clinical and community convenience samples of sexual abuse survivors and individuals with eating disorders there was a small significant association between child sexual abuse and eating disorders in adolescence and adulthood ($d = 0.20$, $k = 53$). Compared with normal controls, survivors of sexual abuse had higher rates of eating disorders (41% v. 21%, $k = 14$; $d = 0.37$, $k = 30$). Compared with normal controls, individuals with eating disorders had higher rates of sexual abuse (26% v. 14%, $k = 20$; $d = 0.14$, $k = 23$).
52	Pignatelli	2017	In retrospective studies of clinical samples of adolescents and adults with eating disorders, the rates of emotional and physical neglect were 54% [95% CI 42%, 64%] and 45% [95% CI 33%, 58%] respectively, compared with 18% and 16% in the general population worldwide.
53	Midei	2011	In most of 18 of 21 better designed retrospective and prospective studies there was a significant association between child abuse and obesity in adulthood.
54	Danese	2014	In controlled, mainly retrospective studies there was a significant association between child maltreatment and obesity in adulthood. Compared to those without a history of childhood maltreatment, abuse survivors were more likely to be obese (OR = 1.36 [1.26, 1.47] $k = 44$). This association was mediated by depression and was stronger in samples including more women and whites. The effect of child maltreatment on adult obesity was not moderated by study quality or design features or participant characteristics including socioeconomic status, smoking, alcohol use, or physical activity.
55	Hemmingsson	2014	In retrospective and prospective studies there was a significant association between child abuse and obesity in adulthood. Abuse survivors were significantly more likely to be obese (OR = 1.34 [1.24, 1.45] $k = 53$). Emotional abuse had the strongest association with obesity (OR = 1.36 [1.08, 1.71] $k = 11$), followed by sexual (OR = 1.31 [1.13, 1.53] $k = 16$) and physical (OR = 1.28 [1.13, 1.46] $k = 13$) abuse. Severe abuse (OR = 1.50 [1.27, 1.77] $k = 9$) was more strongly associated with obesity than less severe abuse (OR = 1.13 [0.91, 1.41] $k = 9$). The association between child abuse and adult obesity was not moderated by study design (prospective v. retrospective), or demographic characteristics (age and sex).
56	Wang	2015	In controlled retrospective and prospective studies there was a significant association between child maltreatment and adult obesity (OR = 1.23 [1.16, 1.31] $k = 51$). The strongest association with obesity was with physical abuse (OR = 1.26 [1.10, 1.42] $k = 13$), followed by sexual abuse (OR = 1.22 [1.05, 1.38] $k = 16$), neglect (OR = 1.22 [1.12, 1.32] $k = 12$), and emotional abuse (OR = 1.20 [1.07, 1.33] $k = 10$). Severe child abuse (OR = 1.38 [1.14, 1.62] $k = 9$) had a significantly stronger association with adult obesity than less severe abuse (OR = 1.01 [0.84, 1.18] $k = 9$).
Mental Health: Alcohol and drug use			
57	Langeland	1998	In retrospective controlled and uncontrolled studies of clinical samples there was an association between child sexual and physical abuse and alcohol problems in adulthood in women. There were insufficient studies to draw conclusions in this area about men.
58	Tonmyr	2010	In predominantly retrospective studies of community or school convenience samples there was a significant association between child abuse and adolescent substance use, and between child

			<p>abuse and an early onset of substance use. For sexual abuse the odds ratios were 0.9-4.2 for nicotine, 1.4-5.2 for alcohol, and 1.0-8.6 for other drugs. For physical abuse the odds ratios were 1.8-6.1 for nicotine, 0.8-8.9 for alcohol, and 1.8-20.4 for other drugs. The association between physical and sexual abuse combined and substance use was stronger than that for sexual and physical abuse individually.</p>
59	Butt	2011	In predominantly retrospective studies of clinical and community convenience samples of adolescents and adults there were significant associations in some, but not all studies between child abuse and features of substance use in males such as younger initiation, more frequent use, use of a wider range of drugs, intravenous use, and more drug-related problems.
60	Kristman-Valente	2014	In six prospective longitudinal studies there was an association between child maltreatment and various aspects of substance use in men and women. In women neglect was associated with more alcohol problems, and child maltreatment generally was associated with alcohol and substance use problems in middle age. In men sexual abuse was associated with more frequent drug use.
Mental Health: Non-epileptic seizures			
61	Sharpe	2006	In controlled and uncontrolled retrospective clinical studies there was a significant association between child sexual abuse and non-epileptic seizures (OR = 2.94 [2.29, 3.77] $k = 19$). An average of 33% of individuals non-epileptic seizures had experienced child sexual abuse.
Psycho-social Adjustment: Cognition			
62	Irigaray	2013	In 66% of retrospective studies of convenience samples of abuse survivors and normal controls there was an association between child maltreatment and cognitive functioning across the lifespan in a range of areas including verbal episodic memory, working memory, attention, and executive functions. More severe abuse was associated with lower IQ. Exposure to multiple types of maltreatment (e.g. abuse and neglect) was associated with greater cognitive deficits. Abuse of long duration was associated with greater memory impairment.
63	Masson	2016	In controlled retrospective studies of clinical samples of young people and adults there was a significant association between the combination of child maltreatment and the presence of psychiatric disorders (mainly PTSD) on the one hand and global cognitive functioning on the other ($d = -0.59$ [-0.72, -0.46] $k = 12$). The most affected cognitive domains were executive function ($d = -0.90$ [-1.19, -0.61] $k = 8$) and verbal episodic memory ($d = -0.71$ [-0.87, -0.55] $k = 23$). The impact of a combination of maltreatment and the presence of psychiatric disorders (mainly PTSD) on cognitive functioning was greater in childhood than in adulthood.
Psychosocial Adjustment: Language			
64	Lum	2015	In controlled studies of convenience samples of children there was a significant association between child maltreatment and delayed development of language skills. Maltreated children showed significantly poorer language skills. The greatest delay was in expressive language ($d = 0.86$ [0.56, 1.16] $k = 4$), followed by receptive language ($d = 0.53$ [0.22, 0.84] $k = 9$), and receptive vocabulary ($d = 0.46$ [0.29, 0.63] $k = 19$), than normal controls. The association between maltreatment and language delay was not moderated by study quality or design features (e.g., matched groups, maltreatment status based on government records) or participant characteristics (e.g., age, gender, SES, in foster care).
65	Sylvestre	2016	In controlled studies of convenience samples language skills of children who were physically abused and / or neglected were significantly delayed when compared to normal controls ($d = -0.53$; [-0.71, -0.36] $k = 23$). The greatest delay was in expressive language ($d = -0.67$ [-0.88, -0.46] $k = 15$), followed by receptive language ($d = -0.53$ [-0.70, -0.36] $k = 26$), and pragmatics ($d = -0.48$ [-0.82, -0.15] $k = 16$). The association between maltreatment and language skills was moderated by age, with younger children showing greater language delays. Type of maltreatment (physical abuse or neglect or both) did not moderate the effect of maltreatment on language skills.
Psychosocial Adjustment: Attachment			
66	Baer	2006	In controlled studies of convenience samples, maltreated infants were significantly more likely to have an insecure attachment style than normal controls (80% v. 36%, OR = 7.02 [5.09, 9.66], $k = 8$; $d = 1.07$ [0.89, 1.25]; $k = 8$) Infants in the 8 trials in this meta-analysis were under 2 years and had experienced physical and emotional abuse, neglect and failure to thrive in a family environment, where their mothers had a mean age of 23 years and were of low SES.
67	Cyr	2010	In controlled studies of convenience samples, significantly more maltreated infants had insecure ($d = 2.10$ [1.82, 2.37] $k = 10$) and disorganized ($d = 2.19$ [1.53, 2.85] $k = 7$) attachment styles

than normal controls

Infants in the 10 trials in this meta-analysis were under 4 years old and had experienced physical, sexual and emotional abuse, and neglect in a family environment, where their young, mainly single mothers were of low SES, and had been assessed by child protection services.

Psychosocial Adjustment: School problems

- 68 Veltman 2001 In controlled and uncontrolled studies of convenience samples of children and adolescents there was an association between child maltreatment and intellectual delay in 75% (49/65) of studies, language delay in 86% (36/42) of studies, and academic achievement in school in 91% (31/34) of studies.
- 69 Maguire 2015 In mainly controlled studies of convenience samples of maltreated school-age children, there was a significant association between emotional abuse and neglect on the one hand and a range of school difficulties on the other. These included cognitive delay, poor academic performance, and ADHD. They also included externalizing behaviour problems (e.g., aggression and antisocial behaviour), internalizing behaviour problems (depression, anxiety, psychosomatic problems, and suicidality), and difficulties forming peer relationships.

Psychosocial Adjustment: Antisocial behaviour and aggression

- 70 Maas 2008 In prospective longitudinal studies of convenience and probability samples there was a significant association between physical child abuse and youth violence. There was also a significant association between physical abuse and intimate partner violence. When physical abuse was severe and combined with sexual abuse, emotional abuse and / or neglect, there was a stronger association with later youth violence. Where less severe physical punishment or harsh parenting occurred in disadvantaged violent communities, it was significantly associated with youth violence.
- 71 Wilson 2009 In prospective longitudinal and retrospective cross-sectional studies there was a significant association between exposure to violence (mainly child abuse) and youth antisocial behaviour ($d = 0.55$ [0.27, 0.69] $k = 18$). The association between exposure to violence and youth antisocial behaviour was moderated by study design and proximity to violence. It was stronger in retrospective cross-sectional than prospective longitudinal studies, and where survivors were abused rather than witnesses to violence. Demographic factors (gender, SES, ethnicity) did not moderate the effect of exposure to violence on youth antisocial behaviour.
- 72 Byrd 2014 In prospective longitudinal and retrospective studies there was a significant association between child maltreatment and antisocial behaviour in adolescence and adulthood. In males this association was significantly moderated by MAOA genotype. Child maltreatment was more strongly associated with antisocial behaviour in the low-activity, relative to high-activity MAOA genotype. MAOA is the gene encoding monoamine oxidase-A which preferentially deaminates the neurotransmitters, serotonin and norepinephrine and which has a low-activity and an high activity variant. Serotonin and norepinephrine subserve the expression of aggression. This meta-analysis supports an important Gene (MAOA) X Environment (maltreatment) interaction.
- 73 Braga 2017 In prospective longitudinal studies child maltreatment was associated with higher rates of adolescent antisocial behaviour ($d = 0.22$ [0.16, 0.28] $k = 26$) and aggression ($d = 0.22$ [0.14, 0.28] $k = 19$). Sexual abuse had the strongest association with aggressive behaviour compared with other forms of maltreatment. Neglect had the strongest association with general antisocial behaviour compared with other forms of maltreatment. The association between maltreatment and antisocial behaviour was moderated by family functioning and whether maltreatment reports were substantiated. When the effects of family functioning were controlled for, the association between maltreatment and antisocial behaviour was reduced. When maltreatment reports were based on official records rather than self-report, there was a stronger association between maltreatment and antisocial behaviour. Variables that had no moderating effect included gender, ethnicity, and study design quality.
- 74 Maniglio 2014 In retrospective controlled and uncontrolled studies of child and adolescent convenience samples there was a significant association between child sexual abuse and conduct disorder. 27% ([95% CI 26%, 28%] $k = 23$) of participants with conduct disorder had been sexually abused. 13% ([95%CI 12%, 14%] $k = 23$) of child sexual abuse survivors had conduct disorder. The rate of child sexual abuse was significantly higher among those with conduct disorder than normal controls (24% v. 15%; OR = 1.34 [1.25, 1.45] $k = 16$). The rate of conduct disorder was significantly higher among those who had been sexually and physically abused than among those who had been sexually abused only (44% v. 23%; OR = 2.69 [1.59, 4.52]). The association between child sexual abuse and conduct disorder was significantly moderated by gender; females with conduct disorder had higher rates of than males (44% v 14%; OR = 4.78 [3.89, 5.87] $k = 8$).
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			The association between child sexual abuse and conduct disorder was significantly moderated by study quality (low v. high), publication year (>15 years v. < 15 years), location (USA v. elsewhere), sample source (clinical v. community), sample size (<100 v. >100), data source (interviews v. case notes), informants (child v. child and caregiver), and substantiation of abuse reports (substantiated v. not substantiated). Rates of CSA were higher in low quality studies conducted more than 15 years ago in the USA involving clinical samples of less than 100, where data came from child interviews and were substantiated.
75	Maniglio	2015	In mainly retrospective controlled studies of children and adolescents there was a significant association between child sexual abuse, especially repeated penetrative abuse, and adolescent conduct disorder. This association was not due to other variables such as co-morbid physical abuse, gender, SES, education, substance use, parental antisocial behaviour or substance use, problematic parent-child relationships, or family disorganization, conflict, or violence.
Psychosocial Adjustment: Sexual aggression			
76	Smith-Marek	2015	In retrospective controlled studies of convenience samples there were significant associations between physical child abuse and perpetration of intimate partner violence ($d = 0.45$ [0.39, 0.52] $k = 83$) or victimization through intimate partner violence ($d = 0.43$ [0.39, 0.47] $k = 59$) in adulthood. The association between child physical abuse and victimization through intimate partner violence (though not perpetration) was moderated by sex, with females being at greater risk than males of victimization. The association between child physical abuse and perpetration of, or victimization through intimate partner violence was not moderated by the gender of the parent perpetrating physical child abuse.
77	Hanson	1988	In retrospective uncontrolled studies 28% of male sexual offenders had experienced child sexual abuse. Rates of history of child sexual abuse were higher where a broad rather than a narrow definition of sexual abuse was used (33% v. 23%). There was a significant association between victim gender and history of sexual abuse; the rates of history of child sexual abuse were 67% for those who abused males and females, 35% for those who abused males only, and 18% for those who abused females only.
78	Jespersen,	2009	In controlled retrospective studies of convenience samples there was a significant association between child sexual abuse and sexual offending in adulthood shown by the higher prevalence of a history of child sexual abuse among adult sex offenders than among non-sex offenders (OR = 3.36 [2.23, 4.82] $k = 17$). The two groups did not differ significantly with regard to history of physical or emotional abuse or neglect. There was a significantly lower prevalence of child sexual abuse among sex offenders against children (OR = 0.51 [0.35, 0.74] $k = 15$) whereas the opposite was found for physical child abuse (OR = 1.43, [1.02, 2.02] $k = 9$).
79	Mallie	2011	In predominantly prospective uncontrolled studies of convenience samples of adolescent sexual offenders, there was a significant association between a history of child sexual abuse and sexual re-offending (OR = 1.51 [1.06, 2.14] $k = 9$). Data on sexual abuse and offending were largely abstracted from case files and official records of convictions. There was no significant association between a history of child sexual abuse and general re-offending, nor between physical child abuse and recidivism or any sort.
Psychosocial Adjustment: Risky sex			
80	Arriola	2005	In predominantly retrospective controlled studies of convenience community and clinical samples of women there were significant associations between child sexual abuse and risky sexual behaviours. The strongest association was with sexual revictimization ($d = 0.35$ [0.24, 0.47] $k = 21$), followed by sex with multiple partners ($d = 0.26$ [0.12, 0.41] $k = 23$), sex trading ($d = 0.24$ [0.12, 0.37] $k = 23$), and unprotected sex ($d = 0.10$ [0.04, 0.18] $k = 16$). The association between child sexual abuse and sex trading was moderated by maximum age for a definition of sexual abuse (childhood v. up to 17), with the broader definition being associated with a significantly stronger association. The associations between child sexual abuse and risky behaviours were not moderated by the source of the sample (clinical, community or school), or the definition of sexual abuse (non-contact, contact, penetrative)
81	Senn	2008	In retrospective controlled studies of convenience samples of adolescents and adults there was a significant association between child sexual abuse and risky sexual behaviour. Risky sexual behaviours and related medical conditions included earlier age of first intercourse, multiple sexual partners, unprotected sex, sex trading, STD infection, and HIV infection. The association between child sexual abuse and risky sexual behaviour was found in adolescents and adults; males and females; heterosexuals and homosexuals; the general population and in vulnerable populations including substance users, mental health service users, and prisoners.
82	Homma	2012	In retrospective studies of predominantly probability school samples of adolescent boys there was a significant association between child sexual abuse and risky sexual behaviour.

83	Lloyd	2012	The strongest association was with pregnancy involvement (OR = 4.81 [4.39, 5.28] $k = 8$) followed by multiple sexual partners (OR = 2.91 [2.68, 3.17] $k = 6$), and unprotected intercourse, (OR = 1.91 [1.78, 2.05] $k = 7$). In retrospective studies of convenience and probability samples of men who had sex with men there were significant associations between child sexual abuse and HIV infection (OR= 1.54 [1.22, 1.95] $k = 5$), unprotected anal intercourse, (OR = 1.85 [1.36, 2.51] $k = 6$), multiple sexual partners, and having sex while intoxicated with alcohol or drugs. In representative probabilistic samples the prevalence of sexual abuse among men who had sex with men was 22% and of these 10-38% were HIV positive.
84	Draucker	2012	In the domain of psychosocial adjustment in 25 retrospective and prospective studies of probabilistic and convenience samples there were significant associations between child sexual abuse and risky sexual behaviour in adolescence. Risky sexual behaviours included having first intercourse at a younger age, having an older first sex partner, multiple partners, unprotected sex, having sex while intoxicated with alcohol or drugs, sex trading, more bisexual relationships, multiperson sex, STD infection, and pregnancy involvement. In the domain of mental health in 22 retrospective and prospective studies of probabilistic and convenience samples there were significant associations between child sexual abuse and substance use in adolescence. Substances included nicotine, alcohol, cannabis, amphetamines as well as illicit use of multiple substances. The association between child sexual abuse and risky sex in adolescence was stronger where there was repeated penetrative sexual abuse occurring at a younger age, involving multiple intrafamilial and extrafamilial perpetrators and was accompanied by other types of childhood adversity.
85	Abajobir	2017	In retrospective and prospective studies of convenience samples there was a significant association between child sexual abuse and risky sexual behaviour in adolescence and adulthood (OR = 1.59 [1.41, 1.91] $k = 8$). The association between child sexual abuse and risky sexual behaviour was not moderated by gender, study design features or year of publication. Risky sexual behaviours included early first sex, practicing unprotected sex, having sex with strangers or multiple partners, having sex while intoxicated with alcohol or drugs, sex trading, sexual or partner violence, and STD infection.
86	Noll	2009	In controlled retrospective and prospective studies of convenience samples there was a significant association between child sexual abuse and adolescent pregnancy (OR = 2.21 [1.94, 2.51] $k = 14$). The estimated prevalence of sexual abuse among pregnant adolescents was 45% ($k = 21$).
87	Madigan	2014	In controlled retrospective and prospective studies of convenience samples there was a significant association between both physical and sexual child abuse and adolescent pregnancy. The strongest association was with co-occurring sexual and physical abuse (OR = 3.83 [2.96, 4.97] $k = 3$), followed by sexual abuse only (OR = 2.06 [1.75, 2.38] $k = 35$), and physical abuse only (OR = 1.48 [1.24, 1.76] $k = 20$). There was no significant association between emotional abuse or neglect and adolescent pregnancy.
Psychosocial Adjustment: Parenting			
88	Thornberry	2012	In retrospective and prospective controlled studies of convenience and probability samples there was some evidence for a significant association between a history of child maltreatment and perpetrating child maltreatment in adulthood. However, methodological limitations limit confidence in this association.
89	Vaillancourt	2017	In retrospective and prospective cohort studies of convenience and probability samples there was a significant direct or indirect association between a history of child abuse and problematic parenting. Problematic parenting was assessed by observing mother-infant interaction and included lack of sensitivity to infant cues, parental withdrawal, parental intrusiveness, and inconsistent parenting. The association between child abuse and problematic parenting in some instances was mediated by maternal depression and stress reactivity.
90	Hughes	2016	In retrospective and prospective studies of predominantly convenience samples there was a significant association in some studies between emotional abuse and/or neglect and problematic parenting outcomes. Problematic parenting outcomes included a low level of responsiveness to infants' cues, and a high level of psychological control, parenting stress, and maltreatment potential.
91	Hugill	2017	In retrospective and prospective controlled and uncontrolled studies of community and clinical convenience samples, there was a direct or indirect association between child sexual abuse and parenting stress. Where an indirect association occurred the effect of child sexual abuse on parenting stress was possibly mediated by depression.
Psychosocial Adjustment: Self-harm and suicide			
92	Evans	2005	In retrospective community and school-based studies of probability samples there was a significant association between physical and sexual child abuse and suicidal thoughts and behaviour in adolescence. The association between child abuse and suicidal phenomena was direct in most studies, and in others was mediated by factors such as low self-esteem.

93	Miller	2013	In retrospective and prospective studies of community convenience and probability samples and high-risk samples (e.g., clinical populations, incarcerated juveniles, runaway and homeless youth) of adolescents there was a significant association between sexual, physical and emotional child abuse and neglect on the one hand and suicidal thoughts and behaviour on the other. The associations between maltreatment and suicidal phenomena was stronger for sexual and emotional abuse than physical abuse or neglect; and for multiple comorbid forms of maltreatment than single forms of maltreatment. The association between sexual and physical abuse and suicide attempts was moderated by sex, and was stronger for males than females. The association between maltreatment and suicidal phenomena was not exclusively due to demographic (sex, age, SES, race), mental health (e.g. depression), family (e.g. conflict), and peer-related (e.g. bullying) factors.
94	Rhodes	2011	In 16 school-based cross-sectional studies there was a significant association between child sexual abuse and suicidality in children and adolescents. This association between child sexual abuse and suicide attempts was stronger in boys than girls. The association between sexual abuse and suicidality was not exclusively due to mental health problems (e.g., depression, substance use, eating disorders), family problems, school problems, antisocial behaviour or risky sex.
95	Devries	2014	In prospective longitudinal studies of probability and convenience samples (OR = 2.43 [1.94, 3.05] $k=7$) and twin studies of convenience samples (OR = 2.65 [0.82, 4.49] $k=2$) there was a significant association between child sexual abuse and suicide attempts. Within the general population, the proportion of suicidal behaviour attributable to child sexual abuse was 20-22% for women and 10-11% for men. The association between sexual abuse and suicide attempts was not exclusively due to early family environment or genetic factors.
96	Klonsky	2008	In retrospective studies of clinical and community convenience samples, there was a significant association between child sexual abuse and non-suicidal self-harm in adulthood (Phi coefficient = 0.23 [0.20, 0.26] $k=45$). This association between sexual abuse and self-harm became negligible when psychological risk factors were controlled for. These included other forms of co-morbid maltreatment, past family problems, and current mental health problems. This association between sexual abuse and self-harm was not moderated by age and gender.
97	Mironova	2011	In retrospective and prospective studies of school and community convenience samples there was a significant association between physical child abuse and suicidal behaviour in children and adolescents. More severe physical abuse was more strongly associated with suicidality. This association between physical abuse and suicidality was independent of the effects of co-morbid sexual abuse, family problems, antisocial behaviour, and demographic factors including gender and SES.
Psychosocial Adjustment: General			
98	Da Silva	2014	Cross-sectional studies of convenience samples showed that there was a significant association between child maltreatment and emotion recognition and processing in children. Compared with normal control's maltreated children showed less accuracy in recognizing facial expressions of emotions and greater reactivity, response bias, and electrophysiological activation of the amygdala and anterior insula in response to faces expressing negative emotions, especially anger.
99	Luke	2013	In cross-sectional studies of children in convenience samples there was a significant association between child maltreatment and various aspects of social understanding including emotion recognition, understanding, and knowledge ($d = -0.69 [-0.98, -0.41]$ $k=19$) There was a stronger association between maltreatment and poor emotion understanding than between maltreatment and poor emotion recognition. The association between maltreatment and social understanding was moderated by age, with younger survivors showing greater deficits than older survivors. Compared with non-abused children, abuse survivors were poorer at perspective taking, understanding others' false beliefs, and they showed a hostile attributional bias, attributing negative intentions to others on the basis of ambiguous information.
100	Benarous	2015	In predominantly cross-sectional studies of convenience samples of children there was a significant association in some, but not all studies between child maltreatment and theory of mind deficits (difficulty inferring what other people are thinking). Maltreated children had significant difficulties in understanding others false beliefs, but only some showed deficits in tasks involving perspective taking and making attributions for hostile or benign intentions.
101	Barbosa Pacheco	2014	In predominantly retrospective studies of convenience samples there was a significant association between child maltreatment and a range of aspects of psychosocial adjustment including self-esteem, social competence, peer relationships, and academic performance in children, adolescents, and adults.
102	Bornstein	2005	In retrospective studies of clinical and community convenience samples there was a significant association between child maltreatment and interpersonal dependency. Survivors of child abuse

			<p>showed greater interpersonal dependency than normal controls ($d = 0.47, k = 12$).</p> <p>The association between maltreatment and dependency was not exclusively due to age, gender, type of abuse, sample source (clinical v. community) or assessment type (interview v. questionnaire).</p> <p>Interpersonal dependency is a personality style characterized by relying on others for nurturance, protection, and support even in situations where autonomous functioning is possible.</p>
103	Weber	2016	<p>In retrospective studies of convenience and probability community and clinical samples there was a significant association between child maltreatment and self- or proxy-rated low health-related quality of life in children and adults.</p> <p>There was also a significant association between the number of types of maltreatment (physical, sexual, and emotional abuse, and neglect) and low health-related quality of life.</p>
104	Lane	2016	<p>In retrospective controlled and uncontrolled studies of probability and convenience samples there was a significant association between child maltreatment and problem gambling in adulthood.</p> <p>There was also a significant association between being a problem gambler and perpetrating physical abuse and neglect.</p> <p>The significant association between child maltreatment and problem gambling was largely due to the presence of co-morbid mental health problems including depressive, anxiety and substance use disorders, and PTSD.</p>
105	Rind	1997	<p>In 7 national probability samples of the general population in the USA, UK Canada, and Spain there was a significant association between sexual abuse and psychosocial adjustment problems in males ($d = 0.14 [0.08, 0.20] k = 5$) and females ($d = 0.20 [0.14, 0.24] k = 5$).</p> <p>Compared with males, significantly more female survivors of sexual abuse said that they believed sexual abuse had negative psychological effect for them (53% v. 30%; $d = 0.47, [0.37, 0.58] k = 3$).</p> <p>In this controversial paper the authors argued that the effects of child sexual abuse on adult adjustment were small and not indicative of pervasive intense harm, and that previous reviewers had overestimated the effects by using clinical or legal rather than national probability samples.</p> <p>They conceded that when sexual abuse was accompanied by factors such as force or close familial ties, it had the potential to produce significant harm.</p>
106	Rind	1996	<p>In 54 samples of college students there was a significant association between sexual abuse and psychosocial adjustment problems ($d = 0.18 [0.16, 0.22] k = 54$).</p> <p>These problems included social and sexual adjustment difficulties, low self-esteem, and a range of mental health symptoms.</p> <p>Compared with males, significantly more female survivors of sexual abuse said that they believed sexual abuse continued to have a negative psychological effect on them in their current lives ($d = 0.72, [0.52, 0.93] k = 3$).</p> <p>The association between sexual abuse and adjustment was moderated by use of force and relationship to abuser. Survivors who had been forcefully abused by family members had greater adjustment problems than those who were abused by perpetrators from outside the family who did not use force.</p> <p>The association between sexual abuse and adjustment was moderated by the interaction between sex and consent. Males who were abused without consent had greater adjustment problems than females.</p> <p>The association between child sexual abuse and adult psychosocial adjustment was largely due to a negative family environment.</p> <p>The association between sexual abuse and adjustment was not moderated by the duration or frequency of abuse, the occurrence of penetration, and the level of contact (contact v. non-contact), sampling strategy (convenience v. random), age, and publication status of study.</p> <p>In this controversial paper the authors argued that the effects of child sexual abuse on adult adjustment were small and not indicative of pervasive intense harm, and that previous reviewers had overestimated the effects by using clinical or legal rather than non-clinical samples.</p>
107	Steine	1012	<p>In retrospective clinical and community studies of convenience and probability samples there was a significant association between child sexual abuse and sleep disturbance in children and adults.</p> <p>Common sleep disturbances included nightmare-related distress, sleep paralysis, night waking, restless sleep, and tiredness.</p> <p>Sexual abuse involving intercourse was associated with greater sleep disturbance.</p>
108	De Jong	2015	<p>In predominantly retrospective studies of convenience and probability community samples, and clinical and legal samples there were small to medium significant associations between child sexual abuse (especially repeated penetrative sexual abuse) and the quality of adult roles in the domains of educational attainment, employment status (as indexed by lower income), romantic relationships (indexed by increased rates of intimate partner violence and divorce), and parenting.</p>
109	Domhardt	2015	<p>In retrospective and prospective studies of community and clinical convenience samples of children, adolescents and adults 10% to 53% of survivors of sexual abuse were resilient and showed a normal level of functioning.</p> <p>The two most important protective factors associated with resilience following child sexual abuse were social support from the family and the wider network, and positive engagement in education.</p> <p>Other protective factors included interpersonal and emotional competence, active coping, optimism, a belief in the capacity to control one's life, and blaming the perpetrator rather than the self for sexual abuse.</p>

110	Naughton	2013	In retrospective and prospective case-control and cohort studies of convenience samples of preschool children emotional abuse and / or neglect were associated with aggressive behaviour, passive-withdrawn behaviour, cognitive and language delay, insecure attachment, and peer relationship problems.
111	Khaleque	2015	In cross-sectional studies of convenience samples of children and adolescents from 15 countries there was a significant association between both maternal and paternal neglect on the one hand and psychological maladjustment and negative personality dispositions on the other. The association between neglect and maladjustment was $d = 1.15$ for both mothers ($k = 40$) and fathers ($k = 13$) The association between maternal neglect and negative personality traits was strongest for emotional unresponsiveness ($d = 0.95$, $k = 39$), followed by negative world view ($d = 0.93$, $k = 37$), negative self-adequacy ($d = 0.93$, $k = 43$), negative self-esteem ($d = 0.89$, $k = 41$), aggression ($d = 0.77$, $k = 36$), emotional instability ($d = 0.61$, $k = 35$), and dependence ($d = 0.37$, $k = 29$). The association between paternal neglect and negative personality traits was strongest for negative self-adequacy ($d = 1.04$, $k = 11$), followed by negative self-esteem ($d = 1.04$, $k = 10$), negative world view ($d = 1.01$, $k = 9$), emotional unresponsiveness ($d = 0.93$, $k = 10$), aggression ($d = 0.39$, $k = 8$), dependence ($d = 0.39$, $k = 8$) and emotional instability ($d = 0.37$, $k = 9$).

Note: OR = odds ratio and 95% confidence intervals (CI) are given in square brackets. In some instances ORs and CIs were computed based on data in articles. d = Cohen's d effect size and 95% confidence intervals are given in square brackets. Where studies reported Pearson's r effect sizes, these were converted to Cohen's d effect sizes to aid comparison of effect sizes from different studies. All reported OR and d values are significant at $p < .05$. k = number of studies.

CHAPTER 3: OUTCOMES OF STRUCTURAL NEGLECT

3.1 SUMMARY

The aim of the systematic review described in this chapter was to determine the outcomes for individuals exposed to structural neglect in congregate-care institutions, such as orphanages. In this context, structural neglect refers to failure to meet children's basic physical, developmental, and emotional needs due to inadequate and unstable staffing, and limited physical resources. Outcomes in the domains of physical health, cognitive development, attachment, and mental health were investigated.

3.1.1 Method. In this systematic review of previous systematic reviews and meta-analyses searches of 10 databases were conducted supplemented with manual searches. 921 separate records were identified. Eighteen papers which met inclusion and exclusion criteria were selected for review; their quality was assessed; and data were extracted and synthesized.

3.1.2 Characteristics of included systematic reviews and meta-analyses. Of the 18 papers in this review, nine were systematic reviews and nine were meta-analyses. Two focused on physical health outcomes, four on mental health outcomes, four on attachment, and eight on cognitive development. Four of these eight papers on cognitive development also addressed attachment and mental health outcomes. The 18 systematic reviews and meta-analyses on outcomes of structural neglect covered over 550 separate primary studies in which 160,000 survivors of structural neglect and 1.5 million control group cases participated. All reviews focused predominantly on child samples, with a mean age of 2 years when they left care, and a mean age of 9 years when outcomes were assessed. The samples contained approximately equal numbers of males and females. About two thirds (68%) of studies in the reviews covered in this paper concerned participants who had experienced structural neglect in orphanages in developing countries in Eastern Europe, Asia, Africa and South America before being adopted to developed countries in Europe and North America, as well as Australia and New Zealand.

3.1.3 Physical health outcomes. Structural neglect was associated with short stature, low weight, and smaller head circumference. At about 2 or 3 years of age shortly after the transition from orphanages to adoptive families, children exposed to structural neglect were 3 kgs lighter and 8 cm shorter than children raised in birth families. Structural neglect was also associated with abnormal neurobiological development affecting a range of brain structures and functions, implicated in cognitive and psychosocial difficulties.

3.1.4 Cognitive development outcomes. Structural neglect was associated with delayed cognitive development as indexed by lower IQ, school attainment problems, specific learning disorders, and possibly by language delay. On average the IQs of children raised in institutions were 17-20 IQ points lower than those of children raised in families.

3.1.5 Attachment outcomes. Structural neglect was associated with insecure attachment, especially insecure disorganized attachment. Rates of disorganized attachment were about three times higher in survivors of institutional neglect compared with children raised in birth families. Disorganized attachment is a risk factor for later difficulties making and maintaining relationships across the lifespan.

3.1.6 Mental Health outcomes. Structural neglect was associated with higher rates of mental health problems and mental health service usage.

3.1.7 Risk and protective factors. Significant, but incomplete, developmental catch-up occurred when children exposed to structural neglect were adopted. The degree and rate of catch-up depended on the outcome domain, the severity and duration of structural neglect,

and the presence of a range of personal and contextual risk and protective factors. A large degree of relatively rapid catch-up occurred in weight, height, and IQ. A lesser degree and slower rate of catch-up occurred in head circumference and attachment security. Exposure to severe deprivation over longer time periods in understaffed, poorly resourced institutions in underdeveloped countries were risk factors for poorer outcomes. Early adoption was a protective factor for better outcomes.

3.1.8 Strengths and limitations. Ten of 18 (56%) reviews and meta-analyses in the review of reviews were of high quality, with AMSTAR scores between 7 and 11. Eight (44%) had AMSTAR scores between 3 and 6 and were of moderate quality. The primary studies included in systematic reviews and meta-analyses were predominantly controlled and relatively well designed, allowing confidence to be placed in their results.

3.1.9 Conclusions. There are significant associations between the experience of structural neglect in large congregate institutions such as orphanages, and adjustment in the domains of physical health, cognitive development, attachment and mental health. It is probable that structural neglect largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the duration and severity of deprivation and a constellation of risk and protective factors. Prevention policies should aim to eliminate large under-resourced congregate care institutions for infants. In taking steps towards this, policies should aim to adequately resource congregate care institutions to meet children's developmental needs for nutrition, stimulation, and attachment to a stable primary caregiver with adequate parenting skills and training. Early placement in adoptive or foster families, with access to routine physical and mental healthcare service available in developed countries, is the most viable effective intervention for child survivors of structural neglect.

3.2 INTRODUCTION

Structural neglect refers to failure to meet children's basic physical, developmental and emotional needs within the context of orphanages which care for large groups of children, with inadequate and unstable staffing, and limited physical resources (van Ijzendoorn et al., 2011). Distinctions may be made between the failure of institutions to meet three broad types of childhood needs (Gunnar et al., 2000). These include (1) physical needs such as nutrition, medical care, and hygiene essential for healthy physical growth; (2) developmental needs for stimulation to promote sensory-motor, cognitive, and language development; and (3) the need for stable and meaningful interpersonal relationships with a primary caregiver to facilitate the development of secure attachment and the capacity to make and maintain social relationships.

The prevalence of structural neglect associated with placing children in institutions is difficult to determine. Using 2002 government statistics Brown et al., (2006) estimated that 43,842 (14.4/10,000) children under 3 years of age were in institutional care within 46 European and Asian countries. Surprisingly, within Europe, institutional care of young children was not restricted to developing countries but occurred throughout the entire region. Using 2001 US Department of Health statistics Johnson et al. (2006) estimated that 11,777 children in the United States were in child care institutions. In Europe, Asia and the US, most children were placed in care due to maltreatment, abandonment, or because of a disability. In the developing world (for example, Africa and South America) vast numbers of young children are in institutional care, but prevalence statistics are unavailable.

In industrialized countries in the second half of the 20th century there has been a gradual reduction in the use of large congregate settings to care for orphans (Hamilton-Giachritsis & Browne, 2012). Large orphanages came to be replaced by the provision of care by foster families and smaller family-like care centres. Policies underpinning this trend were influenced by John Bowlby's (1951) seminal research on the critical role of parent-child

attachment and the vast body of research which this spawned. This research showed that children raised in large institutions developed a wide range of problems in the domains of physical health including growth failure and impaired neurobiological development; mental health difficulties including behaviour problems and impaired cognitive development; and problematic social adjustment including attachment difficulties and problems making and maintaining relationships (Bakermans-Kranenburg et al., 2011; McCall, 2013; Nelson et al., 2011; Van IJzendoorn et al., 2011).

Many primary studies have been conducted on the effects of structural neglect, especially on orphans adopted from developing countries. A number of systematic reviews and meta-analyses have been published which synthesize the results of these studies. In the current study, a systematic review was conducted, limited to the identification of these previous systematic reviews and meta-analyses.

The aim of the systematic review described in this chapter was to determine the outcomes for individuals exposed to structural neglect in institutions, especially orphanages, in terms of adjustment across the life span. In this context adjustment referred to physical health including growth failure and impaired neurobiological development, cognitive development, attachment, and mental health.

3.3 METHOD

Guidelines for conducting systemic reviews of systematic reviews were followed in developing a protocol for this review (Smith et al., 2011). The protocol specified the aim, data bases to be searched, search terms, study selection criteria, supplementary manual search strategies, data extraction system, study quality assessment procedures, and data synthesis methods. A data extraction and quality assessment form is contained in Appendix A.

3.3.1 Search terms

Record titles, abstracts, and keywords were searched in the electronic data bases listed in the next section. Using appropriate Boolean operators terms denoting *institutional care* were combined with terms reflecting a range of possible negative developmental outcomes in the areas of physical health, cognitive development, attachment, and mental health, and these were combined with the terms *systematic review* and *meta-analysis*. Where appropriate Medical Subject Heading (MeSH) terms were used relating to adoption and human development as well as other relevant MeSH terms, which varied depending on the database. The search was conducted in July 2017. The following search string was used: ((looked after OR looked-after OR residential care) AND (child OR children)) OR (Institutionalize* OR institutionalise* OR Orphanage* OR Orphan OR "child in care" OR "children in care") OR [Adoption Mesh term(s)] AND (delay OR cogn* OR IQ OR reading OR attainment OR education OR school OR ADHD OR inattention OR attention OR ASD OR autis* OR attach* OR growth OR weight OR height OR circumference OR health OR illness OR psych* OR behavior* OR emotion* OR self-esteem OR clinic OR disorder) OR [Human development Mesh term(s)] AND ("systematic review" OR meta-analysis).

3.3.2 Databases

The following ten data bases were searched: PsycINFO, Medline, Academic Search Complete, EMBASE, Sociological Abstracts, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science, Applied Social Sciences Index and Abstracts

(ASSIA), Education Resource Information Centre (ERIC), and Cochrane Library.

3.3.3 Inclusion and exclusion criteria

Inclusion and exclusion criteria were used to identify high quality systematic reviews and meta-analyses relevant to the research question. Papers were included if they reported systematic reviews and meta-analyses of longitudinal or cross-sectional controlled studies, or single group cohort primary studies of the effect of early institutional neglect or deprivation (without explicit reference to physical or sexual abuse) prior to adoption on physical health and growth, cognitive development, attachment and mental health across the lifespan. For multiple publications of the same review, the one with the most complete data was included.

Systematic reviews and meta-analyses that did not meet three of the following four basic AMSTAR (Shea et al., 2009) systematic review quality criteria were excluded: (1) described an a priori design with a research question and inclusion criteria, (2) conducted a comprehensive literature search of at least two data bases with appropriate search terms, (3) provided a table of characteristics of included studies (author, date, participant age and gender, type of maltreatment, type of outcome), and (4) took the quality of studies into account in drawing conclusions. AMSTAR contains 11 criteria. A very high degree of confidence may be placed in conclusions from reviews and meta-analyses that meet all 11 criteria. The four basic AMSTAR criteria included in study selection criteria for the current review were chosen because conclusions from review papers and meta-analyses which do not meet these basic criteria have limited validity.

Narrative, integrative, non-systematic reviews, discursive papers, theoretical papers, papers describing individual quantitative or qualitative studies (rather than reviews of multiple studies), editorials, and letters were excluded. Papers not published in peer reviewed journals were excluded.

3.3.4 Search process

Records identified in electronic searches were downloaded to EndNote (<http://endnote.com>). Covidence (<https://www.covidence.org/>) was used for record screening, data extraction, and quality assessment. In addition to the electronic data-base search, a supplementary manual search was conducted. Bibliographies of review papers and tables of contents of relevant journals (Child abuse and Neglect, Child Abuse Review, Child Maltreatment, Child Welfare, Trauma Violence and Abuse, Adoption and Fostering) were searched. Established researchers in the field were also contacted.

Figure 3.1 contains a PRISMA (Moher et al., 2009) flow diagram of the search process. Through electronic and manual searches 921 separate records were identified after duplicates were removed. When the titles and abstracts of these were screened, 48 relevant papers were downloaded for full text screening. A final set of 18 papers, which met inclusion and exclusion criteria were selected for review. The quality of these papers was assessed with AMSTAR (Shea et al., 2009).

3.3.5 Inter-rater agreement

Two research assistants were trained in using the systematic review protocol. Both research assistants independently conducted searches, study selection, data extraction and study quality assessments. Disagreements were identified on the 'resolve conflicts' page of

Covidence and these were resolved by discussion. Percentage agreement and Krippendorff's alpha (Hayes & Krippendorff, 2007) were used to determine inter-rater agreement and reliability. From Table 3.1. it may be seen that there was a high level of inter-rater agreement. For screening records and full texts agreement rates were 98% and 92% respectively. For quality assessment agreement rates ranged from 78% to 100% for AMSTAR items. There was 93% agreement for total AMSTAR scores and the Krippendorff's alpha value was 0.86. For data extraction agreement rates ranged from 67% to 100% and the Krippendorff's alpha values ranged from 0.88 to 1.00.

3.3.6 Study sequence in tables

Study quality ratings and data extracted from review papers were summarized in three tables. AMSTAR study quality scores are presented in Table 3.2. Study design features and sample characteristics are given in Table 3.3. Key findings are set out in Table 3.4. To aid synthesis of the large amount of information contained in 18 complex and comprehensive review papers, they have been grouped thematically in the same order within Tables 3.2., 3.3 and 3.4. They have been grouped by the main type of outcome assessed (physical health, cognitive development, attachment, and mental health). It is noteworthy that in some studies which assessed cognitive development and mental health, multiple outcomes were assessed, as shown in the fourth column of Table 3.3. Within each group, papers have been sequenced, predominantly by the year of publication although in some instances sequences have been based on other features (such as author, specific outcomes assessed, where multiple outcomes were measured, or specific findings) to form a more coherent narrative.

3.3.7 Study quality

AMSTAR review quality scores are given in Table 3.2. Ten reviews and meta-analyses were of high quality, with AMSTAR scores between 7 and 11. Eight reviews had AMSTAR scores between 3 and 6 and were of moderate quality. Fewer than half included pairs of raters for record screening and data extraction, provided a list of excluded studies, provided individual quality ratings of primary studies, and assessed risk of bias. Half or more described an a priori design, used a comprehensive search strategy, searched the grey literature, tabulated study characteristics, took study quality into account when drawing conclusions, tested for study homogeneity, and took account of this in data analysis, and indicated conflicts of interests.

3.4 RESULTS

3.4.1 Study design features and sample characteristics

The 18 papers in the review were published between 2004 and 2017. Design features and sample characteristics are given in Table 3.3. Ten of the 18 papers focused on a single outcome. Two of these 10 focused on physical health outcomes, four on attachment, and four on mental health outcomes. The other eight were concerned with outcomes in the broad domain of cognitive development, including IQ, school attainment problems, language delay and specific learning disability. Four of these eight papers also addressed other outcomes including attachment and mental health. There were nine systematic reviews and nine meta-analyses. The number of databases searched in these studies ranged from one to nine, with a mean of four. The most frequently searched databases were PsycINFO (N = 15) and Pubmed/Medline (N = 15), followed by Web of Science (N = 9), Education Resources

Information Centre (ERIC, N = 8), Excerpta Medica database (EMBASE, N = 5), PsycLIT (N = 3), Google Scholar (N = 2), and a number of databases, each of which were only searched in a single study. These included Applied Social Sciences Index and Abstracts (ASSIA), Academic Search Premier, British Nursing Index, Child Welfare and Adoption, ChildLink!, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Communication and Mass Media Complete, Current Contents, Dissertation Abstracts, Evidence Based Medicine (EBM), Health Source: Nursing/Academic Edition, Online Contents, Professional Development Collection, Scientific Electronic Library Online (SciELO), Science Citation Index, Science Direct, Scirus, Scopus, SocINDEX, Sociological Abstracts, and Social Science Information Gateway.

The number of studies (*k*) covered in papers included in this review ranged from 3 to 97, with a mean of 33. The total number of participants (N) within these review papers ranged from 466 to 1,295,767, with a mean of 97,178. Greater confidence may be placed in the validity of conclusions drawn from reviews where a larger proportion of studies involved strong research designs, especially controlled (rather than uncontrolled) studies. In the current review of 18 systematic reviews and meta-analyses the proportion of controlled studies ranged from 40% to 100% with a mean of 88%.

Both children (under 18 years) and adults (over 18 years), and males and females were involved in studies covered in systematic reviews and meta-analyses reviewed in this paper. The proportion of studies of mainly child samples ranged 0% to 100% with a mean of 88%. The mean age of children in samples when they left care ranged from 1 to 3 years, with an overall mean of 2 years. The mean age of participants when outcomes were assessed ranged from 2 to 31 with a mean of 9 years. The proportion of females in studies ranged from 42% to 75%, with a mean of 53%. The proportion of studies in which participants were originally from developing countries in Eastern Europe, Asia, Africa and South America ranged from 19 to 100% with a mean of 68%.

3.4.2 Overlap in primary studies included in review papers

There was overlap in the primary studies included in systematic review papers and meta-analyses selected for the current systematic review of review papers. In total there were 451 independent studies reviewed in these 18 systematic review and meta-analyses. The percentage of review papers in which each primary study was included ranged from 6% to 28%. The percentage of all 451 independent studies included in each review paper ranged from 1 to 22%. In total across all 451 independent studies there were 1,749,211 participants. Of these, 169,204 had experienced structural neglect.

3.4.3 Key Findings

3.4.3.1 Outcomes for individuals who experienced structural neglect

Key findings from 18 systematic reviews and meta-analyses on studies of the outcomes for individuals who experienced structural neglect are given in Table 3.4. Most participants in primary studies covered in these reviews were raised in poorly resourced orphanages and other institutions where they experienced structural neglect. In the section on study design features and sample characteristics, above it was noted that in these reviews about two thirds (68%) of participants were originally from developing countries. Some reviews included studies of both domestic and international adoption, while others focused exclusively on the latter. In this context domestic adoption refers to adoption from an institution to a family within a single country (for example the UK). International adoption, in contrast, refers to

adoption from orphanages in developing countries into families in developed countries. International adoptees may have experienced greater structural neglect than domestic adoptees because orphanages in developing countries tend to be less well-resourced than those in developed countries. In this context, developing countries refers to those in Eastern Europe, Asia, Africa, and South America. Developed countries refer to those in Europe and North America, as well as Australia and New Zealand.

Some participants in the primary studies in the reviews summarized in Table 3.5 were children exposed to structural neglect early in life and then adopted, while others were raised to adulthood in institutions. Reviews of controlled studies of adoptees provide information on the outcomes of structural neglect at the transition from institutional care to adoptive families compared with children raised in birth families. They also shed light on the degree to which these children catch-up with children raised in birth families over their time living in adoptive families. Controlled studies of individuals raised to adulthood in poorly resourced institutions indicate the outcomes of experiencing structural neglect throughout childhood and adolescence.

3.4.3.2 Physical health

In the domain of physical health one systematic review of physical growth delay in international adoptees who had been raised in orphanages care (van Ijzendoorn et al., 2007) and one meta-analysis of the neurobiological correlates of psychosocial deprivation in children (Perego et al., 2016) were identified.

van Ijzendoorn et al. (2007) conducted a meta-analysis of 33 controlled studies of children adopted from poorly resourced orphanages in Eastern Europe, Asia, and South America to adoptive families in the USA and Western Europe. They concluded that compared with normal controls, international adoptees who had been raised in institutions, showed significant delays in growth in terms of height, weight, and head circumference. At about 2 or 3 years of age, shortly after making the transition from orphanages to adoptive families, they were 3 kgs lighter and 8 cm shorter than normal controls. In adolescence and early adulthood, adoptees who had spent their early years in institutions were of significantly shorter stature than peers in the general population. After an average of 8 years with adoptive families, adopted children showed substantial, but not complete catch-up in height and weight, and very little catch-up in terms of head circumference. Those adopted after their first birthday showed less catch-up in weight than those adopted before 12 months.

In 34 controlled brain imaging and other neuroscientific studies, Perego et al. (2016) concluded that early deprivation in institutional care was associated with reduced brain volume and decreased cortical activity. It was also associated with larger amygdala volume; altered frontal and limbic activity; white matter abnormalities, especially in the connections between frontal regions and amygdala; and irregular hormone levels. They concluded that these brain abnormalities may subserve difficulties shown by institutionalized children in the areas of cognitive development on the one hand, and attachment and mental health on the other.

3.4.3.3 Cognitive development

Eight systematic reviews and meta-analyses of structural neglect and delayed cognitive development were identified (Christoffersen, 2012; Fensbo, 2004; Johnson et al., 2006; Juffer et al., 2014; Scott, 2009; Sherr et al., 2017; van IJzendoorn et al., 2005, 2008). In this context

delayed cognitive development was indexed by lower IQ, school attainment problems, specific learning difficulties, and language delay.

All seven reviews that investigated IQ, found a significant association between this outcome and structural neglect (Christoffersen, 2012; Fensbo, 2004; Johnson et al., 2006; Juffer et al., 2014; Sherr et al., 2017; van IJzendoorn et al., 2005, 2008). For example, in meta-analyses by van IJzendoorn et al. (2008) and Christoffersen (2012), on average the IQs of children raised in institutions were 17-20 IQ points lower than those of children raised in families. van IJzendoorn et al. (2008) found that lower IQs of children who had experienced structural neglect were associated with being placed in institutions before the age of one year, being assessed before the age of four years, and residing in developing countries with a low living standard. Adoptees who had experienced structural neglect in orphanages in their early life showed considerable catch-up during childhood following adoption, such that their IQs became similar to those of children raised in birth families and significantly higher than children who remained in orphanages (Christoffersen, 2012, Juffer et al., 2014; van IJzendoorn et al. 2005).

School attainment problems were investigated in two reviews and in both of these this outcome was associated with structural neglect (Christoffersen, 2012; van IJzendoorn et al., 2005). In the only review that investigated the issue, van IJzendoorn et al., (2005) found a significant association between structural neglect and specific learning difficulties.

Two reviews addressed developmental language delay. In a meta-analysis, van IJzendoorn et al., (2005) found a small but significant association between developmental language delay and structural neglect. However, in a systematic review, Scott (2009) reached no definitive conclusion on this issue. Across 16 primary studies of internationally adopted and formerly institutionalized children, nine found good language outcomes by school-age years, three found language difficulties by school-age years, and four reported variable outcomes for formerly institutionalized adoptees.

3.4.3.4 Attachment

Seven systematic reviews and meta-analyses of structural neglect and attachment were identified (Dumais et al., 2014; Fensbo, 2004; Garcia-Quiroga & Hamilton-Giachritsis, 2016; Johnson et al., 2006; Juffer et al., 2014; Lionetti et al., 2015; van den Dries et al., 2009), three of which also addressed outcomes in other areas including cognitive development and mental health (Fensbo, 2004; Johnson et al., 2006; Juffer et al., 2014). All of these reviews concluded that there was a significant association between structural neglect and insecure attachment, especially insecure disorganized attachment. Across four studies that provided sufficient aggregated data, 44-73% of survivors of institutional neglect had insecure disorganized attachments compared with 15-21% of children raised in birth families (Dumais et al., 2014; Garcia-Quiroga & Hamilton-Giachritsis, 2016; Lionetti et al., 2015; van den Dries et al., 2009). Insecure disorganized attachments were more common among young children (Dumais et al., 2014; Lionetti et al., 2015), who spent more than their first year of life experiencing structural neglect (Van den Dries et al., 2009) in institutions in developing, rather than developed countries (Dumais et al., 2014; Lionetti et al., 2015), with a high ratio of children to caregivers, limited resources, and where caregivers showed limited sensitivity to children's needs (Garcia Quiroga et al., 2016).

3.4.3.5 Mental Health

Six systematic reviews and meta-analyses of structural neglect and mental health were identified (Fensbo, 2004; Grant et al., 2016; Johnson et al., 2006; Juffer & van Ijzendoorn, 2005, 2007; Latimer et al., 2012). Two of these also addressed outcomes in the areas of cognitive development and attachment (Fensbo, 2004; Johnson et al., 2006). All of these reviews concluded that there was a significant association between structural neglect in orphanages, in both developing and developed countries, and mental health problems. Juffer et al. (2005) found that adoptees, many of whom who had experienced structural neglect in orphanages, were over-represented in referrals to mental health services. Latimer et al., (2012) found significant associations between structural neglect and two particular mental health problems: attention deficit hyperactivity disorder and reactive attachment disorder. Juffer and van Ijzendoorn (2007) found that the self-esteem of children reared in institutions, many of which were characterized by structural neglect, was significantly lower than that of adopted children.

3.5 CONCLUSIONS

There are significant associations between the experience of structural neglect in large congregate institutions such as orphanages, and adjustment in the domains of physical health, cognitive development, attachment and mental health. It is probable that structural neglect largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the duration and severity of deprivation and a constellation of risk and protective factors. These conclusions are consistent with those of previous reviews of systematic reviews and meta-analyses (Juffer & van IJzendoorn, 2012; McCall & Groark, 2015). Prevention policies should aim to eliminate large under-resourced congregate care institutions for infants. In taking steps towards this, policies should aim to adequately resource congregate care institutions to meet children's developmental needs for nutrition, stimulation, and attachment to a stable primary care giver with adequate parenting skills and training. Early placement in adoptive or foster families, with access to routine physical and mental healthcare service available in developed countries, is the most viable effective intervention for child survivors of structural neglect.

Figure 3.1. PRISMA flow diagram of literature search on outcomes of structural neglect

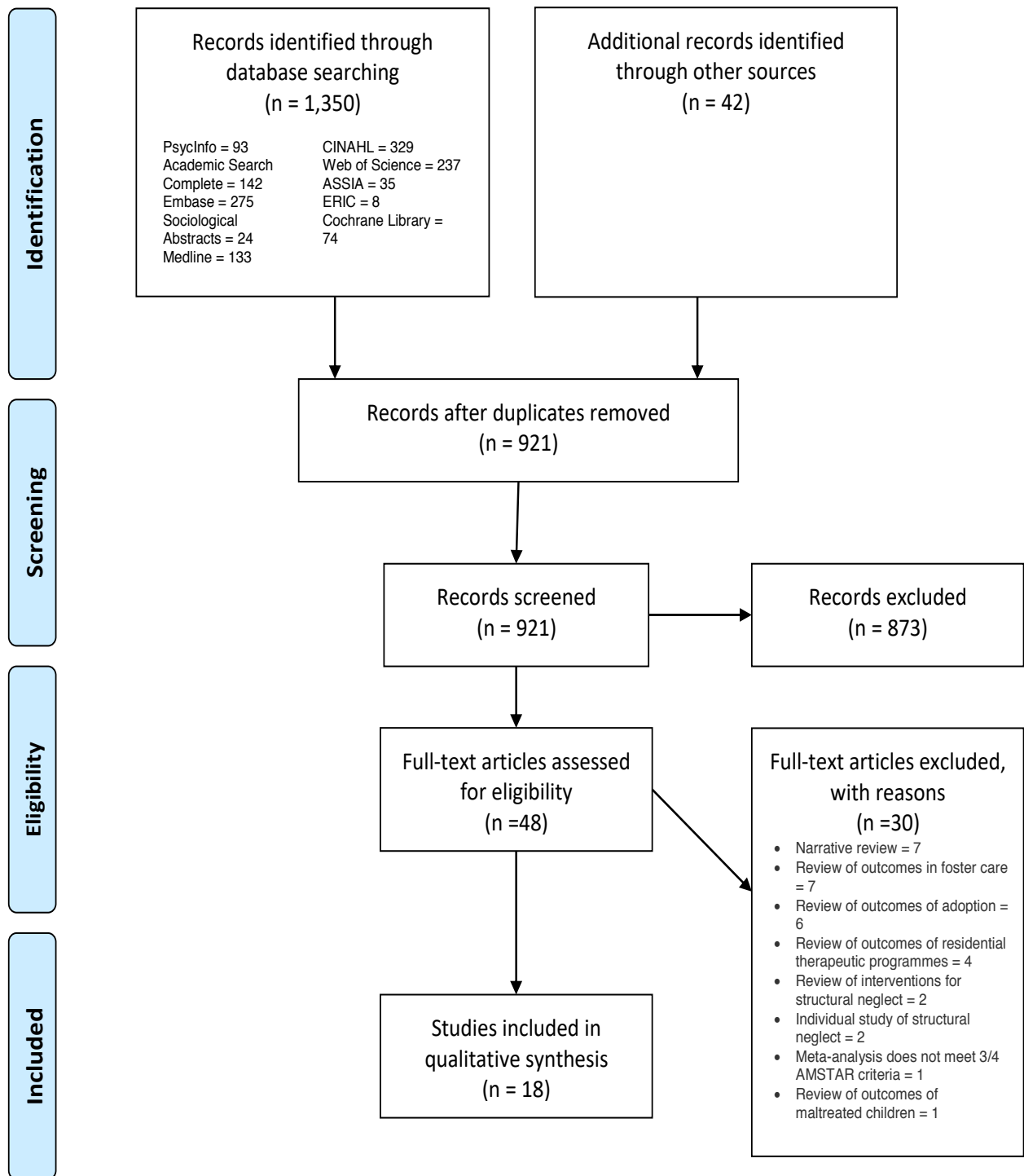


Table 3.1. Inter-rater reliability in literature review on outcomes of structural neglect

	% Agreement	Krippendorff's Alpha
Screening records	97.83	-
Screening full texts	91.67	-
AMSTAR		
Amstar 1[§]	88.89	-
Amstar 2	88.89	0.76
Amstar 3	94.44	0.77
Amstar 4	100.00	1.00
Amstar 5[§]	94.44	-
Amstar 6	100.00	1.00
Amstar 7	94.44	0.65
Amstar 8	77.78	0.38
Amstar 9	94.44	0.89
Amstar 10	100.00	1.00
Amstar 11	88.89	0.78
AMSTAR Total	92.93	0.86
Main outcomes	94.40	0.94
Data synthesis	94.40	0.89
Data bases searched	100.00	1.00
Number of data bases searched	100.00	1.00
Number of primary studies (k)	83.30	0.98
Number of participants (N)	66.67	0.88
% controlled studies	77.77	-
% mainly child samples	100.00	1.00
Mean age when left care	100.00	1.00
Mean age of participants when assessed	88.24	0.98
% of female participants	100.00	1.00
% from developing countries	83.33	0.96
Key findings	93.94	0.99

§ Valid Krippendorff's alpha values could not be calculated for AMSTAR items 1 and 5 and % of controlled studies because rating distributions were strongly skewed.

Table 3.2. AMSTAR study quality scores in literature review on outcomes of structural neglect

	Category and theme	First Author	Date	AMSTAR Total	1. Described a priori design with research question and inclusion criteria.	2. Used two independent data extractors and a consensus procedure for disagreements.	3. Used a comprehensive literature search of at least 2 data bases with appropriate search terms and years of search indicated, and manual search of one of the following: references of studies found, review papers, current contents, textbooks, experts.	4. Searched for reports regardless of publication type and did not exclude reports based on language or publication type (e.g. theses, report grey literature etc.).	5. Provided a list of included and excluded studies (in the refs or as an electronic link)	6. Provided characteristics of included studies in a table (author, date, participant age and gender, type of maltreatment, type of outcome).	7. Provided ratings of the scientific quality of studies (e.g. high or low quality) and not just a summary score for all studies.	8. Took the quality of studies into account in drawing conclusions and making recommendations (e.g. result should be interpreted cautiously due to poor quality of studies).	9. Provided a test of homogeneity (e.g. chi square or β) to check if results of studies could be validly pooled. Used a random effects (not a fixed effects) model if heterogeneity was present.	10. Assessed publication bias (using funnel plots or Egger regression test or Hedges Olken test etc.) if there were more than 10 studies.	11. Acknowledged sources of support for systematic review and included studies (to indicate conflict of interest).	
	Physical Health															
1		van Ijzendoorn	2007	9	1	1	1	1	0	1	0	1	1	1	1	1
2		Perego	2016	4	1	0	0	0	0	1	0	1	0	0	1	1
	Cognitive development															
3		Fensbo	2004	3	1	0	1	0	0	0	0	1	0	0	0	0
4		van IJzendoorn	2005	9	1	1	1	1	0	1	0	1	1	1	1	1
5		van Ijzendoorn	2008	9	1	1	1	1	0	1	0	1	1	1	1	1
6		Johnson	2006	3	1	0	1	0	0	1	0	0	0	0	0	0
7		Christoffersen	2012	7	1	0	1	1	0	1	0	1	1	0	1	1
8		Juffer	2014	3	1	0	1	0	0	0	0	1	0	0	0	0
9		Sherr	2017	6	1	1	1	0	0	1	0	1	0	0	1	1
10		Scott	2009	3	1	0	0	0	0	1	0	1	0	0	0	0
	Attachment															
11		van den Dries	2009	7	1	0	1	1	0	1	0	1	1	1	1	0
12		Lionetti	2015	8	1	0	1	1	1	1	0	1	1	1	1	0
13		Dumais	2014	7	1	0	1	0	0	1	0	1	1	1	1	1
14		Garcia Quiroga	2016	8	1	1	1	1	0	1	1	1	0	0	1	1
	Mental Health															
15		Juffer	2005	8	1	0	1	1	0	1	0	1	1	1	1	1
16		Juffer	2007	8	1	1	1	1	0	1	0	0	1	1	1	1
17		Latimer	2012	5	1	0	1	0	0	1	1	1	0	0	0	0
18		Grant	2016	4	1	0	0	0	0	1	0	1	0	0	1	1
	Totals				18/18	6/18	15/18	9/18	1/18	16/18	2/18	16/18	9/18	8/18	11/18	61
	%				100	33	83	50	6	89	11	89	50	44	61	

Table 3.3. Study design features and sample characteristics in literature review on outcomes of structural neglect

	Category	First Author	Year	Main outcome	Data synthesis	Databases Searched	No. of databases searched	No. of primary studies (k)	No. of participants (N)	% controlled studies	% mainly child sample studies	Mean age in years when left care	Mean age when assessed	% females	% from developing countries
1	Physical health	van Ijzendoorn	2007	PH	MA	Medline, PsycINFO, ERIC, Web of Science	4	33	68,403	100	100	2	6	-	64
2		Perego	2016	PH	SR	PubMed, PsycINFO, GoogleScholar	3	34	2,650	100	97	-	8	-	100
3	Cognitive dev.	Fensbo	2004	CD MH AT P	SR	Medline, EMBASE	2	24	6,934	100	83	-	10	-	-
4		van Ijzendoorn	2005	CD LD SP	MA	Medline, PsycINFO, ERIC, Sociological Abstracts, Current Contents	4	62	99,821	100	95	1	11	-	53
5		van Ijzendoorn	2008	CD	MA	PubMed, PsycINFO, ERIC, Online Contents, SSCI	5	42	4,078	100	100	-	3	-	48
6		Johnson	2006	CD AT MH P	SR	Medline, EMBASE, ISI Web of Science, SOSIG, Science Direct	5	27	1,414	100	100	-	6	42	52
7		Christoffersen	2012	CD MH SP P	MA	Medline, PubMed, PsycINFO, EMBASE, SSCI, SocINDEX	5	16	2,400	100	88	2	14	-	19
8		Juffer	2014	CD MD AT	SR	Web of Science, Google Scholar	2	7	466	40	100	1	2	-	100
9		Sherr	2017	CD	SR	Medline, PsycINFO	2	66	17,118	98	98	-	8	45	86

														P
10	Scott	2009	LD	SR	Medline, PsycINFO, Academic Search Premier Communication and Mass Media Complete Professional Development, Collection Health Source: Nursing Academic Edition, Child Welfare and Adoption, Scirus, Dissertation Abstracts	9	16	11,451	69	88	3	11	-	100
11	Attachment van den Dries	2009	AT	MA	PubMed, PsycINFO, ERIC, Web of Science	4	39	7,072	100	77	-	7	-	27
12	Lionetti	2015	AT	MA	PubMed, PsychINFO, ERIC, Scopus, Web of Science	5	10	818	100	100	-	3	-	80
13	Dumais	2014	AT	MA	Medline, PsycINFO	2	16	701	78	100	-	4	-	67
14	Garcia Quiroga	2016	AT	SR	Medline, PsycINFO, EMBASE, Web of Science ASSIA, SciELO, ChildLink!	7	18	1,198	44	100	-	4	48	50
15	Mental Health Juffer	2005	MH	MA	Medline, PsycLIT, ERIC	3	98	185,746	100	93	1	10	54	-
16	Juffer	2007	MH	MA	PubMed, PsycLIT, ERIC	3	70	42,694	100	66	-	14	-	-
17	Latimer	2012	MH P	SR	Medline, PsycLIT, PsycINFO, ERIC, EMBASE, BNI, CINAH, EBM, SSCI, Science Citation Index.	9	3	480	100	100	-	6	-	100
18	Grant	2016	AT MH AT P	SR	PsycINFO	1	19	1,295,767	62	0	2	31	75	80

Note: PH = Physical health. CD = Cognitive development. MD = Motor development. LD = Language development. AT = Attachment. SP = School problems. MH = Mental health. P = Psychosocial adjustment. MA = Meta-analysis. SR = Systematic review with narrative synthesis.

Table 3.4. Key findings from literature review on outcomes of structural neglect

First Author	Date	Key findings	
		Physical Health	
1	van Ijzendoorn	2007	<p>In controlled studies, for international adoptees under 3 years, at the transition from orphanages to adoptive families, there was a significant association between the amount of time spent in institutional care and delayed physical growth assessed as height ($d = 1.71$ [0.82, 2.60] $k = 8$). In adolescence ($d = -1.01$, $k = 23$) and early adulthood ($d = -0.70$, $k = 23$), adoptees who had spent their early years in institutions were of significantly shorter stature than peers in the general population.</p> <p>Compared with normal controls, international adoptees who had been raised in institutions, at the transition from orphanages to adoptive families, showed significant delays in growth in terms of height ($d = -2.23$ [-2.62, -1.84] $k = 27$), weight ($d = -2.60$ [-3.13, -2.07] $k = 24$), and head circumference ($d = -2.22$ [-2.68, -1.76] $k = 15$).</p> <p>Compared with normal controls international adoptees showed severe growth delay at the transition from orphanages to adoptive placements; they were 3kgs lighter at 23 months and 8 cm shorter at 30 months.</p> <p>After an average of 8 years with adoptive families, the adopted children showed substantial, but not complete catch-up in height and weight, and very little catch-up in terms of head circumference.</p> <p>Those adopted after their first birthday showed less catch-up in weight than those adopted before 12 months.</p> <p>Children in these studies were adopted from Eastern Europe, Asia, and South America to the USA and Western Europe.</p>
2	Perego	2016	<p>In 34 controlled brain imaging and other neuroscientific studies, early deprivation in institutional care was associated with reduced brain volume and decreased cortical activity. It was also associated with larger amygdala volume; altered frontal and limbic activity; white matter abnormalities, especially in the connections between frontal regions and amygdala; and irregular hormone levels.</p> <p>These brain abnormalities probably subserve difficulties shown by institutionalized children in the areas of cognitive development on the one hand, and attachment and mental health on the other.</p>
			Cognitive development
3	Fensbo	2004	<p>In studies of international adoption, children who spent longer periods in orphanages before adoption had significantly poorer adjustment on indices of cognitive development, attachment security, and mental health.</p>
4	van IJzendoorn	2005	<p>In controlled studies, compared with adoptees, children reared in orphanages had significantly lower IQs ($d = -1.17$ [-1.36, -0.99] $k = 6$), and more school attainment problems ($d = -0.55$ [-0.88, -0.21] $k = 3$).</p> <p>Compared with normal controls, when assessed in later childhood or adolescence, significantly more adopted children who had lived in orphanages prior to adoption had language delays ($d = 0.09$ [0.04, 0.14] $k = 14$), school attainment problems ($d = 0.19$ [0.14, 0.25] $k = 52$), and specific learning disabilities ($d = 0.55$ [0.35, 0.75] $k = 8$), but not lower IQ. The absence of a difference in IQ may have reflected the fact that adopted children initially reared in orphanages caught up with their peers in the area of cognitive development as a result of living in an adoptive family.</p> <p>Reviewed studies were conducted in USA, Canada, UK, Norway, Sweden, Denmark, France, Belgium, Netherlands, Spain, Greece, Chile, Australia, New Zealand, and Israel. Children were adopted from USA, UK, France, Spain, Greece, Israel, South America, Columbia, Asia, Korea, India, Sri Lanka, Bangladesh, Vietnam, Cambodia, Thailand, Lebanon, Romania, and Russia.</p>
5	van Ijzendoorn	2008	<p>In controlled studies of children under 12 years of age, those raised in institutions had IQ's that were 20 points lower than those of children raised in birth or foster families (84 v 104) and this difference was significant ($d = 0.74$ [0.48, 1.01] $k = 75$).</p> <p>There were significant associations between low IQ on the one hand, and being placed in institutions before the age of one, being assessed before the age of four, and residing in countries with a low living standard on the other.</p> <p>Reviewed studies were conducted in USA, Canada, UK, France, Norway, Switzerland, Sweden, Greece, Turkey, Israel, India, Ethiopia, Kenya, Eritrea, Romania, Lebanon, Ukraine, Iran, and Russia.</p>
6	Johnson	2006	<p>In controlled studies, compared with children raise in families with a primary caregiver, significantly more children raised in institutions prior to five years without a primary caregiver had delayed cognitive development, insecure attachment, mental health difficulties, and psychosocial adjustment problems, especially managing relationships with peers and teachers.</p>

7	Christoffersen	2012	<p>In controlled studies individuals raised in orphanages or foster care had significantly poorer cognitive development indexed by lower IQs ($d = 1.40$, $k = 4$), and significantly more school problems (OR = 0.54 [0.38, 0.77] $k = 4$) and mental health problems (OR = 0.61 [0.41, 0.91] $k = 4$), but not lower self-esteem than controls who were raised within adoptive families.</p> <p>There was a mean difference of 17 IQ points ([11.2, 23.1] $k = 4$) between children raised in orphanages or in care on the one hand, and those raised in adoptive families on the other.</p> <p>Children raised in orphanages or foster care had a 1.85 times higher risk of school problems such as being in a special class or repeating a year or having learning disabilities than those raised in adoptive families.</p> <p>Children raised in orphanages or foster care had a 1.64 times higher risk of developing mental health problems than those raised in adoptive families.</p> <p>Remaining in orphanages or foster care was a risk factor and being raised in an adoptive family was a protective factor.</p> <p>Reviewed studies were conducted in OECD countries such as the USA, UK, Canada, Denmark, Sweden, France, Spain, and New Zealand, as well as developing countries such as Chile, Lebanon, and India.</p>
8	Juffer	2014	<p>In five of seven studies, Chinese children showed significant motor and cognitive delays at the transition from orphanages or foster families to adoptive families. Within six months their functioning was within the normal range, and within two years their catch-up was complete compared to normal controls.</p> <p>In both studies of attachment, at age six and 12 months, Chinese adoptees showed significantly higher rates of insecure disorganized attachment compared to normal controls, and by two years had shown some, but not completed catch-up in this area.</p> <p>Less severe developmental delays were shown by Chinese adoptees from foster homes compared with those from orphanages.</p> <p>Reviewed studies were conducted in the USA, Canada, and Netherlands.</p>
9	Sherr	2017	<p>42 of 45 controlled studies that assessed cognitive development found a significant association between early institutional care and cognitive delay.</p> <p>41 of 43 studies that assessed psychosocial adjustment found a significant association between early institutional care and psychosocial adjustment.</p>
10	Scott	2009	<p>Across 16 studies of internationally adopted and formerly institutionalized children, nine found good language outcomes by the school-age years; three found language difficulties by school-age years, and four reported variable outcomes for formerly institutionalized adoptees.</p> <p>Reviewed studies were conducted in USA, UK, Norway, Sweden, and Belgium.</p> <p>Adoptees came from Korea, India, Vietnam, Cambodia, Thailand, Romania, Columbia, China, Greece and had been in institutions for 0-6 years.</p>
			Attachment
11	van den Dries	2009	<p>Compared with adoptees, children reared in orphanages had significantly higher rates of insecure disorganized attachments (73% v 31%, $k = 13$).</p> <p>Compared with children raised in birth families, adoptees (who had spent their early years in orphanages) had significantly higher rates of insecure disorganized attachments (31% v 15%, $k = 26$) ($d = 0.36$ [0.04, 0.68] $k = 11$)</p> <p>Children who were raised in orphanages and adopted before 12 months of age were as securely attached as children raised in birth families, whereas children raised in orphanages and adopted after their first birthday had significantly higher rates of insecure attachments compared with children raised in birth families ($d = 0.80$ [0.49, 1.12] $k = 5$).</p> <p>Adopted and fostered children had similar rates of insecure disorganized attachments.</p> <p>Reviewed studies were conducted in the USA, Canada, UK, Australia, Sweden, Netherlands, Italy, Poland, Portugal, and Greece.</p>
12	Lionetti	2015	<p>Across 10 studies, compared with family-reared controls, significantly more children reared in institutions had insecure disorganized attachments (54% v 21%) and insecure organized attachments (28% v 24%), and significantly fewer had secure attachments (18% v 56%).</p> <p>Children reared in Eastern European institutions were more likely to have insecure disorganized and insecure organized attachments.</p> <p>Children who entered institutions before their first birthday and whose attachments were assessed before 3 years were more likely to have insecure disorganized attachments.</p> <p>Reviewed studies were conducted in Portugal, Greece, China, Ukraine, Chile, Japan, Petersburg, and Bucharest.</p>
13	Dumais	2014	<p>In controlled studies, significantly more infants in orphanages had insecure attachments ($d = 0.75$ [0.43, 1.11] $k = 7$) and insecure disorganized attachments ($d = 0.75$ [0.43, 1.06] $k = 7$) than normal controls.</p> <p>In orphanages 79% of infants had insecure attachments, 53% had insecure disorganized attachments, and 26% had insecure organized attachments.</p> <p>Compared to children in orphanages over three years of age, significantly more of those under three had insecure attachments.</p> <p>Significantly more infants in orphanages in Eastern Europe and Asia had insecure attachments than in Western Europe.</p> <p>A model was developed, based on the reviewed studies which explained the association between structural neglect within orphanages and infants' insecure disorganized attachment. In this model it is proposed that:</p>

			Structural neglect occurs in institutions with a high ratio of infants to caregivers, high caregiving staff turnover, and an adverse organizational climate shared by caregivers and managers. Structural neglect occurs where caregivers show extreme insensitivity, a high level of threatening behaviour, and provide a low quality of care. This caregivers' behaviour is associated with them having an insecure adult attachment style, and mental health and socioeconomic difficulties. Infants vulnerability to developing an insecure disorganized attachment style is associated with their personal characteristics (genetic vulnerabilities and gender) and pre-institutional factors (peri-natal adversities, maltreatment within the birth family, and relationships with birth parents).
14	Garcia Quiroga	2016	In controlled studies, children living in institutional and foster care had significantly higher rates of insecure attachments than children raised in birth families (61% v 49%). Compared with children raised in foster care, children raised in institutions had significantly higher rates of insecure attachments (79% v 41%), insecure disorganized attachments (44% v 23%), and insecure organized attachments (35% v 18%). Children were significantly more likely to have insecure attachments in institutions with a high ratio of children to caregivers, limited resources, and where caregivers showed limited sensitivity to children's needs. Reviewed studies were conducted in USA, Canada, Israel, Greece, France, Japan, Romania, Ukraine, Chile, and Africa.
			Mental Health
15	Juffer	2005	International adoptees who had experienced pre-adoption adversity in orphanages had significantly more mental health problems than international adoptees who had not experienced extreme deprivation, ($d = 0.18$ v $d = 0.09$). Effect sizes for each of these groups were based on comparisons with non-adopted controls. Compared with non-adopted controls, international adoptees had significantly more mental health difficulties ($d = 0.11$ [0.09, 0.13] $k = 47$). Compared with non-adopted controls, adoptees (both domestic and international) had significantly more mental health difficulties ($d = 0.18$ [0.12, 0.24], $k = 101$) and were over-represented in referrals to mental health services ($d = .72$ [0.57, 0.86] $k = 36$). Compared with non-adopted controls, international adoptees had significantly fewer mental health problems than domestic adoptees ($d = 0.11$ v $d = 0.20$) and were less often referred to mental health services than domestic adoptees ($d = 0.37$ v $d = 0.81$). This was an unexpected finding. Included studies were conducted in the USA, UK, Canada, Belgium, Finland, France, Germany, Greece, the Netherlands, Norway, Spain, Sweden, Australia, and New Zealand.
16	Juffer	2007	In controlled studies conducted in the USA, Canada, and Spain the self-esteem of children reared in institutions was significantly lower than that of adopted children ($d = -0.58$ [-0.84, -0.33] $k = 3$). There was no significant difference between levels of self-esteem of adopted and non-adopted children ($d = 0.01$ [-0.06, 0.08] $k = 88$) or between transracial and same-race adoptees ($d = -0.02$ [-0.12, 0.09] $k = 18$). Included studies were conducted in the USA, UK, Canada, Spain, Sweden, Finland, Netherlands, Germany, Italy, Israel, Australia, and New Zealand,
17	Latimer	2012	This systematic review identified studies which examined links between a wide range of risk factors in the prenatal, postnatal and infancy periods and a wide range of childhood disorders. In both studies that examined the link between early institutional deprivation and attention deficit hyperactivity disorder, a significant association was found. In the single study that examined the link between early institutional deprivation and reactive attachment disorder, a significant association was found.
18	Grant	2016	In some of the controlled and single cohort quantitative studies and qualitative studies of international adult adoptees in this review, adoptees had higher rates of mental health problems and these were associated with adverse experiences in pre-adoption institutional care.

Note: OR = odds ratio and 95% confidence intervals (CI) are given in square brackets. In some instances ORs and CIs were computed based on data in articles. d = Cohen's d effect size and 95% confidence intervals are given in square brackets. Where studies reported Pearson's r effect sizes, these were converted to Cohen's d effect sizes to aid comparison of effect sizes from different studies. All reported OR and d values are significant at $p < .05$. k = number of studies.

CHAPTER 4: OUTCOMES FOR SURVIVORS OF CHILD ABUSE IN LONG-TERM CARE

4.1 SUMMARY

Rates of child abuse in long-term care are extremely variable (1-93%). The causes of child maltreatment in long-term care are complex and involve a wide range of factors including characteristics of abusers and survivors and factors within their immediate and wider social systems. The size of the evidence-base linking child abuse in long-term care with adjustment across the lifespan is unknown. The aim of this systematic review was to determine the outcome of child maltreatment in long-term residential care.

4.1.1 Method. In searches of 10 databases supplemented with a search of grey literature and manual searches, 3077 documents were identified. Forty-nine documents describing 21 primary studies and 25 secondary studies were selected for review. Inter-rater agreement exceeded 80% for screening records and data extraction. There were 40 quantitative studies and 6 qualitative studies.

4.1.2 Participants. Participants in primary studies included 3,856 survivors and 1,577 controls. In six primary studies survivors were under 18 years, and participants in the remaining primary studies were adults with a mean age of 54 years. The mean proportions of females in primary studies of children (under 18) and adults were 52% and 39% respectively.

4.1.3 Countries. Reviewed studies were conducted in the UK, USA, Finland, Romania, Tanzania, Canada, Ireland, Australia, the Netherlands, Germany, Austria, and Switzerland.

4.1.4 Child care experiences. Participants were abuse survivors from Catholic institutions in eight studies, from state foster care in seven studies, from non-religious institutions in two studies, and from a range of contexts in the remaining studies. The average age when participants entered residential care was 5 years, and the average duration of their time in care was 9 years.

4.1.5 Maltreatment experiences. Average rates of sexual, physical and emotional abuse within long-term care were 67%, 63% and 71% respectively, and most participants had experienced multiple forms of child abuse.

4.1.6 Mental health outcomes. There were significant associations between having experienced child abuse in long-term care and poorer mental health outcomes. In the mental health domain in descending order of average frequency of occurrence, the main outcomes were as follows. Eighty-four percent had lifetime mental health problems diagnosed with the Structured Clinical Interview for Axis I or II Disorders of DSM IV; 67% had general mental health problems; 58% had lifetime anxiety disorders; 51% had lifetime post-traumatic stress disorder; 44% had lifetime depressive disorders; 41% had current personality disorders; 37% had lifetime drug and alcohol use disorders; and 19% had current complex PTSD. These rates are far higher than those found in surveys of the general population.

4.1.7 Physical health and psychosocial adjustment outcomes. There were significant associations between having experienced child abuse in long-term care and poorer physical health and psychosocial outcomes. In the domains of physical health and psychosocial adjustment in descending order of average frequency of occurrence, the main outcomes were as follows. Fifty-nine percent had educational problems; 56% lived in poverty; 39% had marital adjustment problems; 37% had committed non-violent crime; 31% had sexual problems; 30% had committed violent crime; 30% had frequent physical illness; 29% reported suicidality and self-harm; 28% had been frequently hospitalized for physical health problems; 25% had anger control problems in intimate relationships; 21% were homeless; 13% had anger control problems with children; 12% had been imprisoned; and 4% had their children taken into care.

4.1.8 Risk and protective factors. The associations between institutional child abuse and physical health, mental health and psychosocial outcomes were influenced by the constellation of

risk and protective factors experienced across the lifespan. Risk factors included severe prolonged institutional maltreatment, especially sexual abuse, intrafamilial abuse prior to institutional care, additional trauma after leaving institutional care, experiencing severe traumatization as a result of institutional abuse, the use of maladaptive coping strategies, and an insecure adult attachment style. Protective factors included socially supportive relationships, personal strengths and competencies, adaptive coping strategies, and a secure adult attachment style. Survivors exposed to more risk factors and fewer protective factors had poorer outcomes. In contrast, better outcomes occurred for those with more protective factors and fewer risk factors.

4.1.9 Strengths and limitations. Reviewed studies had some limitations. All studies were retrospective rather than prospective. Almost all studies used convenience rather than probability samples. In almost all studies participants may have experienced intrafamilial child abuse prior to entering long-term care. In 72% of quantitative studies there was no control group. In all qualitative studies inter-coder reliability was not reported, and data were collected from a single source, rather than multiple sources to allow triangulation. On the positive side, the qualitative studies were methodologically exemplary (except for the two limitations mentioned above). The quantitative studies were large with samples greater than 100 in 65% of studies; in most studies psychometrically robust instruments were used for data collection; and appropriate data analyses were conducted in all studies. The strengths and weaknesses of reviewed studies allow considerable confidence to be placed in the associations found between indices of childhood institutional abuse and adjustment across the lifespan. However, they limit the certainty with which causal statements may be made about institutional abuse and adult adjustment. They also limit the confidence with which statements may be made about the generalizability of the findings.

4.1.10 Conclusions. There are significant associations between the experience of child abuse in long-term residential care and adjustment across the lifespan in the domains of mental health, physical health, and psychosocial adjustment. It is probable that child maltreatment in residential care partly accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the constellation of risk and protective factors. Prevention and treatment policies, programmes, and practices should aim to reduce or eliminate risk factors and enhance protective factors.

4.2 INTRODUCTION

This chapter is concerned with the effects of child maltreatment occurring while in long-term care. In this context child maltreatment refers primarily to physical and sexual abuse, with associated emotional or psychological abuse and neglect. Maltreatment may be perpetrated by out-of-home carers, peers or others. Care refers to long-term substitutive care outside the family including foster care, kinship care, and residential care in religious and non-religious institutions. These include child care centres, orphanages, reformatories, borstals young offender institutions, secure units, boarding schools, industrial or farming facilities, long stay health care facilities, and group homes.

Reviews of international research and inquiries consistently indicate that child maltreatment occurs in a wide range of long-term residential child care settings, and that historically it has been denied or under-reported (Biehal, 2014; Gallagher, 1999; Sen et al., 2008; Sherr et al., 2017; Skold, 2013; Uliando & Mellor et al., 2012). There is considerable variability in estimates of the extent of this problem. This is probably due to two factors. First, there may be wide variations in the actual rates of child maltreatment across districts, countries, cultures and types of child care facilities. Second, there are considerable methodological differences in sampling strategies, and in the way child maltreatment is defined, detected, and assessed across research studies.

What follows are examples of large well-conducted recent studies, and systematic reviews of rates of child maltreatment in the UK, the US and other countries. In a UK study of 156 of all 211 UK local authorities during the period 2009-2012, Biehal et al. (2014) drew the following

conclusions about maltreatment rates in residential and foster care. For children in foster care, in any one-year period there were just under 4 allegations per 100 children of maltreatment, of which just under 1 was substantiated. For children in residential care, in any one-year period there were 10 to 12 allegations per 100 children of maltreatment, of which 2 to 3 were substantiated. Based on these figures, in the UK annually there were 450-550 confirmed cases of child abuse or neglect in foster care and 250-300 confirmed cases of child abuse or neglect in residential care. Physical abuse was by far the most common form of maltreatment in both foster and residential care. In a US state-wide study of Wisconsin administrative data on 96,000 placements involving 43,000 children for the period 2005-2012, Font (2015) drew the following conclusions. Allegations of child maltreatment were investigated in 4% of placements of which 9% were substantiated. Maltreatment allegation rates were highest in kinship care (15%) and lowest in congregate care (5%), with allegation rates in foster care falling between these two extremes (9%). Neglect was the most commonly alleged maltreatment type in informal kinship care, whereas physical abuse was most commonly alleged in other forms of care.

In a systematic review up to 2009, involving 18 UK, US and Australian epidemiological studies, Biehal (2014) found that the incidence and prevalence of child maltreatment in foster care ranged from 0.27% - 2% and 3% - 19% respectively. Not all of this child maltreatment was perpetrated by foster-parents. Some was perpetrated by peers and extra-familial adults. In a systematic review of the international literature on maltreatment in large institutional settings such as orphanages, Sherr et al. (2017) identified nine studies conducted in Tanzania, Romania, Kazakhstan, Netherlands, Cambodia, Ethiopia, India, and Kenya involving about 3000 children. They found that rates of maltreatment including physical and sexual abuse ranged from 13 to 93%. Where comparisons were available, rates of abuse in large institutions were higher than in other forms of substitutive care or in families. From the foregoing it is clear that internationally, maltreatment of children in care is a problem of significant proportions.

The causes of child maltreatment in long-term care are complex and involve a wide range of factors (Nunno, 1997; Smith & Freyd, 2014; Wolfe et al., 2003). Multifactorial models of child maltreatment in long-term care propose that risk and protective factors in multiple domains contribute to child abuse and neglect. They include factors associated with the perpetrator, the young person in care, the type of care setting (size, power structure, staff oversight), out-of-home carers, peers in care, community and childcare-centre based child protection systems, the young person's birth family, the quality of relationships between the young person and members of their social network, and the wider social, economic, educational, and cultural environment systems within which the young person lives.

Literature reviewed in Chapter 2 indicated that, for children living with their birth families, child maltreatment has significant, long-lasting detrimental effects on physical health (e.g., Irish et al., 2010), mental health (e.g., Carr et al., 2013), and psychosocial adjustment (Weber et al., 2016). Maltreatment of children in long-term care also has negative effects on healthy development (e.g. Carr et al., 2010). The scope of the current evidence base, and the extent to which this body of scientific research throws light on the wide-ranging effects child maltreatment while in long-term care on adjustment is currently unclear.

The aim of the systematic review described in this chapter was to determine the outcomes (on physical and mental health, and psychosocial adjustment) of child maltreatment (including physical, sexual, and emotional abuse, and neglect) across the life span (including childhood (up to 18 years) and adulthood (over 18 years)) in individuals who had been maltreated in long-term child care.

4.3 METHOD

Guidelines for conducting systemic reviews were followed in developing a protocol for this review (Moher et al., 2009). The protocol specified the aim, search terms, databases and websites to be searched, study selection criteria, supplementary manual search strategies, data extraction system, study quality assessment procedures, and data synthesis methods. A data extraction and quality assessment form are contained in appendix A.

4.3.1 Search terms

Record titles, abstracts, and keywords were searched in the electronic databases listed in the next section. The terms *child maltreatment* or *child abuse* or synonyms were combined with the term *care* or synonyms. The following is the specific search string that was used: (“child* maltreatment” OR “child* abuse” OR “maltreat ted child*” OR “abused child*” OR “child sexual abuse” OR CSA OR (“physical abuse” AND child) OR (“emotional abuse” AND child) OR (“psychological abuse” AND child) OR (neglect AND child) OR (“child protection”) AND (care OR “foster care” OR “residential care” OR institution* OR orphan* OR reformatory OR boarding OR hospital OR borstal).

4.3.2 Databases and websites

The following databases were searched: PsycINFO, Academic Search Complete, EMBASE, Sociological Abstracts, Medline, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science, Applied Social Sciences Index and Abstracts (ASSIA), Education Resources Information Centre (ERIC), and Cochrane Library. In addition the following websites were searched for grey literature: www.greylit.org, www.opengrey.eu, www.scopus.com, www.scholar.google.com, www.google.com, and the UCD library database.

4.3.3 Inclusion and exclusion criteria

Compared with research on child abuse perpetrated in the community (considered in chapter 2) or structural neglect of children in orphanages (addressed in chapter 3), the scientific literature on the effects of child abuse perpetrated on children in long-term care is at an early stage of development. There are relatively few studies on the effects of child abuse perpetrated on children in care, and many have significant design limitations. Because of this, relatively liberal inclusion and exclusion criteria were used in this literature search. Quantitative and qualitative studies of the effects of child maltreatment on physical and mental health and social adjustment across the lifespan, for individuals who as children were in long-term care were included. Journal articles, book chapters, books, conference proceedings, dissertations, and grey literature were included. Multiple publications of the same study, where the same data were analysed in different ways were also included. Discursive papers including non-systematic narrative reviews, theoretical papers, editorials, and letters were excluded. The search was not confined to English language publications.

4.3.4 Search process

Records identified in electronic searches were downloaded to EndNote (<http://endnote.com>). Covidence (<https://www.covidence.org/>) was used for record screening, data extraction, and quality assessment. In addition to electronic searches, a supplementary manual search was conducted. Bibliographies of papers and tables of contents of relevant journals (Child Abuse and Neglect, Child Abuse Review, Child Maltreatment, Child Welfare, Trauma Violence and Abuse, Adoption and Fostering) were searched. Established research teams in the field, who had published more than

three recent papers, were also contacted.

Figure 4.1 contains a PRISMA flow diagram of the search process (Moher et al., 2009). Through electronic and manual searches 3077 separate records were identified after duplicates were removed. When the titles and abstracts of these were screened, 115 relevant papers were downloaded for full text screening. A final set of 49 documents which met inclusion and exclusion criteria were selected for review. These 49 documents described 46 studies, of which 21 were primary studies and 25 were secondary studies.

There were six papers, published between 1996 and 2015, describing studies in which respondents were children or adolescents. One of these was from the USA (Benedict et al., 1996); one was from the UK (Hobbs et al., 1999); one was from Finland (Ellonen & Pösö, 2011); one was from Romania (Gavrilovici & Groza, 2007), and two were from Tanzania (Hermenau et al., 2014, 2015). The remaining 43 documents described studies of adult survivors of institutional abuse. Nine, published between 1999 and 2010, were from Canada. Eight of these were produced by the same research team (Boucher et al., 2008; Paré, et al., 2010; Perry et al., 2003, 2005a, 2005b, 2006; Sigal et al., 1999, 2002), and one by another research group (Wolfe et al., 2006). Six documents, published between 2009 and 2010, which included a major report (Carr, 2009) and a series of five related papers, were from Ireland (Carr et al., 2009, 2010; Fitzpatrick et al., 2010; Flanagan et al., 2009; Flanagan-Howard et al., 2009). There were three papers, published between 2011 and 2015, from the USA (Jackson et al., 2011; Morton, 2015; Salazar et al., 2011); two papers, published in 2012, from Australia (Bode, & Goldman, 2012; Goldman, & Bode, 2012); one report produced in 2013 from the Netherlands (Deetman et al., 2013); and one German study published in 2014 (Spröber et al., 2014). There was a series of 12 related papers by the same research group, published between 2014 and 2017, from Austria (Glück et al., 2017; Kantor et al., 2017a; Knefel & Lueger-Schuster, 2013; Knefel et al., 2015, 2016; Lueger-Schuster, 2013; Lueger-Schuster, et al., 2018; Lueger-Schuster, Butollo et al., 2015; Lueger-Schuster, Kantor et al., 2014; Lueger-Schuster, Weindl et al., 2014; Weindl, 2017; Weindl & Lueger-Schuster, 2016). Finally, there was a series of nine related papers by a single research group, published between 2013 and 2016, from Switzerland (Burri et al., 2013; Krammer et al., 2016; Küffer, O'Donovan et al., 2016; Küffer, Thoma et al., 2016; Kuhlman et al., 2013; Maercker et al., 2014; Maercker et al., 2016; Rechsteiner et al., 2015; Simmen-Janevsk et al., 2014, 2015).

4.3.5 Series of papers

In each of the series of papers from Canada, Ireland, Austria, and Switzerland, multiple papers describe analyses of the same data set.

In the series of papers from Canada two primary studies are described in Sigal et al. (1999) and Sigal et al. (2002). The remaining papers describe analyses (Boucher et al., 2008; Perry et al., 2003, 2005a, 2005b, 2006) or case studies (Paré, et al., 2010; Perry et al., 2006) based on the data set in the primary study by Sigal et al. (2002). The paper by Boucher et al. 2008, which is in French, summarizes results presented in English papers by Perry et al., 2003, 2005a, 2005b. The paper by Paré, et al. (2010) which is in French, presents two of the seven case studies in the English paper by Perry et al. (2006).

The papers from Ireland (Carr et al., 2009, 2010; Fitzpatrick et al., 2010; Flanagan et al., 2009; Flanagan-Howard et al., 2009) describe analyses of the data set in a primary report (Carr, 2009).

The papers from Austria (Glück et al., 2017; Kantor et al., 2017a; Knefel & Lueger-Schuster, 2013; Knefel et al., 2015, 2016; Lueger-Schuster, Butollo et al., 2015; Lueger-Schuster, Weindl et al., 2014; Weindl, 2017; Weindl & Lueger-Schuster, 2016) are all based on data from three primary studies (Lueger-Schuster, 2013; Lueger-Schuster, et al., 2018; Lueger-Schuster,

Kantor et al., 2014).

The papers from Switzerland (Burri et al., 2013; Krammer et al., 2016; Küffer, O'Donovan et al., 2016; Küffer, Thoma et al., 2016; Maercker et al., 2014; Maercker et al., 2016; Rechsteiner et al., 2015; Simmen-Janevsk et al., 2014, 2015) are based on data from a single primary study (Kuhlman et al., 2013).

4.3.6 Translations

Six papers were translated from German to English. These included 5 papers from Austria (Glück et al., 2017; Kantor et al., 2017a; Lueger-Schuster et al., 2013; Weindl, 2017; Weindl & Lueger-Schuster, 2016) and 1 paper from Switzerland (Simmen-Janevska et al., 2014). Two papers were translated from French to English (Boucher et al., 2008; Paré et al., 2010).

4.3.7 Study quality assessment

The quality of selected quantitative studies was assessed with an adapted version of the Risk of Bias Tool for Prevalence Studies (RoB, Hoya et al., 2012). For qualitative papers, study quality was assessed with the National Institute for Clinical Excellence Quality Appraisal Checklist for qualitative studies (NICE-QAC, NICE, 2012). Quantitative and qualitative research study quality scores are given in Tables 4.1 and 4.2 respectively. All studies of the effects of child abuse in long-term care on adjustment were of moderate quality.

4.3.8 Quantitative studies

From Table 4.1 it may be seen that 40 quantitative studies of the effects of child abuse in long-term care on adjustment had five main limitations. First, studies were predominantly based on self-selected convenience samples which were not representative of the general population of survivors of child abuse in care. Participants in these studies were probably better adjusted, than abuse survivors who did not volunteer to participate. Second, participants in 90% of samples had probably or definitely experienced child abuse or neglect before entering care. It was therefore not possible to accurately determine the extent to which their adjustment problems were due primarily to institutional abuse. Third, the cross-sectional design of almost all studies meant that associations which were found between indices of abuse and adjustment were correlational rather than causal. Abuse may have caused adjustment problems or may have predated them, or survivors with adjustment problems may have inadvertently selectively over-reported recollections of abuse. Fourth, there was a control group in only 28% of studies. It was therefore not possible to say with accuracy, the extent to which the adjustment problems shown by participants were worse than those who were not abused in care. However, in some studies psychometric assessment instruments, for which there were general population norms, circumvented this difficulty. Fifth, in 35% of studies there were financial incentives for over-reporting child abuse or adult adjustment problems, because results of assessments of child abuse or adjustment problems or both were used for redress or compensation purposes.

On the positive side, the group of quantitative studies selected for review had a number of design features that allow a degree of confidence to be placed in their results. They involved relatively large samples, with 65% having samples greater than 100. In over 90% of studies data were collected directly from participants; the same mode of data collection was used for all participants; an acceptable case definition was used; reliable and valid assessment instruments were used; and data were analysed using appropriate methods.

The strengths and weaknesses of the group of quantitative studies selected for review allow considerable confidence to be placed in the associations found between indices of childhood

institutional abuse and adjustment. However, they limit the certainty with which causal statements may be made about the effects of institutional abuse on adult adjustment. They also limit the confidence with which statements may be made about the generalisability of the findings to all survivors of abuse in long-term residential child care.

4.3.9 Qualitative studies

From Table 4.2 it may be seen that 6 qualitative studies of the effects of child abuse in long-term care on adjustment had two main limitations, both concerning reliability. In all studies only one method of data collection was used, so triangulation was not possible. In all studies transcripts were coded or rated by a single person, so inter-coder or inter-rater reliability was not determined.

On the positive side, the group of qualitative studies selected for review had a number of features that allow a degree of confidence to be placed in their results. In all studies a qualitative approach was appropriate. There was a clear research objective. Data collection was well conducted, and data were rich. Study design and data analysis were rigorous. The role of the researcher, the research context, and ethical issues were clearly described. Study findings were convincing and relevant to study objectives. Conclusions were supported by the results of data analysis.

The strengths and weaknesses of the group of qualitative studies selected for review allow considerable confidence to be placed in their results and conclusions. The only caveat is that there is a lack of clarity about the reliability of data.

4.3.10 Inter-rater agreement

Two research assistants (HD and FC) were trained by the principal investigator (AC) in using the systematic review protocol to identify studies of the effects of child abuse in long-term care on adjustment. Pairs of members of the research team independently conducted searches, study selection, data extraction and study quality assessments. Disagreements were resolved by discussion. Percentage agreement and Krippendorff's alpha (Hayes & Krippendorff, 2007) were used to determine inter-rater agreement and reliability. From Table 4.3 it may be seen that there was a high level of inter-rater agreement. For both screening records and full texts there was a 95% agreement rate. For data extraction agreement rates ranged from 79 to 100% and Krippendorff's alpha values ranged from 0.66 to 1.00. Quantitative research paper quality assessment agreement rates ranged from 98 to 100% for RoB items and the Krippendorff's alpha value for the 11-item scale was 0.99. Qualitative research paper quality assessment agreement was 100% for NICE-QAC items and the Krippendorff's alpha for the 14-item scale was 1.

4.4 RESULTS

4.4.1 Study design features and participants' demographic characteristics

Study design features and participants' demographic characteristics in studies of the effect of child abuse in long-term care on adult adjustment are given in Table 4.4. From Table 4.4 it may be seen that the 46 quantitative and qualitative studies were published between 1996 and 2017. Data collection spanned the period from 1984-2016. There were 16 single cohort cross-sectional studies; 10 studies of subgroups or process studies within a single cohort cross-sectional study; 12 controlled cross-sectional studies, one of which included a qualitative analysis of a subgroup of cases within the same paper; five other qualitative studies; and two longitudinal single cohort studies. There were 21 primary studies containing non-overlapping data sets (Benedict et al., 1996; Bode & Goldman, 2012; Carr, 2009; Deetman et al., 2013; Ellonen & Pösö, 2011; Gavrilovici & Groza, 2007; Goldman & Bode, 2012; Hermenau et al., 2014, 2015; Hobbs et al., 1999; Jackson et

al., 2011; Kuhlman et al., 2013; Lueger-Schuster, 2013; Lueger-Schuster et al., 2017; Lueger-Schuster, Kantor et al., 2014; Morton, 2015; Salazar et al., 2011; Sigal et al., 1999, 2002; Spröber et al., 2014; Wolfe et al., 2006). Within these 21 primary studies there were 3,856 survivors of abuse while in care, and 1,577 cases who had not experienced institutional child abuse in control groups. In the 6 primary studies of young people, their mean age was 11, with a range from 1-18 years. The mean number of females in these studies was 52%, with a range of 46% to 61%. In the 15 primary studies of adults, their mean age was 54, with a range from 12-101 years. The mean number of females in these studies was 39%, with a range of 0% to 100%.

4.4.2 Child care experiences

Child care experiences in studies of the effects of child abuse on survivors in long-term care on adjustment are given in Table 4.5. To avoid duplication of results, only data from primary studies (where such data are available) are presented in the table. Data from secondary studies are not given. In the 19 relevant primary studies survivors were abused within a range of different types of settings including foster care, child care centres, orphanages, reformatories, borstals, young offender institutions, secure units, boarding schools, industrial or farming facilities, long stay health care facilities, and group hostels or homes. In nine studies survivors were mainly abused within Catholic institutions, with a range from 51% to 100%. (Bode & Goldman, 2012; Carr, 2009; Deetman et al., 2013; Goldman, & Bode, 2012; Lueger-Schuster, Kantor et al., 2014; Sigal et al., 1999, 2002; Spröber et al., 2014; Wolfe et al., 2006). In one of these 18% of cases were abused by Catholic clergy outside institutions in parishes or churches (Lueger-Schuster, Kantor et al., 2014). Seven studies included survivors who were mainly abused within state foster care with a range from 10% to 100%. (Benedict et al., 1996; Hobbs et al., 1999; Jackson et al., 2011; Kuhlman et al., 2013; Lueger-Schuster, et al., 2018; Morton, 2015; Salazar et al., 2011). In one of these studies a small number of survivors (16%) were abused within non-religious residential institutions (Hobbs et al., 1999). In two studies survivors were mainly abused within non-religious institutions (Gavrilovici & Groza, 2007; Lueger-Schuster, 2013). There was one comparative study in which survivors had been sexually abused in Catholic (38%), Protestant (12%), and non-religious (49%) residential institutions (Spröber et al., 2014). Age-related data on residential care experiences were given in seven studies (Benedict et al., 1996; Carr, 2009; Gavrilovici & Groza, 2007; Hermenau et al., 2014; Kuhlman et al., 2013; Sigal et al., 1999, 2002). The average age when participants entered residential care was 5 years, with a range from less than 1 year to 16 years. The average duration of their time in care was 9 years, with a range from 0 to 26 years.

4.4.3 Child abuse experiences

Detailed data were available on child abuse experiences of participants in 19 of 21 primary studies of the effects of child abuse experiences in long-term care on adjustment (Benedict et al., 1996; Bode, & Goldman, 2012; Carr, 2009; Deetman et al., 2013; Ellonen & Pösö, 2011; Gavrilovici & Groza, 2007; Goldman, & Bode, 2012; Hobbs et al., 1999; Jackson et al., 2011; Kuhlman et al., 2013; Lueger-Schuster, 2013; Lueger-Schuster, et al., 2018; Lueger-Schuster, Kantor et al., 2014; Morton, 2015; Salazar et al., 2011; Sigal et al., 1999, 2002; Spröber et al., 2014; Wolfe et al., 2006). A summary is given in Table 4.6. Detailed data on child abuse experiences were unavailable for the other 2 primary studies (Hermenau et al., 2014, 2015). To avoid duplication of results, data from secondary studies are not given in the table. From Table 4.6 it may be seen that survivors had suffered a range of different types of abuse. Ten studies reported rates of intrafamilial maltreatment prior to entering residential care and these ranged from 0% to 80%, with a mean of 38%. In 13 studies rates of child abuse in long-term residential care were given. These ranged from 39% to 100% with a mean of 88%. Fifteen studies reported rates of sexual abuse in residential care and these ranged from 15% to 100%, with a mean of 67%. Thirteen studies reported rates of physical

abuse in residential care and these ranged from 14% to 100%, with a mean of 63%. Eight studies reported rates of emotional abuse in residential care and these ranged from 16% to 99%, with a mean of 71%.

4.4.4 Mental health outcomes of survivors of child abuse in long-term care

Detailed data were available on mental health outcomes in 16 primary studies (Benedict et al., 1996; Carr, 2009; Deetman et al., 2013; Ellonen & Pösö, 2011; Hermenau et al., 2014, 2015; Hobbs et al., 1999; Kuhlman et al., 2013; Lueger-Schuster, 2013; Lueger-Schuster, et al., 2018; Lueger-Schuster, Kantor et al., 2014; Sigal et al., 1999, 2002; Spröber et al., 2014; Wolfe et al., 2006) and three secondary studies (Knefel et al., 2013; 2016; Burri et al., 2013) which supplied additional information not contained in primary studies. From Table 4.7 it may be seen that in the domain of mental health, survivors of child maltreatment in long-term care had poor outcomes on a range of variables. Across 19 studies in descending order of average frequency of occurrence these mental health outcomes were: lifetime mental health problems diagnosed with the Structured Clinical Interview for Axis I or II Disorders of DSM IV (SCID I and II, First et al., 1996; 1997; Wittchen et al., 1997) ($M = 84\%$, Range = 82% - 88%, $k = 3$), general mental health problems ($M = 67\%$, Range 26% - 88%, $k = 10$), anxiety disorders (Lifetime: $M = 58\%$, Range 13% - 83%, $k = 4$; Current: $M = 41\%$, Range 36% - 52%, $k = 3$), PTSD (Lifetime: $M = 51\%$, Range 7% - 74%, $k = 5$; Current: $M = 33\%$, Range 17% - 54%, $k = 7$), depressive disorders (Lifetime: $M = 44\%$, Range 13% - 63%, $k = 5$; Current: $M = 29\%$, Range 23% - 48%, $k = 6$), personality disorders (Current: $M = 41\%$, Range 25% - 65%, $k = 3$), drug and alcohol use disorders (Lifetime: $M = 37\%$, Range 0% - 66%, $k = 4$; Current: $M = 9\%$, Range 0% - 21%, $k = 4$), and complex PTSD (Current: $M = 19\%$, Range 17% - 21%, $k = 2$). What follows are more detailed comments on these findings.

4.4.4.1 General mental health. Across 10 studies where rates of general mental health were assessed, between 26% and 88% of participants had significant current mental health problems or had experienced such problems at some point during their lifetime (including their past and current status). The average rate of mental health problems across these 10 studies was 67%. In calculating this average, lifetime rates of diagnoses were used where these were reported. Otherwise current rates of diagnoses were used. In this context, mental health problems indicate that participants met the diagnostic criteria for one or more psychiatric disorders, had significant psychological problems on a psychometric instrument that assessed some aspect of mental health, or were judged to have mental health difficulties by a health professional in a clinical or helpline interview. The rate of mental health problems at any point in the lifetime, assessed with the SCID I or II was given in 3 studies and ranged from 82% to 88% (Carr, 2009; Lueger Schuster et al., 2013; Wolfe et al., 2006). This is particularly important result, because the SCID assesses mental health problems using diagnostic criteria in the American Psychiatric Association's (1994) Diagnostic and Statistical Manual of Mental Disorders – Forth Edition (DSM-IV), which is widely used internationally and has good reliability. Across three studies, between 10% and 43% of cases had more than two current or past comorbid psychiatric disorders (Carr, 2009; Spröber et al., 2014; Wolfe et al., 2006).

4.4.4.2 Anxiety disorders. Across five studies rates of current and lifetime anxiety disorders (including PTSD) ranged from 13% to 83%. This wide range of variability was due, in part, to the timeframe for assessment (current or lifetime) and criteria used (DSM-IV or participants' judgement). Across 3 studies, rates of current anxiety disorders ranged from 36% to 52%, with a mean of 41%. Across 4 studies, rates of lifetime anxiety disorders ranged from 13% to 83% with a mean of 58%.

4.4.4.3 Post-traumatic stress disorder (PTSD). Across 9 studies rates of current and lifetime PTSD ranged from 7% to 74%. This wide range of variability was due, in part, to the timeframe for assessment of PTSD (current or lifetime), and the diagnostic criteria used. A range of criteria was used including those given in DSM-IV (APA, 1994), the World Health Organization's

International Classification of Diseases – Tenth edition (ICD-10, WHO, 1992), and eleventh edition (ICD-11, <http://www.who.int/classifications/icd/revision/en/>), and participants' own judgement. Across 7 studies using a variety of criteria, rates of current PTSD ranged from 17% to 54% with a mean of 33%. Across 5 studies using a variety of criteria, rates of lifetime PTSD ranged from 7% to 74% with a mean of 51%. Where both ICD-10 and ICD-11 diagnostic criteria for PTSD were used in the same study, the ICD-11 criteria yielded a lower rate (38% v 53%, Knefel et al., 2013). In two studies where complex PTSD was assessed, rates ranged from 17% to 21%, with a mean of 19%.

4.4.4.4 Depressive disorders. Across 7 studies rates of current and lifetime depressive disorders (including major depressive disorder and dysthymia) ranged from 13% to 63%. This wide range of variability was due, in part, to the timeframe for assessment (current or lifetime) and criteria used (DSM-IV, participants' judgement, or the Geriatric Depression Scale (Sheikh & Yesavage, 1986). Across 6 studies, rates of current depressive disorders ranged from 23% to 48%, with a mean of 29%. Across 5 studies, rates of lifetime depressive disorders ranged from 13% to 63% with a mean of 44%.

4.4.4.5 Personality disorders. Across 3 studies rates of DSM-IV personality disorders ranged from 25% to 65%, with a mean of 41%.

4.4.4.6 Drug and alcohol disorders. Across 4 studies rates of current and lifetime drug and alcohol disorders ranged from 0% to 66%. This wide range of variability was due, in part, to the timeframe for assessment (current or lifetime). Across 4 studies, rates of current drug and alcohol disorders ranged from 0% to 21%, with a mean of 9%. Across 4 studies, rates of lifetime drug and alcohol disorders ranged from 0% to 66% with a mean of 37%.

4.4.5 Comparison of rates of mental health disorders in studies of survivors of child abuse in long-term care and international community surveys

In Figure 4.2 lifetime and current prevalence rates of psychiatric disorders of survivors of child abuse in long-term care and participants in international community samples are presented. Prevalence rates for survivors of institutional abuse are means from rates in Benedict et al. (1996), Burri et al. (2013), Carr (2009), Knefel et al. (2013, 2016), Kuhlman et al. (2013) Lueger-Schuster (2013), Lueger-Schuster, et al. (2017) Lueger-Schuster, Kantor et al. (2014) Spröber et al. (2014), and Wolfe et al. (2006). Where available, community sample prevalence rates are from reviews or meta-analyses of multiple studies (Baumeister & Härter, 2007; Baxter et al., 2013; Ferrari et al., 2013; Koenen et al., 2017; Tyrer et al., 2010). Otherwise they are from the US National Comorbidity Survey - Replication (Kessler & Wang, 2008). Current prevalence rates from community surveys are based on a 12-month period. With the exception of current alcohol and drug use disorders, the prevalence rates of psychiatric disorders in survivors of child abuse in long-term care were significantly higher than those in international community samples. The difference in prevalence rates for all disorders, except alcohol and drug use disorders, ranged from 22% to 47%. The rates of lifetime and current PTSD for institutional abuse survivors were at least ten times higher than those in normal community samples. The rate of personality disorders of institutional abuse survivors was more than five times higher than that in normal community samples. The rates of lifetime and current anxiety and depressive disorders and lifetime alcohol and drug use disorders of institutional abuse survivors were at least twice as high as those in normal community samples. These vastly differing prevalence rates underline the strong association between institutional child abuse and adverse mental health outcomes.

4.4.6 Physical health and psychosocial outcomes of survivors of child abuse in long-term care.

Detailed data were available on physical health and psychosocial outcomes in 16 primary studies

(Benedict et al., 1996; Bode, & Goldman, 2012; Carr, 2009; Deetman et al., 2013; Ellonen & Pösö, 2011; Gavrilovici & Groza, 2007; Goldman, & Bode, 2012; Hobbs et al., 1999; Kuhlman et al., 2013; Lueger-Schuster, 2013; Lueger-Schuster, et al., 2018; Lueger-Schuster, Kantor et al., 2014; Sigal et al., 1999, 2002; Spröber et al., 2014; Wolfe et al., 2006). A summary is given in Table 4.8.

From Table 4.8 it may be seen that in the domain of physical health, across 6 studies, 6% to 74% of survivors of child maltreatment in long-term care had frequent physical illness, with a mean 30%. In the single study where it was assessed, 28% had been frequently hospitalized for physical health problems.

From Table 4.8 it may be seen that in the domain of psychosocial adjustment, significant proportions of survivors of child maltreatment in long-term care had poor outcomes on 12 variables. In descending order of average frequency of occurrence these were: educational problems (school problems, not finishing high school, or learning difficulties) ($M = 59\%$, Range = 18% - 100%, $k = 7$), poverty (unemployment, unskilled or semiskilled job) ($M = 56\%$, Range = 43% - 73%, $k = 3$), marital adjustment (never married, separated or divorced) ($M = 39\%$, Range = 29% - 55%, $k = 9$), non-violent crime ($M = 37\%$, Range = 22% - 51%, $k = 3$), sexual problems ($M = 31\%$, Range = 23% - 46%, $k = 3$), violent crime ($M = 30\%$, Range = 10% - 39%, $k = 4$), suicidality and self-harm ($M = 29\%$, Range = 14% - 63%, $k = 6$), anger control problems in intimate relationships ($M = 25\%$, Range = 20% - 49%, $k = 3$), homelessness (21%, $k = 1$), anger control problems with children (13%, $k = 1$), imprisonment ($M = 12\%$, Range = 3% - 21%, $k = 2$), and children taken into care (4%, $k = 1$).

Average rates of adverse physical health and psychosocial outcomes in studies of survivors of child abuse in long-term care are summarized in Figure 4.3. Where data were available from only a single study, this is given in Figure 4.3 instead of the mean from multiple studies.

4.4.7 Key findings from studies of outcomes of child abuse in long-term care

Key results from 49 documents describing 21 primary studies and a series of related secondary studies of the effects of child abuse in long-term care on adjustment are given in Table 4.9. What follows is a summary of these key findings, along with an account of the contexts within which these studies were conducted. The limitations of each of the quantitative and qualitative studies are given in Tables 4.1 and 4.2 respectively, which document the presence or absence of design features which contribute to the scientific quality of studies.

4.4.7.1 Studies of the outcomes for children and adolescents abused in long-term care

There were six papers, published between 1996 and 2015, describing studies in which respondents were children or adolescents. One of these was from the USA (Benedict et al., 1996). One was from the UK (Hobbs et al., 1999). One was from Finland (Ellonen & Pösö, 2011). One was from Romania (Gavrilovici & Groza, 2007). Finally, two were from Tanzania (Hermenau et al., 2014, 2015).

4.4.7.1.1 USA Baltimore study

Benedict et al. (1996), at John Hopkins University, conducted a retrospective archival study of the adjustment of children abused in foster care in Baltimore City Department of Social Services, Maryland USA. Data were abstracted from case files of all children abused in foster care in Baltimore between 1984 and 1988, and a random sample of 229 non-abused children in foster care. 84% of participants were African American and 53% of children had health problems before entering foster care. These children came from families in which 70% of birth mothers had health problems, 31% had alcohol use problems, 22% had drug use problems, and 24% had psychiatric

problems.

4.4.7.1.1.1 Maltreatment experiences. In foster care 49% of children had been sexually abused, 24% physically abused, and 27% had suffered significant neglect. Being abused while in foster care was significantly more likely for girls than boys, for those with developmental problems prior to foster care, for those with emotional problems during foster care, and for children placed in non-kinship foster care. For the sexually abused young people in 2/3 of cases the perpetrator was a foster carer, and in 2/3 of cases sexual abuse involved attempted or actual penetration. More girls than boys were sexually abused (79% v 21%), and more sexually abused children had developmental delays in cognitive, language or motor development than non-abused children (27% v 12%). Compared with non-abused children, significantly more physical and sexually abused children were over 2 years when first placed in foster care (73% v 51%); they had been in more residential or foster care settings (7 v 3); and overall had spent less time in care (10 v 6 years). Sexually abused and neglected children were significantly more likely to be in non-kinship foster care than non-abused children (82% v 61%).

4.4.7.1.1.2 Physical and mental health and psychosocial adjustment outcomes. In the physical health domain 74% had significant problems. In the mental health domain 72% had significant problems, 48% were depressed, and 52% were anxious. In the psychosocial adjustment domain, 17% were, or had been suicidal. Compared with non-abused children, significantly more abused children had physical health (74% v 59%), mental health (72% v 43%), and behavioural problems (78% v 58%), and developmental delays (53% v 28%). Compared with children who had suffered other forms of maltreatment significantly more sexually abused children had mental health problems (87% v 65%), especially depression (68% v 38%).

4.4.7.1.2 The UK Leeds study

In the 1980s and 90s, paediatricians in Leeds were referred an increasing number of children who were in foster or residential care for assessment of physical or sexual abuse. These included a small number of high-profile cases including 2 fatalities, one in 1986 and one in 1995. In this context, Hobbs et al. (1999) at Leeds University Hospital conducted a study of 158 child survivors of physical and/or sexual abuse who were in care in Leeds. Children in foster or residential care about whom there were concerns regarding physical or sexual abuse over the 6-year period 1990–1995 were identified retrospectively from medical reports written following full assessments by paediatricians experienced and specially trained in this work using procedures described in Hobbs et al., (1993). Of the 158 children, 133 were in foster care and 25 were in residential care. The mean age was 10, with a range from 1-18 years and 52% were female.

4.4.7.1.2.1 Maltreatment experiences. 52% had been sexually abused, 34% physically abused and 13% both physically and sexually abused. Abuse was very severe in 39% of cases with 1 death, 8 children with burns, 18 with genital penetration, and 34 with anal penetration. 80% had been maltreated prior to entering care. 39% had been abused by foster parents or residential care staff, 23% by parents during visits, and 31% by peers or others.

4.4.7.1.2.2 Mental health outcomes. 44% had significant behavioural problems indicative of mental health disorders and 25% had sexualized behaviour problems. 24% had learning difficulties including Down's syndrome, cerebral palsy, and hearing impairment, all of which predated child abuse.

4.4.7.1.3 The Finnish study

Ellonen and Pösö (2011) at the University of Tampere in Finland conducted a cross-sectional cohort study of a nationally representative probability sample of 13,459 adolescents in 2008. They were

aged 12 -16 years; 50% were female; and 113 were in care at the time of the survey. All of the results given below concern the 113 adolescents who were in care. Participants completed online questionnaires which included the Parent-Child Conflict Tactics Scale (CTSPC, Strauss et al., 1998) to assess abuse, the Strengths and Difficulties questionnaire (SDQ, Goodman et al., 1998) to assess mental health, and the Juvenile Victimization Questionnaire (JVQ, Finklehor, 2008) to assess victimization in the community.

4.4.7.1.3.1 Maltreatment experiences. On the CTSPC 18% had experienced physical abuse and 58% emotional abuse.

4.4.7.1.3.2 Mental health and psychosocial adjustment outcomes. On the SDQ 26% had internalizing behaviour problems such as depression or anxiety, 21% had externalizing behaviour problems such as aggression or rule breaking, and 17% had problems with pro-social peer relationships. On the JVQ 48% and 43%, respectively, had been victims of violence and stealing in the community, while 39% had engaged in property damage and 39% in violent delinquency. In the mental health domain, there was no significant association between physical and emotional abuse on the one hand, and mental health problems (internalizing and externalizing behaviour problems and problems with pro-social behaviour) on the other. In the psychosocial adjustment domain, there were significant associations between having experienced emotional abuse, and both being violently victimized and engaging in delinquency (violence and property damage) in the community.

4.4.7.1.4 The Romanian study

Gavrilovici and Groza (2007) at Alexandru Ioan Cuza University in Romania conducted a cross-sectional study of 448 children under 18 years in 6 state run residential institutions in Iasi County in North eastern Romania. Participants' mean age was 13 years, and 52% were female. They had been in institutional care for an average of 6 years, with a range from 8-17 years. 35% were from 2 parent families, 37% from single parent families, and the remainder had no parents. Data were collected by interview for pre-adolescents and by paper and pencil questionnaire for adolescents. The assessment pack included the Recent Exposure to Violence Scale (REVS, Singer et al., 1995, 1888) to assess abuse and the Trauma Symptom Checklist for Children (TSCC, Briere, 1996, Singe et al., 1998) to assess trauma symptoms.

4.4.7.1.4.1 Maltreatment experiences. 71% had been physically abused (slapped, hit, punched or pushed), 41% had been severely physically abused (beaten up), and 29% had been sexually abused.

4.4.7.1.4.2 Mental health and psychosocial adjustment outcomes. In the mental health domain, there were significant associations between exposure to violence (including being abused or witnessing abuse) and depression, anxiety, post-traumatic stress, anger, and dissociation. In the psychosocial adjustment domain, 61% had engaged in aggressive behaviour (hitting), 31% in very aggressive behaviour (beating up), and 10% in extremely aggressive behaviour (attacking with a knife); and 18% had experienced suicidal ideation.

4.4.7.1.5 The Tanzanian studies

Hermenau et al. (2014, 2015) at the University of Konstanz in Germany conducted two studies of the effects of maltreatment on orphans in Tanzania. In one study they compared the adjustment of maltreated orphans with demographically matched controls (Hermenau et al. 2015), and in the other they compared the adjustment of maltreated orphans placed in institutions before and after four years of age (Hermenau et al., 2014).

4.4.7.1.5.1 Comparison of orphans with controls. Hermenau et al. (2015) compared 89

orphans and 89 demographically matched controls. Their mean age was 11, with a range of 6-15 years, and 49% were female. The orphans lived in foster care or residential children's homes and controls lived with their birth families. They were assessed by interview which included the Maltreatment and Abuse Chronology of Exposure-Paediatric Interview (pedMACE, Isele et al., 2013) to assess child abuse, the UCLA PTSD Reaction Index (UCLA PTSD-RI, Steinberg et al., 2004) to assess PTSD, the Children's Depression Inventory (CDI, Sitarenios & Kovacs, 1999) to assess depression, the Reactive-Proactive Questionnaire (RPQ, Raine et al., 2006) to assess aggression, the SDQ to assess mental health-related behaviour problems, and a series of 10 questions to assess perceived stigma.

4.4.7.1.5.2 Maltreatment experiences. 97% of orphans and 93% of controls had experienced child abuse, while 56% of orphans and 32% of controls had experienced neglect.

4.4.7.1.5.3 Mental health outcomes. Compared with controls, orphans had significantly more post-traumatic stress symptoms, depressive symptoms, and aggressive behaviour, but not behaviour problems on the SDQ. Among orphans there was a significant association between child abuse, neglect and stigmatization on the one hand, and behaviour problems on the SDQ on the other. Among orphans there was also a significant association between neglect and stigmatization on the one hand, and depression on the other, and stigmatization moderated the relationship between neglect and depression. For orphans who perceived a high level of stigma, there was a stronger association between neglect and depression than for those with low stigma.

4.4.7.1.5.4 Comparison of orphans placed before and after 4 years of age. Hermenau et al. (2014) compared 35 orphans placed in care before four, with 35 placed in care after four years of age. The mean age of participants was 10, with a range from 8-15 years, and 46% were female. Those placed in institutions before and after 4 years had spent an average of 8 and 3 years in institutions respectively. 80% of those placed in institutions before 4 years and 63% of those placed in institutions after 4 years were still in institutions at the time of data collection. Participants were assessed by interview which included the pedMACE to assess child abuse, the CDI to assess depression, the RPQ to assess aggression, and the SDQ to assess mental health-related behaviour problems.

4.4.7.1.5.5 Mental health outcomes. There was a significant association between age when placed in an institution, and both the amount of maltreatment and variety of mental health problems. Those placed in institutions before 4 years experienced greater maltreatment (on the pedMACE) and a wider variety of mental health problems (on the CDI, RPQ and SDQ). For children placed in institutions before 4 years (but not for those placed after 4 years) there was a significant association between maltreatment and mental health problems (on the CDI, RPQ and SDQ).

4.4.7.1.6 Comments on studies of the outcomes of children and adolescents abused in long-term care

Collectively the results of these six studies show that there were significant associations between child abuse in long-term care and physical health, mental health and psychosocial outcomes in children and adolescents under 18 years. Adverse mental health outcomes included anxiety and depression. Adverse psychosocial outcomes included antisocial behaviour, self-harm or suicidality, and revictimization. The association between institutional child abuse and mental health outcomes occurred in some, but not all contexts, or using all mental health assessment instruments. For example, in two studies there was no significant association between institutional child abuse and mental health assessed with the SDQ (Ellonen & Pösö, 2011; Hermenau et al., 2015), while in another study the significant association between institutional child abuse and mental health outcomes only occurred when children were placed in institutions before the age of four (Hermenau et al., 2014). Sexual abuse had a particularly strong association with depression (Benedict et al., 1996), and perceived stigma increased the effect of institutional neglect on depression (Hermenau et

al., 2015). The main implication of these results is that risk and protective factors may increase or decrease the vulnerability of children to the negative effects of child maltreatment in long-term care, and that some assessment instruments may be more sensitive than others to adverse outcomes of institutional abuse.

4.4.7.2 Canadian study of Duplessis' Children who were abused in crèches and orphanages

Sigal, Perry and colleagues at Sir Mortimer B Davis Jewish General Hospital and McGill University Montreal, Quebec in Canada conducted two studies of a group of adult survivors of institutional abuse known as Duplessis' Children. This group of survivors were called after a former Premier of Quebec, Maurice Duplessis, whose policies led to the institutionalization and maltreatment of illegitimate children in crèches and orphanages run by Catholic nuns and brothers (Gill, 1991; Roy, 1994). In poorly resourced crèches these infants were deprived of intellectual stimulation and attachment to a single caretaker. In orphanages, many were physically and sexually abused. Maltreatment was mainly perpetrated by lay caretakers working under the management of religious nuns and brothers. In adolescence, male orphans were sent to work as indentured labourers on farms, or to reformatories if they absconded. Females worked as house maids. In these contexts, often abuse continued.

The two studies conducted by Sigal, Perry and colleagues are described in eight documents (Boucher et al., 2008; Paré et al., 2010; Perry et al., 2003, 2005a, 2005b, 2006; Sigal et al., 1999, 2002). The first study is described in Sigal et al. (1999). The second is described in a report by Sigal et al. (2002) and in a series of six papers based on this report (Boucher et al., 2008; Paré et al., 2010; Perry et al., 2003, 2005a, 2005b, 2006). Two of these six papers are in French and cover material presented more comprehensively in the four papers published in English. The French paper by Paré et al. (2010) presents two of seven case studies previously presented in the English paper by Perry et al. (2006). The French paper by Boucher et al. (2008) summarizes results of a report (Sigal et al., 2002) and journal articles (Perry et al., 2005a, 2005b, 2006; Sigal et al., 2003) written in English.

4.4.7.2.1 The first study of Duplessis' Children

Sigal et al., (1999) conducted a retrospective controlled study of a self-selected convenience sample of 31 adult survivors of institutional maltreatment in Quebec orphanages. Participants were recruited from a survivors' self-help group and a demographically matched comparison group of 446 adults raised within their birth families. The comparison group was drawn from a general health survey of a representative sample of Quebec residents. The mean age of survivors was 55, with a range from 45 to 68 years; 19% were female; and all were of low socio-economic status. All had been neglected and abused and 75% left institutional care at 14 years. Participants completed an interview which included the short form of the Psychological Symptom Inventory (PSI, Kovess, 1982) and Stress Related Symptoms Inventory (SRS, Ilfeld, 1988) to assess wellbeing, distress and stress-related symptoms, and a checklist of 28 chronic health problems.

4.4.7.2.1.1 Mental and physical health and psychosocial outcomes. Compared with the control group, survivors had significantly poorer physical health, mental health, and psychosocial adjustment. In the domain of physical health, compared with the control group, significantly more survivors had stress-related illnesses (26% v 7%). In the domain of mental health, compared with the control group, survivors had significantly higher levels of psychological distress and lower levels of well-being. In the domain of psychosocial adjustment, compared with the control group, survivors had significantly less education (4 years v 8 years), and significantly more had never married (39% v 7%).

4.4.7.2.2 The second study of Duplessis' children

The second study of Duplessis' Children overcame shortcomings of the first study by using a larger random sample of survivors containing approximately equal numbers of males and females (Sigal et al., 2002). Participants were 81 adult survivors of institutional maltreatment in Quebec orphanages randomly selected from 185 members of a survivors' self-help group, and a demographically matched comparison group of 243 adults raised within their birth families. The comparison group was drawn from a general health survey of a representative sample of Quebec residents. The mean age of survivors was 59 years, with a range from 43 to 74; 51% were female; and all were of low socio-economic status. Participants completed an interview which included the Traumatic and Protective Antecedents Interview (TPAI, Perry et al., 2001) to assess maltreatment and protective factors (personal strengths and positive relationships), a checklist of 28 chronic health problems, a checklist of 12 medications, the PSI to assess psychological distress, the Defence Mechanism Rating Scales (DMRS, Perry & Henry, 2001) to assess defence mechanisms, the Social and Occupational Functioning Assessment Scale (SOFAS Hilsenroth et al., 2000) to assess social and occupational functioning, and survey questions to assess social support, drug and alcohol use.

4.4.7.2.2.1 Maltreatment experiences and protective factors. Perry et al. (2005a) detailed the childhood maltreatment experiences and protective factors of 81 adult survivors of institutional abuse in the second Duplessis' Children study. On the TPAI, survivors reported a high prevalence of traumatic childhood experiences (including maltreatment and other adversities), counterbalanced by modest levels attachment relationships and personal individual strengths. Most abuse survivors reported multiple early adverse experiences. In descending order of frequency these were: unfair rules and excessive punishment (or emotional abuse) (99%), physical abuse (96%), emotional neglect (87%), witnessing violence (81%), verbal abuse from carers (67%), physical neglect (63%), sexual abuse (57%), serious illness (54%), betrayal (44%), loss (43%), deprivation (40%), separations (33%), verbal abuse from peers (19%), and physical abuse by people other than carers (17%). For 98% of survivors, maltreatment and adverse experiences occurred between 7 and 18 years, and for 77% they occurred prior to 6 years. More severe trauma occurred between 7 and 18 years than prior to 6 years. Men reported significantly more sexual abuse than women, and women reported more emotional neglect than men.

In the domain of positive childhood relationships, 89% had an identifiable caretaker, 79% had supportive peer relationships, and 51% had at least one supportive confiding relationship with an adult. The corollary of this is that 49% had never had at least one supportive confiding relationship with an adult, 21% had never experienced supportive peer relationships, and 11% had never had an identifiable caretaker. In the domain of personal childhood strengths 94% reported at least one of 10 childhood strengths. In descending order these were: assertive self-protectiveness (38%), athletic physical competence (37%), empathy (18%), persistence (15%), sociability (15%), attractive personality (11%), intelligence (8%), self-appraisal (6%), academic interests (5%), and other strengths (4%). There were significant associations between positive childhood relationships and positive relationships in adulthood; between childhood strengths and strengths in adulthood; and between childhood trauma and further trauma in adulthood.

4.4.7.2.2.2 Physical and mental health and psychosocial outcomes. Sigal et al. (2003) detailed the outcomes in adulthood of 81 adult survivors of institutional abuse in the second Duplessis' Children study. Compared with the control group, in adulthood, abuse survivors had significantly poorer mental health, physical health, and psychosocial adjustment. In the domain of physical health, compared with the control group, in adulthood significantly more survivors had physical illnesses such as back pain (38% v 13%), joint pain (25% v 4%), headaches and migraine (22% v 5%), and respiratory problems (23% v 6%). Compared with male controls, significantly more male survivors used analgesics (38% v 15%) and tranquillizers (23% v 10%). In the domain of mental health, compared with the control group in adulthood, abuse survivors had significantly

higher levels of psychological distress (72% v 46%), and significantly more were depressed (15% v 2%). In the domain of psychosocial adjustment, compared with the control group in adulthood, abuse survivors had significantly less education (4 years v 9 years), and significantly more had never married (46% v 18%), had low levels of social support (45% v 21%), suicidal ideation (41% v 13%), and attempted suicide (33% v 3%).

Perry et al. (2005b) detailed the association between childhood trauma and protective factors on the one hand and adult adjustment on the other in the second Duplessis' Children study. In the domain of mental health, 82% of survivors had maladaptive defence mechanisms on the DMRS. In the domain of psychosocial adjustment 59% of survivors showed moderate to severe impairment in social and occupational functioning, and the sample as a whole showed moderate impairment in social and occupational functioning as indicated by a mean SOFAS score of 58 on a 100-point scale. Childhood trauma and childhood personal strengths (on the TPAI) jointly predicted 24% of the variance in social and occupational functioning (on the SOFAS) in adulthood. There were significant associations between childhood trauma (on the TPAI) and both adult psychological distress (on the PSI) and social and occupational functioning (on the SOFAS) in adulthood. For survivors who had few personal strengths in childhood, there were significant associations between childhood trauma on the one hand, and psychological distress, adaptiveness of defence mechanisms, and social and occupational functioning in adulthood on the other.

4.4.7.2.2.3 Case studies. Perry et al., (2006) presented qualitative case studies of 7 maltreatment survivors from the second Duplessis' Children study. The case studies included 3 males and 4 females with a mean age of 60 and a range from 51 to 69 years.

All had experienced severe child maltreatment, notably severe long-term physical abuse, sexual abuse, and neglect. In adulthood, their adjustment, which ranged from poor to good, was associated with the constellation of child maltreatment and life adversities that they had experienced on the one hand, and protective factors, notably positive relationships and personal strengths across the life span on the other.

4.4.7.2.3 Comments on the Duplessis' Children studies

The two quantitative Duplessis' Children studies and the qualitative case studies show that there were significant associations between prolonged institutional abuse in childhood and physical health, mental health, and psychosocial adjustment in later adulthood. The association between institutional child abuse and outcomes in later adulthood was influenced by the constellation of early adversities and protective factors experienced in childhood. Those who experienced greater maltreatment and adversity in childhood, and who had fewer strengths and supportive relationships in residential care were more vulnerable to adverse outcomes in later adulthood.

4.4.7.3 Canadian study of the outcomes of adult male survivors of child abuse in Catholic institutions

Wolfe et al. (2006), at the University of Toronto, conducted a study of a convenience sample of 76 adult male survivors who had experienced multiple and severe incidents of physical, sexual, and/or emotional abuse during childhood in residential religiously-affiliated institutions in Canada. Participants in this study were recruited and assessed within the context of a class action lawsuit which was announced in the media in 1997 to 1999. Men who had experienced child abuse in religiously affiliated child care institutions were invited to be considered for the claims process. These men had been placed as children in institutions because of their parents' inability to care for them, often due to illness or death of a parent, poverty, or alcohol problems. The men experienced abuse between the early 1960s and the late 1980s. The abuse was not assessed until the 1990s. All participants were male and had a mean age of 39 with a range of 23-54 years. They were evaluated

with the Trauma Symptom Inventory (TSI, Briere, 1995) which assessed trauma-related symptoms over the preceding 6 months; the Personality Assessment Inventory (PAI, Morey, 1991) which assessed psychological functioning, and the Structured Clinical Interview for DSM-IV axis I disorders, Clinician Version (SCID-CV, First et al., 1996).

4.4.7.3.1 Maltreatment experiences. Most participants had experienced both physical and sexual abuse. Two-thirds were survivors of severe and chronic physical and/or sexual abuse, which included oral or anal sex, digital penetration, and beatings. In one-third of cases abuse was less severe and involved sexual touching or fondling, masturbation, slapping, pushing, or hitting.

4.4.7.3.2 Mental health problems. Survivors in this study had a range of mental health problems. 88% met the DSM-IV (APA, 1994) diagnostic criteria for a lifetime diagnosis of a psychiatric disorder, and 59% met the criteria for a current disorder. 43% had a history of 2 or more comorbid disorders, and 22% had 2 or more current comorbid disorders. 63% met the DSM-IV diagnostic criteria for a lifetime diagnosis of PTSD (PTSD), 42% met the criteria for a current PTSD diagnosis, and 21% met the criteria for a PTSD diagnosis in the past. 66% met the DSM-IV diagnostic criteria for a lifetime diagnosis of an alcohol use disorder, 21% met the criteria for a current alcohol use disorder, and 45% met the criteria for an alcohol use disorder in the past. 37% met the DSM-IV diagnostic criteria for a lifetime diagnosis of a mood disorder, 25% met the criteria for a current mood disorder, and 12% met the criteria for a diagnosis of mood disorder in the past. On the PAI the sample showed significant problems in the areas of traumatic stress associated with PTSD and negative relationships associated with borderline personality disorder. On the TSI the sample showed significant problems on the intrusive experiences, defensive avoidance, and dissociation scales.

4.4.7.3.3 Social adjustment problems. Survivors in this study had a range of social adjustment problems. 28% had a history of confusion concerning their sexual orientation and 22% reported current confusion or uncertainty about this. 66% had a history of sexual problems in personal relationships, and 46% were experiencing current sexual difficulties. For those who had an intimate partner, 49% reported verbal and/or physical abuse of their partner. A history of criminality was common. 51% had been arrested for a property offence, 49% for drug-related offences, and 39% for a violent offence. On a number of demographic variables, there was also evidence of social adjustment problems. 73% were either unemployed or employed in a semi- or un-skilled position. 51% had not completed high school. 32% had never married.

4.4.7.4 Irish study of the outcomes of adult survivors of child abuse in Catholic institutions

Carr and colleagues at University College Dublin, conducted a research programme involving 247 adult survivors who had experienced multiple, severe episodes of physical, sexual, and/or emotional institutional abuse during childhood in Ireland. The results of the study are described in the fifth volume of the Ryan Report (Carr, 2009) and in a series of four academic papers (Carr et al., 2009, 2010; Fitzpatrick et al., 2010; Flanagan et al., 2009; Flanagan-Howard et al., 2009). A description of the overall sample of 247 survivors is given in the paper by Carr et al., 2010 and the fifth volume of the Ryan Report (Carr, 2009). The development of an instrument to assess trauma and coping processes – the Institutional Child Abuse Process and Coping Inventory (ICAPCI) – and analyses involving the ICAPCI are contained in a paper by Flanagan Howard et al., 2009 and the fifth volume of the Ryan Report (Carr, 2009). Profiles of subgroups of survivors of severe sexual, physical, and emotional abuse are given in a paper by Fitzpatrick et al., 2010. Profiles of subgroups of resilient, poorly adjusted, and very poorly adjusted survivors are described in a paper by Flanagan et al., 2009. Profiles of subgroups with different adult attachment styles are contained in a paper by Carr et al., 2009. What follows is a summary of key findings from this study.

Participants in this study were recruited through the government initiated Commission to

Inquire into Child Abuse (CICA) and were adult survivors of institutional child abuse which had occurred in residential industrial schools and reformatories which were under the management of the Catholic church. In 2005 1578 survivors attended CICA. The 247 participants in this study were a 16% convenience sample who were eligible for inclusion (as they were not too disabled, and were living in Ireland or the UK) and consented. The interviews for this study were conducted in Ireland and the UK in 2005 and 2006 by a panel of 29 psychologists. Information from study interviews were not used for redress purposes. The interview schedule inquired about participants' life history and included the following standardised instruments: an institutional and family version of the Childhood Trauma Questionnaire (CTQ, Bernstein & Fink, 1998) to assess physical sexual and emotional abuse and physical and emotional neglect within institutions and within the family, the Structured Clinical Interview for Axis I Disorders of DSM IV (SCID I, First et al., 1996), the Structured Clinical Interview for DSM IV Personality Disorders (SCID II, First et al., 1997), the Trauma Symptom Inventory (TSI, Briere, 1995), the past and present versions of the Child Abuse Processes and Coping Inventory (ICAPCI, Flanagan-Howard et al., 2009) which assessed institutional abuse trauma processes and coping styles in childhood and adulthood, the Experiences in Close Relationships Inventory (ECRI, Brennan, Clark, & Shaver, 1998) which assessed adult attachment style, the Kansas Marital Satisfaction scale (KMS, Schumm et al., 1986), the Kansas Parenting Satisfaction Scales (KPS, James et al., 1985), the UK version of World Health Organization Quality of Life Scale 100 (WHOQOL 100, Skevington, 2005) and the Global Assessment of Functioning Scale (GAF, Luborsky, 1962).

4.4.7.4.1 Historical and demographic characteristics (Carr, 2009; Carr et al., 2010). The 247 participants in this study entered Irish Catholic child care institutions for various reasons including their parents being unable to look after them (42%), personal prosecution for petty crime (24%), illegitimacy (19%), and parental death (14%). They had spent an average of 10 years living in institutions, having entered at an average age of 5 years. Institutions in which they lived were managed by nuns in 49% of cases, brothers or priests in 31% of cases, and 20% had been in institutions under both types of management. It had been 22–65 years since survivors had suffered institutional abuse. They had a mean age of 60 with a range from 40–83 years, and 45% were female. 55% were married or cohabiting and the remainder were single, widowed or divorced. 25% had graduated from high school or university.

4.4.7.4.2 Maltreatment experiences (Carr, 2009; Carr et al., 2010). On the CTQ 19% had been maltreated within their birth families, with 13% reporting physical abuse, 4% sexual abuse, 10% emotional abuse, 23% physical neglect, and 14% emotional neglect. On the CTQ over 97% had been physically abused within Catholic institutions, 47% sexually abused, 95% emotionally abused, 98% physically neglected, 94% emotionally neglected, and over 90% had experienced 4 forms of maltreatment. For over 90% of survivors the most severe form of physical institutional abuse they experienced involved being assaulted so severely as to leave bruises, cuts or to require medical attention, with 47% reporting this happened over 100 times. The most severe forms of sexual institutional abuse were fondling and masturbation (22%) and oral, anal or vaginal penetrative sex (19%), with 10% reporting this happened over 100 times. 121 of the 247 survivors in the sample had memories of living with their families, and for these on the CTQ 38% reported child maltreatment.

4.4.7.4.3 Mental health outcomes (Carr, 2009; Carr et al., 2010). Survivors in this study had a range of mental health problems. 82% met DSM-IV diagnostic criteria for a lifetime diagnosis of an anxiety, mood, substance use, or personality disorder and 34% had 4 or more comorbid disorders. 51% met the DSM-IV diagnostic criteria for a current anxiety, mood or substance use disorder, and 65% met criteria for these types of disorder in the past. 30% met the DSM-IV criteria for a current personality disorder. For combined current and past diagnoses, anxiety disorders were the most common (current: 45%, past: 34%); followed by mood disorders (current: 27%, past: 36%); followed by substance use disorders (current: 5%, past: 35%). The three most common anxiety disorders were social phobia (current: 20%, past: 11%); generalized anxiety

disorder (current: 17%, past: 7%); and PTSD (current: 17%, past: 9%). For mood disorders the current (27%) and past (36%) prevalence rates for major depression were higher than the rate of current dysthymia (11%). (Only current and not lifetime diagnoses of dysthymia may be made.) For alcohol or substance use disorders, 27% had a past diagnosis of alcohol dependence and 8% had a past diagnosis of alcohol abuse. Prevalence rates for all other current and lifetime substance use diagnoses were below 5%. For personality disorders, 21% had avoidant personality disorder; 7% had antisocial personality disorder; 6% had borderline personality disorder and 2% had dependent personality disorder. The rates of current psychological disorders among survivors of institutional child abuse, were far greater than those in major international epidemiological studies of normal community populations conducted in Europe, the USA, and the UK. The only significant gender difference was that females had a higher rate of panic disorder with agoraphobia, and males had a significantly higher rate of alcohol dependence.

4.4.7.4.4 Social adjustment outcomes (Carr, 2009; Carr et al., 2010). Survivors in this study had a range of social adjustment problems. The rates of social adjustment problems in descending order of frequency were as follows: educational problems including not graduating from high school 80%, unemployed or in unskilled or semiskilled jobs 51%, never married, separated or divorced 35%, anger control problem in intimate relationships 26%, non-violent crime 22%, homelessness 21%, self-harm or attempted suicide 18%, anger control problems with children 13%, violent crime 10%, and children taken into care 4%. For all survivors, self-reliance, optimism, work and skills were the most frequently reported resources that helped participants most in coping with life challenges

4.4.7.4.5 Trauma symptoms (Carr, 2009; Carr et al., 2010). On the TSI which assesses complex post-traumatic symptoms in descending order of frequency the following percentages scored in the clinical range: avoidance of reminders of trauma 60%, intrusive experiences such as flashbacks 56%, impaired self-reference 46%, dissociation 44%, depression, 42%, anxious arousal 39%, maladaptive tension reduction 35%, anger 32%, sexual concerns 24%, and sexual dysfunction 13%. Recollections of more frequent institutional childhood sexual and emotional abuse on the CTQ were significantly correlated with greater trauma symptoms in adulthood on the TSI. Current trauma symptoms on the TSI were greater in those who reported both institutional and intrafamilial childhood maltreatment on the CTQ, compared with those who reported institutional abuse only.

4.4.7.4.6 Trauma processes and coping (Carr, 2009; Flanagan-Howard et al., 2009). An inventory containing theoretically derived multi-item rational scales which assessed institutional abuse-related psychological processes and coping strategies was administered to 247 participants. Survivors indicated the extent to which the items characterized them now as adults, and previously when they were being abused as children. Exploratory and confirmatory factor analyses were used to derive six factor scales of the Institutional Child Abuse Processes and Coping Inventory (ICAPCI, Flanagan-Howard et al., 2009).

1. Traumatization is a 14-item scale which assesses traumatization, betrayal and loss of trust, stigmatization, shame and guilt, and disrespect of authority.
2. Re-enactment is a 9-item scale which assesses re-enactment of abuse, powerlessness, coping by opposing, and coping by using alcohol and drugs.
3. Spiritual disengagement is a 5-item scale which assesses disengagement from religious practice and not using spiritual coping strategies.
4. Positive coping is a 9-item scale which assesses coping through planning, skill mastery, and social support.
5. Coping by complying is a 3-item scale which assesses coping by complying with the wishes of people in authority.
6. Avoidant coping is a 3-item scale which assesses coping by avoiding thoughts and situations

associated with abuse.

The scales had acceptable levels of reliability and there was strong support for the validity of the traumatization and re-enactment scales.

On ICAPCI scales, from childhood to adulthood, survivors reported a reduction in the psychological processes of traumatization, re-enactment of abuse and an increase in spiritual disengagement. They also reported an increase in the use of positive coping strategies, and a reduction in the use of coping by complying and avoidant coping strategies.

The psychological processes of traumatization and re-enactment of abuse on self and others were associated with multiple difficulties in adult life (assessed with the SCID I and II, TSI, WHOQoL 100 and GAF) and a history of institutional abuse, but not family-based child abuse (assessed with the CTQ). Having spent more time living within a family context in childhood and using positive coping strategies such as planning, developing skills and developing a social support network in adulthood were associated with a good quality of life in adulthood.

Overall, these findings indicated that the ICAPCI is a reliable and valid instrument for assessing trauma and coping processes in survivors of institutional abuse. From childhood to adulthood survivors reported a significant reduction in negative trauma process, and an increase in positive coping. The intensity of trauma processes is probably influenced by the cumulative effect of past trauma and the use of positive coping. The intensity of trauma processes affects adult adjustment.

4.4.7.4.7 Profiles of sexual, physical and emotional abuse survivors (Fitzpatrick et al., 2010). 247 survivors of institutional abuse were classified into three groups that reported the worst thing that had happened to them in an institution was either severe sexual (N = 60, 24%), severe physical (N = 102, 41%) or severe emotional abuse (N = 85, 34%). These three groups were then profiled on a range of variables. Survivors of severe sexual abuse had the most abnormal profile, which was characterised by higher rates of all forms of child maltreatment of the CTQ, and higher rates of PTSD, alcohol and substance abuse, antisocial personality disorder, trauma symptoms, interpersonal anxiety and life problems. Survivors of severe emotional abuse were better adjusted than the other two groups. The profile of survivors of severe physical abuse occupied an intermediate position between the sexual abuse group and the emotional abuse group. The main implication of this analysis was that survivors of severe sexual abuse may require more intensive evidence-based trauma treatment services, than survivors of other forms of abuse.

4.4.7.4.8 Profile of resilient survivors of institutional abuse (Flanagan et al., 2009). Two-hundred-and-forty-seven survivors of institutional abuse were classified into three groups: a resilient group with no DSM IV disorders (N = 45, 18%), a poorly adjusted group with 1-3 disorders (N = 119, 48%), and a very poorly adjusted group with 4 or more disorders (N = 83, 34%). These three groups were then profiled on a range of variables. Compared with the very poorly adjusted group, the resilient group was older and of higher socio-economic status; had suffered less sexual and emotional institutional abuse; experienced less traumatization and re-enactment of institutional abuse; had fewer trauma symptoms and life problems; had a higher quality of life and global level of functioning; engaged in less avoidant coping; and more resilient survivors had a secure adult attachment style. The resilient group differed from the poorly adjusted group on a subset of these variables. Compared with the poorly adjusted group (in which participants had 1-3 diagnoses), the resilient group was older; experienced less current traumatization and re-enactment of institutional abuse psychological processes; had fewer trauma symptoms and life problems; had a higher quality of life and global level of functioning; and more resilient survivors had a secure adult attachment style. The resilience of the first group in this study may in part be due to experiencing somewhat lower levels of emotional and sexual abuse than their non-resilient counterparts, to their development of secure or dismissive adult attachment styles, and to their use of coping strategies for dealing with trauma which were not avoidant. The main implication of this analysis was that survivors with greater psychopathology may require more

intensive services and that therapeutic interventions with survivors of institutional abuse should focus on facilitating the use of non-avoidant coping strategies and the development of a secure adult attachment style.

4.4.7.4.9 Profiles of cases with secure and insecure adult attachment styles (Carr et al., 2009). 247 survivors of institutional abuse were classified with the ECRI into four groups having secure (N = 41, 17%), fearful (N = 109, 44%), preoccupied (N = 31, 13%), or dismissive (N = 66, 27%) adult attachment styles. These three groups were then profiled on a range of variables. The group with the secure adult attachment style had the most positive profile in terms of DSM IV diagnoses, trauma symptoms, quality of life, global functioning, marital satisfaction, and stability of first marriage. The most negative profile occurred for the group with the fearful adult attachment style. The profile of the preoccupied group was more similar to that of the fearful group. The profile of the dismissive group was more similar to that of the secure group. Surprisingly, the positive overall adjustment of the group with the secure adult attachment style was unrelated to the number of years spent in the family of origin before institutional entry and the number of years spent in an institution. The main implication of this analysis was that a secure adult attachment style may be a protective factor in promoting resilience in adult survivors of institutional abuse, while an insecure attachment style (fearful, preoccupied or dismissive) may be a risk factor for problematic adjustment, with the fearful adult attachment style being associated with greater adjustment problems.

4.4.7.4.10 Comments on the Irish study

The Irish study showed that survivors of institutional child abuse have particularly poor outcomes in the mental and physical health and psychosocial domains in adulthood. The significant association between institutional child abuse and adult mental health problems is partly influenced by the most severe type of abuse experienced, psychological traumatization and coping processes, and adult attachment style. Severe institutional child sexual abuse, extreme traumatization processes, the use of maladaptive coping strategies, and insecure adult attachment styles were all associated with poorer outcomes. In contrast resilience was associated with the absence of sexual abuse, less intense psychological traumatization processes, the use of positive coping strategies, and a secure adult attachment style.

4.4.7.5 USA studies of outcomes of adult survivors of child abuse in long-term care

Three USA studies of adult survivors of institutional abuse were identified. Two were large quantitative studies (Jackson et al., 2011; Salazar et al., 2011) and one was a qualitative study (Morton, 2015).

4.4.7.5.1 Casey foster care study

Jackson et al. (2011) at the Universities of Pittsburgh and Washington, USA, conducted a retrospective study of 708 adults who had been in the Casey foster care programme, which spanned 13 US states, between 1966 and 1998. Participants were between 20 and 51 years, and there were almost equal numbers of males (51%) and females (49%). 81% were white and 19% were African American. Abuse by an adult carer while in foster care was assessed by interview, and post-traumatic stress disorder (PTSD) was assessed with the Composite International Diagnostic Interview (CIDI, Wittchen et al., 2001). Data on history of child care, foster care, and developmental history were abstracted from case files.

4.4.7.5.1.1 Maltreatment history. Prior to foster care 42% had been sexually abused, 55% physically abused, 76% emotionally abused, and 62% neglected. More females than males had been

sexually (62% v 23%) and emotionally (79% v 72%) abused. For the whole sample 31% were abused while in foster care.

4.4.7.5.1.2 Childhood disabilities. In childhood 20% had a physical or learning disability, and 11% had attention deficit hyper activity disorder (ADHD). More males than females had ADHD (16% v 6%), or physical and learning disabilities (26% v 13%).

4.4.7.5.1.3 Mental health outcomes. As adults, for the whole sample 21% had a current diagnosis of PTSD. More females than males had PTSD (31% v 11%). There was a significant association between child abuse in foster care and having a diagnosis of PTSD in adulthood. There was a significant association between emotional abuse and sexual abuse before entering foster care on the one hand, and having a diagnosis of PTSD in adulthood on the other.

4.4.7.5.2 The 3-state study: Illinois, Wisconsin and Iowa

Salazar et al. (2011), at Portland State University, conducted a US longitudinal study of a probability sample 515 17-22 year olds who were leaving the state foster care system in Illinois, Wisconsin and Iowa in the USA in 2002. There were almost equal numbers of females (55%) and males (45%). 55% were African American, 33% were white, and the remainder were mixed race, Alaskan or Asian. When first interviewed the mean age of participants was 17 years with a range from 17 to 18 years. Participants were interviewed on three occasions, at 2-year intervals. Maltreatment experiences were assessed with the Lifetime Experiences Questionnaire (LEQ, Rose et al., 2000), social support with the Medical Outcomes Study Social Support Survey (MOS-SSS, Shelbourne & Stewart, 1991), and depression with the 12-month version of the Composite International Diagnostic Interview (CIDI, Wittchen et al., 2001).

4.4.7.5.2.1 Maltreatment experiences. 66% had been maltreated before entering foster care. 39% had been maltreated in foster care.

4.4.7.5.2.2 Mental health outcomes. There was a significant association between maltreatment before and during foster care on the one hand, and depressive symptoms in young adulthood on the other. Higher levels of child abuse were associated with higher levels of depressive symptoms. Social support reduced the effect of maltreatment on depression. Where young adults with a maltreatment history had a high level of social support, they experienced less depression. This buffering effect of social support was diminished for those with more complex maltreatment histories involving multiple types of abuse before and during foster care.

4.4.7.5.3 Qualitative study of educational problems in abuse survivors

Morton (2015), at George Fox University in Oregon USA, conducted a qualitative study of the barriers to academic achievement in abuse survivors. Participants were a purposive sample of 7 survivors of child abuse in foster care and residential care solicited from a state-wide advocacy group, who were in higher education. There were 4 (57%) females and 3 (43%) males, who had spent an average of 12 years in care, with a range from 5-18 years. They had been in an average of 19 homes, with a range of 6-65. They had been abused in 1-3 homes. Three had suffered physical abuse; two, sexual abuse; and two both physical and sexual abuse.

4.4.7.5.3.1 Psychosocial and educational outcomes. A thematic analysis of transcripts of semi-structured interviews showed that institutional child abuse in foster care was associated with five main themes which were barriers to academic achievement: (1) disempowerment, marginalization and silencing, (2) anger, aggression, self-harm and antisocial behaviour including drug use, (3) academic underachievement and behaviour problems at school, (4) foster-placement breakdown and movement to secure residential facilities, and (5) difficulty making the transition from secure residential facilities to mainstream education.

4.4.7.5.4 Comments on three US studies

These three US studies indicate that there was a significant association between institutional child abuse and adult mental health, specifically PTSD, depression and adult educational adjustment. The occurrence of PTSD in adulthood was also associated with intrafamilial abuse prior to entering residential care. The availability of social support reduced the effects of institutional child abuse on depression. Institutional abuse may affect educational adjustment through multiple complex pathways.

4.4.7.6 Australian studies of the educational outcomes of survivors of institutional child abuse

Bode and Goldman at Griffith University Queensland Australia conducted two retrospective qualitative studies on the effects of institutional child sexual abuse on educational development. One study was on males (Bode & Goldman 2012) and the other on females (Goldman & Bode, 2012). Participants were purposive samples of 10 male and 10 female survivors of institutional abuse attending the Queensland sexual abuse recovery centre. The males were aged between 46 and 66 years and had been sexually abused in residential care in Queensland, Australia between 1950 and 1975. The females were aged between 44 and 72 years and had been sexually abused in orphanages in Queensland, Australia between 1940 and 1970.

4.4.7.6.1 Effects of abuse in care on males (Bode & Goldman 2012). All 10 male participants completed a primary school education; only two (20%) attended secondary school; one dropped out at aged 13 years; and the other progressed at aged 15 to a technical school to learn a trade. A narrative analysis of transcripts of semi-structured interviews showed that 90% believed that institutional child sexual abuse had a permanent and debilitating impact on their educational development, opportunities, and achievements.

4.4.7.6.2. Effects of abuse in care on females (Goldman & Bode, 2012). Only 2 of 10 females had completed primary school, none had completed more than two years of secondary school, and none had undertaken any tertiary education. A narrative analysis of transcripts of semi-structured interviews showed that all 10 believed that institutional child sexual abuse, and neglect had a permanent and debilitating impact on their educational development, opportunities, and achievements. The nine married survivors with children believed that institutional abuse had detrimental intergenerational consequences for their own children, because they could not help them with school work, had difficulties with anger management, or they inadvertently married abusive partners who abused their children.

4.4.7.6.3 Comments on the Australian studies

The Australian studies showed that institutional child abuse was associated with negative educational outcomes for both men and women. However, for women there was also a transgenerational effect, in that their children's educational development was also adversely affected.

4.4.7.7 Dutch study of the outcome of adult survivors of child sexual abuse in Catholic institutions

A Dutch study comparing the adjustment of survivors of institutional child sexual abuse, survivors of child sexual abuse which occurred outside institutions, and non-abused, non-institutionalized controls is described in Deetman's *Report on the Sexual Abuse of Minors within the Roman*

Catholic Church (Deetman et al., 2013). The survey was conducted by the Dutch survey agency TNS NIPO with advice from Smit and Hoogendoorn, at VU University Medical Centre, Amsterdam, at the request of Deetman, a former Dutch minister for education, who chaired the Dutch Commission of Inquiry in this area. Participants were drawn from a national probability sample in the Netherlands. There were 238 survivors of child sexual abuse which occurred within Catholic residential institutions, 836 survivors of sexual abuse who had not been residents in Catholic institutions, and a control group of 565 individuals who never lived in a Catholic institution and were not abused. Participants completed a survey that included the Brief Symptom Inventory (BSI, Derogatis & Melisaratos, 1983). Clinically significant mental health problems were indexed by scoring above the cut-off score of 17 on the BSI.

4.4.7.7.1 Mental health and psychosocial outcomes. Within the mental health domain, significantly more survivors of institutional child sexual abuse (33%) had mental health problems compared with survivors of child sexual abuse who did not live in institutions (22%) and normal controls (18%). Within the psychosocial adjustment domain, significantly more survivors of institutional child sexual abuse (14%) had attempted suicide compared with child sexual abuse survivors who did not live in institutions (7%) and normal controls (3%).

4.4.7.8 German study of the outcomes of adult survivors of institutional child sexual abuse in Catholic, Protestant, and secular institutions

Spröber et al. (2014) at Ulm University, Germany analysed testimonials collected through a hotline which the German government established in 2010 so survivors could anonymously describe their experiences of institutional sexual abuse. An independent commissioner incorporated the results of this research into a report sent to the German parliament. The child abuse hotline was established in response to the disclosure of widespread sexual abuse committed by professional educators and clergymen in German institutions. It was staffed by 60 therapists and counsellors with child protection experience. The study aimed to compare the impact of maltreatment on survivors who had been sexually abused in religious and secular institutions. It involved 1050 survivors of whom 404 (38%) had been in Catholic, 130 (12%) in Protestant, and 516 (49%) in non-religious institutions. This constituted all survivors of institutional abuse who contacted the hotline. In 2010 and 2011, with consent, hotline staff used a web-based template to record information on demographic characteristics, institutional child abuse experiences, mental health problems, and psychosocial adjustment of institutional abuse survivors (Rassenhofer et al., 2013; Spröber et al., 2011). The mean age of participants was 52 with a range from 12 to 89 years, and 40% were female. 55% were separated, divorced or had never married, and 42% were married or in a long-term relationship. 91% were living in West Germany, and 69% in urban areas.

4.4.7.8.1 Maltreatment experiences. Participants in this study had been abused within religious schools and residential care centres and secular state-run residential child care facilities. The majority had been abused between 1950 and 1980. 53% had experienced penetrative abuse, and this was more frequently reported by older victims and by females. 96% were abused in the past and for the remainder the abuse was still occurring. 84% were abused by males. 91% were abused on multiple occasions. 37% had been abused by multiple offenders, and this was less common in Protestant institutions. In 68% of cases survivors mentioned that they had experienced additional physical, psychological or emotional abuse, with physical abuse being the most common. A qualitative analysis indicated that for some survivors who experienced both physical and sexual abuse, the physical abuse occurred in institutions where corporal punishment was a regular practice. Invariably perpetrators were in positions of power and survivors felt dependent and powerless. They were not believed or punished when they told other adults about their abusive experiences and did not know that they should have been able to appeal to regulatory authorities about their situation. Offenders in religious and secular institutions used grooming strategies such as gaining trust by building a close relationship, creating situations where they were alone, and framing sexual

abuse as educational. Some strategies were specific to religiously affiliated institutions, for example, using religious concepts to coerce survivors to submit to abuse, or practicing child abuse as part of a religious ritual.

4.4.7.8.2 Mental health and psychosocial outcomes. 78% of survivors had been diagnosed with a psychiatric disorder. Depression was the most common disorder (13%), followed by PTSD (7%), followed by other anxiety disorders (6%). 10% mentioned having 2 or more co-morbid psychiatric disorders. 16% had learning difficulties and had been in special education. 60% reported significant social adjustment issues. Health problems were the most common psychosocial adjustment issue (22%), followed by relationship and partner issues (20%), followed by flashbacks and nightmares (18%).

4.4.7.8.3 Comparison of religious and secular institutions. The patterns of abuse in terms of past or present abuse, type of sexual abuse, frequency of abuse, and the gender of perpetrators was similar in groups from Catholic, Protestant and secular institutions. Similar rates of psychiatric disorders occurred in groups from Catholic, Protestant and secular institutions.

4.4.7.8.4 Comments on the German study

This study showed that the patterns of child sexual abuse and subsequent adjustment problems were quite similar across Catholic, Protestant and secular institutions. This suggests that institutional child sexual abuse is probably not due to attitudes towards sexuality of a specific religion, but to institutional structures such as group cohesion, hierarchical power structures and dependence, and credibility bias in favour of authority figures, and to societal assumptions about the rights of children.

4.4.7.9 Austrian studies of the outcomes of adult survivors of child abuse in long-term care in Catholic institutions and federal foster care

The Austrian research programme, conducted by Lueger-Schuster and colleagues at the University of Vienna, investigated the effects on adult adjustment of child abuse within various institutions. The first strand in this research programme, conducted in 2011 and 2012, focused on survivors of child abuse which had occurred in Catholic institutions. The second strand investigated the effects of child abuse in youth welfare residential homes in Lower Austria. Data collection for this occurred in 2012. The third strand – the Vienna Institutional Abuse Study - focused on the effects of abuse within federal foster care in Vienna. Data collection for this occurred between 2014 and 2016. The results of this research programme are described in a series of published and unpublished academic papers, conference presentations, and reports. Using data from samples involved in this research programme, a series of papers on complex PTSD has also been published. This research programme was conducted in collaboration with Austrian commissions established in 2010 for survivors of child abuse within Catholic institutions, residential child care homes, and federal foster care. Abuse survivors disclosed their experiences to psychologists and psychotherapists deployed by these commissions. The commissions used these mental health professionals' reports describing survivors' maltreatment experiences to make decisions about financial redress and psychotherapeutic support. The Austrian research team also used these reports to document demographic characteristics, maltreatment experiences and family risk factors of survivors in some of their papers. They collected additional data on abuse, its effects, and theoretically related psychological constructs using standardized self-report questionnaires on subsamples of participants. They also conducted in-depth semi-structured interviews with smaller groups of survivors to obtain detailed personal accounts of institutional abuse and its effects.

4.4.7.9.1 Institutional abuse of children in the Austrian Catholic church

In the first strand of the Austrian research programme, Lueger-Schuster and colleagues conducted a study of survivors of child abuse in Catholic institutions (Lueger-Schuster, Butollo et al., 2015; Lueger-Schuster, Kantor et al., 2014; Lueger-Schuster, Weindl et al., 2014; Weindl & Lueger-Schuster, 2016). When this study was conducted in 2011 and 2012, 795 reports had been written for the Austrian Victims' Protection Commission. A self-selected convenience sample of 448 (56%) of these 795 abuse survivors consented for data from their reports to be analysed for this study. Their reports were analysed to document maltreatment experiences and family risk factors. Results of this analysis are described in a paper by Lueger-Schuster, Weindl et al. in 2014. Subsamples of 163-185 demographically similar survivors consented to complete a set of self-report measures. These constitute 21% to 23% self-selected convenience samples of 795 potential participants. The self-report measures included the PTSD Checklist – Civilian version (PCL-C, Weathers et al., 1991) which assessed DSM-IV PTSD, the Brief Symptom Inventory (BSI, Derogatis et al., 1983) which assessed a range of mental health symptoms, the Coping Inventory for Stressful Situations (CISS, Endler & Parker, 1990) which assessed emotion-focused, task-focused and avoidant coping, the Disclosure of Loss Experience Scale (DLE, Müller et al., 2011) which assessed the intention and urge to talk about trauma and related emotions, the Connor Davidson Resilience Scale (CD-RISC, Campbell-Sills & Stein, 2007) which assessed the capacity to cope with stressful situations, the Life Orientation Test (LOT, Scheier & Carver, 1985) which assesses dispositional optimism, and the Recalled Perceived Social Support Questionnaire (RPSSQ, Lueger-Schuster, Weindl et al., 2014). Analyses of data from these self-report instruments are reported in three papers (Lueger-Schuster, Butollo et al., 2015; Lueger-Schuster, Kantor et al., 2014; Lueger-Schuster, Weindl et al., 2014). The prevalence of PTSD among abuse survivors based on PCL-C data is given in a paper by Lueger-Schuster, Kantor et al., (2014). Profiles of cases with low, medium or high PTSD symptom scores on the PCL-C are contained in a paper by Lueger-Schuster, Weindl et al. (2014). The impact of social support, early disclosure, and hostility on mental health is described in a paper by Lueger-Schuster, Butollo et al. (2015). In-depth semi-structured interviews were conducted with a subsample of 46 survivors, and a qualitative analysis of transcripts of these interviews is given in Weindl & Lueger-Schuster (2016). What follows is a summary of key points from this first strand of the Austrian research programme.

4.4.7.9.1.1 Demographic and historical characteristics (Lueger-Schuster, Kantor et al., 2014). In the overall sample of 448 survivors, participants' average age was 55, with a range from 25 to 80 years, and 25% were female. 59% were married or cohabiting and the remainder were single, widowed or divorced. 38% graduated from high school or university. Prior to institutional abuse fewer than 7% had experienced the following family-related adversities: neglect, physical violence, poverty in the family, emotional distance to the family, substance abuse within the family, serious illness of a parent, separation from siblings, and negative experiences in foster homes. Prior to institutional abuse fewer than 17% had experienced the following adverse living conditions: born to an unmarried mother, parents divorced/stepchild, lived with foster family, lived in an institution, grew up without biological parents, and felt oppressed by a conservative Catholic family background.

4.4.7.9.1.2 Institutional maltreatment experiences (Lueger-Schuster, Kantor et al. in 2014). In the overall sample of 448 survivors 83% had been abused in boarding schools, orphanages, monasteries or convents between 1938 and 1999. Most of the remaining survivors were abused in parishes or churches. The rates of physical, sexual, and emotional institutional abuse were 68%, 68% and 83% respectively. 13% reported one type, 54% two types, and 33% three types of institutional abuse. The abuse began on average at 10, with a range from 0 to 19 years. The average duration of contact with perpetrators was 5 years. There was a very wide range of abusive acts.

4.4.7.9.1.3 Mental health outcomes (Lueger-Schuster, Kantor et al. in 2014). A 23% convenience subsample (185/448) of survivors completed the PCL-C and BSI. As adults, 85% had

significant mental health problems on at least one scale of the BSI or on the PCL-C. 49% had PTSD assessed by the PCL-C. This was associated with a significantly higher number of family-related adversities, vaginal penetrative sexual abuse, and isolation as a form of emotional abuse. The main implication of this analysis was that child abuse in Catholic Austrian institutions included a wide spectrum of violent acts, was associated with mental health problems for four fifths of cases, and in almost half of cases was associated with PTSD.

4.4.7.9.1.4 Psychosocial outcomes. In the overall sample of 448 survivors 38% had never married or were separated or divorced.

4.4.7.9.1.5 Profiles of resilient and traumatized survivors (Lueger-Schuster, Weindl et al., 2014). A subsample of 185 cases from the overall sample of 448 who completed self-report measures (PCL-C, LOT, CD-RISC, CISS, and DLE) were divided into three groups with positive or negative PTSD symptom scores on the PCL-C, combined with number of domains above the cut-off on the nine scales of the BSI. 15% were resilient and obtained low scores; 28% obtained moderate scores between 1 and 5; and 57% obtained high PTSD scores of 6 or greater. Compared to the extremely traumatized group that had high PTSD scores, the resilient group was significantly more optimistic, better able to cope with stressful situations, used significantly more task-focused coping and less emotion focused coping, was less reluctant to talk about institutional abuse, and had less intense emotional reactions when they did so. The profile of the group with moderate PTSD symptoms fell between the extreme profiles of the resilient and highly traumatized group. The three groups did not differ on demographic or maltreatment experience variables.

4.4.7.9.1.6 Social support, anger management and early disclosure (Lueger-Schuster, Butollo et al., 2015). In a study of a subsample of 163 from the overall sample of 448 Austrian survivors of Institutional abuse, social support, early disclosure, and hostility were examined. Compared to survivors with low levels of social support (assessed with the RPSSQ), those with high levels of perceived social support had fewer mental health problems (assessed with the BSI) and fewer emotional reactions when speaking about their experiences institutional child abuse (on the DLE). Compared with survivors who disclosed abuse after 18 years, unexpectedly those who made an early abuse disclosure (before the age of 18), did not have fewer mental health problems (on the BSI). Anger management problems (as assessed by the BSI hostility scale) was a clinically prominent problem in this sample of survivors. A history of institutional physical abuse and current PTSD symptoms (on the PCL-C) were two factors significantly associated with anger management difficulties.

4.4.7.9.1.7 Personal accounts of social adjustment and mental health problems (Weindl & Lueger-Schuster, 2016). A 6% self-selected convenience sample (46/795) participated in this study. Participants average age was 59 with a range from 38 to 80 years, and 15% were female. A thematic content analysis was conducted on transcripts of in-depth semi-structured interviews. Directly following episodes of institutional abuse in descending order of frequency survivors experienced impaired in social relationships, especially withdrawal (48%), destructive emotion regulation, especially aggression towards authority (28%), psychological suffering, especially suicidality (26%), anxiety (13%), shame (9%), overcompensation including sensation seeking and escapism (7%), underachievement in problems (7%) and self-harm (4%). Survivors noted that if they had not experienced child abuse in care in descending order of frequency they would have had fewer missed opportunities in their lives (46%); their lives would have been better (33%); their romantic, sexual and family relationships would have been better (31%); they would have had better self-esteem (22%); they would have been more integrated and less concerned with violence and injustice (20%); they would have been more sociable and trusted others more (11%); and they would have had a better relationship with the church (9%).

4.4.7.9.1.8 Comments on the study of Institutional abuse of children in the Austrian Catholic church. The first strand of the Austrian research programme showed that survivors of institutional abuse within Catholic institutions had suffered a wide range of different abusive

experiences. This was associated with significant mental health problems for about four fifths of survivors, and about half had PTSD. There was, variability among survivors. Just under a fifth were resilient, with minimal mental health problems. Social support was associated with better adjustment.

4.4.7.9.2. Institutional abuse of children in youth welfare residential homes in Lower Austria

In the second strand of the Austrian institutional abuse research programme, Lueger-Schuster and colleagues conducted a study of survivors of child abuse in youth welfare residential homes in Lower Austria. The study is described in an unpublished report (Lueger-Schuster, 2013). Participants were recruited through the Lower Austria Commission. Data collection occurred in 2012. Participants were 58 individuals who had been abused in youth welfare residential homes in Lower Austria between 1948 and 1996. Data on demographic and maltreatment factors were available from reports of mental health professionals made on behalf of the commission. 46 of these 58 survivors completed detailed interviews on the effects of abuse. This was a self-selected sample who had sought and received redress through commission prior to 2012. Participants were evaluated by clinical psychologists with the following instruments: brief German versions of the Structured Clinical Interview for DSM IV disorders and Personality Disorders (SCID I & II, Wittchen et al., 1997), the PTSD Checklist – Civilian Version (PCL-C, Weathers et al., 1991) which assessed DSM-IV PTSD, the Brief Symptom Inventory (BSI, Derogatis & Melisaratos, 1983) which assessed a range of mental health symptoms, the Traumatic Life Events Questionnaire (TLEQ, Kubany et al., 2000) which assessed stressful life events in adulthood, the Disclosure of Loss Experience scale (DLE, Muller et al., 2011) which assessed the intention and urge to talk about trauma and related emotions, the Coping Inventory for Stressful Situations scale (CISS, Endler & Parker, 1990) which assessed emotion-focused, task-focused and avoidant coping, the Connor Davidson Resilience Scale (CD-RISC, Connor & Davidson, 2003) which assessed the capacity to cope with stressful situations, the Life Orientation Test (LOT, Scheier, Carver, & Bridges, 1994) which assessed optimism, a Questionnaire on perceived social support, and a questionnaire on disclosure of child abuse.

4.4.7.9.2.1 Demographic and historical characteristics. In the overall sample of 58 survivors, participants' average age was 54 (SD = 10.55), and 14% were female. 67% were married or cohabiting, and the remainder were single, widowed or divorced. The sample had a lower educational level than the general Austrian population.

4.4.7.9.2.2 Birth family maltreatment and adversity. Many participants had experienced maltreatment or adversity within their birth families including neglect 48%, physical abuse 40%, poverty 26%, and parental substance misuse 26%. Participants had been placed in institutions because they were neglected by their parents, had shown significant weight loss, had child-focused behaviour problems, or came from families with significant difficulties such as parental health problems or domestic violence.

4.4.7.9.2.3 Maltreatment experiences. Participants had spent an average of 6 years in institutions. The rates of physical, sexual and emotional institutional abuse were 100%, 60% and 93% respectively. 7% reported one type, 36% two types, and 56% three types of institutional abuse. The average duration of contact with perpetrators was 5 years. There was a very wide range of abusive acts. Participants in this study were abused by 157 perpetrators, 95% of whom were child care staff, and 65% of whom were male. On average abuse was first disclosed 20 years after it had first occurred.

4.4.7.9.2.4 Mental health outcomes. On the SCID II 65% had personality disorders. On the SCID I 83% had anxiety disorders, 57% had affective disorders, 54% had alcohol and substance use disorders and 2% had psychotic, eating and adjustment disorders respectively. On the SCID I

the most commonly diagnosed anxiety disorder was PTSD (74%). On the PCL-C 35% had PTSD. Compared with survivors without PTSD, those with a PCL-C PTSD diagnosis tended to have more mental health problems on the BSI, be more pessimistic on the LOT, be less resilient to stress on the CD-RISC, be more affected by cues that remind them of child abuse on the DLE, and make greater use of maladaptive emotion focused-coping on the CISS. Of the 27 survivors for whom data were available on self-harm, 63% had attempted suicide.

4.4.7.9.2.5 Comments on the study of Institutional abuse of children in youth welfare residential homes in Lower Austria. This second strand of the Austrian institutional abuse research programme showed that over four fifths of adults who had experienced institutional child abuse in youth welfare residential homes in Lower Austria showed significant mental health problems in adulthood.

4.4.7.9.3 Institutional abuse of children in federal foster care in Austria

In the third strand of the Austrian institutional abuse research programme, Lueger-Schuster and colleagues conducted a study of survivors of child abuse in federal state foster care (Lueger-Schuster, et al., 2018; Glück et al., 2017; Kantor et al., 2017a; Weindl, 2017). Data collection occurred between 2014 and 2016. The study contained survivor and control groups. Participants in the survivor group of this study were 220 individuals who had been abused in federal foster care in Vienna. This was a self-selected 11% sample from a total 1984 survivors who had sought and received redress through a government commission prior to 2016. Participants in the control group were 234 volunteers recruited through media announcements. Participants were evaluated by clinical psychologists with the Childhood Trauma Questionnaire (CTQ, Bernstein et al., 2003) to assess recollections of child maltreatment, the Life Events Checklist (LEC, Weathers et al., 2013a) to assess stressful life events in adulthood, a shortened German version of the Structured Clinical Interview for DSM IV for axis I psychiatric disorders (SCID I) and axis II personality disorders (SCID II, Wittchen et al., 1997), the Brief Symptom Inventory (BSI, Derogatis & Melisaratos, 1983), the PTSD Checklist-5 (PCL-5, Weathers et al., 2013b), the ICD-11 Trauma Questionnaire (ICD-TQ, Cloitre, Roberts et al., 2013) to assess ICD-11 PTSD and complex PTSD, the Multidimensional Self-esteem Scale (MSES, Schütz & Sellin, 2006), the Acceptance and Action Questionnaire-II (AAQ-II, Bond et al., 2011) which assessed psychological flexibility, the State-Trait Anger-Expression Inventory (STAXI, Spielberger, 1988), the Displaced Aggression Questionnaire (DAQ, Denson, 2006), the Difficulties in Emotion Regulation Scale (DERS, Gratz & Roemer, 2004), and the Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS, Mackenzie et al., 2004).

Analyses of data from these self-report instruments are reported in four papers (Lueger-Schuster, et al., 2018; Glück et al., 2017; Kantor et al., 2017a; Weindl, 2017). The prevalence of psychopathology among abuse survivors compared with a control group is described in a paper by Lueger-Schuster et al. (2017). An analysis of attitudes to the use of professional assistance by survivors of institutional Abuse is given in a paper by Kantor et al. (2017a). Self-esteem in survivors of institutional abuse is considered in a paper by Weindl (2017). A network analysis of the role of psychological flexibility in post-traumatic symptoms and anger management problems in survivors of institutional abuse is presented in a paper by Glück et al. (2017).

4.4.7.9.3.1 Demographic characteristics (Lueger-Schuster et al., 2017). The survivor and control group were similar in terms of age and marital status. The average age was 58 with a range from 29 to 87 years and 46% were married or cohabiting. However, there were significant differences between survivor and control groups on some demographic variables. The control group contained more females (65 v 40%); was better educated with more having graduated from high school or university (62 v 7%); had a higher employment rate (51 v 21%); and had a greater monthly income.

4.4.7.9.3.2 Maltreatment experiences (Lueger-Schuster et al., 2017). Participants in the survivors group had been in care from the 1940s to the late 1980s. All had experienced child maltreatment within foster care and 75% had experienced maltreatment within their birth families before entering foster care. Within foster care and in their birth families, survivors had experienced a wide range of maltreatment including physical, sexual and emotional abuse and emotional and physical neglect (as assessed by the CTQ). Compared with the control group, the survivors group reported higher levels of these five types of maltreatment within foster care and within their birth families. These were physical, sexual and emotional abuse and physical and emotional neglect (assessed with the CTQ). Survivors experienced between 0 and 16 traumatic events in adulthood (on the LEC) and their average level of traumatic stressful life events across the lifespan was higher than that of the control group.

4.4.7.9.3.3 Mental health outcomes (Lueger-Schuster et al., 2017). In the survivors group the most prevalent lifetime axis I disorders were PTSD (56%), depression (52%), panic disorder (27%), and alcohol dependency (27%). The most prevalent personality disorders were paranoid (25%), borderline (23%) and avoidant (17%) personality disorders. Rates of almost all mental health disorders were higher in the survivors group than in the control group. For all 10 DSM-IV axis I lifetime psychiatric disorders that were assessed the prevalence rate in the survivors group was significantly higher than that of the control group: PTSD (56% v 1%), depression (52 v 28%), panic disorder (27 v 6%), alcohol dependency (27 v 7%), specific phobia (25 v 7%), social phobia 17 v 2%), obsessive compulsive disorder (11 v 1%), generalized anxiety disorder (10 v 1%), substance dependency (10 v 0%), and dysthymia (9 v 1%). For five out of six DSM IV axis II personality disorders assessed in this study, the prevalence rate in the survivors group was significantly higher than that of the control group: paranoid (25 v 1%), borderline (23 v 0%), avoidant (17 v 2%), compulsive (16 v 5%), and antisocial (8 v 0%). The rates of schizotypal personality disorder in survivor and control groups were not significantly different (3 v 1%). Average scores of the survivor group were significantly greater than those of the control group on dimensional measures of mental health problems. These include the PCL-C which assessed PTSD symptoms, the ICD-TQ which assessed complex PTSD, and the BSI which assessed a broad spectrum of psychological symptoms. When average scores of the survivors group were compared with those of the 25% of the control group who were most severely abused (as indexed by total CTQ scores), the average scores of the survivors group were significantly higher on dimensional measures of mental problems (PCL, ICD-DQ and BSI totals). This indicated the severity of the abuse suffered by survivors in this study.

4.4.7.9.3.4 Psychosocial adjustment and physical health outcomes. Compared with the control group, the survivor group had greater problems in the areas of relationships, employment, criminality and disability. In all of these areas except for relationship status, differences between survivor and control groups were statistically significant. 50% of abuse survivors were divorced or had never married, compared with 46% of control. 43% of abuse survivors were unemployed or had taken early retirement due to disability, compared with 12% of controls. 3% of abuse survivors had been imprisoned, compared with 0% of controls. 6% of abuse survivors were on long-term sick leave, compared with 1% of controls.

4.4.7.9.3.5 Relationship between child abuse, stressful life events in adulthood, and mental health problems (Lueger-Schuster et al., 2017). Mediation analysis showed that child maltreatment (assessed by the CTQ total) predicted PTSD symptoms (assessed with the PCL-5 total) directly, and mediated by adult life events (assessed with the LEC) in both the survivor group and the control group. These results suggest that (1) the severity of child maltreatment in foster care or birth families was directly associated with the intensity of PTSD symptoms in adult life, (2) survivors abused as children were more vulnerable to experiencing stressful events in adulthood, and (3) survivors of child abuse who also experienced stressful events in adulthood developed more severe PTSD symptoms when that occurred. This pattern occurred in mediation analyses for physical, sexual and emotional abuse, and physical neglect, but not emotional neglect (assessed by

the CTQ). Emotional child abuse showed the strongest effect on PTSD in adulthood. The main implication of this mediation analysis is that survivors of institutional abuse develop more intense mental health problems (notably PTSD) when they experience stressful life events, adversities and trauma in adulthood.

4.4.7.9.3.6 Examination of attitudes to the use of professional assistance by survivors of institutional violence (Kantor et al., 2017a). In this substudy 220 adult survivors of child abuse in foster care completed the IASMHS. Confirmatory factor analysis supported the 3-factor structure of the IASMHS. The three factors were inclination to seek help, indifference towards stigma, and psychological openness. The inclination to seek help subscale of the IASMHS predicted the use of psychotherapy by adult survivors of abuse in foster care. The main implication of this substudy is that the IASMHS may be used to assess the readiness of institutional abuse survivors to engage in psychotherapy. The IASMHS may be administered in medical or social service settings which survivors attend. For example, it may be given to survivors by nurses or physicians in routine primary medical care settings. Where survivors score low on the inclination to seek help IASMHS scale, barriers to engaging in psychotherapy may be explored. These may include stigma, low mental health literacy, treatment-related doubts, and limited access to mental health services (Kantor et al., 2017b). Interventions such as motivational interviewing (Miller & Rollnick, 2013) may be used to help survivors become more motivated to engage in psychotherapy.

4.4.7.9.3.7 Institutional child abuse, self-esteem, and adjustment in adulthood (Weindl, 2017). In this substudy average self-esteem scores on the MSES of the survivor group were found to be significantly lower than those of the control group. This pattern occurred on the general self-esteem scale, and also on emotional, social, and performance-related self-esteem MSES subscales. A sub sample of 46 members of the group of survivors of institutional abuse (N=220) completed semi-structured interviews, the transcripts of which were qualitatively analysed. Their mean age of this subgroup was 59 with a range from 42 to 87 years, and 28% were female. In this paper results of the analysis of 28 cases was presented. 128 codes emerged from the qualitative analysis, many of which were related to emotional and social self-esteem as conceptualized in the MSES. In survivors' personal accounts their experiences of low social and emotional self-esteem were linked to institutional abuse, and compromised their mental health and social adjustment. However, their accounts also indicated that positive self-evaluation, self-acceptance, and self-satisfaction were possible. These positive experiences were associated with life satisfaction and successful aging. The main implication of this substudy is that treatment for survivors of institutional abuse should facilitate the development of skills which strengthen positive emotional and social self-evaluation.

4.4.7.9.3.8 Psychological flexibility, post-traumatic symptoms and anger management (Glück et al., 2017). In this substudy 220 adult survivors of child abuse in foster care completed the AAQ-II, CTQ, LEC, ICD-TQ, STAXI, DAQ, DERS, and a brief measure of shame. Using network analysis, it was shown that psychological flexibility played a central role in the network of variables assessing stressful life events in adulthood, PTSD symptoms, shame, and anger expression. Psychological flexibility is a core construct of Acceptance and Commitment Therapy (Hayes et al., 2006). It is the ability to fully connect with thoughts and feelings in the present moment and pursue valued goals within the constraints and affordances of the situation. In contrast, with inflexibility, defensive psychological reactions rigidly dominate behaviour rather than the pursuit of valued goals. Inflexibility often occurs when people fuse with negative self-evaluative thoughts and attempt to avoid experiencing unwanted feelings. This typically has the ironic effect of enhancing distress, reducing contact with the present moment, and decreasing the likelihood of pursuing valued goals. Inflexibility is associated with feeling buffeted by uncontrollable and feared internal experiences. The results of this substudy suggest that treatment of survivors of institutional abuse with complex trauma disorders should focus on strengthening flexibility by facilitating mindfulness and acceptance.

4.4.7.9.3.9 Comments on the study of Institutional abuse of children in federal foster

care in Austria. The third strand of the Austrian institutional abuse research programme found a significant association between recollections of institutional child abuse in federal foster care and adult mental health problems, within the context of a survivor-control group research design. There were a number of other key findings. Survivors abused as children were more vulnerable to experiencing stressful events in adulthood, and developing more severe PTSD. Mental health problems which occurred following institutional abuse were associated with low self-esteem and a lack of psychological flexibility and there was variability in the readiness of abuse survivors to seek treatment, with some reluctant to do so. These findings have very specific implications for the development of evidence-based treatment programmes, and engaging survivors in these.

4.4.7.9.4 Austrian studies of complex PTSD

PTSD is the acronym for post-traumatic stress disorder, a condition characterized by re-experiencing trauma while awake or in nightmares while sleeping; avoidance of trauma related cues, conversations and memories; and hyperarousal occurring following a traumatic event. PTSD is described in both the current 10th edition of the World Health Organization's International Classification of Diseases (ICD-10, WHO, 1992), and the forthcoming 11th edition of this volume (ICD-11, <http://www.who.int/classifications/icd/revision/en/>). The diagnostic criteria for PTSD in ICD-11 are more stringent than those in ICD-10. For example, repeated nightmares, not just repeated memories while awake are required for a diagnosis. In ICD-11, it is proposed to add a new disorder - complex PTSD – which is a broader and more debilitating condition that occurs following exposure to inescapable, prolonged, repeated, trauma, rather than to a single traumatic event (Cloitre, Carvert et al., 2013). To achieve a diagnosis of complex PTSD a person must first meet the criteria for ICD-11 PTSD, and in addition show affect dysregulation (e.g., temper outbursts), negative self-concept (e.g., feeling worthless), and interpersonal problems (e.g., feeling cut-off from others). Because many of the survivors of institutional abuse who participated in the Austrian research programme had experienced inescapable, prolonged, repeated, trauma, rather than a single traumatic event, data on their post-traumatic psychological symptoms afforded a unique opportunity to investigate the validity of the newly proposed condition of complex PTSD. There was also an opportunity to determine the prevalence of this extremely debilitating disorder among survivors of institutional abuse.

The Austrian research team published three papers focusing on complex PTSD (Knefel & Lueger-Schuster, 2013; Knefel et al., 2015, 2016). In two of these papers (Knefel & Lueger-Schuster, 2013; Knefel et al., 2015) participants were 229 individuals who had been abused while in either Catholic institutions or federal foster care in Austria. The third paper (Knefel et al., 2016) was based on data from a sample of 219 survivors who had experienced child abuse in federal foster care, with no participants from Catholic institutions. All participants in these studies were subsamples of participants from the studies of abuse within Austrian Catholic institutions and federal foster care described above.

4.4.7.9.4.1 Two Austrian studies of complex PTSD and PTSD (Knefel & Lueger-Schuster, 2013; Knefel et al., 2015). Participants in two papers on complex PTSD and PTSD were a self-selected 25% (N = 229) sample from a total 915 survivors, 795 of whom had been abused within Catholic institutions and 120 of whom had been abused within federal child care. Participants in these two studies were a subsample of those in Lueger-Schuster, Kantor et al., 2014 combined with the sample in Lueger-Schuster et al., 2013. PPTSD and complex PTSD symptoms were assessed with the PCL-C and BSI.

4.4.7.9.4.2 Demographic and historical characteristics (Knefel & Lueger-Schuster, 2013). In the sample of 229 survivors, participants average age was 56, with a range from 24 to 80 years, and 23% were female. 63% were married or cohabiting and the remainder were single, widowed or divorced. 29% graduated from high school or university.

4.4.7.9.4.3 Maltreatment experiences (Knefel & Lueger-Schuster, 2013). The rates of physical, sexual and emotional institutional abuse were 68%, 70% and 83% respectively. 14% reported one type, 53% two types, and 34% three types of institutional abuse. The average duration of contact with perpetrators was 5 years. Survivors had experienced a very wide range of abusive acts.

4.4.7.9.4.4 Prevalence rates (Knefel & Lueger-Schuster, 2013). 53% met the criteria for ICD-10 PTSD. 38% met the more stringent ICD-11 criteria for PTSD (including those who met the criteria for complex PTSD). 21% met the proposed ICD-11 criteria for complex PTSD. 27% had subclinical PTSD or subclinical complex PTSD. That is, they had debilitating trauma symptoms, but not enough to achieve a diagnosis of PTSD or complex PTSD. Survivors with complex PTSD had experienced a longer duration of institutional child abuse. Significantly more women had complex PTSD than men (40% v.16%). Confirmatory factor analysis showed that the data fit the model of complex PTSD as a unitary construct.

4.4.7.9.4.5 Trauma symptom profiles of survivors of institutional abuse (Knefel et al., 2015). A latent profile analysis of PTSD and complex PTSD symptoms identified four classes of survivors of institutional abuse: (1) a group with PTSD, (2) a group with complex PTSD, (3) a group with subclinical complex PTSD, and (4) a resilient group with low levels of trauma symptoms. These results point to the usefulness of distinguishing between PTSD and complex PTSD. However, they also indicate that there is a group of survivors who not meet the criteria for a trauma-related disorder, but suffer from trauma symptoms.

4.4.7.9.4.6 Austrian study of PTSD, complex PTSD, and borderline personality disorder (Knefel, et al., 2016). Participants in this study of complex PTSD, PTSD, and borderline personality disorder were 219 survivors of child abuse in federal foster care in Vienna assessed between 2014 and 2016, and were a subsample of those in Lueger-Schuster et al., 2017. This was a self-selected 11% sample from a total 1984 survivors who had sought redress through a government commission. Participants were evaluated by clinical psychologists with the CTQ, LEC, ICD-TQ, and the SCID I and II.

4.4.7.9.4.6.1 Mental health outcomes. 54% met the criteria for ICD-11 PTSD. 17% met the criteria for ICD-11 complex PTSD. 23% had borderline personality disorder. A network analysis of symptoms showed that there were not clear boundaries between PTSD, complex PTSD and borderline personality disorder. PTSD and complex PTSD symptoms were strongly connected within disorders and to a lesser degree between disorders. BPD symptoms were weakly connected to others. The most central symptoms were re-experiencing and dissociation (depersonalization and derealisation) and these may be the most important targets for intervention.

4.4.7.9.4.7 Comments on 3 studies of complex PTSD. The three studies of complex PTSD add to a growing body of evidence which supports its validity. About a fifth (17-21%) of survivors of institutional abuse in these three studies had complex PTSD which is a very debilitating condition requiring intensive specialist treatment (Cloitre et al., 2012).

4.4.7.9.4 Overall conclusions from Austrian studies of institutional abuse

Results of the three strands of the Austrian institutional abuse research programme showed that about four fifths of survivors of child abuse in Catholic and federal institutions in Austria had significant mental problems. About half had PTSD and a fifth had complex PTSD. About a fifth were resilient. Social support was associated with better adjustment. Additional stress or trauma in adulthood was associated with poorer adjustment.

4.4.7.10 Swiss studies of outcomes of former indentured child labourers

Maercker and colleagues at the University of Zurich in Switzerland conducted a research programme on the adjustment in older adulthood of former Swiss indentured child labourers (*Verdingkinder*) (Burri et al., 2013; Krammer et al., 2016; Küffer, O'Donovan et al., 2016; Küffer, Thoma et al., 2016; Kuhlman et al., 2013; Maercker et al., 2014; Maercker et al., 2016; Rechsteiner et al., 2015; Simmen-Janevsk et al., 2014, 2015). Until the mid-1950s, it was common for Swiss children from disadvantaged or single parent families to be removed from their homes by the state and sent to work on farms. They were effectively taken into state sanctioned foster care by farming families, and coerced to engage in unpaid labour. This practice met the state's need to provide foster care for children from disadvantaged families, and also a need for unpaid labour in farming communities. Most indentured child labourers were placed in state foster care with farming families before adolescence and did not leave until adulthood, underwent multiple placement changes, and experienced significant maltreatment including physical, sexual, and emotional abuse, and neglect. Historical accounts suggest that in adulthood some had significant physical and mental health problems and social adjustment difficulties as a result of child maltreatment (Leuenberger & Seglias, 2008).

Through media advertisements Maercker and colleagues recruited and interviewed 141 adults aged over 60 years who had been indentured child labourers and interviewed them between 2010 and 2012. Follow-up interviews were conducted with 74 of these 141 participants after 2012. Participants were evaluated by psychologists with the following instruments:

- the Childhood Trauma Questionnaire (CTQ, Bernstein & Fink, 1998) which assessed recollections of child maltreatment,
- the World Health Organization's Composite International Diagnostic Interview trauma events list (CIDI, Wittchen et al., 1998) which assessed traumatic experiences across the lifespan,
- the Geriatric Depression Scale (GDS, Sheikh & Yesavage, 1986),
- the Short-Form Health Survey (SF-12, Ware et al., 1996) which assessed functional impairment due to health problems,
- the Short Screening Scale for PTSD (SSS, Breslau et al., 1999),
- the Structured Interview for Diagnosis of Dementia of Alzheimer Type or Multi-infarct Dementia and Dementia of other Aetiology according to ICD-10 and DSM-III-R (SIDAM; Zaudig et al., 1991),
- the Mini-Mental State Exam (MMSE, Folstein et al., 1975) which assessed cognitive impairment,
- the German version of the Mill Hill Vocabulary Scale (MHVS, Raven et al., 1998) which assessed verbal intelligence,
- the Trauma Symptom Inventory (TSI, Briere, 1995) which assessed a wide spectrum of post-traumatic symptoms associated with complex PTSD,
- the Disclosure of Trauma Questionnaire (DTQ, Müller et al., 2000) which assessed reluctance to talk, urge to talk, and emotional reactions during trauma disclosure,
- the Social Acknowledgment Questionnaire (SAQ, Maercker & Müller, 2004) which assessed self-recognition as a victim or survivor and support from family, friends, acquaintances and local authorities,
- the General Self-Efficacy scale (GSE, Schwarzer & Jerusalem, 1995) which assessed beliefs in personal competence to deal effectively with stressful situations,
- the Short Conscientiousness Scale from the short form of the NEO Five Factor Inventory (SCS, Körner et al., 2008) which assessed trait conscientious,
- a short form of the Barratt Impulsiveness Scale (BIS, Spinella, 2007) which assessed trait impulsivity,

- the Delay Discounting Test (DDT, Forstmeier & Maercker, 2011) which assessed a preference for smaller immediate rewards rather than delayed larger rewards (which is an aspect of impulsivity),
- the Social Support Questionnaire (SSQ, Fydrich et al., 2009), and
- a life satisfaction item (Campbell et al., 1976).

Using data from this extensive assessment protocol involving some or all the 141 participants in this research programme, the Swiss research group published papers on outcomes in older adulthood of abuse experienced during indentured child labour including geriatric depression (Kuhlman et al., 2013), complex PTSD (Krammer et al., 2016), cognitive impairment (Burri et al., 2013), motivational deficits (Simmen-Janevska et al., 2014), impulsivity (Simmen-Janevska et al., 2015), and sexual problems (Rechsteiner et al., 2015). They also investigated the transgenerational (Küffer, Thoma et al., 2016) and biological (Küffer, O'Donovan et al., 2016) correlates of indentured child labour, and factors associated with resilience (Maercker et al., 2016).

4.4.7.10.1 Historical and demographic characteristics (Kuhnman et al., 2013; Maercker et al., 2016). In the overall self-selected convenience sample of 141 participants the average age when they had entered indentured child labour was 6 with a range from 1 to 16 years. They had spent an average of 11 years in indentured labour with a range from 1 to 26 years, and had lived with an average of 3 foster families. They had a mean age of 77 when first assessed for the research programme with a range from 61-101 years, and 41% were female. They had an average of 10 years of education. 40% were married and the remainder were widowed, separated, divorced or single.

4.4.7.10.2 Maltreatment experiences (Kuhnman et al., 2013). On the CTQ 67% had experienced physical abuse, 52% sexual abuse, and 79% emotional abuse. Rates of physical and emotional neglect were 98% and 96% respectively.

4.4.7.10.3 Mental health outcomes. 23% had PTSD (Burri et al., 2013) and 23% had major depressive disorder (Kuhnman et al., 2013).

4.4.7.10.4 Geriatric depression. Using GDS data from 141 participants, Kuhnman et al. (2013) found that 23% had geriatric depression, and 15% had subclinical depressive symptoms. There was a significant association between having experienced child maltreatment and having geriatric depression. There was a particularly strong and significant association between having experienced emotional abuse in childhood and having geriatric depression in later life among survivors who had been separated from their birth families between the ages of 3 and 9 years, and who were indentured for 6–12 years. Survivors who had medical conditions suffered greater functional impairment if they had geriatric depression. The main implication of this analysis is that severe and prolonged child abuse, especially emotional abuse, beginning at an early age in state foster care is associated with depression in older adulthood.

4.4.7.10.5 PTSD and complex PTSD. Using data from 116 participants, whose demographic and historical profile was similar to that of the overall sample of 141 former indentured child labourers mentioned above, Krammer et al. (2016), found that child abuse (assessed with the CTQ) was directly associated with three core PTSD symptoms (anxious arousal, intrusive experiences, and defensive avoidance) and two of seven additional symptoms assessed by the TSI which occur in complex PTSD (depression and dissociation). The effects of child abuse on the three core symptoms of PTSD (anxious arousal, intrusive experiences, defensive avoidance) and four of seven additional symptoms of complex PTSD (depression, dissociation, anger/irritability, and impaired self-reference) was mediated by difficulty in disclosing child maltreatment (assessed with the DTQ) and the degree of acknowledgment and understanding of surviving child abuse shown by members of the survivor's social network (assessed with the SAQ). The only complex PTSD symptoms assessed by the TSI which were not associated with child abuse were tension reduction, dysfunctional sexual behaviour, and sexual concerns. The main implication of this analysis is that the experience of child abuse in state foster care is associated with the symptoms of

complex PTSD and PTSD in older adulthood. This association is affected by survivors' ability to disclose their abuse to others and the degree of support and understanding members of their social network show in response to disclosure.

4.4.7.10.6 Cognitive impairment in old age. Using data from 96 participants whose demographic and historical profile was similar to that of the overall sample of 141 former indentured child labourers mentioned above, Burri et al. (2013), investigated the effects of PTSD on cognitive impairment in older adults. In this sample 23% had PTSD, as assessed with the SSS. On the CIDI trauma event list 43% and 57% indicated that they had experienced their most severe traumatic events in childhood and adulthood respectively. The sample was divided into four subgroups depending on whether they had PTSD or not, and if their most traumatic experience occurred in childhood or adulthood. The four groups were those traumatized in childhood with PTSD (N = 10, 10%), those traumatized in childhood without PTSD (N = 31, 32%), those traumatized in adulthood with PTSD (N = 12, 13%), and those traumatized in adulthood without PTSD (N = 43, 45%). Compared to survivors without PTSD, those with PTSD showed significantly greater cognitive impairment on the SIDAM and MMS, and this pattern of results was not due to higher depressive symptoms on the GDS in those with PTSD. The main implication of this study is that among survivors of child abuse in state foster care, cognitive deficits in old age may, in part, be a consequence of PTSD.

4.4.7.10.7 Motivational deficits. Using data from 114 participants, whose demographic and historical profile was similar to that of the overall sample of 141 former indentured child labourers mentioned above, Simmen-Janevska et al., (2014), investigated the association between the developmental stage when child abuse occurred, and motivational deficits in older adulthood. The sample was divided into four groups based on the developmental stage of abuse: infancy (0-2 years, N = 32), preschool (3-5 years, N = 25), early childhood (6-9 years, N = 29), and early adolescence (10 years and older, N = 28). In each age group correlations were computed between child abuse (as assessed by the CTQ) and three motivational constructs: self-efficacy (assessed with the GSE), conscientiousness (assessed with the SCS) and impulsivity (assessed with the BIS). Higher levels of abuse in early adolescence were associated with lower levels of self-efficacy and conscientiousness in older adulthood. Higher levels of abuse during preschool years were associated with higher levels of impulsivity in older adulthood. The main implication of this analysis is that the experience of child abuse in state foster care during early adolescence is associated with two main motivational deficits in older adulthood. These are having limited confidence in personal competence to deal effectively with stressful situations, and a tendency not to complete tasks or projects. In contrast, the experience of child abuse in state foster care during the preschool years is associated with one motivational deficit in older adulthood, specifically the tendency to act impulsively without thinking through the consequences of actions.

4.4.7.10.8 Impulsivity. In a controlled study, Simmen-Janevska et al., (2015) compared 103 older adults who had been abused as indentured child labourers with a control group of 50 non-abused controls, with a similar age and gender profile. The demographic and historical profile of the 103 child abuse survivors in this study was similar to that of the overall sample of 141 former indentured child labourers, mentioned above, from which they were drawn. Compared with the control group, abuse survivors showed a significantly higher preference for immediate smaller rewards (on the DDT), lower conscientiousness (on the SCS), and higher levels depressive symptoms (on the GDS). The groups did not differ on self-efficacy (assessed with the GSE). The main implication of this substudy is that child abuse in state foster care is associated with poorer self-control and greater impulsivity, lower conscientiousness, and more depressive symptoms in older adulthood.

4.4.7.10.9 Sexual problems. Using data from 96 participants, whose demographic and historical profile was similar to that of the overall sample of 141 former indentured child labourers mentioned above, Rechsteiner et al. (2015) examined correlates of the TSI sexual concerns and

dysfunctional sexual behaviour scales. In this sample, the main sexual concern was dissatisfaction with one's sex life. The main dysfunctional sexual behaviours involved promiscuity. On these two scales men (N = 55) scored significantly higher than women (N = 41), and than older men in the TSI standardization sample. In contrast, female abuse survivors' scores on the sexual concerns and dysfunctional sexual behaviour scales did not differ significantly from those of older women in the standardization sample. There were significant associations between sexual concerns and having experienced (1) physical child abuse (assessed with CTQ), and (2) physical or sexual interpersonal trauma across the lifespan (assessed with the CIDI trauma list). There were also significant associations between both sexual concerns and dysfunctional sexual behaviour on the one hand, and certain complex PTSD symptoms (assessed by the TSI) on the other, including anger/irritability, dissociation and impaired self-reference. The main implications of these findings are that males may be particularly vulnerable to developing sexual difficulties following child abuse in state foster care, or interpersonal trauma in other contexts across the life span. Sexual difficulties may occur in conjunction with other post-traumatic symptoms.

4.4.7.10.10 Transgenerational effects of child abuse in care. There were four groups in this case-control, two generation study: (1) 16 former indentured child labourers with a history of severe child abuse on the CTQ, (2) 19 age and gender matched controls with no history of child abuse, (3) 22 offspring of former indentured child labourers, and (4) 29 offspring of parental controls (Küffer, Thoma et al., 2016). Former indentured child labourers in this study were a subsample of 141 such individuals described above. The mean age of the parental samples was 74 years, and 40% were women. The mean age of the offspring samples was 49 years and, 69% were women. All participants completed the CTQ which assessed child maltreatment. Offspring also completed the Questionnaire of Recalled Parental Rearing Behaviour (QRPRB, Schumacher et al., 1999) which assessed recollections of parental behaviour on the dimensions of emotional warmth, punishment, and control, the Brief Symptom Inventory (BSI, Derogatis & Spencer, 1993) which assessed a broad range of psychopathology, the Revised Life Orientation Test (LOT-R, Scheier et al., 1994) which assessed optimism and pessimism, and the revised Sense of Coherence Scale (SOC-R, Bachem & Maercker, 2016) which assessed the capacity to reflect on challenges in life and manage these within the context of a balanced life. The offspring of abused parents reported significantly higher levels of maltreatment, especially physical abuse (on the CTQ) than offspring of normal controls. Compared with the offspring control group, offspring of abused former indentured child labourers described both their fathers and mothers as showing less emotional warmth, and their mothers as more punitive. They also showed a lower sense of reflection (on the SOC-R), for example, having difficulty taking different perspectives when considering challenging issues. On the positive side, there were no significant differences between offspring groups' levels of mental health problems (on the BSI), or optimism and pessimism (on the LOT-R). The main implication of this study is that there is some degree of intergenerational transmission of child abuse in state foster care (of which indentured child labour is an example). Children of parents abused in state foster care are more likely to engage in non-optimal parenting with their children, and in some instances to abuse them.

4.4.7.10.11 Biological factors: Buccal cell telomere length. In a study of 62 former indentured child labourer abuse survivors and 58 controls who had not been maltreated, Küffer, O'Donovan et al. (2016) found no difference between the buccal cell telomere lengths of the two groups. They also found that the mean buccal cell telomere length of survivors with partial or full PTSD symptoms (assessed with the SSS) was not shorter than that of the control group. In these analyses, the effects of potential confounding variables, including age, gender, education, depression (on the GDS) and functional impairment (on the SF-12) were controlled for. The subsample of abuse survivors in this study had a demographic and historical profile similar to that of the overall sample of 141 former indentured child labourers described above. Buccal cell telomere length was assessed from buccal swabs analysed using quantitative polymerase chain reaction (O'Callaghan et al., 2008). This study was conducted because there is growing evidence

that reduced telomere length occurs in PTSD, and this in turn adversely affects physical health and accelerates the aging process (Lohr et al., 2015). Telomeres are involved in genome stability and the regulation of cellular proliferation. The authors speculated that the unexpected results of this study may have occurred because the elderly abuse survivors who participated were particularly resilient or because the effect of traumatization on Buccal cell telomere length does not persist into old age.

4.4.7.10.12 Resilience. In a longitudinal study with assessments at two time points 20 months apart, Maercker et al. (2016), evaluated resilience and predictors of resilience in 74 indentured child labourer abuse survivors. Participants were a self-selected subsample from the overall sample of 141 indentured child labourers described earlier, who agreed to complete a second assessment 20 months after the initial wave of data collection described above. The subsample in this study, with a mean age of 80, was historically and demographically similar to the overall sample. Resilience was assessed with a life satisfaction question and lack of depression (on the GDS). On each of these two measures, the difference between scores at the initial assessment and second assessment 20 months later was used as index of resilience progressing over time. Path-analysis showed that the following factors predicted resilience (in order of decreasing statistical significance): (1) physical health, (2) income, (3) perceived social support (assessed with the SSQ), (4) the capacity to disclose trauma without experiencing undue distress (assessed with the DTQ), and (5) self-efficacy (assessed with the GSE). There were two counterintuitive findings. Higher cumulative life trauma (assessed with a combination of the CTQ and the CIDI trauma list) was associated with increases in life satisfaction from the first to the second assessment occasion. Greater social acknowledgment by others of survivors having experienced abuse (assessed with SAQ) was associated with an increase, from the first to the second assessment occasion, in depressive symptoms. The authors speculated that the first of these counterintuitive findings suggest that exposure to trauma may have rendered participants more resilient in older adulthood, or that the initial assessment interview may have helped participants feel better during the second assessment interview. The authors further speculated that the second of these counterintuitive findings may have been due to acknowledgment of participants' suffering occurring too late in life and contributing to depressive ruminations, rather than a sense of relief. The main implication of this substudy is that resilience in survivors of child abuse in state foster care was due to the presence of protective factors which include physical health, income, perceived social support, the capacity to disclose trauma without experiencing undue distress, and self-efficacy.

4.4.7.10.13 Comments on the Swiss research programme

Results of the Swiss research programme showed that survivors of child abuse which occurred within the context of indentured child labour in state foster care was associated with mental health problems, with close to a quarter of survivors having a depressive disorder and PTSD. Early severe, prolonged emotional child abuse was associated with depression in older adulthood. Survivors with PTSD showed significantly greater cognitive impairment in older adulthood. Child abuse in state foster care was associated with lower self-efficacy and conscientiousness, especially when abuse occurred in early adolescence; and greater impulsivity, especially when abuse occurred during preschool years. Compared with females, males were particularly vulnerable to developing sexual difficulties following child abuse in state foster care. Children of parents abused in state foster care were more likely to engage in non-optimal parenting with their children, and in some instances to abuse them. Resilient survivors of child abuse in state foster care showed higher levels of certain protective factors including physical health, income, perceived social support, the capacity to disclose trauma without experiencing undue distress, and self-efficacy. PTSD symptoms were less intense where survivors had the ability to disclose their abuse to others and were offered support and understanding by members of their social network in response to disclosure.

4.5 CONCLUSIONS

The aim of the systematic review described in this chapter was to determine the outcome (on physical and mental health, and psychosocial adjustment) of child maltreatment (including physical, sexual, and emotional abuse, and neglect) across the life span (including childhood (up to 18 years) and adulthood (over 18 years)) in individuals who had been maltreated in long-term child care. There are significant associations between the experience of child abuse in long-term residential care and adjustment across the lifespan in the domains of mental health, physical health, and psychosocial adjustment. It is probable that child maltreatment in residential care partly accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the constellation of risk and protective factors. Prevention and treatment policies, programmes, and practices should aim to reduce or eliminate risk factors and enhance protective factors.

Figure 4.1. PRISMA flow diagram of literature search on outcomes of child abuse in long-term care

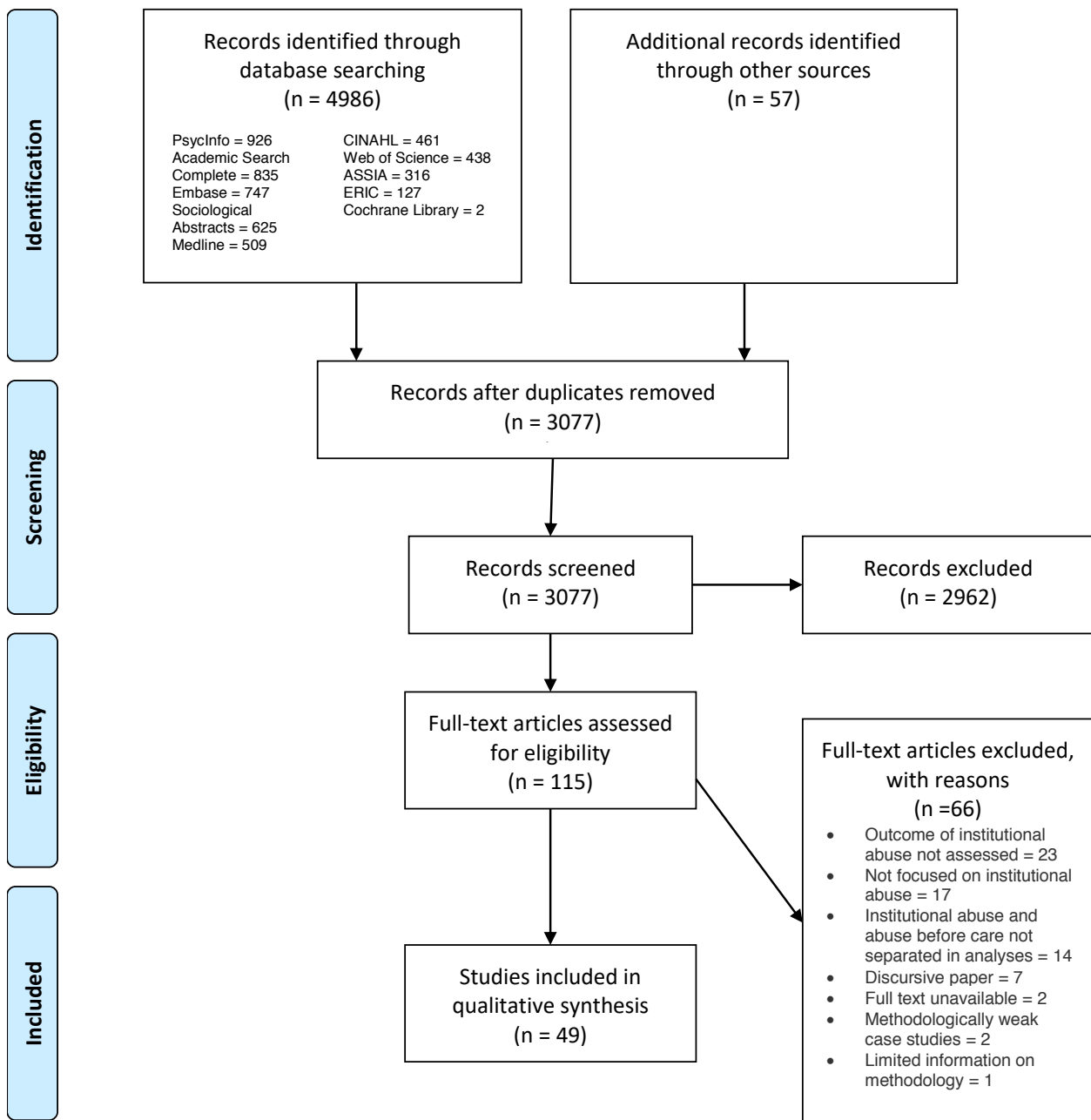
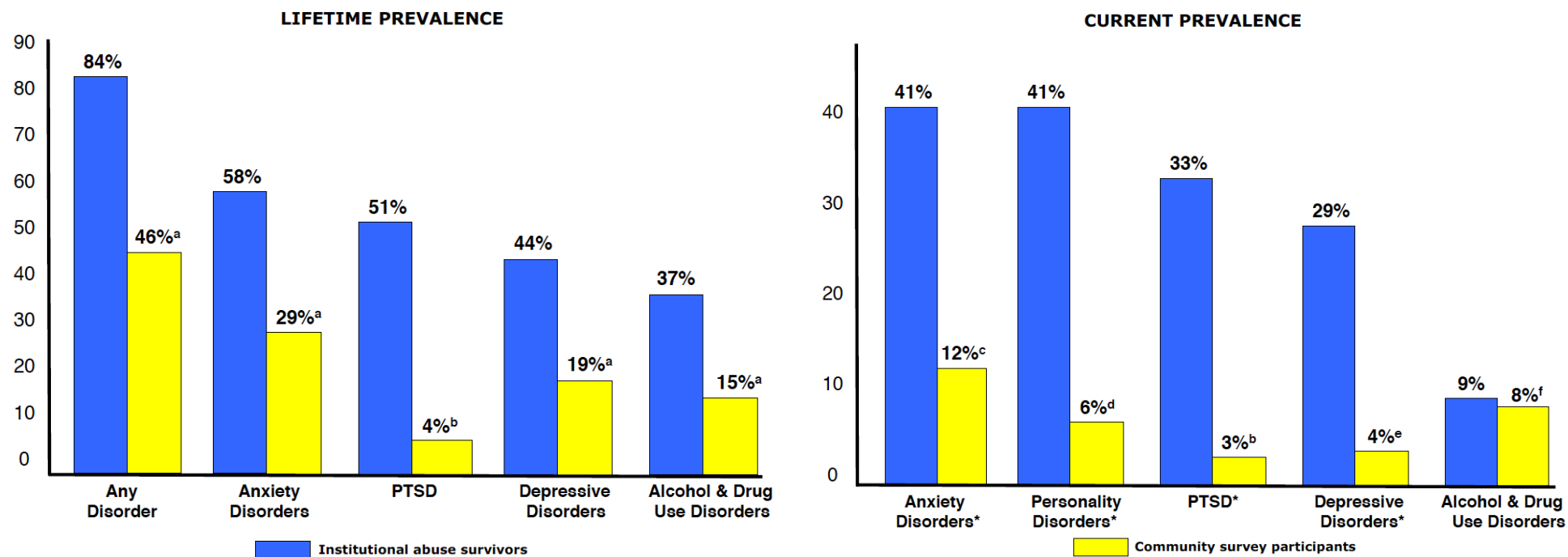
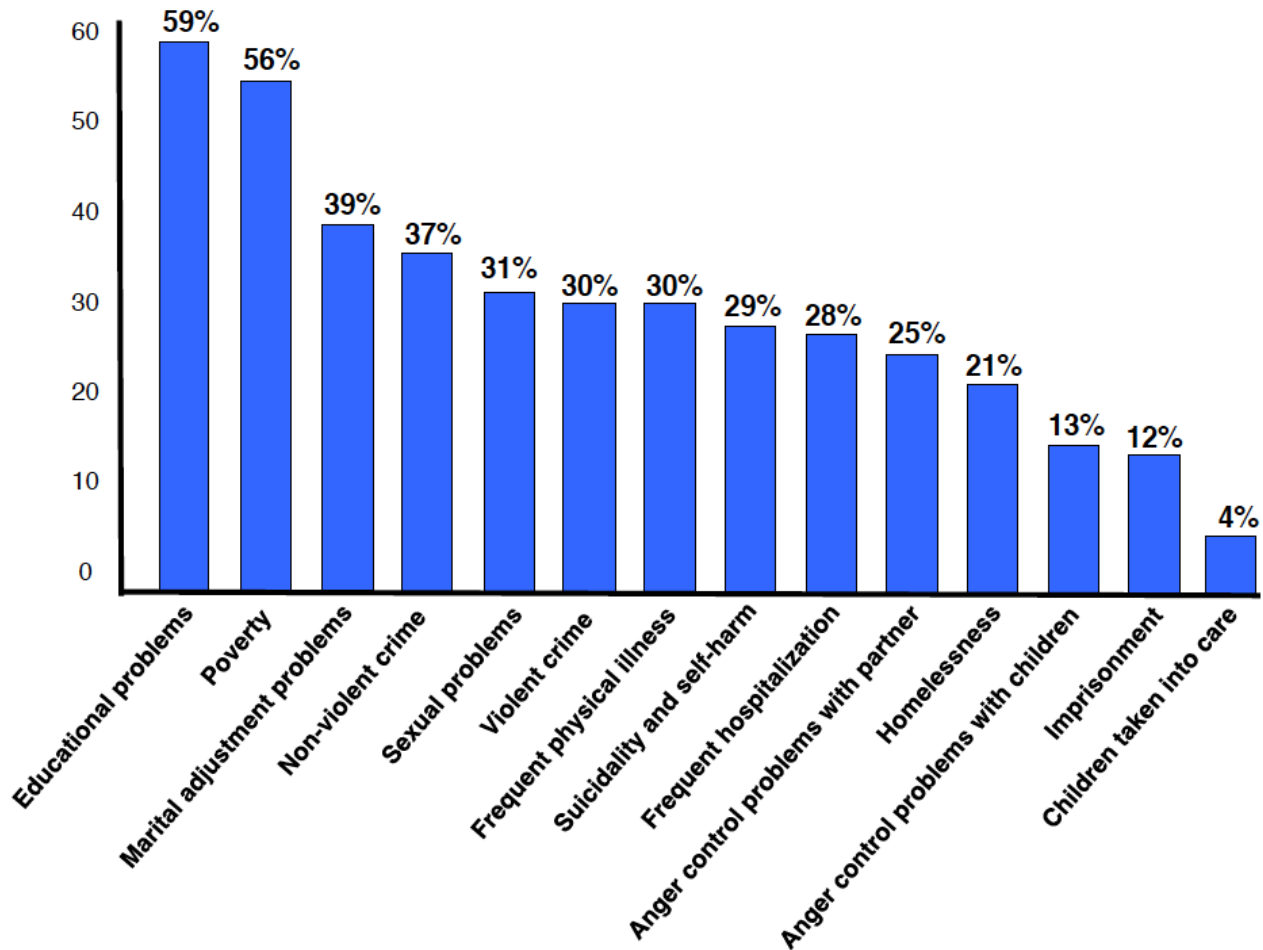


Figure 4.2. Rates of adverse mental health outcomes in studies of survivors of child abuse in long-term care and international community surveys



Note: Prevalence rates for survivors of institutional abuse are means from rates in Benedict et al. (1996), Burri et al. (2013), Carr (2009), Knepel et al. (2013, 2016), Kuhlman et al. (2013) Lueger-Schuster (2013), Lueger-Schuster, et al. (2017) Lueger-Schuster, Kantor et al. (2014) Spröber et al. (2014), and Wolfe et al. (2006). Prevalence rates for community survey participants are from references indicated by superscripts a to f. a = Kessler & Wang (2008). b = Koenen et al. (2017). c = Baxter et al. (2013). d = Tyrer et al. (2010). e = Ferrari et al. (2013). f = Baumeister & Härter (2007). Current prevalence rates for community survey participants are based on a 12-month period.* p<.05

Figure 4.3. Rates of adverse physical health and psychosocial outcomes in studies of survivors of child abuse in long-term care



Note: Prevalence rates for survivors of institutional abuse are means from rates in Benedict et al. (1996), Bode, & Goldman (2012), Carr (2009), Deetman et al. (2013), Ellonen & Pösö (2011), Gavrilovici & Groza (2007) Goldman, & Bode (2012), Hobbs et al. (1999), Kuhlman et al. (2013), Lueger-Schuster (2013), Lueger-Schuster, et al. (2017), Lueger-Schuster, Kantor et al. (2014) Sigal et al. (1999, 2002), Spröber et al. (2014), and Wolfe et al. (2006).

Table 4.1. Assessment of study quality and risk of bias in quantitative studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

First Author (s) Category	Date	Total	1. Was the sample representative of the target population?	2. Were there at least 100 cases in the sample?*	3. Were data collected directly from participants?	4. Was an acceptable case definition used in the study?	5. Were most of the study instruments that measured the effects of child abuse reliable and valid?	6. Were there no financial incentives for over-reporting child abuse or adult adjustment problems?*	7. Was the same mode of data collection used for all participant?	8. Was there a control group?*	9. Were data collected prospectively?*	10. Was there evidence that the sample had not been maltreated prior to, or since institutional abuse?*	11. Were appropriate data analysis methods used?*
Young people													
Benedict	1996	6	1	0	0	1	0	1	1	1	0	0	1
Hobbs	1999	5	0	1	1	1	0	1	0	0	0	0	1
Ellonen	2011	8	1	1	1	1	1	1	1	0	0	0	1
Gavrilovici	2007	8	1	1	1	1	1	1	1	0	0	0	1
Hermenau	2014	6	0	0	1	1	1	1	1	0	0	0	1
Hermenau	2015	7	0	0	1	1	1	1	1	1	0	0	1
Canada													
Sigal	1999	5	0	0	1	0	0	0	1	1	0	1	1
Perry ^a	2005a	7	0	0	1	1	1	1	1	0	0	1	1
Sigal ^a	2002	7	0	0	1	1	1	0	1	1	0	1	1
	2003												
Perry ^a	2005b	8	0	0	1	1	1	1	1	1	0	1	1
Wolfe	2006	5	0	0	1	1	1	0	1	0	0	0	1
Ireland													
Carr ^b	2009	7	0	1	1	1	1	1	1	0	0	0	1
	2010												
Flanagan-Howard ^b	2009	7	0	1	1	1	1	1	1	0	0	0	1
Fitzpatrick ^b	2010	7	0	1	1	1	1	1	1	0	0	0	1
Flanagan ^b	2009	7	0	1	1	1	1	1	1	0	0	0	1
Carr ^b	2009	7	0	1	1	1	1	1	1	0	0	0	1
USA													
Jackson	2011	8	1	1	1	1	1	1	1	0	0	0	1
Salazar	2011	9	1	1	1	1	1	1	1	0	1	0	1

Netherlands														
Deetman	2013	9	1	1	1	1	1	1	1	1	1	0	0	1
Germany														
Spröber	2014	5	0	1	1	1	0	1	0	0	0	0	0	1
Austria														
Lueger-Schuster, Kantor	2014	6	0	1	1	1	1	0	1	0	0	0	0	1
Lueger-Schuster, Weindl ^c	2014	6	0	1	1	1	1	0	1	0	0	0	0	1
Lueger-Schuster, Butollo ^c	2015	6	0	1	1	1	1	0	1	0	0	0	0	1
Lueger-Schuster	2013	5	0	0	1	1	1	0	1	0	0	0	0	1
Lueger-Schuster	2018	7	0	1	1	1	1	0	1	1	0	0	0	1
Kantor ^d	2017a	6	0	1	1	1	1	0	1	0	0	0	0	1
Weindl ^d	2017	7	0	1	1	1	1	0	1	1	0	0	0	1
Glück ^d	2017	6	0	1	1	1	1	0	1	0	0	0	0	1
Knefel ^e	2013	6	0	1	1	1	1	0	1	0	0	0	0	1
Knefel ^e	2015	6	0	1	1	1	1	0	1	0	0	0	0	1
Knefel ^d	2016	6	0	1	1	1	1	0	1	0	0	0	0	1
Switzerland														
Kuhlman	2013	7	0	1	1	1	1	1	1	1	0	0	0	1
Krammer ^f	2016	7	0	1	1	1	1	1	1	1	0	0	0	1
Burri ^f	2013	6	0	0	1	1	1	1	1	0	0	0	0	1
Simmen-Janevska ^f	2014	7	0	1	1	1	1	1	1	0	0	0	0	1
Simmen-Janevska ^f	2015	8	0	1	1	1	1	1	1	1	0	0	0	1
Rechsteiner ^f	2015	6	0	0	1	1	1	1	1	0	0	0	0	1
Küffer, Thoma ^f	2016	7	0	0	1	1	1	1	1	1	0	0	0	1
Küffer, O'Donovan ^f	2016	7	0	0	1	1	1	1	1	1	0	0	0	1
Maercker ^f	2016	7	0	0	1	1	1	1	1	0	0	0	0	1
Totals			6/40	26/40	39/40	39/40	36/40	26/40	38/40	11/40	1/40	4/40	40/40	
%			15	65	98	98	90	65	95	28	3	10	100	

Note: Items 1,3,4,5, and 7 are from the risk of bias scale developed by Hoy et al., (2012). Items 2,6, 8, 9, 10, and 11 were developed for this review. a = Participants were those described in Sigal et al., 2002. Sigal et al., 2002 and 2003 are entered as a single study because the report by Sigal et al (2002) and journal article by Sigal et al. (2003) each present the principal findings of a single study. b = Participants were those described in Carr, 2009. Carr, 2009 and Carr et al., 2010 are entered as a single study because the report by Carr (2009) and journal article by Carr et al. (2010) each present the principal findings of a single study. c = Participants were subsamples of those in Lueger-Schuster, Kantor et al., 2014. d = Participants were the same as the survivor group in Lueger-Schuster et al., 2017. e = Participants were those in Lueger-Schuster, Kantor et al., 2014 combined with those in Lueger-Schuster et al., 2013. f = Abuse survivor participants were subsamples of those in Kuhlman et al., 2013.

Table 4.2. Assessment of study quality and risk of bias in qualitative studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

First Author(s)	Date	Total	1. Is a qualitative approach appropriate?	2. Is the study clear in what it seeks to do?	3. Is the research design / method-ology defensible / rigorous?	4. Was the data collection carried out well?	5. Is the role of the researcher clearly described?	6. Is the context clearly described?	7. Were the methods reliable?	8. Is the data analysis sufficiently rigorous?	9. Is the data 'rich'?	10. Is the analysis reliable?	11. Are the findings convincing?	12. Are the findings relevant to the aims of the study?	13. Are the conclusions supported by the results of data analysis and interpretation?	14. Is the reporting of ethics clear and coherent?
Perry ^a	2006	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Morton	2015	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Bode	2012	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Goldman	2012	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Weindl & Lueger-Schuster	2016	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Weindl	2017	12	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Totals			6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	0/6	6/6	6/6	6/6	6/6
%			100	100	100	100	100	100	100	100	100	0	100	100	100	100

Note: All items are from NICE (2012) Quality appraisal checklist. a = Paré et al. (2010) is omitted from this table because the 2 case studies in that paper, and a subset of the 7 case studies in Perry et al (2006).

Table 4.3. Percentage agreement between two raters and Krippendorff's Alpha for record and full text screening, and data extraction in studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

	% Agreement	Krippendorff's Alpha
Record screening		
Screening records (by title, abstract)	95.11	-
Screening full texts	94.57	-
Quality of quantitative studies (Risk of Bias)		
1. Was the sample representative of the target population	100.00	1.00
2. Were there at least 100 cases in the sample?	100.00	1.00
3. Were data collected directly from participants?	100.00	1.00
4. Was an acceptable case definition used in the study?	100.00	1.00
5. Were most of the study instruments that measured the effects of child abuse reliable and valid?	100.00	1.00
6. Were there no financial incentives for over-reporting child abuse or adult adjustment problems?	100.00	1.00
7. Was the same mode of data collection used for all participants?	97.50	0.66
8. Was there a control group?	100.00	1.00
9. Were data collected prospectively?	100.00	1.00
10. Was there evidence that the sample had not been maltreated prior to, or since institutional abuse?	100.00	1.00
11. Were appropriate data analysis methods used?	100.00	1.00
Total Risk of Bias study quality score	99.54	0.99
Quality of qualitative studies (NICE-QAC)		
1. Is a qualitative approach appropriate?	100.00	1.00
2. Is the study clear in what it seeks to do?	100.00	1.00
3. Is the research design / methodology defensible /rigorous?	100.00	1.00
4. Was the data collection carried out well?	100.00	1.00
5. Is the role of the researcher clearly described?	100.00	1.00
6. Is the context clearly described?	100.00	1.00
7. Were the methods reliable?	100.00	1.00
8. Is the data analysis sufficiently rigorous?	100.00	1.00
9. Is the data 'rich'?	100.00	1.00
10. Is the analysis reliable?	100.00	1.00
11. Are the findings convincing?	100.00	1.00
12. Are the findings relevant to the aims of the study?	100.00	1.00
13. Are the conclusions supported by the results of data analysis and interpretation?	100.00	1.00
14. Is the reporting of ethics clear and coherent?	100.00	1.00
Total NICE-QAC study quality score	100.00	1.00
Study design features		
Years when data were collected	95.56	1.00
Type of design	93.33	0.91
Number of cases in abuse survivors group	97.78	0.98
Number of cases in control group	97.78	0.99
Demographic characteristics		
Mean age of survivor participants (when adjustment was assessed)	93.33	0.93
Age range of survivor participants (when adjustment was assessed)	91.11	0.86
% female survivor participants	93.33	0.99
Child Care experiences		
% mainly in religious institutional care	89.47	0.99
% mainly in non-religious institutional care	100.00	1.00
% mainly in foster care	100.00	1.00
Average age when entered care	89.47	0.86

Age range when entered care	89.47	0.88
Average duration of care	89.47	0.87
Range of duration of time in care	94.73	0.88
Child abuse experiences		
% abused within birth family	94.73	0.90
% abused in care	94.73	1.00
% sexually abused in care	78.95	0.99
% physically abused in care	84.21	0.89
% emotionally abused in care	84.21	0.99
Mental health outcomes		
% or <i>d</i> for any type of general mental health problems	100.00	1.00
% or <i>d</i> for co-morbid disorders	100.00	1.00
% or <i>d</i> for PTSD	100.00	1.00
% or <i>d</i> for complex PTSD	100.00	1.00
% or <i>d</i> anxiety disorders (including PTSD)	100.00	1.00
% or <i>d</i> depressive disorders (including MDD and dysthymia)	100.00	1.00
% or <i>d</i> for drug and alcohol use disorders	87.50	0.99
% or <i>d</i> for personality disorders	100.00	1.00
Adverse physical health and social outcomes		
% frequent illness	93.75	0.98
% frequent hospitalization for physical health problems	100.00	1.00
% homeless	100.00	1.00
% anger control problems in intimate relationships	100.00	1.00
% anger control problems with children	100.00	1.00
% violent crime	93.75	0.99
% non-violent crime	93.75	0.98
% imprisoned	100.00	1.00
% never married, separated or divorced	93.75	0.88
% children taken into care	100.00	1.00
% School problems, not finished high-school, learning difficulties	93.75	0.99
% poverty, unemployed, un-skilled or semi- skilled job	100.00	1.00
% sexual problems	100.00	1.00
% self-harm	100.00	1.00

Table 4.4. Study design features and participants' demographic characteristics in studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

First Author	Publication Date	Years when data were collected	Type of design	Study quality total score	Number of cases in abuse survivors group	Number of cases in control group	Mean age in years of survivors (when adjustment was assessed)	Age range in years of survivors (when adjustment was assessed)	% female survivor participants
Young people									
Benedict	1996	1984-1988	CC	6/11	78	229	-	1-18	61
Hobbs	1999	1990-1995	SC	5/11	158	-	10	1-18	52
Ellonen	2011	2008	SC	8/11	113	-	-	12-16	54
Gavrilovici	2007	-	SC	8/11	318	-	13	8-17	50
Hermenau	2014	-	GP	6/11	62	-	11	8-15	46
Hermenau	2015	-	CC	7/11	89	89	11	6-15	49
Canada									
Sigal	1999	-	CC	5/11	31	446	55	45-68	19
Perry ^a	2005a	-	CC	8/11	81	-	59	43-74	51
Sigal ^a	2002	-	CC	8/11	81	243	59	43-74	51
	2003								
Perry ^a	2005b	-	CC	8/11	81	224	59	43-74	51
Perry ^a	2006	-	QL	12/14	7	-	60	51-69	57
Wolfe	2006	1997-1999	SC	5/11	76	-	39	23-54	0
Ireland									
Carr ^b	2009	2005-2006	SC	7/11	247	-	60	40-83	45
	2010								
Flanagan-Howard ^b	2009	2005-2006	GP	7/11	247	-	60	40-83	45
Fitzpatrick ^b	2010	2005-2006	GP	7/11	247	-	60	40-83	45
Flanagan ^b	2009	2005-2006	GP	7/11	247	-	60	40-83	45
Carr ^b	2009	2005-2006	GP	7/11	247	-	60	40-83	45
USA									
Jackson	2011	2000-2002	SC	8/11	220	-	-	20-51	49
Salazar	2011	2002	LG	9/11	201	-	21	17-22	55
Morton	2015	-	QL	12/14	7	-	-	-	57
Australia									
Bode	2012	2009	QL	12/14	10	-	-	46-66	0
Goldman	2012	2009	QL	12/14	10	-	-	44-72	100
Netherlands									
Deetman	2013	2010	CC	9/11	238	565	61	40+	-

Germany										
Spröber	2014	2010-2011	SC	6/11	1050	-	52	12-89	40	
Austria										
Lueger-Schuster, Kantor	2014	2011-2012	SC	6/11	448	-	55	25-80	25	
Lueger-Schuster, Weindl ^c	2014	2011-2012	GP	6/11	185 ^{sr}	-	56	26-80	24	
Lueger-Schuster, Butollo ^c	2015	2011-2012	GP	6/11	185	-	56	26-80	23	
Weindl & Lueger-Schuster ^c	2016	2011-2012	QL	12/14	58	-	59	38-80	15	
Lueger-Schuster	2013	2012	SC	5/11	58	-	54	-	14	
Lueger-Schuster	2018	2014-2016	CC	7/11	220	234	58	29-87	40	
Kantor ^d	2017a	2014-2016	SC	6/11	220	-	58	29-87	40	
Weindl ^d	2017	2014-2016	CC	7/11	220	234	58	29-87	40	
Glück ^d	2017	2014-2016	QL	12/14	28	-	58	29-87	40	
Knefel ^e	2013	2011-2012	GP	6/11	229	-	56	24-80	23	
Knefel ^e	2015	2011-2012	GP	6/11	229	-	56	24-80	23	
Knefel ^d	2016	2014-2016	SC	6/11	219	-	58	29-87	40	
Switzerland										
Kuhlman	2013	2010-2012	SC	7/11	141	-	77	61-101	41	
Krammer ^f	2016	2010-2012	SC	7/11	116	-	77	59-98	41	
Burri ^f	2013	2010-2012	SC	6/11	96	-	78	60-95	43	
Simmen-Janevska ^f	2014	2010-2012	GP	7/11	114	-	78	-	39	
Simmen-Janevska ^f	2015	2010-2012	CC	8/11	103	50	76	66-99	42	
Rechsteiner ^f	2015	2010-2012	SC	6/11	96	-	78	60-95	43	
Küffer, Thoma ^f	2016	2010-2012	CC	7/11	16	19	76	-	38	
Küffer, O'Donovan ^f	2016	2010-2012	CC	7/11	62	58	76	-	45	
Maercker ^f	2016	2010-2012	LG	7/11	74	-	80	61-101	41	

Note: - = data were not available. a = Participants were those described in Sigal et al., 2002 or a subsample of them. Sigal et al., 2002 and 2003 are entered as a single study because the report by Sigal et al (2002) and journal article by Sigal et al. (2003) each present the principal findings of a single study. b = Participants were those described in Carr, 2009. Carr, 2009 and Carr et al., 2010 are entered as a single study because the report by Carr (2009) and journal article by Carr et al. (2010) each present the principal findings of a single study. c = Participants were subsamples of those in Lueger-Schuster, Kantor et al., 2014. d = Participants were the same as the survivor group in Lueger-Schuster et al., 2017. e = Participants those in Lueger-Schuster, Kantor et al., 2014 combined with those in Lueger-Schuster et al., 2013. f = Abuse survivor participants were subsamples of those in Kuhlman et al., 2013. SC = Single cohort cross-sectional study. GP = Subgroups or process study within a single cohort cross-sectional study. CC = Controlled cross-sectional study. LG = Longitudinal single cohort study. QL = Qualitative study. SR = self-report data were available for these cases. OS = these cases were offspring of parents from whom data were also collected. + = Survivors were over 40 years. The quality of quantitative studies and risk of bias was assessed with an adapted version of Hoy et al.'s (2012) scale. The items are listed in Table 4.1. The quality of qualitative studies was assessed with the NICE (2012) Quality appraisal checklist. The items are listed in Table 4.2.

Table 4.5. Child care experiences in studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

Category and Author	Date	% mainly in religious Institutional care	% mainly in non-religious institutional care	% mainly in foster care	Average age in years when entered care	Age range in years when entered care	Average duration of care in years	Range of duration of time in care in years
Young people								
Bendict	1996	0	0	100	-	0-11+	-	-
Hobbs	1999	0	16	84	-	-	-	-
Gavrilovici	2007	0	100	0	7	-	6	0-17
Hermenau	2014	-	-	-	5	0-14	6	1-15
Canada								
Sigal	1999	100	0	0	0	0-3	14	?-14
Sigal	2002	100	0	0	0	-	-	-
Wolfe	2006	100	0	0	-	-	-	-
Ireland								
Carr ^a	2009 2010	100	0	0	5	1-16	10	1-22
USA								
Jackson	2011	0	0	100	-	-	-	-
Salazar	2011	0	0	100	-	-	-	-
Morton	2015	0	0	100	8	0-12	12	5-18
Australia								
Bode	2012	100	0	0	-	-	-	-
Goldman	2012	100	0	0	-	-	-	-
Netherlands								
Deetman	2013	100	0	0	-	-	-	-
Germany								
Spröber	2014	51	49	0	-	-	-	-
Austria								
Lueger-Schuster, Kantor	2014	82	0	0	-	-	-	-
Lueger-Schuster	2013	0	100	0	-	-	6	-
Lueger-Schuster	2018	0	0	100	6	0-16	-	-
Switzerland								
Kuhlman	2013	0	0	100	6	1-16	11	1-26

Note: - = data were not available. a = Carr, 2009 and Carr et al., 2010 are entered as a single study because this report (Carr, 2009) and journal article (Carr et al., 2010) each present the principal findings of a single study. + = Some children were over 11 years when they entered care.

Table 4.6. Child abuse experiences in studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

First Author	Date	% abused within birth family before placed in care	% abused in care	% sexually abused in care	% physically abused in care	% emotionally abused in care
Young people						
Benedict	1996	9	-	49	24	-
Hobbs ^a	1999	80	100	65	34	-
Ellonen	2011	-	-	-	18	58
Gavrilovici	2007	-	-	29	71	-
Canada						
Sigal	1999	0	-	-	-	-
Sigal	2002	0	96	58	91	99
Wolfe	2006	-	100	100	100	-
Ireland						
Carr ^b	2009 2010	19	100	47	97	94
USA						
Jackson	2011	76	31	-	-	-
Salazar	2011	66	39	15	14	16
Morton	2015	-	100	57	71	-
Australia						
Bode	2012	-	100	100	-	-
Goldman	2012	-	100	100	-	-
Netherlands						
Deetman	2013	-	-	100	-	-
Germany						
Spröber	2014	-	100	100	45	45
Austria						
Lueger-Schuster, Kantor	2014	7	83	68	68	83
Lueger-Schuster	2013	48 ^{NE} 40 ^{PA}	100	60	100	93
Lueger-Schuster	2018	75	S>C	S>C	S>C	S>C
Switzerland						
Kuhlman	2013	-	100	52	67	79
Mean		38	88	67	63	71

Note: - = data were not available. NE = Neglect. PA = physical abuse. S>C = Level of abuse in survivor group was greater than that in the control group on the Childhood Trauma Questionnaire (Bernstein & Fink, 1998). a = Hobbs et al (1999) reported rates of 52% for sexual abuse, 35% for physical abuse, and 13% for both. In the table 13% has been added to the rates of 52% and 35% to give overall rates of 65% for sexual abuse and 48% for physical abuse. b = Carr, 2009 and Carr et al., 2010 are entered as a single study because the report by Carr (2009) and journal article by Carr et al. (2010) each present the principal findings of a single study.

Table 4.7. Rates of adverse mental health outcomes in studies of survivors of child abuse in long-term care

First Author	Date	% with mental health problems	% with co-morbid disorders	% with PTSD	% with Complex PTSD	% with anxiety disorders (including PTSD)	% with depressive disorders	% with drug and alcohol disorders	% with personality disorders
UK									
Benedict ^e	1996	72 ^{CT}	-	-	-	52 ^{CT}	48 ^{CT}	-	-
Hobbs ^f	1999	44 ^{CT}	-	-	-	-	-	-	-
Ellonen ^g	2011	26	-	-	-	-	-	-	-
Canada									
Sigal ^h	1999	SG>CG	-	-	-	-	-	-	-
Sigal ^h	2002	72	-	-	-	-	15	0	-
Wolfe ^k	2006	59 ^{CT} 88 ^{LT}	22 ^{CT} 43 ^{PT}	42 ^{CT} 63 ^{LT}	-	-	25 ^{CT} 37 ^{LT}	21 ^{CT} 66 ^{LT}	-
Ireland									
Carr ^{a,k}	2009	82 ^{LT}	34 ^{CT§}	17 ^{CT}	-	45 ^{CT}	27 ^{CT}	4 ^{CT}	34 ^{CT}
	2010			24 ^{LT}		79 ^{LT}	63 ^{LT}	39 ^{LT}	
Netherlands									
Deetman ^l	2013	33	-	-	-	-	-	-	-
Germany									
Spröber ^m	2014	78 ^{LT}	10 ^{§§}	7 ^{LT}	-	13 ^{LT}	13 ^{LT}	-	-
Austria									
Lueger-Schuster, Kantor ⁿ	2014	85 ^{CT}	-	49 ^{CT}	-	-	-	-	-
Lueger-Schuster ^k	2013	>83 ^{LT}	-	74 ^{LT}	-	83 ^{LT}	57 ^{LT}	54 ^{LT}	65 ^{CT}
Lueger-Schuster ^k	2018	-	-	36 ^{CT} 56 ^{LT}	-	>36 ^{CT} >56 ^{LT}	23 ^{CT} 52 ^{LT}	>10 ^{CT} >27 ^{LT}	>25 ^{CT}
Knefel ^{b,o}	2013	-	-	53 ^{CT,ICD-10} 38 ^{CT,ICD-11}	21 ^{CT}	-	-	-	-
Knefel ^{c,p}	2016	-	-	54 ^{CT,ICD-11}	17 ^{CT}	-	-	-	-
Switzerland									
Kuhlman ^q	2013	-	-	-	-	-	23 ^{CT}	-	-
Burri ^{d,r}	2013	-	-	23 ^{CT}	-	-	-	-	-
Mean		67%		33 ^{CT} 51 ^{LT}	19 ^{CT}	41 ^{CT} 58 ^{LT}	29 ^{CT} 44 ^{LT}	9 ^{CT} 37 ^{LT}	41 ^{CT}

Note: PTSD = Post-traumatic Stress Disorder. - = data were not available. a = Carr, 2009 and Carr et al., 2010 are entered as a single study because this report (Carr, 2009) and journal article (Carr et al., 2010) each present the principal findings of a single study. b = Participants were those in Lueger-Schuster, Kantor et al., 2014 combined with those in Lueger-Schuster et al., 2013. c = Participants were the same as the survivor group in Lueger-Schuster et al., 2017. d = Participants were a subsample of those in Kuhlman et al., 2013. e = Diagnoses were abstracted from case files. f = General mental health problems were assessed by paediatricians in unstructured interviews and described as behavioural problems. g = Mental health status was assessed with the Strengths and Difficulties Questionnaire (Goodman et al., 1998). h = Mental health was assessed with the Trauma Symptom Checklist for Children (Briere, 1996). i = General mental health with the Strengths and Difficulties Questionnaire (Goodman et al., 1998), PTSD with the UCLA PTSD Reaction Index (Steinberg et al., 2004), depression with the Children's Depression Inventory (Sitarenios & Kovacs, 1999). j = Mental health was assessed with the Psychological Symptom Inventory (Kovacs, 1982). k = Diagnoses were made with various versions of the SCID I and II (First et al., 1996, 1997; Spitzer et al., 1996; Wittchen et al., 1997). l = Mental health was assessed with the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). m = Mental health problem were assessed by professional helpline staff in unstructured interviews. n = General mental health problems were assessed by elevations on any scale of the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) and PTSD was assessed with the Post-traumatic Stress Disorder - Civilian version checklist (Weathers et al., 1993). o = PTSD and complex PTSD were assessed with the Post-traumatic Stress Disorder - Civilian version checklist (Weathers et al., 1993) and Brief Symptom Inventory (Derogatis & Melisaratos, 1983). p = PTSD and complex PTSD were assessed with the ICD-11 Trauma Questionnaire (Cloitre, Roberts et al., 2013). q = Depression was assessed with the Geriatric Depression Scale (Sheikh & Yesavage, 1986). r = PTSD was assessed with the Short Screening Scale for PTSD (Breslau et al., 1999). CT = Current diagnosis of the disorder. PT = Past diagnosis of the disorder. LT = Lifetime

diagnosis of the disorder and includes cases with both current and past diagnoses. § = 4 or more co-morbid diagnoses. §§ = 2 or more co-morbid diagnoses. ICD-10 = PTSD diagnosis based on criteria in the International Classification of diseases – 10th edition (WHO, 1992). ICD-10 = PTSD diagnosis based on the proposed criteria for the International Classification of diseases – 11th edition (<http://www.who.int/classifications/icd/revision/en/>)

Table 4.8. Rates of adverse physical health and psychosocial outcomes in studies of survivors of child abuse in long-term care

Category Author	Date	% frequent illness	% frequent hospitalization for physical health problems	% homeless	% anger control problems in intimate relationships	% anger control problems with children	% violent crime	% non-violent crime	% imprisoned	% never married, separated or divorced	% children taken into care	% school problems, not finished high-school, learning difficulties	% poverty, unemployed, unskilled or semi-skilled job	% sexual problems	% self-harm
Young people															
Benedict	1996	74	-	-	-	-	-	-	-	-	-	53	-	-	17
Hobbs	1999	-	-	-	-	-	-	-	-	-	-	24	-	25	-
Ellonen	2011	-	-	-	-	-	39	39	-	-	-	-	-	-	-
Gavrilovici	2007	-	-	-	-	-	31	-	-	-	-	-	-	-	-
Canada															
Sigal	1999	26	-	-	-	-	-	-	-	39	-	-	-	-	-
Sigal	2002	21	-	-	-	-	-	-	-	46	-	-	-	-	33
Wolfe	2006	-	-	-	49	-	39	51	-	32	-	51	73	46 ^{CT} 66 ^{PT}	-
Ireland															
Carr ^a	2009 2010	30	28	21	26	13	10	22	21	35	4	80	51	23 ^{sc} 13 ^{sd}	18
Australia															
Bode	2012	-	-	-	-	-	-	-	-	-	-	90	-	-	-
Goldman	2012	-	-	-	-	-	-	-	-	-	-	100	-	-	-
Netherlands															
Deetman	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	14
Germany															
Spröber	2014	22	-	-	20	-	-	-	-	55	-	18	-	-	-
Austria															
Lueger-Schuster, Kantor	2014	-	-	-	-	-	-	-	-	38	-	-	-	-	-
Lueger-Schuster	2013	-	-	-	-	-	-	-	-	29	-	-	-	-	63
Lueger-Schuster	2018	6	-	-	-	-	-	-	3	50	-	-	43	-	-
Switzerland															
Kuhlman	2013	-	-	-	-	-	-	-	-	30	-	-	-	-	-
Means		30	-	-	25	-	30	37	12	39	-	59	56	31	29

Note: - = data were not available. a = Carr, 2009 and Carr et al., 2010 are entered as a single study because the report by Carr (2009) and journal article by Carr et al. (2010) each present the principal findings of a single study. CT= Current problem. PT = Past problem SC = Sexual concerns on the Trauma Symptom Inventory (Briere, 1995). SD = Sexual dysfunction on the Trauma Symptom Inventory (Briere, 1995).

Table 4.9. Key results from studies of the physical and mental health and psychosocial outcomes for survivors of child abuse in long-term care

Category Author	Date	Type of study	Key Findings
Young people Benedict	1996	This was US retrospective archival study of the adjustment of 78 children abused in foster care in Baltimore Maryland USA between 1984 and 1988 compared with a random sample of 229 non-abused children in foster care.	<p>Data were abstracted from case files of all children abused in foster care in Baltimore between 1984 and 1988, and a random sample of 229 non-abused children in foster care.</p> <p>84% of participants were African American and 53% of children had health problems before entering foster care.</p> <p>These children came from families in which 70% of birth mothers had health problems, 31% had alcohol use problems, 22% had drug use problems, and 24% had psychiatric problems.</p> <p>In foster care 49% of children had been sexually abused, 24% physically abused, and 27% had suffered significant neglect.</p> <p>Being abused while in foster care was significantly more likely for girls than boys, for those with developmental problems prior to foster care, for those with emotional problems during foster care, and for children placed in non-kinship foster care.</p> <p>For the sexually abused young people in 2/3 of cases the perpetrator was a foster carer, and in 2/3 of cases sexual abuse involved attempted or actual penetration.</p> <p>More girls than boys were sexually abused (79% v 21%), and more sexually abused children had developmental delays in cognitive, language or motor development than non-abused children (27% v 12%).</p> <p>Compared with non-abused children, significantly more physical and sexually abused children were over 2 years when first placed in foster care (73% v 51%); they had been in more residential or foster care settings (7 v 3); and overall had spent less time in care (10 v 6 years).</p> <p>Sexually abused and neglected children were significantly more likely to be in non-kinship foster care than non-abused children (82% v 61%).</p> <p>In the physical health domain 74% had significant problems.</p> <p>In the mental health domain 72% had significant problems.; 48% were depressed and 52% were anxious.</p> <p>In the psychosocial adjustment domain, 17% were, or had been suicidal.</p> <p>Compared with non-abused children, significantly more abused children had physical health (74% v 59%), mental health (72% v 43%), and behavioural problems (78% v 58%), and developmental delays (53% v 28%).</p> <p>Compared with children who had suffered other forms of maltreatment significantly more sexually abused children had mental health problems (87% v 65%), especially depression (68% v 38%).</p>
Hobbs	1999	This was a UK retrospective archival study of 158 child survivors of physical and/or sexual abuse from 1990-1995 in foster or residential care in Leeds.	<p>Participants were a convenience sample of 158 children including 133 abused in foster care and 25 abused in residential care, assessed by paediatricians in the 1990s.</p> <p>The mean age was 10, with range from 1-18 years and 52% were female.</p> <p>52% had been sexually abused, 34% physically abused and 13% both physically and sexually abused while in care</p> <p>Abuse was very severe in 39% of cases with 1 death, 8 children with burns, 18 with genital, and 34 with anal penetration.</p> <p>80% had been maltreated prior to entering care.</p> <p>39% had been abused by foster parents or residential care staff, 23% by parents during visits, and 31% by peers or others.</p> <p>44% had significant behavioural problems indicative of mental health problems.</p> <p>25% had sexualized behaviour problems.</p> <p>24% had learning difficulties including Down's syndrome, cerebral palsy, and hearing impairment.</p>
Ellonen	2011	This was a Finnish cohort study of a national probability sample of 13,459 adolescents, 113 of whom were in care at the time of the study	<p>This was a cross-sectional cohort study of a nationally representative probability sample of 13,459 adolescents aged 12 -16 years conducted in 2008, of whom 50% were female, and of whom 113 were in care at the time of the survey.</p> <p>Participants completed online questionnaires which included the CTSPC to assess abuse, the SDQ to assess mental health, and the JVQ to assess victimization in the community. All of the following results concern the 113 adolescents who were in care.</p> <p>On the CTSPC 18% had experienced physical abuse and 58% emotional abuse.</p> <p>On the SDQ 26% had internalizing behaviour problems such as depression or anxiety, 21% had externalizing behaviour problems such as aggression or rule breaking, and 17% had problems with pro-social peer relationships.</p> <p>On the JVQ 48% and 43%, respectively, had been victims of violence and stealing in the community, while 39% had engaged in property damage and 39% in violent delinquency.</p>

			<p>In the mental health domain, there was no significant association between physical and emotional abuse on the one hand, and mental health problems (internalizing and externalizing behaviour problems and problems with pro-social behaviour) on the other.</p> <p>In the psychosocial adjustment domain, there were significant associations between having experienced emotional abuse, and both being violently victimized and engaging in delinquency (violence and property damage) in the community.</p>
Gavrilovici	2007	This was a Romanian cross-sectional study of 448 young people in state run residential institutions	<p>This was a cross-sectional study of 448 children under 18 years in 6 state run residential institutions in Iasi County in North eastern Romania. Participants mean age was 13 years, and 52% were female.</p> <p>They had been in institutional care for an average of 6 years, with a range from 8-17 years. 35% were from 2 parent families, 37% from single parent families, and the remainder had no parents.</p> <p>Data were collected by interview for pre-adolescents and by paper and pencil questionnaire for adolescents. The assessment pack included REVS to assess abuse and TSCC to assess trauma symptoms.</p> <p>71 % had been physically abused (slapped, hit, punched or pushed), 41% had been severely physically abused (beaten up), and 29% had been sexually abused.</p> <p>In the mental health domain, there were significant associations between exposure to violence (including being abused or witnessing abuse) and depression, anxiety, post-traumatic stress, anger, and dissociation.</p> <p>In the psychosocial adjustment domain, 61% had engaged in aggressive behaviour (hitting), 31% in very aggressive behaviour (beating up), and 10% in extremely aggressive behaviour (attacking with a knife); and 18% had experienced suicidal ideation.</p>
Hermenau	2014	This was a Tanzanian cross-sectional study compared the adjustment of preadolescent survivors of institutional maltreatment who were abused before and after the age of 4 years, with 35 in each group	<p>Participants were 62 pre-adolescent children attending a catholic school who were equally divided between those who had been placed in institutions before and after 4 years of age.</p> <p>The mean age of participants was 11, with a range from 8-15 years, and 46% were female.</p> <p>Those placed in institutions before and after 4 years had spent an average of 8 and 3 years in institutions respectively.</p> <p>80% of those placed in institutions before 4 years and 63% of those placed in institutions after 4 years were still in institutions at the time of data collection.</p> <p>Participants were assessed by interview which included the pedMACE to assess child abuse, the CDI to assess depression, the RPQ to assess aggression, and the SDQ to assess mental health-related behaviour problems.</p> <p>There was a significant association between age when placed in an institution, and both the amount of maltreatment and variety of mental health problems. Those placed in institutions before 4 years experienced greater maltreatment (on the pedMACE) and a wider variety of mental health problems (on the CDI, RPQ and SDQ).</p> <p>For children placed in institutions before 4 years (but not for those placed after 4 years) there was a significant association between maltreatment and mental health problems (on the CDI, RPQ and SDQ).</p>
Hermenau	2015	This was a Tanzanian cross-sectional controlled study of 89 orphans and 89 demographically matched controls investigated the association between maltreatment, stigmatization, and mental health	<p>Participants were 89 orphans and 89 demographically matched controls</p> <p>Participants mean age was 11, with a range of 6-15 years, and 49% were female.</p> <p>Participants were assessed by interview which included the pedMACE to assess child abuse, the UCLA PTSD-RI to assess PTSD, the CDI to assess depression, the RPQ to assess aggression, the SDQ to assess mental health-related behaviour problems, and a series of 10 questions to assess perceived stigma.</p> <p>97% of orphans and 93% of controls had experienced child abuse, while 56% of orphans and 32% of controls had experienced neglect.</p> <p>Compared with controls, orphans had significantly more post-traumatic stress symptoms, depressive symptoms, and aggressive behaviour, but not behaviour problems on the SDQ.</p> <p>Among orphans there was a significant association between child abuse, neglect and stigmatization on the one hand, and behaviour problems on the SDQ on the other.</p> <p>Among orphans there was also a significant association between neglect and stigmatization on the one hand, and depression on the other, and stigmatization moderated the relationship between neglect and depression. For orphans who perceived a high level of stigma, there was a stronger association between neglect and depression than for those with low stigma.</p>
Canada Sigal	1999	This was a retrospective controlled study of 31 adult survivors of institutional abuse in orphanages (Duplessis Children).	<p>Participants were a self-selected convenience sample of 31 adult survivors of institutional maltreatment in Quebec orphanages recruited from a survivors' self-help group and a demographically matched comparison group of 446 adults raised within their birth families. The comparison group was drawn from a general health survey of a representative sample of Quebec residents.</p> <p>The survivors group are known as 'Duplessis' Children' after the Premier of Quebec, Maurice Duplessis, whose policies led to the institutionalization of orphans in crèches and orphanages run by catholic nuns and brothers.</p> <p>The mean age of survivors was 55 years, with a range from 45 to 68; 19% were female; and all were of low SES.</p> <p>Survivors were predominantly illegitimate children, placed in under-resourced crèches at birth, in orphanages at 6 years, and in reform schools or on farms as</p>

			<p>indentured labourers in their teens, if male, or working maids, if female. 75% left institutional care at 14 years. In crèches they were deprived of intellectual stimulation and attachment to a single caretaker; in orphanages many were physically and sexually abused; in reformatories, on farms and in service this abuse often continued. Maltreatment was mainly perpetrated by lay caretakers (for example monitors in orphanages) not peers or nuns. In this study rates of physical and sexual abuse were not assessed. Participants completed an interview which included the PSI and SRS to assess wellbeing, distress and stress-related symptoms, and a checklist of 28 chronic health problems. Compared with the control group, survivors had significantly poorer physical health, mental health, psychosocial adjustment. In the domain of physical health, compared with the control group, significantly more survivors had stress-related illnesses (26% v 7%). In the domain of mental health, compared with the control group, survivors had significantly higher levels of psychological distress and lower levels of wellbeing. Effect sizes for wellbeing and distress ranged from $d = 0.57$ to 1.73. In the domain of psychosocial adjustment, compared with the control group, survivors had significantly less education (4 years v 8 years), and significantly more had never married (39% v 7%).</p>
Sigal	2002	This report described a retrospective controlled study of 81 adult survivors of institutional abuse in orphanages	<p>This second study of 'Duplessis' Children' overcame shortcomings of the Sigal et al., 1999 study by using a larger random sample of survivors containing approximately equal numbers of males and females. Participants were 81 adult survivors of institutional maltreatment in Quebec orphanages randomly selected from 185 members of a survivors' self-help group and a demographically matched comparison group of 243 adults raised within their birth families. The comparison group was drawn from a general health survey of a representative sample of Quebec residents. The mean age of survivors was 59 years, with a range from 43 to 74; 51% were female; and all were of low SES. Participants completed an interview which included the TPAI to assess maltreatment and protective factors (personal strengths and positive relationships), a checklist of 28 chronic health problems, a checklist of 12 medications, the PSI to assess psychological distress, the DMRS to assess defence mechanisms, the SOFAS to assess social and occupational functioning, and survey questions to assess social support, drug and alcohol use. All survivors had experienced maltreatment, and compared with the control group in adulthood, had significantly poorer mental health, physical health, and psychosocial adjustment. Key findings from the report by Sigal et al. (2002) were published in a series of 6 journal articles (Boucher et al., 2008, Paré et al., 2010; Perry et al., 2005a, 2005b, 2006; Sigal et al., 2003) and are summarized below.</p>
Perry	2005a	This paper detailed the childhood maltreatment experiences and protective factors of 81 adult survivors of institutional abuse in orphanages	<p>This paper presented the following results from Sigal et al. 2002, all of which are based on an analysis of the TPAI which assessed maltreatment, trauma, positive relationships and personal strengths. Survivors of institutional abuse in orphanages reported a high prevalence of traumatic childhood experiences (including maltreatment and other adversities), counterbalanced by modest levels attachment relationships and personal individual strengths. Most abuse survivors reported multiple early adverse experiences. In descending order of frequency there were: unfair rules and excessive punishment (or emotional abuse) (99%), physical abuse (96%), emotional neglect (87%), witnessing violence (81%), verbal abuse from carers (67%), physical neglect (63%), sexual abuse (57%), serious illness (54%), betrayal (44%), loss (43%), deprivation (40%), separations (33%), verbal abuse from peers (19%), and physical abuse by people other than carers (17%). For 98% of survivors, maltreatment and adverse experiences occurred between 7 and 18 years, and for 77% they occurred prior to 6 years. More severe trauma occurred between 7 and 18 years than prior to 6 years. Men reported significantly more sexual abuse than women, and women reported more emotional neglect than men. In the domain of positive childhood relationships, 89% had an identifiable caretaker, 79% had supportive peer relationships, and 51% had at least one supportive confiding relationship with an adult. The corollary of this is that 49% had never had at least one supportive confiding relationship with an adult, 21% had never experienced supportive peer relationships, and 11% had never had an identifiable caretaker. In the domain of personal childhood strengths 94% reported at least one of 10 childhood strengths. In descending order these were: assertive self-protectiveness (38%), athletic physical competence (37%), empathy (18%), persistence (15%), sociability (15%), attractive personality (11%), intelligence (8%), self-appraisal (6%), academic interests (5%), and other strengths (4%). There were significant associations between positive childhood relationships and positive relationships in adulthood; between childhood strengths and strengths in adulthood; and between childhood trauma and further trauma in adulthood.</p>
Sigal	2003	This paper detailed the adult adjustment of 81 adult survivors of institutional abuse in orphanages	<p>This paper presented the following results from Sigal et al. 2002 which indicate that compared with the control group in adulthood, survivors of maltreatment in orphanages had significantly poorer mental health, physical health, and psychosocial adjustment. In the domain of physical health, compared with the control group, in adulthood significantly more survivors had physical illnesses such as back pain (38% v 13%), joint pain (25% v 4%), headaches and migraine (22% v 5%), and respiratory problems (23% v 6%). Compared with male controls, more male survivors used analgesics (38% v 15%) and tranquilizers (23% v 10%).</p>

			<p>In the domain of mental health, compared with the control group in adulthood, survivors had significantly higher levels of psychological distress (72% v 46%), and significantly more were depressed (15% v 2%).</p> <p>In the domain of psychosocial adjustment, compared with the control group in adulthood, survivors had significantly less education (4 years v 9 years), and significantly more had never married (46% v 18%), had low levels of social support (45% v 21%), suicidal ideation (41% v 13%), and attempted suicide (33% v 3%).</p>
Perry	2005b	This paper detailed the association between childhood trauma and protective factors and adult adjustment of 81 adult survivors of institutional abuse in orphanages	<p>This paper presented the following results from Sigal et al. 2002 based on an analysis of the TPAI which assessed maltreatment and trauma, positive childhood relationships and personal childhood strengths, the PSI which assessed psychological distress, the DMRS which assessed adaptiveness of defence mechanisms, and the SOFAS which assessed social and occupational functioning.</p> <p>In the domain of mental health, compared with the control group, maltreatment survivors showed significantly greater psychological distress, and 82% of survivors had maladaptive defence mechanisms.</p> <p>In the domain of psychosocial adjustment, 59% of survivors showed moderate to severe impairment in social and occupational functioning, and the sample as a whole showed moderate impairment in social and occupational functioning as indicated by a mean SOFAS score of 58 on a 100-point scale.</p> <p>Childhood trauma and childhood personal strengths jointly predicted 24% of the variance in social and occupational functioning in adulthood.</p> <p>There were significant associations between childhood trauma and both adult psychological distress and social and occupational functioning in adulthood.</p> <p>For survivors who had few personal strengths in childhood, there were significant associations between childhood trauma on the one hand, and psychological distress, adaptiveness of defence mechanisms, and social and occupational functioning in adulthood on the other.</p>
Perry	2006	This was a qualitative study of 7 cases from a retrospective controlled study of 81 adult survivors of institutional abuse in orphanages	<p>This paper presented qualitative case studies of 7 maltreatment survivors from Sigal et al. (2002).</p> <p>The case studies included 3 males and 4 females with a mean age of 60 and a range from 51 to 69 years.</p> <p>All had experienced severe child maltreatment, notably severe long term physical abuse, sexual abuse and neglect.</p> <p>In adulthood their adjustment which ranged from poor to good, was associated with the constellation of child maltreatment and life adversities that they had experienced on the one hand, and protective factors, notably positive relationships and personal strengths across the life span on the other.</p>
Boucher	2008	This French paper summarized results of a retrospective controlled study of 81 adult survivors of institutional abuse in orphanages	This French paper summarized results of the report (Sigal et al., 2002) and journal articles (Perry et al., 2005a, 2005b, 2006; Sigal et al., 2003) which were written in English.
Paré	2010	This French paper was a qualitative study of 2 cases from a retrospective controlled study of 81 adult survivors of institutional abuse in orphanages	This French paper presented qualitative 2 case studies previously presented in Perry et al 2006 from the quantitative study by Sigal et al. (2002).
Wolfe	2006	This was a cross-sectional study of 76 adult male survivors who had experienced multiple and severe incidents of physical, sexual, and/or emotional abuse during childhood in residential religiously-affiliated institutions in Canada	<p>Participants were a self-selected convenience sample of 76 survivors of clerical abuse who were recruited through media from 1997 to 1999 for a class action lawsuit.</p> <p>Participants were abused between the 1960s and 1980s.</p> <p>Abuse was not assessed until the 1990s.</p> <p>Two-thirds were survivors of severe and chronic physical and sexual abuse, involving oral or anal sex, digital penetration, and beatings.</p> <p>One-third were survivors of less severe abuse involving sexual touching/fondling, masturbation, slapping, pushing, or hitting.</p> <p>The average age was 39 with a range from 23-54 years and all were male.</p> <p>They were assessed with the TSI which assessed trauma-related symptoms over the past 6 months, the PAI which assessed psychological functioning, and the SCID-CV.</p> <p>88% met the DSM-IV diagnostic criteria for a lifetime diagnosis of a psychiatric disorder, and 59% met the criteria for a current disorder.</p> <p>43% had a history of 2 or more comorbid disorders, and 22% had 2 or more current comorbid disorders.</p> <p>63% met the DSM-IV diagnostic criteria for a lifetime diagnosis of post-traumatic stress disorder (PTSD), 42% met the criteria for a current PTSD diagnosis, and 21% met the criteria for a PTSD diagnosis in the past.</p> <p>66% met the DSM-IV diagnostic criteria for a lifetime diagnosis of an alcohol use disorder, 21% met the criteria for a current alcohol use disorder, and 45% met the criteria for an alcohol use disorder in the past.</p> <p>37% met the DSM-IV diagnostic criteria for a lifetime diagnosis of a depressive disorder, 25% met the criteria for a current depressive disorder, and 12% met</p>

			<p>the criteria for a diagnosis of depressive disorder in the past.</p> <p>On the PAI the sample showed significant problems in the areas of traumatic stress associated with PTSD and negative relationships associated with borderline personality disorder.</p> <p>On the TSI the sample showed significant problems indicative of PTSD on the intrusive experiences, defensive avoidance, and dissociation scales.</p> <p>66% had a history of sexual problems in personal relationships, and 46% were experiencing current sexual difficulties.</p> <p>28% had a history of confusion concerning their sexual orientation and 22% reported current confusion or uncertainty about this.</p> <p>For those who had an intimate partner 49% reported verbal and/or physical abuse of their partner.</p> <p>51% had been arrested for property offenses, 49% for drug-related offenses, and 39% for violent offenses.</p> <p>32% had never married and 36% were married.</p> <p>51% had not completed high school.</p> <p>73% were either unemployed or employed in semi- or un-skilled positions.</p>
Ireland Carr ^a	2009 2010	This was a cross-sectional study of 247 adult survivors who had experienced multiple, severe episodes of physical, sexual, and/or emotional abuse during childhood in catholic residential institutions in Ireland.	<p>Participants were a self-selected 16% (247/1578) convenience sample adult survivors of institutional child abuse which had occurred in religiously affiliated residential industrial schools and reformatories were recruited through the government initiated Commission to Inquire into Child Abuse.</p> <p>In 2005 and 2006 they were assessed with a protocol that included a life interview and the CTQ, SCID I and II, TSI, ICAPCI, ECRI, KMS, KPS, WHOQoL and GAF</p> <p>They entered institutions for various reasons including their parents being unable to look after them (42%), personal prosecution for petty crime (24%), illegitimacy (19%), and parental death (14%).</p> <p>They had spent an average of 10 years living in institutions, having entered at an average age of 5 years.</p> <p>Institutions in which they lived were managed by nuns in 49% of cases, brothers or priests in 31% of cases, and 20% had been in institutions under both types of management.</p> <p>It had been 22–65 years since they had suffered institutional abuse.</p> <p>Participants had a mean age of 60 with a range from 40-83 years, and 45% were female.</p> <p>On the CTQ 19% had been maltreated within their birth families, with 13% reporting physical abuse, 4% sexual abuse, 10% emotional abuse, 23% physical neglect, and 14% emotional neglect.</p> <p>On the CTQ over 97% had been physically abused, 47% sexually abused, 95% emotionally abused, 98% physically neglected, 94% emotionally neglected, and over 90% had experienced 4 forms of maltreatment.</p> <p>For over 90% of survivors the most severe form of physical institutional abuse they experienced involved being assaulted so severely as to leave bruises, cuts or to require medical attention, with 47% reporting this happened over 100 times.</p> <p>The most severe forms of sexual institutional abuse were fondling and masturbation (22%) and oral, anal or vaginal penetrative sex (19%), with 10% reporting this happened over 100 times.</p> <p>82% met DSM-IV diagnostic criteria for a lifetime diagnosis of an anxiety, mood, substance use, or personality disorder and 34% had 4 or more comorbid disorders.</p> <p>51% met the DSM-IV diagnostic criteria for a current anxiety, mood or substance use disorder, and 65% met criteria for these types of disorder in the past.</p> <p>30% met the DSM-IV criteria for a current personality disorder.</p> <p>For combined current and past diagnoses, anxiety disorders were the most common (current 45%, past 34%); followed by mood disorders (current 27%, past 36%); followed by alcohol and substance use disorders (current 5%, past 35%).</p> <p>The three most common anxiety disorders were social phobia (current 20%, past 11%); generalized anxiety disorder (current 17%, past 7%); and post-traumatic stress disorder (current 17%, past 9%).</p> <p>For mood disorders the current (27%) and past (36%) prevalence rates for major depression were higher than the rate of current dysthymia (11%). (Only current and not lifetime diagnoses of dysthymia may be made.)</p> <p>For alcohol or substance use disorders, 27% had a past diagnosis of alcohol dependence and 8% had a past diagnosis of alcohol abuse. Prevalence rates for all other current and lifetime substance use diagnoses were below 5%.</p> <p>For personality disorders, 21% had avoidant personality disorder; 7% had antisocial personality disorder; 6% had borderline personality disorder and 2% had dependent personality disorder.</p> <p>The rates of psychological disorders among survivors of institutional child abuse, were far higher than those in major international epidemiological studies of normal community populations conducted in Europe, the USA, and the UK.</p> <p>The rates of social adjustment problems were as follows: educational problems including not graduating from high school 80%, unemployed or in unskilled or semiskilled jobs 51%, never married, separated or divorced 35%, anger control problem in intimate relationships 26%, non-violent crime 22%, homelessness 21%, self-harm or attempted suicide 18%, anger control problems with children 13%, violent crime 10%, and children taken into care 4%.</p> <p>On the TSI which assesses complex post-traumatic symptoms the following percentages scored in the clinical range: avoidance of reminders of trauma 60%,</p>

			<p>intrusive experiences such as flashbacks</p> <p>56%, impaired self-reference 46%, dissociation 44%, depression, 42%, anxious arousal 39%, maladaptive tension reduction 35%, anger 32%, sexual concerns 24%, sexual dysfunction 13%.</p> <p>Recollections of more frequent institutional childhood sexual and emotional abuse on the CTQ were significantly correlated with greater trauma symptoms in adulthood on the TSI.</p> <p>Current trauma symptoms on the TSI were greater in those who reported both institutional and intrafamilial childhood maltreatment on the CTQ, compared with those who reported institutional abuse only.</p> <p>On the ECRI 17% had a secure adult attachment style and 83% had one of 3 types of insecure adult attachment styles. The rates were 44% for fearful, 27% for dismissive and 13% for preoccupied insecure attachment styles.</p>
Flanagan-Howard ^b	2009	In a study of 247 survivors of institutional abuse in Ireland a psychometric instrument was developed to evaluate psychological processes associated with institutional abuse and coping strategies used to deal with such abuse	<p>Participants in this study were the same as those in Carr, 2009 and Carr et al., 2010.</p> <p>In this study the Institutional Child Abuse Processes and Coping Inventory (ICAPCI) was developed.</p> <p>Exploratory and confirmatory factor analyses were used to derive the 6 factor scales of the ICAPCI</p> <p>Traumatization is a 14-item scale which assesses traumatization, betrayal and loss of trust, stigmatization, shame and guilt, and disrespect of authority.</p> <p>Re-enactment is a 9-item scale which assesses re-enactment of abuse; powerlessness, coping by opposing, and coping by using alcohol and drugs.</p> <p>Spiritual disengagement is a 5-item scale which assesses disengagement from religious practice and not using spiritual coping strategies.</p> <p>Positive coping is a 9-item scale which assesses coping through planning, skill mastery, and social support.</p> <p>Coping by complying is a 3-item scale which assesses coping by complying with the wishes of people in authority.</p> <p>Avoidant coping is a 3-item scale which assesses coping by avoiding thoughts and situations associated with abuse.</p> <p>The scales had acceptable levels of reliability and there was greatest support for the validity of the traumatization and re-enactment scales.</p> <p>On ICAPCI scales, from childhood to adulthood, survivors reported a reduction in the psychological processes of traumatization, re-enactment of abuse and an increase in spiritual disengagement. They also reported an increase in the use of positive coping strategies and a reduction in the use of coping by complying and avoidant coping strategies.</p> <p>The psychological processes of traumatization and re-enactment were associated with multiple difficulties in adult life (assessed with the SCID I and II, TSI, WHOQoL 100 and GAF) and a history of institutional abuse but not family-based child abuse (assessed with the CTQ). Having spent more time living within a family context in childhood and using positive coping strategies such as planning, developing skills and developing a social support network in adulthood were associated with a good quality of life in adulthood.</p> <p>Overall, these findings indicated that the ICAPCI is a reliable and valid instrument for assessing trauma and coping processes in survivors of institutional abuse. From childhood to adulthood survivors reported a significant reduction in negative trauma process, and an increase in positive coping. The intensity of trauma processes is probably influenced by the cumulative effect of past trauma and the use of positive coping. The intensity of trauma processes affects adult adjustment.</p>
Fitzpatrick ^b	2010	In a study of 247 adult survivors of institutional abuse in Ireland profiles were identified for subgroups that described severe sexual, physical, or emotional abuse as their worst forms of maltreatment.	<p>Participants in this study were the same as those in Carr, 2009 and Carr et al., 2010.</p> <p>The 247 cases were classified into three groups that reported the worst thing that had happened to them in an institution was either severe sexual (N=60; 24%), severe physical (N=102, 41%) or severe emotional abuse (N=85, 34%).</p> <p>Survivors of severe sexual abuse had the most abnormal profile, which was characterised by higher rates of all forms of child maltreatment and higher rates of post-traumatic stress disorder, alcohol and substance abuse, antisocial personality disorder, trauma symptoms, interpersonal anxiety and life problems.</p> <p>Survivors of severe emotional abuse were better adjusted than the other two groups.</p> <p>The profile of survivors of severe physical abuse occupied an intermediate position between the sexual abuse group and the emotional abuse group.</p> <p>Survivors of severe sexual abuse may require more intensive evidence-based trauma treatment services.</p>
Flanagan ^b	2009	In a study of 247 survivors of institutional abuse in Ireland, a resilient group who did not meet the diagnostic criteria for common DSM IV axis I or II disorders was compared with a poorly adjusted group who met the criteria for 1-3 DSM IV axis I or II diagnoses, and a very poorly adjusted group who had 4 or more disorders.	<p>Participants in this study were the same as those in Carr, 2009 and Carr et al., 2010.</p> <p>The 247 cases were classified into three groups: a resilient group with no DSM IV disorders (N=45, 18%), a poorly adjusted group with 1-3 disorders (N= 119, 48%), and a very poorly adjusted group with 4 or more disorders (N= 83, 34%).</p> <p>Compared with the very poorly adjusted group, the resilient group was older and of higher socio-economic status; had suffered less sexual and emotional institutional abuse; experienced less traumatization and re-enactment of institutional abuse; had fewer trauma symptoms and life problems; had a higher quality of life and global level of functioning; engaged in less avoidant coping; and more resilient survivors had a secure adult attachment style.</p> <p>The resilient group differed from the poorly adjusted group on a subset of these variables. Compared with the poorly adjusted group (in which participants had 1-3 diagnoses), the resilient group was older; experienced less present traumatization and re-enactment institutional abuse psychological processes; had fewer trauma symptoms and life problems; had a higher quality of life and global level of functioning; and more resilient survivors had a secure adult attachment style.</p> <p>The resilience of the first group in this study may in part be due to experiencing somewhat lower levels of emotional and sexual abuse than their non-resilient</p>

			<p>counterparts, to their development of secure or dismissive adult attachment styles, and to their use of coping strategies for dealing with trauma which are not avoidant.</p> <p>Survivors with greater psychopathology may require more intensive services and therapeutic interventions with survivors should focus on facilitating the use of non-avoidant coping strategies and the development of a secure adult attachment style.</p>
Carr ^b	2009	In a study of 247 survivors of institutional abuse in Ireland, cases classified with the Experiences in Close Relationships Inventory as having fearful, preoccupied, dismissive, or secure adult attachment styles were compared.	<p>Participants in this study were the same as those in Carr, 2009, and Carr et al., 2010.</p> <p>Two hundred and forty-seven survivors of institutional abuse in Ireland were classified with the ECRI as having fearful (N=109, 44%), preoccupied (N = 31, 13%), dismissive (N= 66, 27%) or secure (N=41, 17%) adult attachment styles.</p> <p>The group with the secure adult attachment style had the most positive profile in terms of DSM IV diagnoses, trauma symptoms, quality of life, global functioning, marital satisfaction, and stability of first marriage.</p> <p>The most negative profile occurred for the fearful group.</p> <p>The profile of the preoccupied group was more similar to that of the fearful group.</p> <p>The profile of the dismissive group was more similar to that of the secure group.</p> <p>Surprisingly, the positive overall adjustment of the group with the secure adult attachment style was unrelated to the number of years spent in the family of origin before institutional entry and the number of years spent in an institution.</p> <p>Secure adult attachment style may be a protective factor in promoting resilience in adult survivors of institutional abuse, while an insecure attachment style (fearful, preoccupied or dismissive) may be a risk factor for problematic adjustment, with the fearful adult attachment style being associated with greater adjustment problems.</p>
USA			
Jackson	2011	This was a retrospective study of 708 adults who had been in foster care in 13 US states, which examined the association between abuse in foster care and PTSD in adulthood.	<p>Participants were 708 adults who had been in the Casey foster care programme, which spanned 13 US states, between 1966 and 1998.</p> <p>Participants were between 20 and 51 years; there were almost equal numbers of males (51%) and females (49%); and 81% were white and 19% were African American.</p> <p>Abuse by an adult carer while in foster care was assessed by interview, and PTSD was assessed with the CIDI. Data on history of child care, foster care, and developmental history were abstracted from case files.</p> <p>Prior to foster care 42% had been sexually abused, 55% physically abused, 76% emotionally abused, and 62% neglected. More females than males had been sexually (62% v 23%) and emotionally (79% v 72%) abused.</p> <p>In childhood 20% had a physical or learning disability, and 11% had ADHD. More males than females had ADHD (16% v 6%), or physical and learning disabilities (26% v 13%).</p> <p>For the whole sample 31% were abused while in foster care.</p> <p>For the whole sample 21% had a current diagnosis of PTSD. More females than males had PTSD (31% v 11%).</p> <p>There was a significant association between child abuse in foster care and having a diagnosis of PTSD in adulthood.</p> <p>There was a significant association between emotional abuse and sexual abuse before entering foster care on the one hand, and having a diagnosis of PTSD in adulthood on the other.</p>
Salazar	2011	This was a US longitudinal study of a probability sample 513 youth who were leaving the foster care system in 3 US states, which examined the beneficial effects of social support on depression associated with maltreatment before and during foster care.	<p>Participants were 513 young people leaving foster care in 3 US mid-western states.</p> <p>There were almost equal numbers of females (55%) and males (45%). 55% were African American, 33% were white, and the remainder were mixed race, Alaskan or Asian. When first interviewed the mean age of participants was 17 years with a range from 17 to 18 years.</p> <p>Participants were interviewed on three occasions, at 2-year intervals. Maltreatment experiences were assessed with the LEQ, social support with the MOS-SSS, and depression with the 12-month version of the CIDI.</p> <p>66% had been maltreated before entering foster care.</p> <p>39% had been maltreated in foster care.</p> <p>There was a significant association between maltreatment before and during foster care on the one hand, and depressive symptoms in young adulthood on the other. Higher levels of child abuse were associated with higher levels of depressive symptoms.</p> <p>Social support reduced the effect of maltreatment on depression. Where young adults with a maltreatment history had a high level of social support, they experienced less depression. This buffering effect of social support was diminished for those with more complex maltreatment histories involving multiple types of abuse before and during foster care.</p>
Morton	2015	This was a qualitative study of the barriers to academic achievement in a purposive sample of 7 adult survivors of child abuse in foster care	<p>Participants were 7 survivors of child abuse in foster care and residential care solicited from a statewide advocacy group, who were in higher education.</p> <p>There were 4 (57%) females and 3 (43%) males, who had spent an average of 12 years in care, with a range from 5-18 years.</p> <p>They had been in an average of 19 homes, with a range of 6-65.</p> <p>They had been abused in 1-3 homes, 3 had suffered physical abuse, 2 sexual abuse, and 2 both physical and sexual abuse.</p>

			<p>A thematic analysis of transcripts of semi-structured interviews showed that institutional child abuse in foster care was associated with five main themes which were barriers to academic achievement.</p> <p>Disempowerment, marginalization and silencing.</p> <p>Anger, aggression, self-harm and antisocial behaviour including drug use.</p> <p>Academic underachievement and behaviour problems at school.</p> <p>Foster-placement breakdown and movement to secure residential facilities.</p> <p>Difficulty making the transition from secure residential facilities to mainstream education.</p>
Australia			
Bode	2012	This was a retrospective qualitative study of the effects of institutional child sexual abuse on educational development of 10 male survivors	<p>Participants were a purposive sample of 10 male survivors of institutional abuse attending the Queensland sexual abuse recovery centre. They were aged between 46 and 66 years and had been sexually abused in residential care in Queensland, Australia between 1950 and 1975. All 10 participants completed a primary school education; only two (20%) attended secondary school; one dropped out at aged 13 years; and the other progressed at aged 15 to a technical school to learn a trade.</p> <p>A narrative analysis of transcripts of semi-structured interviews showed that 90% believed that institutional child sexual abuse had a permanent and debilitating impact on their educational development, opportunities and achievements.</p>
Goldman	2012	This was a retrospective qualitative study of the effects of institutional child sexual abuse on educational development of 10 female survivors	<p>Participants were a purposive sample of 10 female survivors of institutional abuse attending the Queensland sexual abuse recovery centre. They were aged between 44 and 72 years and had been sexually abused in orphanages in Queensland, Australia between 1940 and 1970. Only 2 had completed primary school, none had completed more than 2 years of secondary school, and none had undertaken any tertiary education.</p> <p>A narrative analysis of transcripts of semi-structured interviews showed that all 10 believed that institutional child sexual abuse, and neglect had a permanent and debilitating impact on their educational development, opportunities and achievements.</p> <p>The 9 married survivors with children believed that institutional abuse had detrimental intergenerational consequences for their own children, because they could not help them with school work, they had difficulties with anger management, or they inadvertently married abusive partners who abused their children.</p>
Netherlands			
Deetman	2013	This retrospective study compared the adjustment of survivors of institutional child sexual abuse, child sexual abuse which occurred outside institutions and non-abused, non-institutionalized controls.	<p>Participants were drawn from a national probability sample. There were 238 survivors of child sexual abuse which occurred within catholic residential institutions, 836 survivors of sexual abuse who had not been residents in catholic institutions, and a control group of 565 individuals who never lived in a catholic institution and were not abused.</p> <p>Participants completed a survey that included the BSI. Clinically significant mental health problems were indexed by scoring above the cut-off score of 11 on the BSI.</p> <p>Within the mental health domain, significantly more survivors of institutional child sexual abuse (33%) had mental health problems compared with survivors of child sexual abuse who did not live in institutions (22%) and normal controls (18%).</p> <p>Within the psychosocial adjustment domain, significantly more survivors of institutional child sexual abuse (14%) had attempted suicide compared with child sexual abuse survivors who did not live in institutions (7%) and normal controls (3%).</p>
Germany			
Spröber	2014	This was a comparative study of 1050 child sexual abuse survivors of whom 404 had been in catholic, 130 in protestant, and 516 in non-religious institutions.	<p>Participants were 1050 survivors of child sexual abuse of whom 404 (38%) had been in catholic, 130 (12%) in protestant, and 516 (49%) in non-religious institutions.</p> <p>In 2010 and 2011 data were collected by phone and hotline staff used a web-based template to record information.</p> <p>The mean age of participants was 52 with a range from 12 to 89 years and 40% were female.</p> <p>55% were separated, divorced or had never married, and 42% were married or in a long-term relationship.</p> <p>91% were living in West Germany and 69% in urban areas.</p> <p>They had been abused within religious schools and residential care centres and secular state-run residential child care facilities.</p> <p>The majority had been abused between 1950 and 1980.</p> <p>53% had experienced penetrative abuse, and this was more frequently reported by older victims and by females</p> <p>96% were abused in the past and for the remainder the abuse was still occurring.</p> <p>91% were abused on multiple occasions.</p> <p>37% had been abused by multiple offenders, and this was less common in protestant institutions.</p> <p>84% were abused by males.</p> <p>In 68% of cases survivors mentioned that they had experienced additional physical, psychological or emotional abuse, with physical abuse being the most common.</p> <p>A qualitative analysis indicated that for some survivors who experienced both physical and sexual abuse, the physical abuse occurred in institutions where</p>

			<p>corporal punishment was a regular practice. Invariably perpetrators were in positions of power and survivors felt dependent and powerless. They were not believed or punished when they told other adults about their abusive experiences and did not know that they should have been able to appeal to regulatory authorities about their situation.</p> <p>Offenders in religious and secular institutions used grooming strategies such as gaining trust by building a close relationship, creating situations where they were alone, and framing sexual abuse as educational. Some strategies were specific to religiously affiliated institutions, for example, using religious concepts to coerce survivors to submit to abuse, or practice in abuse as part of a religious ritual.</p> <p>78% had been diagnosed with a psychiatric disorder.</p> <p>Depression was the most common disorder (13%) followed by PTSD (7%), followed by other anxiety disorders (6%).</p> <p>10% mentioned having 2 or more co-morbid psychiatric disorders.</p> <p>16% had learning difficulties and had been in special education.</p> <p>60% reported significant psychosocial adjustment issues.</p> <p>Health problems were the most common psychosocial adjustment issue (22%), followed by relationship and partner issues (20%), followed by flashbacks and nightmares (18%).</p> <p>The patterns of abuse in terms of past or present abuse, type of sexual abuse, frequency of abuse, and the gender of perpetrators was similar in groups from catholic, protestant and secular institutions.</p> <p>Similar rates of psychiatric disorders occurred in groups from catholic, protestant and secular institutions.</p>
Austria Lueger-Schuster, Kantor	2014	This was a cross-sectional study of 448 survivors of institutional abuse within catholic institutions in Austria.	<p>A 56% self-selected convenience sample (448/795) of adult survivors of institutional abuse in Austrian catholic institutions consented for their redress evaluation reports to be analysed in a research study to document maltreatment experiences and family risk factors.</p> <p>A 23% self-selected convenience subsample (185/795) completed the PCL-C and BSI in 2011 and 2012.</p> <p>Participants average age was 55 with a range from 25 to 80 years, and 25% were female.</p> <p>59% were married or cohabiting and the remainder were single, widowed or divorced.</p> <p>38% graduated from high school or university.</p> <p>Prior to institutional abuse fewer than 7% had experienced the following family-related adversities: neglect, physical violence, poverty in the family, emotional distance to the family, substance abuse within the family, serious illness of a parent, separation from siblings, and negative experiences in foster homes.</p> <p>Prior to institutional abuse fewer than 17% had experienced the following adverse living conditions: born to an unmarried mother, parents divorced/stepchild, lived with foster family, lived in an institution, grew up without biological parents, and felt oppressed by a conservative Catholic family background.</p> <p>82% had been abused in boarding schools, orphanages, monasteries or convents between 1938 and 1999 and the remainder (18%) were abused in parishes or churches.</p> <p>The abuse began on average at 10 with a range of 0 and 19 years.</p> <p>In the sample of 448 participants the rates of physical, sexual and emotional institutional abuse were 68%, 68% and 83% respectively.</p> <p>13% reported one type, 54% two types and 33% three types of institutional abuse.</p> <p>The average duration of contact with perpetrators was 5 years.</p> <p>As adults 85% reported clinical symptoms indicating significant mental health problems on at least one scale of the BSI or on the PCL-C.</p> <p>As adults 49% had PTSD.</p> <p>PTSD was associated with a significantly higher number of family-related adversities, anal or vaginal penetrative sexual abuse, and isolation as a form of emotional abuse.</p> <p>38% had never married or were separated or divorced.</p>
Lueger-Schuster, Weindl ^c	2014	In a study of a subsample of 185 Austrian survivors of Institutional abuse cases with high, moderate, and low levels of PTSD symptoms were profiled.	<p>Participants in this study were a subsample of those in Lueger-Schuster, Kantor et al., 2014.</p> <p>A 23% self-selected convenience subsample (185/795) who completed self-report measures (PCL-C, BSI, CISS, DLE, CD-RISC, LOT, RPSS) were divided into three groups with low, medium or high PTSD symptom scores on the PCL-C, which has a range from 1 to 5.</p> <p>28 (15%) were resilient and obtained low scores, 51 (28%) obtained moderate scores between 1 and 5, and 105 (57%) obtained high PTSD scores of 6 or greater.</p> <p>Compared with the group that had high PTSD scores, the resilient group was significantly more optimistic, better able to cope with stressful situations, used significantly more task-focused coping and less emotion focused coping, was less reluctant to talk about institutional abuse, and had less intense emotional reactions when they did so.</p> <p>The profile of the group with moderate PTSD symptoms fell between the extreme profiles of the resilient and highly traumatized group.</p> <p>The three groups did not differ on demographic or maltreatment experience variables.</p>
Lueger-	2015	In a study of a subsample of 163	Participants in this study were a subsample of those in Lueger-Schuster, Kantor et al., 2014.

Schuster, Butollo ^c		Austrian survivors of Institutional abuse, social support, early disclosure and hostility were examined.	<p>A 21% self-selected convenience subsample (163/795) who completed the (RPSS, BSI, DLE, PCL-C) participated in this substudy. Compared to survivors with low levels of social support, those with high levels of perceived social support had fewer mental health problems (assessed with the BSI) and fewer emotional reactions when speaking about their experiences institutional child abuse (on the DLE).</p> <p>Compared with survivors who disclosed abuse after 18 years, unexpectedly those who made an early abuse disclosure (before the age of 18), did not have fewer mental health problems (on the BSI).</p> <p>Anger management problems (as assessed by the BSI hostility scale) was a clinically prominent problem in this sample of survivors.</p> <p>A history of institutional physical abuse and current PTSD symptoms were two factors significantly associated with anger management difficulties.</p>
Weindl & Lueger-Schuster ^c	2016	In a qualitative study of personal accounts of 46 Austrian survivors of Institutional abuse, social adjustment and mental health difficulties were explored.	<p>Participants in this study were a subsample of those in Lueger-Schuster, Kantor et al., 2014.</p> <p>A 6% self-selected convenience subsample (46/795) participated in this substudy.</p> <p>Participants average age was 59 with a range from 38 to 80 years, and 15% were female.</p> <p>A thematic content analysis was conducted on transcripts of in-depth semi-structured interviews.</p> <p>Directly following episodes of institutional abuse in descending order of frequency survivors experienced impaired in social relationships, especially withdrawal (48%), destructive emotion regulation, especially aggression towards authority (28%), psychological suffering, especially suicidality (26%), anxiety (13%), shame (9%), overcompensation including sensation seeking and escapism (7%), underachievement in problems (7%) and self-harm (4%).</p> <p>Survivors noted that if they had not experienced child abuse in care in descending order of frequency they would have had fewer missed opportunities in their lives (46%); their lives would have been better (33%); their romantic, sexual and family relationships would have been better (31%); they would have had better self-esteem (22%); they would have been more integrated and less concerned with violence and injustice (20%); they would have been more sociable and trusted other more (11%); and they would have had a better relationship with the church (9%).</p>
Lueger-Schuster	2013	This was a cross-sectional study of 58 survivors of institutional child abuse within federal youth welfare residential homes in Lower Austria	<p>A self-selected convenience sample of 58 adult survivors of child abuse in federal youth welfare residential homes in Lower Austria consented for their redress evaluation reports to be analysed in a research study and in 2012 46 completed self-report instruments including the SCID I and II, PCL-C, BSI, TLEQ, DLE, CISS, CD-RISC, LOT a questionnaire on perceived social support and on disclosure of child abuse.</p> <p>Participants' average age was 54 years, and 14% were female.</p> <p>71% were married or cohabiting, and the remainder were single, widowed or divorced.</p> <p>The sample had a lower educational level than the general Austrian population.</p> <p>Many participants had experienced maltreatment or adversity within their birth families including neglect 48%, physical abuse 40%, poverty 26%, and parental substance misuse 26%.</p> <p>Participants had been placed in institutions because they were neglected by their parents, had shown significant weight loss, had child-focused behaviour problems, or came from families with significant difficulties such as parental health problems or domestic violence.</p> <p>Participants had spent an average of 6 years in institutions.</p> <p>The rates of physical, sexual and emotional institutional abuse were 100%, 60% and 93% respectively.</p> <p>7% reported one type, 36% two types, and 56% three types of institutional abuse.</p> <p>The average duration of contact with perpetrators was 5 years.</p> <p>There was a very wide range of abusive acts.</p> <p>Participants in this study were abused by 157 perpetrators, 95% of whom were child care staff, and 65% of whom were male.</p> <p>On average abuse was first disclosed 20 years after it had first occurred.</p> <p>On the SCID II 65% had personality disorders.</p> <p>On the SCID I 83% had anxiety disorders, 57% had affective disorders, 54% had alcohol and substance use disorders and 2% had psychotic, eating and adjustment disorders respectively.</p> <p>On the SCID I the most commonly diagnosed anxiety disorder was PTSD (74%).</p> <p>On the PCL-C 35% had PTSD.</p> <p>Compared with survivors without PTSD, those with a PCL-C PTSD diagnosis tended to have more mental health problems on the BSI, be more pessimistic on the LOT, be less resilient to stress on the CD-RISC, be more affected by cues that remind them of child abuse on the DLE, and make greater use of maladaptive emotion focused-coping on the CISS.</p> <p>Of the 27 survivors for whom data were available on self-harm, 63% had attempted suicide.</p>
Lueger-Schuster	2018	This was a cross-sectional case-control study of 220 survivors of child abuse in federal foster care in Vienna and a control group of 234 non-abused volunteers.	<p>Participants were a self-selected 11% (220/1984) convenience sample of 220 survivors of abuse in federal foster care in Vienna and a control group of 234 non-abused volunteers.</p> <p>Data collection occurred between 2014 and 2016, when participants completed the CTQ, LEC, SCID I & II, BSI, PCL-5, & ICD-TQ.</p> <p>The survivor and control groups were similar in age and marital status; the average age was 58 with a range from 29 to 87 years and 46% were married or cohabiting.</p>

			<p>The control group contained more females (65 v 40%); was better educated with more having graduated from high school or university (62 v 7%); had a higher employment rate (51 v 21%); and had a greater monthly income.</p> <p>Participants in the survivors group had been in care from the 1940s to the late 1980s; had experienced child maltreatment within foster care; were first abused in care at a median age of 5 years; and 75% had experienced maltreatment within their birth families before entering foster care.</p> <p>Compared with the control group, the survivors group reported higher levels of physical, sexual and emotional abuse and emotional and physical neglect (as assessed by the CTQ) within foster care and within their birth families.</p> <p>Survivors experienced between 0 and 16 traumatic events in adulthood (on the LEC) and their average level of traumatic stressful life events across the lifespan was higher than that of the control group.</p> <p>In the survivors group the most prevalent lifetime axis I disorders were PTSD (56%), depression (52%), panic disorder (27%), and alcohol dependency (27%). The most prevalent personality disorders were paranoid (25%), borderline (23%) and avoidant (17%) personality disorders.</p> <p>Rates of almost all mental health disorders were higher in survivors group than in the control group.</p> <p>For all 10 DSM-IV axis I lifetime psychiatric disorders that were assessed the prevalence rate in the survivors group was significantly higher than that of the control group: PTSD (56% v 1%), depression (52 v 28%), panic disorder (27 v 6%), alcohol dependency (27 v 7%), specific phobia (25 v 7%), social phobia (17 v 2%), obsessive compulsive disorder (11 v 1 %), generalized anxiety disorder (10 v 1%), substance dependency (10 v 0%), and dysthymia (9 v 1%).</p> <p>For five out of six DSM IV axis II personality disorders assessed in this study, the prevalence rate in the survivors group was significantly higher than that of the control group: paranoid (25 v 1%), borderline (23 v 0%), avoidant (17 v 2%), compulsive (16 v 5%), and antisocial (8 v 0%).</p> <p>The rates of schizotypal personality disorder in survivor and control groups were not significantly different (3 v 1%).</p> <p>Average scores of the survivor group were significantly greater than those of the control group on dimensional measures of mental health problems including the PCL-C which assessed PTSD symptoms, the ICD-TQ which assessed complex PTSD, and the BSI which assessed a broad spectrum of mental health problems.</p> <p>When average scores of the survivors group were compared with those of the 25% of the control group who were most severely abused (as indexed by total CTQ scores), the average scores of the survivors group were significantly higher on dimensional measures of mental problems (PCL, ICD-DQ and BSI totals), indicating the severity of the abuse suffered by survivors in this study.</p> <p>Mediation analysis showed that child maltreatment (assessed by the CTQ total) predicted PTSD symptoms (assessed with the PCL-5 total) directly, and mediated by adult life events (assessed with the LEC) in both the survivor group and the control group. This pattern occurred for physical, sexual and emotional abuse, and physical neglect, but not emotional neglect (assessed by the CTQ).</p> <p>Emotional child abuse showed the strongest effect on PTSD in adulthood.</p> <p>50% of abuse survivors were divorced or had never married, compared with 46% of controls</p> <p>43% of abuse survivors were unemployed or had taken early retirement due to disability, compared with 12% of controls.</p> <p>6% of abuse survivors were on long-term sick leave, compared with 1% of controls.</p> <p>3% of abuse survivors had been imprisoned, compared with 0% of controls.</p>
Kantor ^d	2017a	This was a study of help-seeking in 220 adult survivors of child abuse in federal foster care in Vienna.	<p>Participants in this study were the same as the survivor group in Lueger-Schuster et al., 2017.</p> <p>Participants completed the IASMHS and confirmatory factor analysis supported its 3-factor structure of the IASMHS. The three factors were inclination to seek help, indifference towards stigma, and psychological openness.</p> <p>The IASMHS inclination to seek help subscale predicted the use of psychotherapy by adult survivors of abuse in foster care.</p>
Weindl ^d	2017	This was a quantitative study of self-esteem in 220 survivors of child abuse in federal foster care in Vienna and a control group of 234 non-abused volunteers, and a qualitative study of accounts of self-esteem in 28 child abuse survivors.	<p>Participants in the quantitative part of this study were the same as those in Lueger-Schuster et al., 2017 and they completed the MSES.</p> <p>A subsample of 46 members of the survivors group participated in the qualitative element of the study by completing semi-structured interviews, and a thematic content analysis was conducted on transcripts of 28 of these interviews.</p> <p>Average self-esteem scores (on the MSES) of the survivor group were significantly lower than those of the control group.</p> <p>This pattern occurred on the general, emotional, social, and performance related self-esteem MSES scales.</p> <p>128 codes emerged from a thematic analysis of interview transcripts of 28 abuse survivors many of which were related to emotional and social self-esteem as conceptualized in the MSES.</p> <p>Experiences of low social and emotional self-esteem were linked to institutional abuse, and compromised mental health and social adjustment.</p> <p>Positive self-evaluation, self-acceptance, and self-satisfaction were associated with life satisfaction and successful aging.</p>
Glück ^d	2017	This was a network analysis study of psychological flexibility, stressful life events, PTSD symptoms, shame, and anger expression in 220 survivors of child abuse in	<p>Participants in this study were the same as the survivor group in Lueger-Schuster et al., 2017.</p> <p>They completed the AAQ-II, CTQ, LEC, ICD-TQ, STAXI, DAQ, DERS, and a brief measure of shame.</p> <p>Using network analysis, it was shown that psychological flexibility played a central role in the network of variables assessing stressful life events in adulthood, PTSD symptoms, shame, and anger expression.</p>

		federal foster care in Vienna.	
Knefel ^e	2013	This was a study of complex PTSD and PTSD in a sample of 229 survivors of institutional abuse in catholic and federal child care in Austria	<p>Participants in this study were a subsample of those in Lueger-Schuster, Kantor et al., 2014 combined with the sample in Lueger-Schuster et al., 2013. Participants were a self-selected 25% (229/915) convenience sample 795 of whom had been abused within catholic institutions and 120 of whom had been abused within federal child care.</p> <p>Their average age was 56, with a range from 24 to 80 years, and 23% were female. 63% were married or cohabiting and the remainder were single, widowed or divorced. 29% graduated from high school or university.</p> <p>The rates of physical, sexual and emotional institutional abuse were 68%, 70% and 83% respectively. 14% reported one type, 53% two types, and 34% three types of institutional abuse.</p> <p>The average duration of contact with perpetrators was 5 years. Survivors had experienced a very wide range of abusive acts. PTSD and complex PTSD symptoms were assessed with the PCL-C and BSI in 2011 and 2012. 53% met the criteria for ICD-10 PTSD. 38% met the more stringent ICD-11 criteria for PTSD (including those who met the criteria for complex PTSD). 21% met the proposed ICD-11 criteria for complex PTSD. 27% had subclinical PTSD or subclinical complex PTSD. Survivors with complex PTSD had experienced a longer duration of institutional child abuse. Significantly more women had complex PTSD than men (40% v.16%). Confirmatory factor analysis showed that the data fit the model of complex PTSD as a unitary construct.</p>
Knefel ^e	2015	This was a latent profile analysis study of complex PTSD and PTSD in a sample of 229 survivors of institutional abuse in catholic and federal child care in Austria.	<p>Participants in this study were a subsample of those in Knefel et al., 2013. A latent profile analysis of PTSD and complex PTSD symptoms identified four classes of survivors of institutional abuse: (1) a group with PTSD, (2) a group with complex PTSD, (3) a group with subclinical complex PTSD, and (4) a resilient group with low levels of trauma symptoms.</p>
Knefel ^d	2016	This was a network analysis study of complex PTSD, PTSD, and borderline personality disorder in 219 survivors of child abuse in federal foster care in Vienna.	<p>Participants in this study were a subsample of those in Lueger-Schuster et al., 2017. Participants were a self-selected 11% (219/1984) convenience sample who had sought redress through a government commission. They were assessed between 2014 and 2016 with the CTQ, LEC, ICD-TQ, and SCID I and II. 54% met the criteria for ICD-11 PTSD. 17% met the criteria for ICD-11 complex PTSD. 23% had borderline personality disorder.</p> <p>A network analysis of symptoms showed that PTSD and complex PTSD symptoms were strongly connected within disorders and to a lesser degree between disorders, while BPD symptoms were weakly connected to others. The most central symptoms were re-experiencing and dissociation (depersonalization and derealisation).</p>
Switzerland Kuhlman	2013	This was a cross-sectional study of depression in 141 older adults who were former indentured child labourers who had been abused in state foster care.	<p>Participants were a self-selected convenience sample of 141 former indentured child labourers who had been abused in state foster care. They were recruited through media, and assessed between 2010 and 2012 with the CTQ and GDS. They had a mean age of 77 with a range from 61-101 years, and 41% were female. They had an average of 10 years of education. 40% were married, 30% were single, separated or divorced, and the remainder were widowed. The average age when they had entered care was 6 with a range from 1 to 16 years. They had spent an average of 11 years in care with a range from 1 to 26 years, and had lived with an average of 3 foster families. On the CTQ 67% had experienced physical abuse, 52% sexual abuse, 79% emotional abuse, 98% physical neglect, and 96% emotional neglect. On the GDS 23% had major depressive disorder and 15% had subclinical depressive symptoms. There was a significant association between having experienced child maltreatment and having geriatric depression. There was a particularly strong association between having experienced emotional abuse in childhood and having geriatric depression in later life among survivors who had been separated from their birth families between the ages of 3 and 9 years, and who were indentured for 6–12 years. Survivors who had medical conditions suffered greater functional impairment if they had geriatric depression.</p>

Krammer ^f	2016	This was a cross-sectional study of PTSD and complex PTSD in 116 older adults who were former indentured child labourers and who had been abused in state foster care.	The 116 participants in this study were a subsample of those in Kuhlman et al., 2013. They were assessed with the CTQ, TSI, DTQ, and SAQ. Child abuse (assessed with the CTQ) was directly associated with three core PTSD symptoms (anxious arousal, intrusive experiences, and defensive avoidance) and two of seven additional symptoms assessed by the TSI which occur in complex PTSD (depression and dissociation). The effects of child abuse on the three core symptoms of PTSD (anxious arousal, intrusive experiences, defensive avoidance) and four of seven additional symptoms of complex PTSD (depression, dissociation, anger/irritability, and impaired self-reference) was mediated by difficulty in disclosing child maltreatment (assessed with the DTQ) and the degree of acknowledgment and understanding of surviving child abuse shown by members of the survivor's social network (assessed with the SAQ). The only complex PTSD symptoms assessed by the TSI which were not associated with child abuse were tension reduction, dysfunctional sexual behaviour, and sexual concerns.
Burri ^f	2013	This was a cross-sectional study of the effects of PTSD on cognitive impairment in 96 older adults who were former indentured child labourers and who had been abused in state foster care.	The 96 participants in this study were a subsample of those in Kuhlman et al., 2013. They were assessed with the SSS, CIDI trauma event list, SIDAM, MMS and GDS. 23% had PTSD, as assessed with the SSS. On the CIDI trauma event list 43% and 57 % indicated that they had experienced their most severe traumatic events in childhood and adulthood respectively. The sample was divided into four subgroups based on the presence or absence of PTSD, and whether their most traumatic experience occurred in childhood or adulthood. The four groups were those traumatized in childhood with PTSD (N=10, 10%), those traumatized in childhood without PTSD (N = 31, 32%), those traumatized in adulthood with PTSD (N=12, 13%), and those traumatized in adulthood without PTSD (N = 43, 45%). Compared to survivors without PTSD, those with PTSD showed significantly greater cognitive impairment on the SIDAM and MMS, and this pattern of results was partly due to higher depressive symptoms on the GDS in those with PTSD.
Simmen-Janevska ^f	2014	This was a cross-sectional study of the developmental stage when child abuse occurred, and motivational deficits in older adulthood in 114 former indentured child labourers who had been abused in state foster care.	The 114 participants in this study were a subsample of those in Kuhlman et al., 2013. The sample was divided into four groups based on the developmental stage of abuse: infancy (0-2 years, N = 32), preschool (3-5 years, N = 25), early childhood (6-9 years, N = 29), and early adolescence (10 years and older, N = 28). They were assessed with the CTQ, GSE, SCS, and BIS. In each age group correlations were computed between child abuse (as assessed with the CTQ) and three motivational constructs: self-efficacy (assessed with the GSE), conscientiousness (assessed with the SCS) and impulsivity (assessed with the BIS). Higher levels of abuse in early adolescence were associated with lower levels of self-efficacy and conscientiousness in older adulthood. Higher levels of abuse during preschool years were associated with higher levels of impulsivity in older adulthood.
Simmen-Janevska ^f	2015	This was a case-control study of motivational deficits in 103 former indentured child labourers who had been abused in state foster care and 50 non-abused controls.	The 103 child abuse survivor participants in this study were a subsample of those in Kuhlman et al. (2013), and they were compared with a non-abused control group (N=50). They were assessed with the DDT, SCS, GDS, and GSE. Compared with the control group, abuse survivors showed a significantly higher preference for immediate smaller rewards (on the DDT), lower conscientiousness (on the SCS), and higher levels depressive symptoms (on the GDS). The groups did not differ on self-efficacy (assessed with the GSE).
Rechsteiner ^f	2015	This was a cross-sectional study of sexual problems in 96 former indentured child labourers who had been abused in state foster care.	The 96 participants in this study were a subsample of those in Kuhlman et al., 2013. They were assessed with the CTQ, CIDI trauma list, and the TSI. On the TSI sexual concerns and dysfunctional sexual behaviour scales the main sexual concern was dissatisfaction with one's sex life, and the main dysfunctional sexual behaviours involved promiscuity. On these two scales men (N=55) scored significantly higher than women (N=41), and than older men in the TSI standardization sample. In contrast, female abuse survivors' scores on the sexual concerns and dysfunctional sexual behaviour scales did not differ significantly from those of older women in the standardization sample. There were significant associations between sexual concerns and having experienced (1) physical child abuse (assessed with CTQ), and (2) physical or sexual interpersonal trauma across the lifespan (assessed with the CIDI trauma list). There were also significant associations between both sexual concerns and dysfunctional sexual behaviour on the one hand, and certain complex PTSD symptoms (assessed by the TSI) on the other, including anger/irritability, dissociation and impaired self-reference.
Küffer, Thoma ^f	2016	This was a case-control, study of the transgenerational effects of child abuse on offspring in former	There were four groups in this study: (1) 16 former indentured child labourers with a history of severe child abuse on the CTQ (who were a subsample of those in Kuhlman et al., 2013), (2) 19 age and gender matched controls with no history of child abuse, (3) 22 offspring of former indentured child labourers, and (4) 29 offspring of parental controls.

		indentured child labourers and who had been abused in state foster care and normal controls	<p>The mean age of the parental samples was 74 years, and 40% were women.</p> <p>The mean age of the offspring samples was 49 years and, 69% were women.</p> <p>All participants completed the CTQ, and offspring also completed the QRPRB, BSI, LOT-R, & SOC-R.</p> <p>Compared with the offspring control group, the offspring of abuse survivors reported significantly higher levels of maltreatment, especially physical abuse (on the CTQ).</p> <p>Compared with the offspring control group, offspring of abuse survivors described both their fathers and mothers as showing less emotional warmth, and their mothers as more punitive. They also showed a lower sense of reflection (on the SOC-R).</p> <p>There were no significant differences between offspring groups' levels of mental health problems (on the BSI), or optimism and pessimism (on the LOT-R).</p>
Küffer, O'Donovan ^f	2016	This was a case-control study of a biological index of accelerated aging (buccal cell telomere length) in former indentured child labourers who had been abused in state foster care and normal controls	<p>Participants were 62 former indentured child labourer abuse survivors (a subsample of those in Kuhlman et al., 2013) and 58 normal controls who had not been maltreated</p> <p>Participants completed the SSS, GDS and SF-12, and buccal cell telomere length was assessed from buccal swabs analysed using quantitative polymerase chain reaction.</p> <p>There was no difference between the buccal cell telomere lengths of the two groups.</p> <p>The mean buccal cell telomere length of survivors with partial or full PTSD symptoms (assessed with the SSS) was not shorter than that of the control group.</p> <p>In these analyses the effects of potential confounding variables, including age, gender, education, depression (on the GDS) and functional impairment (on the SF-12) were controlled for.</p>
Maercker ^f	2016	This was a longitudinal single cohort study of predictors of resilience in 74 former indentured child labourers who had been abused in state foster care.	<p>The 74 participants in this study were a subsample of those in Kuhlman et al., 2013.</p> <p>Participants, with a mean age of 80, were assessed at 2 time points 20 months apart, with the CTQ, the CIDI trauma list, a life satisfaction item, the GDS, SSQ, DTQ, GSE, SAQ and the SF-12.</p> <p>On the life satisfaction item and the GDS, the difference between scores at the initial and second assessment 20 months later was used as index of resilience progressing over time.</p> <p>Path-analysis showed that the following factors predicted resilience (in order of decreasing statistical significance): (1) physical health, (2) income, (3) perceived social support (assessed with the SSQ), (4) self-efficacy (assessed with the GSE) and (5) the capacity to disclose trauma without experiencing undue distress (assessed with the DTQ).</p> <p>There were two counterintuitive findings. Higher cumulative life trauma (assessed with a combination of the CTQ and the CIDI trauma list) was associated with increases in life satisfaction from the first to the second assessment occasion. Greater social acknowledgment by others of survivors having experienced abuse (assessed with SAQ) was associated with an increase, from the first to the second assessment occasion, in depressive symptoms.</p>

Note: a = Carr, 2009 and Carr et al., 2010 are entered as a single study because the report by Carr (2009) and journal article by Carr et al. (2010) each present the principal findings of a single study. b = Participants were the same as those in Carr, 2009 and Carr et al., 2010. c = Participants were subsamples of those in Lueger-Schuster, Kantor et al., 2014. d = Participants were the same as the survivor group in Lueger-Schuster et al., 2017. e = Participants those in Lueger-Schuster, Kantor et al., 2014 combined with those in Lueger-Schuster et al., 2013. f = Abuse survivor participants were subsamples of those in Kuhlman et al., 2013. AAQ-II = Acceptance and Action Questionnaire-II (Bond et al., 2011). BIS = Barratt Impulsiveness Scale (Spinella, 2007). BSI = Brief Symptom Inventory (Derogatis & Melisaratos, 1983). CD-RISC = Connor Davidson Resilience Scale (Campbell-Sills & Stein, 2007). CDI = Children's Depression Inventory (Sitarenios & Kovacs, 1999). CIDI = Composite International Diagnostic Interview (Wittchen et al., 2001). CIDI = World Health Organization's Composite International Diagnostic Interview trauma events list (Wittchen et al., 1998). CISS = Coping Inventory for Stressful Situations (Endler & Parker, 1990). CTQ = Childhood Trauma Questionnaire (Bernstein & Fink, 1998). CTSPC = Parent-Child Conflict Tactics Scale (Strauss et al., 1998). DAQ = Displaced Aggression Questionnaire (Denson, 2006). DDT = Delay Discounting Test (Forstmeier & Maercker, 2011). DERS = Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004). DLE = Disclosure of Loss Experience Scale (Müller et al., 2011). DMRS = Defence Mechanism Rating Scales (Perry & Henry, 2001). DTQ = Disclosure of Trauma Questionnaire (Müller et al., 2000). ECRI = Experiences in Close Relationships Inventory (Brennan, Clark, & Shaver, 1998). GAF = Global Assessment of Functioning Scale (Luborsky, 1962). GDS = Geriatric Depression Scale (Sheikh & Yesavage, 1986). GSE = General Self-Efficacy scale (Schwarzer & Jerusalem, 1995). IASMHS = Inventory of Attitudes Toward Seeking Mental Health Services (Mackenzie et al., 2004). ICAPCI = Institutional Child Abuse Processes and Coping Inventory (Flanagan-Howard et al., 2009). ICD-TQ = ICD-11 Trauma Questionnaire (Cloitre, Roberts et al., 2013). JVQ = Juvenile victimization Questionnaire (Finklehor, 2008). KMS = Kansas Marital Satisfaction scale (Schumm et al., 1986). KPS = Kansas Parenting Satisfaction Scales (James et al., 1985). LEC = Life Events Checklist (Weathers et al., 2013a). LEQ = Lifetime Experiences Questionnaire (Rose et al., 2000). LOT = Life Orientation Test (Scheier & Carver, 1985). LOT-R = Revised Life Orientation Test (Scheier et al., 1994). MHVS = German version of the Mill Hill Vocabulary Scale (Raven et al., 1998). MMSE = Mini-Mental State Exam (Folstein et al., 1975). MOS-SSS = Medical Outcomes Study Social Support Survey (Shelbourne & Stewart, 1991). MSES = Multidimensional Self-esteem Scale (Schütz & Sellin, 2006). PAI = Personality Assessment Inventory (1991). PCL-5 = Post-traumatic Stress Disorder Checklist-5 (Weathers et al., 2013b). PCL-C = Post-traumatic Stress Disorder – Civilian Version Checklist (Weathers et al., 1993). pedMACE = Maltreatment And Abuse Chronology of Exposure- Paediatric Interview (Isele et al., 2013). PSI = Short form of the Psychological Symptom Inventory (Kovess, 1982). QRPRB = Questionnaire of Recalled Parental Rearing Behaviour (Schumacher et al., 1999). REVS = Recent Exposure to Violence Scale (Singer et al., 1995,

1888). RPQ = Reactive-Proactive Questionnaire (Raine et al., 2006). RPSSQ = Recalled Perceived Social Support Questionnaire (Lueger-Schuster, Weindl et al., 2014). SAQ = Social Acknowledgment Questionnaire (Maercker & Müller, 2004). SCID I = Structured Clinical Interview for Axis I Disorders of DSM IV (First et al., 1996; Wittchen et al., 1997). SCID II = Structured Clinical Interview for DSM IV Personality Disorders (First et al., 1997; Wittchen et al., 1997). SCID-CV = Structured Clinical Interview for DSM-IV, Clinician Version (Spitzer et al., 1996). SCS = Short Conscientiousness Scale from the short form of the NEO Five Factor Inventory (Körner et al., 2008). SDQ = Strengths and Difficulties questionnaire (Goodman et al., 1998). SES = Socio-economic status. SF-12 = Short-Form Health Survey (Ware et al., 1996). SIDAM = Structured Interview for Diagnosis of Dementia of Alzheimer Type or Multi-infarct Dementia and Dementia of other Aetiology according to ICD-10 and DSM-III-R (Zaudig et al., 1991). SOC-R = Revised Sense of Coherence Scale (Bachem & Maercker, 2016). SOFAS = Social and Occupational Functioning Assessment Scale (Hilsenroth et al., 2000). SRS = Stress Related Symptoms inventory (Ilfeld, 1988). SSQ = Social Support Questionnaire (Fydrich et al., 2009). SSS = Short Screening Scale for PTSD (Breslau et al., 1999). STAXI = State-Trait Anger-Expression Inventory (Spielberger, 1988). TLEQ = Traumatic Life Events Questionnaire (Kubany et al., 2000). TPAI = Traumatic and Protective Antecedents Interview (Perry et al., 2001). TSCC = Trauma Symptom Checklist for Children (Briere, 1996, Singe et al., 1998). TSI = Trauma Symptom Inventory (Briere, 1995). UCLA PTSD-RI = UCLA PTSD Reaction Index (Steinberg et al., 2004). WHOQoL 100 = UK version of World Health Organization Quality of Life Scale 100 (Skevington, 2005).

CHAPTER 5: CONCLUSIONS

Our literature review of research on outcomes for survivors of child maltreatment who were raised in birth families (chapter 2), who experienced structural neglect in orphanages (chapter 3), and who were abused in long term care (chapter 4) was comprehensive. In literature searches 5,828 records were identified and screened, and 178 included in the literature review. Our approach was also scientifically robust. Searches, data extraction, and study quality assessment were conducted by pairs of researchers. There was good inter-rater reliability for study selection, data extraction, and assessment of the scientific quality of studies. The scientific quality of studies included in this project was moderate, so confidence may be placed in the conclusions drawn from this review.

5.1 Outcomes of child abuse for survivors raised in birth families

The first review, contained in chapter 2, synthesized results of 111 systematic reviews and meta-analyses covering over 2,500 independent studies which involved over 30 million participants, of whom more than half a million had been maltreated. It showed that, for individuals raised in birth families, child maltreatment was associated with very significant negative outcomes across the lifespan in the domains of physical and mental health and psychosocial adjustment.

With regard to physical health outcomes, child abuse was associated with neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, gynaecological, genitourinary, metabolic, sleep, and psychosomatic disorders as well as a variety of pain conditions; and increased risk of developing diabetes and cancer. Survivors of child maltreatment also had significant physiological abnormalities, notably abnormalities in the structure and functioning of the brain and endocrine system associated with mental health problems, and a pro-inflammatory state associated with reduced immune system efficiency.

With regard to mental health outcomes, child abuse was associated with post-traumatic stress disorder, anxiety disorders, depression, bipolar disorder, substance use disorders, eating disorders, psychotic disorders, disruptive behaviour disorders, dissociative disorders, psychosomatic disorders, and personality disorders. Child maltreatment was also associated with an unfavourable clinical course for some conditions, notably depression and bipolar disorder.

With regard to adverse psychosocial outcomes, child maltreatment was associated with deficits in cognitive functioning, language delay, insecure attachment, school attainment problems, antisocial behaviour and aggression, sexual aggression, risky sexual behaviour, parenting problems, self-harm, and suicide. Child abuse was also associated with deficits in emotion recognition, understanding and knowledge; deficits in perspective taking, theory of mind, and social competence; hostile attributional bias; low self-esteem; interpersonal dependency; negative personality traits; gambling problems; poor educational and occupational adjustment; poor adjustment within family and peer relationships; and a negative quality of life.

The extent to which child abuse survivors experienced negative outcomes was associated with a range of personal and contextual risk and protective factors. Poorer outcomes occurred where survivors were exposed to multiple types of severe abuse over long periods of time. Factors associated with resilience among survivors included social support from the family and wider network, positive engagement in education, interpersonal and emotional competence, active coping, optimism, a belief in the capacity to control one's life,

and blaming the perpetrator rather than the self for abuse.

5.2 Outcomes of structural neglect

The second review, contained in chapter 3, synthesized the results of 18 systematic reviews and meta-analyses covering over 550 independent studies which involved over 160,000 survivors of structural neglect and 1.5 million control group cases. It showed that individuals whose basic physical, developmental, and emotional needs had not been met in congregational care institutions due to inadequate and unstable staffing, and limited physical resources had adverse outcomes over the course of their development.

With regard to physical health, structural neglect was associated with short stature, low weight, and smaller head circumference. At about 2 or 3 years of age shortly after the transition from orphanages to adoptive families, children exposed to structural neglect were 3 kgs lighter and 8 cm shorter than children raised in birth families. Structural neglect was also associated with abnormal neurobiological development affecting a range of brain structures and functions, implicated in cognitive and psychosocial difficulties.

Structural neglect was associated with higher rates of mental health problems and mental health service usage.

Structural neglect was associated with delayed cognitive development as indexed by lower IQ, school attainment problems, and specific learning disorders. On average the IQs of children raised in institutions were 17-20 IQ points lower than those of children raised in families. Structural neglect was also associated with insecure attachment, especially insecure disorganized attachment. Rates of disorganized attachment were about three times higher in survivors of institutional neglect compared with children raised in birth families. Disorganized attachment is a risk factor for later difficulties making and maintaining relationships across the lifespan.

Significant, but incomplete, developmental catch-up occurred when children exposed to structural neglect were adopted. The degree and rate of catch-up depended on the outcome domain, the severity and duration of structural neglect, and the presence of a range of personal and contextual risk and protective factors. A large degree of relatively rapid catch-up occurred in weight, height, and IQ. A lesser degree and slower rate of catch-up occurred in head circumference and attachment security. Exposure to severe deprivation over longer time periods in understaffed, poorly resourced institutions in underdeveloped countries were risk factors for poorer outcomes. Early adoption was a protective factor for better outcomes.

5.3 Outcomes for survivors of child abuse in long-term care

The third review, contained in chapter 4, synthesized the results of 46 studies involving 3,856 survivors of child abuse in long term care and 1,577 control group cases. It showed that individuals physically, sexually and emotionally abused in long-term child care had poor outcomes across the lifespan, right into older adulthood.

There were significant associations between having experienced child abuse in long-term residential care and mental health outcomes. Eighty-four percent had lifetime mental health problems diagnosed with the structured clinical Interviews; 67% had general mental health problems; 58% had lifetime anxiety disorders; 51% had lifetime post-traumatic stress disorder; 44% had lifetime depressive disorders; 41% had current personality disorders; 37% had lifetime drug and alcohol use disorders; and 19% had current complex PTSD. These rates are far higher than those found in surveys of mental health problems in the general population.

There were significant associations between having experienced child abuse in long-term residential care and physical health and psychosocial outcomes. Fifty-nine percent had educational problems; 56% lived in poverty; 39% had marital adjustment problems; 37% had committed non-violent crime; 31% had sexual problems; 30% had committed violent crime; 30% had frequent physical illness; 29% reported suicidality and self-harm; 28% had been frequently hospitalized for physical health problems; 25% had anger control problems in intimate relationships; 21% were homeless; 13% had anger control problems with children; 12% had been imprisoned; and 4% had their children taken into care.

The associations between institutional child abuse and physical health, mental health and psychosocial outcomes were influenced by the constellation of risk and protective factors experienced across the lifespan. Risk factors included severe prolonged institutional maltreatment, especially sexual abuse, intrafamilial abuse prior to institutional care, additional trauma after leaving institutional care, experiencing severe traumatization as a result of institutional abuse, the use of maladaptive coping strategies, and an insecure adult attachment style. Protective factors included socially supportive relationships, personal strengths and competencies, adaptive coping strategies, and a secure adult attachment style. Survivors exposed to more risk factors and fewer protective factors had poorer outcomes. In contrast, better outcomes occurred for those with more protective factors and fewer risk factors.

5.4 Overall conclusions

The result of the three literature reviews contained in chapters 2, 3 and 4 of this report, and summarized above support the following conclusions. Survivors of child maltreatment have adverse outcomes across the lifespan in the domains of physical health, mental health, and psychosocial adjustment. These adverse outcomes occur for survivors who experienced abuse while living with their birth families, for survivors who experienced structural neglect while living in under-resourced orphanages, and for survivors of abuse in long-term residential child care. It is probable that child maltreatment largely accounts for these adverse outcomes. The severity of adverse outcomes may be partly influenced by the number of different types of maltreatment experienced as well as the duration and severity of these, and the presence of protective factors such as supportive relationships and personal strengths. The many adverse outcomes associated with child maltreatment documented in this review highlight the importance of implementing evidence-based child protection policies and practices to prevent maltreatment and treat child abuse survivors.

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Chapter 3

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APPENDIX A

Data Extraction Forms

Data extraction and quality assessment form for systematic review of systematic reviews and meta-analyses of studies of the outcomes of child abuse			
	Full reference	All authors (year). Title. Journal, volume (issue), pages.	PUT DATA EXTRACTED IN THIS COLUMN
		QUALITY	
	AMSTAR	Score each of the 11 AMNSTAR items as 1 = present or 0 = absent, can't answer or not applicable	
1	Amstar 1	1-Described a priori design with research question and inclusion criteria.	
2	Amstar 2	2-Used two independent data extractors and a consensus procedure for disagreements.	
3	Amstar 3	3-Used a comprehensive literature search of at least 2 data bases with appropriate search terms and years of search indicated, and manual search of one of the following: references of studies found, review papers, current contents, textbooks, experts.	
4	Amstar 4	4-Searched for reports regardless of publication type and did not exclude reports based on language or publication type (e.g. theses, report grey literature etc.).	
5	Amstar 5	5-Provided a list of included and excluded studies (in the refs or as an electronic link)	
6	Amstar 6	6- Provided characteristics of included studies in a table (author, date, participant age and gender, type of maltreatment, type of outcome).	
7	Amstar 7	7-Provided ratings of the scientific quality of studies (e.g. high or low quality) and not just a summary score for all studies	
8	Amstar 8	8-Took the quality of studies into account in drawing conclusions and making recommendations (e.g. result should be interpreted cautiously due to poor quality of studies)	
9	Amstar 9	9.Provided a test of homogeneity (e.g. chi square or I ²) to check if results of studies could be validly pooled. Used a random effects (not a fixed effects) model if heterogeneity was present,	
10	Amstar 10	10. Assessed publication bias (using funnel plots or Egger regression test or Hedges Olken test etc.) if there were more than 10 studies.	
11	Amstar 11	11. Acknowledged sources of support for systematic review and included studies (to indicate conflict of interest)	
12	AMSTAR Total	Calculate the total AMSTAR score by summing scores for 11 items to give a score ranging from 1-11	

		DESIGN FEATURES & SAMPLE CHARACTERISTICS	
13	Main type of abuse	Give a code MT = Multiple forms of maltreatment (physical, sexual, emotional/psychological, neglect) SA = -mainly sexual abuse, PA = mainly physical abuse, EA = mainly emotional or psychological abuse NE = -mainly neglect.	
14	Main outcome	PH = physical health MH = Mental health P = Psychosocial adjustment	
15	Data synthesis	MA = Meta-analysis SR = Systematic review with narrative synthesis	
16	Data bases searched	List all databases searched	
17	Number of data bases searched		
18	Number of primary studies (k)	This is the number of primary studies selected for inclusion in the overall systematic review or meta-analysis.	
19	Number of participants (N)	This is the total number of maltreated cases and participants in control groups in all studies in the review.	
20	% prospective studies	If 6 of 10 reviewed studies were prospective then the value here is 60%. If data are missing for a study, assume it is not a prospective study.	
21	% controlled studies	If 9 of 10 reviewed studies were controlled then the value here is 90%.	
22	% probability sample studies	If 1 of 10 reviewed studies used probability samples then the value here is 10%. Probability samples are samples that are representative of the entire population. They are often used in community cohort studies. They are NOT clinical samples or community convenience samples. If data are missing for a study, assume it is not a probability sample study.	
23	% clinical sample studies	If 4 of 10 reviewed studies used clinical samples then the value here is 40%. If data are missing for a study, assume it is not a clinical study.	
24	% mainly adult samples	If 7 of 10 reviewed studies used samples in which most people were over 18 when data were collected then the value here is 70%. If data are missing for a few studies base it on studies for which data are available.	
25	Mean age of participants (when adjustment was assessed)	Sum the mean ages of participants when adjustment was assessed across all (k) studies and divide by k. If only a range is given for a study, use the midpoint of that range as an estimate of the mean. If data are missing for a few studies base it on studies for which data are available.	
26	% all female samples	If 5 of 10 reviewed studies used all	

		female samples then the value here is 50%. If data are missing for a few studies base it on studies for which data are available.	
27	% of female participants	Sum the % percentage of female participants across all (k) studies and divide by k. If data are missing for a few studies base it on studies for which data are available.	

Data extraction and quality assessment form for systematic review of systematic reviews and meta-analyses of studies of outcomes of structural neglect			
	Full reference	All authors (year). Title. Journal, volume (issue), pages.	PUT DATA EXTRACTED IN THIS COLUMN
		QUALITY	
	AMSTAR	Score each of the 11 AMNSTAR items as 1 = present or 0 = absent, can't answer or not applicable	
1	Amstar 1	1-Described a priori design with research question and inclusion criteria.	
2	Amstar 2	2-Used two independent data extractors and a consensus procedure for disagreements.	
3	Amstar 3	3-Used a comprehensive literature search of at least 2 data bases with appropriate search terms and years of search indicated, and manual search of one of the following: references of studies found, review papers, current contents, textbooks, experts.	
4	Amstar 4	4-Searched for reports regardless of publication type and did not exclude reports based on language or publication type (e.g. theses, report grey literature etc.).	
5	Amstar 5	5-Provided a list of included and excluded studies (in the refs or as an electronic link)	
6	Amstar 6	6- Provided characteristics of included studies in a table (author, date, participant age and gender, type of maltreatment, type of outcome).	
7	Amstar 7	7-Provided ratings of the scientific quality of studies (e.g. high or low quality) and not just a summary score for all studies	
8	Amstar 8	8-Took the quality of studies into account in drawing conclusions and making recommendations (e.g. result should be interpreted cautiously due to poor quality of studies)	
9	Amstar 9	9.Provided a test of homogeneity (e.g. chi square or I ²) to check if results of studies could be validly pooled. Used a random effects (not a fixed effects) model if heterogeneity was present,	
10	Amstar 10	10. Assessed publication bias (using funnel plots or Egger regression test or Hedges Olken test etc.) if there were more than 10 studies.	
11	Amstar 11	11. Acknowledged sources of support for systematic review and included studies (to indicate conflict of interest)	
12	AMSTAR Total	Calculate the total AMSTAR score by summing scores for 11 items to give a score ranging from 1-11	
		DESIGN FEATURES & SAMPLE CHARACTERISTICS	
13	Main outcomes	Give one or more codes PH = physical health.	

		<p>CD = Cognitive development MD = Motor development LD = Language development AT = Attachment SP = School problems MH = Mental health. P = Psychosocial adjustment.</p>	
14	Data synthesis	<p>MA = Meta-analysis SR = Systematic review with narrative synthesis</p>	
15	Data bases searched	List all databases searched	
16	Number of data bases searched		
17	Number of primary studies (k)	This is the number of primary studies selected for inclusion in the overall systematic review or meta-analysis.	
18	Number of participants (N)	This is the total number of maltreated cases and participants in control groups in all studies in the review.	
19	% controlled studies	If 9 of 10 reviewed studies were controlled then the value here is 90%.	
20	% mainly child samples	If 7 of 10 reviewed studies used samples in which most people were over 18 when data were collected then the value here is 70%. If data are missing for a few studies base it on studies for which data are available.	
21	Mean age when left care	<p>Give this value in years to the nearest year. Sum the mean ages of participants when they left institutions (such as orphanages) across all (k) studies and divide by k. If only a range is given for a study, use the midpoint of that range as an estimate of the mean. If data are missing for a few studies base it on studies for which data are available.</p>	
22	Mean age of participants when assessed	<p>Give this value in years to the nearest year, Sum the mean ages of participants when adjustment was assessed across all (k) studies and divide by k. If only a range is given for a study, use the midpoint of that range as an estimate of the mean. If data are missing for a few studies base it on studies for which data are available.</p>	
23	% of female participants	Sum the % percentage of female participants across all (k) studies and divide by k. If data are missing for a few studies base it on studies for which data are available.	
24	% from developing countries	<p>This is the percentage of k studies in which participants were from developing countries in Eastern Europe, Asia, African and South America including. This excludes USA, UK, Western Europe, Australia and New Zealand.</p>	

Data extraction and quality assessment form for systematic review of studies of outcomes of child abuse in long-term care			
	Full reference	All authors (year). Title. Journal, volume (issue), pages. doi.	
		QUALITY OF QUANTITATIVE STUDY (Risk of bias [ROB])	
1	ROB-1	1. Was the sample representative of the target population (Survivors of child abuse while in care)? (If it was a self-selected convenience sample it was not representative)	
2	RoB-2	2. Were there at least 100 cases in the sample?	
3	RoB-3	3. Were data collected directly from participants (as opposed to a proxy)?	
4	RoB-4	4. Was an acceptable case definition used in the study? (survivors of child abuse while in care)	
5	RoB-5	5. Were most of the study instruments that measured the effects of child abuse reliable and valid? (Mental Health, physical health, social adjustment)	
6	RoB-6	6. Were there no financial incentives for over-reporting child abuse or adult adjustment problems?	
7	RoB-7	7. Was the same mode of data collection used for all participants?	
8	RoB-8	8. Was there a control group	
9	RoB-9	9. Were data collected prospectively?	
10	RoB-10	10. Was there evidence that the sample had not been maltreated prior to, or since institutional abuse?	
11	RoB-11	11. Were appropriate data analysis methods used?	
12	RoB-total	Get the total RoBTPS score by summing scores for 11 items to give a score ranging from 1-11	
		QUALITY OF QUALITATIVE STUDY – (NICE Quality Assessment Checklist [NICEQAC])	
13	NICEQAC 1	1-Is a qualitative approach appropriate? Does the research question seek to understand processes or structures, or illuminate subjective experiences or meanings?	
14	NICEQAC 2	2- Is the study clear in what it seeks to do? Is the purpose of the study discussed by stating aims / objectives / research question/s? Is there adequate / appropriate reference to the literature? Are underpinning values / assumptions / theory discussed?	
15	INCEQAC 3	3- Is the research design / methodology defensible /rigorous? Is the design appropriate to the research question? Is a rationale given for using a qualitative approach? Are there clear accounts of the rationale / justification for the sampling, data collection and data analysis techniques used? Is the selection of cases / sampling strategy theoretically justified?	

16	NICEQAC 4	4-Was the data collection carried out well? Are the data collection methods clearly described? Were the appropriate data collected to address the research question? Were data collection and record keeping systematic?	
17	NICEQAC 5	5-Is the role of the researcher clearly described? Has the relationship between the researcher and the participants been adequately considered? Does the paper describe how the research was explained and presented to the participants?	
18	INCEQAC 6	6- Is the context clearly described? Are the characteristics of the participants and settings clearly defined? Were observations made in a sufficient variety of circumstances? Was context bias considered?	
19	NICEQAC 7	7-Were the methods reliable? Were data collected by more than 1 method? Is there justification for triangulation, or for not triangulating? Do the methods investigate what they claim to?	
20	NICEQAC 8	8-Is the data analysis sufficiently rigorous? Is the procedure explicit. Is it clear how the data were analysed to arrive at the results? How systematic is the analysis? Is the procedure reliable / dependable? Is it clear how the themes and concepts were derived from the data?	
21	INCEQAC 9	9- Is the data 'rich'? How well are the contexts of the data described? Has the diversity of perspective and content been explored? How well has the detail and depth been demonstrated? Are responses compared and contrasted across groups / sites?	
22	NICEQAC 10	10-Is the analysis reliable? Did more than 1 researcher theme and code transcripts / data? If so, how were differences resolved? Did participants feedback on the transcripts / data if possible and relevant? Were negative / discrepant results addressed or ignored?	
23	NICEQAC 11	11-Are the findings convincing? Are the findings clearly presented? Are the findings internally coherent? Are extracts from the original data included? Are the data appropriately referenced? Is the reporting clear and coherent?	
24	INCEQAC 12	12-Are the findings relevant to the aims of the study?	
25	NICEQAC 13	13- Are the conclusions supported by the results of data analysis and interpretation? How clear are the links between data, interpretation and conclusions? Are the conclusions plausible and coherent? Have alternative explanations been explored and discounted? Does this enhance understanding of the research topic? Are the implications of the	

		research clearly defined? Is there adequate discussion of any limitations encountered?	
26	NICEQAC 14	14- Is the reporting of ethics clear and coherent? Have ethical issues been taken into consideration? Are they adequately discussed and do they address consent and anonymity? Have the consequences of the research been considered, i.e. raising expectations, changing behaviour? Was the study approved by an ethics committee?	
27	NICEQAC Total	Get the total NICEQAC score by summing scores for 14 items to give a score ranging from 1-14	
STUDY DESIGN FEATURES			
28	Years when data were collected	e.g. 2010-2012	
29	Type of design	SC = Single cohort cross-sectional study. GP = Subgroups or process study within a single cohort cross-sectional study. CC = Controlled cross-sectional study. LG = Longitudinal single cohort study. QL= Qualitative study	
30	Number of cases in abuse survivors group		
31	Number of cases in control group		
DEMOGRAPHIC CHARACTERISITICS			
32	Mean age of survivor participants (when adjustment was assessed)	e.g. 43y	
33	Age range of survivor participants (when adjustment was assessed)	e.g. 35y-60y	
34	% female survivor participants		
CHILD CARE EXPERIENCES			
35	% mainly in religious institutional care		
36	% mainly in non-religious institutional care		
37	% mainly in foster care		
38	Average age when entered care		
39	Age range when entered care		
40	Average duration of care		
41	Range of duration of time in care		
CHILD ABUSE EXPERIENCES			
42	% abused within birth family		
43	% abused in care		
44	% sexually abused in care		
45	% physically abused in care		
46	% emotionally abused in care		
MENTAL HEALTH OUTCOMES			
47	% or <i>d</i> for any type of general mental health problems	For all mental health outcomes in this section where data are available record Current diagnosis of the disorder (CT) Past diagnosis of the disorder (PT) Lifetime diagnosis of the disorder and includes cases with both current and past diagnoses (LT) <i>d</i> is the effect size of the difference between a survivor group and a control group.	

48	% or <i>d</i> for co-morbid disorders		
49	% or <i>d</i> for PTSD		
50	% or <i>d</i> for complex PTSD		
51	% or <i>d</i> anxiety disorders (including PTSD)		
52	% or <i>d</i> depressive disorders (including MDD and dysthymia)		
53	% or <i>d</i> for drug and alcohol use disorders		
54	% or <i>d</i> for personality disorders		
		ADVERSE PHYSICAL HEALTH AND SOCIAL OUTCOMES	
55	% frequent illness		
56	% frequent hospitalization for physical health problems		
57	% homeless		
58	% anger control problems in intimate relationships		
59	% anger control problems with children		
60	% violent crime		
61	% non-violent crime		
62	% imprisoned		
63	% never married, separated or divorced		
64	% children taken into care		
65	% School problems, not finished high-school, learning difficulties		
66	% poverty, unemployed, unskilled or semi- skilled job		
67	% sexual problems		
68	% self-harm		

APPENDIX B

Excluded Full Text Papers

Records listed below were excluded from reviews in chapters 2, 3, and 4 after full texts were screened. They are presented below on a chapter-by-chapter basis. Within each chapter section they are grouped by reason for exclusion as listed in Figures 2.1, 3.1 and 4.1. Within each reason for exclusion section, they are listed alphabetically.

Chapter 2

List of 130 records excluded from review of outcomes of child abuse grouped by reason for exclusion

61 records were narrative (not systematic) reviews

- 1 Ackner, S., Skeate, A., Patterson, P., & Neal, A. (2013). Emotional abuse and psychosis: a recent review of the literature. *Journal of Aggression, Maltreatment & Trauma, 22*(9), 1032-1049. doi:10.1080/10926771.2013.837132
- 2 Al Odhayani, A., Watson, W. J., & Watson, L. (2013). Behavioural consequences of child abuse. *Canadian Family Physician, 59*(8), 831-836.
- 3 Arellano, C. M. (1996). Child maltreatment and substance use: A review of the literature. *Substance use & Misuse, 31*(7), 927-935. doi:10.3109/10826089609063963.
- 4 Beitchman, J. H., Zucker, K. J., Hood, J. E., & Akman, D. (1991). A review of the short-term effects of child sexual abuse. *Child Abuse & Neglect, 15*(4), 537-556.
- 5 Beitchman, J. H., Zucker, K. J., Hood, J. E., DaCosta, G. A., Akman, D., & Cassavia, E. (1992). A review of the long-term effects of child sexual abuse. *Child Abuse & Neglect, 16*(1), 101-118.
- 6 Briere, J., & Runtz, M. (1993). Childhood sexual abuse: Long-term sequelae and implications for psychological assessment. *Journal of Interpersonal Violence, 8*(3), 312-330.
- 7 Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*(1), 66.
- 8 Buckingham, E. T., & Daniolos, P. (2013). Longitudinal outcomes for victims of child abuse. *Current Psychiatry Reports, 15*(2), 342.
- 9 Cicchetti, D. (2013). Annual research review: Resilient functioning in maltreated children - past, present, and future perspectives. *Journal of Child Psychology & Psychiatry, 54*(4), 402-422. doi:10.1111/j.1469-7610.2012.02608.x
- 10 Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual Review of Clinical Psychology, 1*, 409-438.
- 11 Classen, C. C., Palesh, O. G., & Aggarwal, R. (2005). Sexual revictimization: A review of the empirical literature. *Trauma, Violence, & Abuse, 6*(2), 103-129.
- 12 Davidson, L., & Omar, H. A. (2014). Long-term consequences of childhood sexual abuse. *International Journal of Child & Adolescent Health, 7*(2), 103-107.
- 13 Davies, B. R., & Allen, N. B. (2017). Trauma and homelessness in youth: Psychopathology and intervention. *Clinical Psychology Review, 54*, 17-28. doi:10.1016/j.cpr.2017.03.005

- 14 Davis, J. L., & Petretic-Jackson, P. A. (2000). The impact of child sexual abuse on adult interpersonal functioning: A review and synthesis of the empirical literature. *Aggression and Violent Behaviour, 5*(3), 291-328.
- 15 Dhaliwal, G. K., Gauzas, L., Antonowicz, D. H., & Ross, R. R. (1996). Adult male survivors of childhood sexual abuse: Prevalence, sexual abuse characteristics, and long-term effects. *Clinical Psychology Review, 16*(7), 619-639. doi:10.1016/S0272-7358(96)00018-9
- 16 DiLillo, D. (2001). Interpersonal functioning among women reporting a history of childhood sexual abuse: Empirical findings and methodological issues. *Clinical Psychology Review, 21*(4), 553-576.
- 17 Dvir, Y., Ford, J. D., Hill, M., & Frazier, J. A. (2014). Childhood maltreatment, emotional dysregulation, and psychiatric comorbidities. *Harvard Review of Psychiatry, 22*(3), 149.
- 18 Edalati, H., & Krank, M. D. (2016). Childhood maltreatment and development of substance use disorders: A review and a model of cognitive pathways. *Trauma, Violence, & Abuse, 17*(5), 454-467.
- 19 Ford, J. D., & Gómez, J. M. (2015). The relationship of psychological trauma and dissociative and post-traumatic stress disorders to nonsuicidal self-injury and suicidality: A review. *Journal of Trauma & Dissociation, 16*(3), 232-271. doi: 10.1080/15299732.2015.989563
- 20 Glaser, D. (2000). Child abuse and neglect and the brain—a review. *Journal of Child Psychology and Psychiatry, 41*(1), 97-116.
- 21 Glod, C. A. (1993). Long-term consequences of childhood physical and sexual abuse. *Archives of Psychiatric Nursing, 7*(3), 163-173.
- 22 Goodman, G. S., Quas, J. A., & Ogle, C. M. (2010). Child maltreatment and memory. *Annual review of psychology, 61*, 325-351.
- 23 Goodwin, J. (1997). Child sexual abuse: Controversy, sequelae, treatment. *Current Opinion in Psychiatry, 10*(6), 432-435. doi:10.1097/00001504-199711000-00003
- 24 Gratz, K. L. (2003). Risk factors for and functions of deliberate self-harm: An empirical and conceptual review. *Clinical Psychology: Science and Practice, 10*(2), 192-205.
- 25 Hart, H., & Rubia, K. (2012). Neuroimaging of child abuse: a critical review. *Frontiers in human neuroscience, 6*, 52.
- 26 Haskett, M. E., Nears, K., Ward, C. S., & McPherson, A. V. (2006). Diversity in adjustment of maltreated children: Factors associated with resilient functioning. *Clinical Psychology Review, 26*(6), 796-812.
- 27 Heim, C., & Binder, E. B. (2012). Current research trends in early life stress and depression: Review of human studies on sensitive periods, gene–environment interactions, and epigenetics. *Experimental neurology, 233*(1), 102-111.
- 28 Holmes, W. C., & Slap, G. B. (1998). Sexual abuse of boys: Definition, prevalence, correlates, sequelae, and management. *JAMA: Journal of the American Medical Association, 280*(21), 1855-1862. doi: 10.1001/jama.280.21.1855
- 29 Iwaniec, D., Larkin, E., & Higgins, S. (2006). Research review: Risk and resilience in cases of emotional abuse. *Child & Family Social Work, 11*(1), 73-82.
- 30 Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: a review and synthesis of recent empirical studies. *Psychological Bulletin, 113*(1), 164.
- 31 Kolko, D. J. (1992). characteristics of child Victims of physical violence. Research findings and clinical implications. *Journal of Interpersonal Violence, 7*(2), 244-276.

- 32 Kuyken, W. (1995). The psychological sequelae of childhood sexual abuse: A review of the literature and implications for treatment. *Clinical Psychology & Psychotherapy*, 2(2), 108-121.
- 33 Lamphear, V. S. (1985). The impact of maltreatment on children's psychosocial adjustment: A review of the research. *Child Abuse & Neglect*, 9(2), 251-263. doi: 10.1016/0145-2134(85)90018-3.
- 34 Malinosky-Rummell, R., & Hansen, D. J. (1993). Long-term consequences of childhood physical abuse. *Psychological Bulletin*, 114(1), 68.
- 35 Margolin, G., & Gordis, E. B. (2000). The effects of family and community violence on children. *Annual Review of Psychology*, 51(1), 445-479.
- 36 McCrory, E., De Brito, S. A., & Viding, E. (2011). The impact of childhood maltreatment: a review of neurobiological and genetic factors. *Frontiers in Psychiatry*, 2, 48.
- 37 McGrath, S. A., Nilsen, A. A., & Kerley, K. R. (2011). Sexual victimization in childhood and the propensity for juvenile delinquency and adult criminal behaviour: A systematic review. *Aggression and Violent Behaviour*, 16(6), 485-492. doi:10.1016/j.avb.2011.03.008
- 38 Mina, E. E. S., & Gallop, R. M. (1998). Childhood sexual and physical abuse and adult self-harm and suicidal behaviour: a literature review. *The Canadian Journal of Psychiatry*, 43(8), 793-800.
- 39 Morgan, C., & Fisher, H. (2007). Environment and schizophrenia: environmental factors in schizophrenia: childhood trauma—a critical review. *Schizophrenia Bulletin*, 33(1), 3-10.
- 40 Morton, N., & Browne, K. D. (1998). Theory and observation of attachment and its relation to child maltreatment: A review. *Child Abuse & Neglect*, 22(11), 1093-1104.
- 41 Narang, S., & Clarke, J. (2014). Abusive head trauma: Past, present, and future. *Journal of Child Neurology*, 29(12), 1747-1756. doi: 10.1177/0883073814549995
- 42 Polusny, M. A., & Follette, V. M. (1995). Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and preventive psychology*, 4(3), 143-166.
- 43 Putnam, F. W. (2003). Ten-year research update review: Child sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42(3), 269-278.
- 44 Raphael, K. G. (2005). Childhood abuse and pain in adulthood: More than a modest relationship? *Clinical Journal of Pain*, 21(5), 371-373. doi:10.1097/01.ajp.0000149794.70627.18
- 45 Read, J., Fosse, R., Moskowitz, A., & Perry, B. (2014). The traumagenic neurodevelopmental model of psychosis revisited. *Neuropsychiatry*, 4(1), 65-79. doi:10.2217/np.13.89
- 46 Rodriguez, N., Kemp, H. V., & Foy, D. W. (1998). Post-traumatic stress disorder in survivors of childhood sexual and physical abuse: A critical review of the empirical research. *Journal of Child Sexual Abuse*, 7(2), 17-45.
- 47 Romano, E., & De Luca, R. V. (2001). Male sexual abuse: A review of effects, abuse characteristics, and links with later psychological functioning. *Aggression and Violent Behaviour*, 6(1), 55-78.
- 48 Rowan, A. B., & Foy, D. W. (1993). Post-traumatic stress disorder in child sexual abuse survivors: A literature review. *Journal of Traumatic stress*, 6(1), 3-20.
- 49 Springer, K. W., Sheridan, J., Kuo, D., & Carnes, M. (2003). The Long-term Health Outcomes of Childhood Abuse. *Journal of General Internal Medicine*, 18(10), 864-870.
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- 51 Stewart, S. H. (1996). Alcohol abuse in individuals exposed to trauma: a critical review. *Psychological Bulletin*, 120(1), 83.
- 52 Teicher, M. H., & Samson, J. A. (2016). Annual research review: enduring neurobiological effects of childhood abuse and neglect. *Journal of Child Psychology and Psychiatry*.
- 53 Trickett, P. K., & McBride-Chang, C. (1995). The developmental impact of different forms of child abuse and neglect. *Developmental Review*, 15(3), 311-337.
- 54 Trickett, P. K., Negriff, S., Ji, J., & Peckins, M. (2011). Child Maltreatment and Adolescent Development. *Journal of Research on Adolescence*, 21(1), 3-20.
- 55 Tromovitch, P., & Rind, B. (2007). Child Sexual Abuse Definitions, Meta-Analytic Findings, and a Response to the Methodological Concerns Raised by Hyde (2003). *International Journal of Sexual Health*, 19(4), 1-13. doi:10.1300/J514v19n04_01
- 56 Twardosz, S., & Lutzker, J. R. (2010). Child maltreatment and the developing brain: A review of neuroscience perspectives. *Aggression and Violent Behaviour*, 15(1), 59-68.
- 57 Tyler, K. A. (2002). Social and emotional outcomes of childhood sexual abuse: A review of recent research. *Aggression and Violent Behaviour*, 7(6), 567-589.
- 58 van Winkel, R., van Nierop, M., Myin-Germeys, I., van Os, J., van Winkel, R., van Nierop, M., . . . van Os, J. (2013). Childhood trauma as a cause of psychosis: linking genes, psychology, and biology. *Canadian Journal of Psychiatry*, 58(1), 44-51.
- 59 Walsh, K., Fortier, M. A., & DiLillo, D. (2010). Adult coping with childhood sexual abuse: A theoretical and empirical review. *Aggression and Violent Behaviour*, 15(1), 1-13.
- 60 Weiss, E. L., Longhurst, J. G., & Mazure, C. M. (1999). Childhood sexual abuse as a risk factor for depression in women: psychosocial and neurobiological correlates. *American Journal of Psychiatry*, 156(6), 816-828.
- 61 Yang, B., & Clum, G. A. (1996). Effects of early negative life experiences on cognitive functioning and risk for suicide: A review. *Clinical Psychology Review*, 16(3), 177-195.

21 records were systematic reviews or meta-analyses which did not meet 3 of 4 AMSTAR criteria

- 62 Cicchetti, D., Riem, M. M. E., Alink, L. R. A., Out, D., Van Ijzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2015). Beating the brain about abuse: Empirical and meta-analytic studies of the association between maltreatment and hippocampal volume across childhood and adolescence. *Development & Psychopathology*, 27(2), 507-520. doi:10.1017/S0954579415000127
- 63 De Codt, A., Monhonval, P., Bongaerts, X., Belkacemi, I., & Tecco, J. M. (2016). Bipolar disorder and early affective Trauma. *Psychiatria Danubina*, 28, 4-8.
- 64 Fisher, H. L., & Hosang, G. M. (2010). Childhood maltreatment and bipolar disorder: a critical review of the evidence. *Mind Brain*, 1(1), 75-85.
- 65 Fossati, A., Madeddu, F., & Maffei, C. (1999). Borderline Personality Disorder and childhood sexual abuse: A meta-analytic study. *Journal of Personality Disorders*, 13(3), 268-280. doi:10.1521/pedi.1999.13.3.268
- 66 Frías Ibáñez, Á., Palma Sevillano, C., Giné Servén, E., & Aluco Sánchez, E. (2014). Trauma, post-traumatic stress disorder and psychosis: Etiopatho genic and nosological implications. *European Journal of Psychiatry*, 28(1), 27-38. doi:10.4321/S0213-61632014000100003
- 67 Fryers, T., & Brugha, T. (2013). Childhood determinants of adult psychiatric disorder. *Clinical Practice and Epidemiology in Mental Health*, 9, 50. doi: 10.2174/1745017901309010001

- 68 Grassi-Oliveira, R., Ashy, M., & Stein, L. M. (2008). Psychobiology of childhood maltreatment: Effects of allostatic load? *Revista Brasileira de Psiquiatria*, *30*(1), 60-68. doi:10.1590/S1516-44462008000100012
- 69 Marriott, C., Hamilton-Giachritsis, C., & Harrop, C. (2014). Factors Promoting Resilience Following Childhood Sexual Abuse: A Structured, Narrative Review of the Literature. *Child Abuse Review*, *23*(1), 17-34. doi:10.1002/car.2258
- 70 Masson, M., Bussieres, E.-L., East-Richard, C., R-Mercier, A., and Cellard, C. (2015). Neuropsychological profile of children, adolescents and adults experiencing maltreatment: a meta-analysis. *Clinical Neuropsychology*, *29*, 573–594. doi: 10.1080/13854046.2015.1061057
- 71 Mulvihill, D. (2005). The health impact of childhood trauma: an interdisciplinary review, 1997-2003. *Issues in Comprehensive Paediatric Nursing*, *28*(2), 115-136.
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- 73 Nunes, S. O. V., Watanabe, M. A. E., Morimoto, H. K., Moriya, R., & Reiche, E. M. V. (2010). The impact of childhood sexual abuse on activation of immunological and neuroendocrine response. *Aggression and Violent Behaviour*, *15*(6), 440-445. doi:10.1016/j.avb.2010.07.006
- 74 Read, J., Os, J. v., Morrison, A. P., & Ross, C. A. (2005). Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications. *Acta Psychiatrica Scandinavica*, *112*(5), 330-350.
- 75 Rinne-Albers, M. A. W., Van Der Wee, N. J. A., Lamers-Winkelmann, F., & Vermeiren, R. R. J. M. (2013). Neuroimaging in children, adolescents and young adults with psychological trauma. *European Child and Adolescent Psychiatry*, *22*(12), 745-755. doi:10.1007/s00787-013-0410-1
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- 77 Roodman, A. A., & Clum, G. A. (2001). Revictimization rates and method variance: A meta-analysis. *Clinical Psychology Review*, *21*(2), 183-204. doi:10.1016/S0272-7358(99)00045-8
- 78 Simpson, T. L., & Miller, W. R. (2002). Concomitance between childhood sexual and physical abuse and substance use problems: A review. *Clinical Psychology Review*, *22*(1), 27-77.
- 79 Ulrich, H., Randolph, M., & Acheson, S. (2005). Child sexual abuse. *Scientific Review of Mental Health Practice*, *4*(2), 37-51.
- 80 Von Werne Baes, C., de Carvalho Tofoli, S. M., Martins, C. M. S., & Juruena, M. F. (2012). Assessment of the hypothalamic–pituitary–adrenal axis activity: Glucocorticoid receptor and mineralocorticoid receptor function in depression with early life stress—A systematic review. *Acta Neuropsychiatrica*, *24*(1), 4-15. doi:10.1111/j.1601-5215.2011.00610.x
- 81 Wonderlich, S. A., Brewerton, T. D., Jovic, Z., Dansky, B. S., & Abbott, D. W. (1997). Relationship of childhood sexual abuse and eating disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(8), 1107-1115. doi:10.1097/00004583-199708000-00018
- 82 Wosu, A. C., Gelaye, B., & Williams, M. A. (2015). Maternal history of childhood sexual abuse and preterm birth: An epidemiologic review. *BMC Pregnancy and Childbirth*, *15*(1). doi:10.1186/s12884-015-0606-0
- 3 records were reviews of reviews**
- 83 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. doi:10.1177/1524838010386812

- 84 Maniglio, R. (2011). The role of child sexual abuse in the aetiology of substance-related disorders. *Journal of Addictive Diseases, 30*(3), 216-228. doi:10.1080/10550887.2011.581987
- 85 Maniglio, R. (2011). The role of child sexual abuse in the aetiology of suicide and non-suicidal self-injury. *Acta Psychiatrica Scandinavica, 124*(1), 30-41. 10.1111/j.1600-0447.2010.01612.x

8 records were not written in English

- 86 De Venter, M., Demyttenaere, K., & Bruffaerts, R. (2013). The relationship between adverse childhood experiences and mental health in adulthood. A systematic literature review. *Tijdschrift voor Psychiatrie, 55*(4), 259-268.
- 87 Kindler, H. (2009). Child Endangerment: A Research Update Regarding Aetiology, Consequences, Diagnostics, and Intervention. *Praxis der Kinderpsychologie und Kinderpsychiatrie, 58*(10), 764-785.
- 88 Martins, C. B. d. G. (2010). Maltreatment against children and teenagers. *Revista Brasileira de Enfermagem, 63*(4), 660-665. doi:dx.doi.org/S0034-71672010000400024
- 89 Natrella, L., Bolognesi, E., Lo Sauro, C., Batini, S., & Faravelli, C. (2009). Child abuse and psychiatric disorders: A review. *Quaderni Italiani di Psichiatria, 28*(2), 59-67. doi:10.1016/j.quip.2009.04.001
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- 91 Rohr, S., Dolemeyer, R., Klinitzke, G., Steinig, J., Wagner, B., & Kersting, A. (2015). Child Maltreatment in Binge Eating Disorder: A Systematic Literature Review.[Kindesmisshandlung bei Binge-Eating-Störung: Ein systematischer Literaturüberblick] *Psychiatrische Praxis, 42*(3), 125-132. doi:10.1055/s-0034-1387226
- 92 Verardo, A. R., & Cioccolanti, E. (2015). L'Abuso intrafamiliare: Il trattamento EMDR e il ritorno alla sicurezza. *Infanzia e Adolescenza, 14*(2), 174-193.
- 93 Yu, Z., Zhao, A., & Liu, A. (2017). Childhood maltreatment and depression: A Meta-Analysis. *Acta Psychologica Sinica, 49*(1), 40-49. doi:10.3724/SP.J.1041.2017.00040

7 records were abstracts of poster presentations

- 94 Dos Reis, S. C., & De Tubino Scanavino, M. (2013). Child sexual abuse and excessive sexual drive in adult life: A systematic literature review. *Journal of Sexual Medicine, 10*, 367-368. doi:10.1111/jsm.12304
- 95 Holbrook, J. R. P., Claussen, A. H. P., Bitsko, R. H. P., Mortensen, M. E. M. D., O'Masta, B. S. M. P. H., Maher, B. S. P., . . . Rush, M. A. P. (2016). 6.55 a meta-analysis of potentially modifiable risk factors for childhood attention-deficit/hyperactivity disorder: chemical exposures and factors related to parenting. *Journal of the American Academy of Child and Adolescent Psychiatry, 55*(10).
- 96 Tonks, A. (2012). Maltreated neglected children are more likely be troubled adults. *British Medical Journal, 345*(7886), 13.
- 97 White, C. (2011). Depression is twice as likely in adults treated badly as children. *BMJ: British Medical Journal (Overseas & Retired Doctors Edition), 343*(7820), 387-387.
- 98 Williams, B., Naughton, A., Mann, M., Tempest, V., Kemp, A., & Maguire, S. (2014). Identifying neglect or emotional abuse in school aged children: A systematic review. *Archives of Disease in Childhood, 99*, A58-A59. doi:10.1136/archdischild-2014-306237.139
- 99 Woodman, J., Brandon, M., Glaser, D., & Gilbert, R. (2011). Patterns of health service use and child abuse or neglect in young childhood: a systematic review. *Archives of Disease in Childhood, 96*, A94-A95. doi:10.1136/adc.2011.212563.220

- 100 Ahmadi, N., Pynoos, R. S., Olango, G., & Molla, M. (2016). 5.45 Adverse childhood experiences increase the risk of mortality: a meta-analysis of retrospective and prospective cohort studies. *Journal of the American Academy of Child & Adolescent Psychiatry*, 55(10), S198.

In 30 records the effects of maltreatment were not the primary focus of review

- 101 Al-Modallal, H., Peden, A., & Anderson, D. (2008). Impact of physical abuse on adulthood depressive symptoms among women. *Issues in Mental Health Nursing*, 29(3), 299-314. doi:10.1080/01612840701869791
- 102 Allen, A., & Links, P. S. (2012). Aggression in borderline personality disorder: Evidence for increased risk and clinical predictors. *Current Psychiatry Reports*, 14(1), 62-69. doi:10.1007/s11920-011-0244-9
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- 106 Connell-Carrick, K. (2003). A critical review of the empirical literature: identifying correlates of child neglect. *Child & Adolescent Social Work Journal*, 20(5), 389-425. doi:10.1023/A:1026099913845
- 107 Costa, B. M., Kaestle, C. E., Walker, A., Curtis, A., Day, A., Toumbourou, J. W., & Miller, P. (2015). Longitudinal predictors of domestic violence perpetration and victimization: A systematic review. *Aggression and Violent Behaviour*, 24, 261-272. doi: [10.1016/j.avb.2015.06.001](https://doi.org/10.1016/j.avb.2015.06.001)
- 108 Daniels, J. K., Lamke, J. P., Gaebler, M., Walter, H., & Scheel, M. (2013). White matter integrity and its relationship to PTSD and childhood trauma—A systematic review and meta-analysis. *Depression and Anxiety*, 30(3), 207-216. doi: 10.1002/da.22044
- 109 Exley, D., Norman, A., & Hyland, M. (2015). Adverse childhood experience and asthma onset: a systematic review. *European Respiratory Review*, 24(136), 299-305. doi:10.1183/16000617.00004114
- 110 Fang, X., Fry, D. A., Ji, K., Finkelhor, D., Chen, J., Lannen, P., & Dunne, M. P. (2015). The burden of child maltreatment in China: a systematic review. *Bulletin of the World Health Organization*, 93(3), 176-185C.
- 111 Fliege, H., Lee, J. R., Grimm, A., & Klapp, B. F. (2009). Risk factors and correlates of deliberate self-harm behaviour: A systematic review. *Journal of psychosomatic research*, 66(6), 477-493. doi: 10.1016/j.jpsychores.2008.10.013
- 112 Fusar-Poli, P., Ramella-Cravaro, V., Oliver, D., Kingdon, J., Valmaggia, L., & McGuire, P. (2017). Deconstructing vulnerability for psychosis: Meta-analysis of environmental risk factors for psychosis in subjects at ultra high-risk. *European Psychiatry*, 40, 65-75. doi:10.1016/j.eurpsy.2016.09.003
- 113 Gershon, A., Minor, K., & Hayward, C. (2008). Gender, victimization, and psychiatric outcomes. *Psychological Medicine*, 38(10), 1377-1391. doi: 10.1017/S0033291708003000
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- 115 Hauser, M., Galling, B., & Correll, C. U. (2013). Suicidal ideation and suicide attempts in children and adolescents with bipolar disorder: A systematic review of prevalence and incidence rates, correlates, and targeted interventions. *Bipolar Disorders*, 15(5), 507-523. doi:10.1111/bdi.12094

- 116 Hunter, A. L., Minnis, H., & Wilson, P. (2011). Altered stress responses in children exposed to early adversity: A systematic review of salivary cortisol studies. *Stress-the International Journal on the Biology of Stress*, *14*(6), 614-626. doi:10.3109/10253890.2011.577848
- 117 Malarbi, S., Abu-Rayya, H. M., Muscara, F., & Stargatt, R. (2017). Neuropsychological functioning of childhood trauma and post-traumatic stress disorder: A meta-analysis. *Neuroscience and Biobehavioural Reviews*, *72*, 68-86. doi:10.1016/j.neubiorev.2016.11.004
- 118 Mallett, C. (2014). Youthful offending and delinquency: the comorbid impact of maltreatment, mental health problems, and learning disabilities. *Child & Adolescent Social Work Journal*, *31*(4), 369-392. doi:10.1007/s10560-013-0323-3
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- 120 Moore, S. E., Scott, J. G., Ferrari, A. J., Mills, R., Dunne, M. P., Erskine, H. E., . . . Norman, R. E. (2015). Burden attributable to child maltreatment in Australia. *Child Abuse & Neglect*, *48*, 208-220. doi:10.1016/j.chiabu.2015.05.006
- 121 Nasvytienė, D., Lazdauskas, T., & Leonavičienė, T. (2012). Child's resilience in face of maltreatment: A meta-analysis of empirical studies. *Psichologija*, *46*, 7-26.
- 122 Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & St Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health*, *8*(1), 7-43. doi: 10.1007/s12310-016-9175-2.
- 123 Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: a meta-analysis. *Journal of Adolescent Health*, *53*(4 Suppl), S32-38. doi:10.1016/j.jadohealth.2013.05.004
- 124 Serafini, G., Muzio, C., Piccinini, G., Flouri, E., Ferrigno, G., Pompili, M., . . . Amore, M. (2015). Life adversities and suicidal behaviour in young individuals: A systematic review. *European Child & Adolescent Psychiatry*, *24*(12), 1423-1446. doi: [10.1007/s00787-015-0760-y](https://doi.org/10.1007/s00787-015-0760-y).
- 125 Seto, M. C., Babchishin, K. M., Pullman, L. E., & McPhail, I. V. (2015). The puzzle of intrafamilial child sexual abuse: A meta-analysis comparing intrafamilial and extrafamilial offenders with child victims. *Clinical Psychology Review*, *39*, 42-57. doi:10.1016/j.cpr.2015.04.001
- 126 Slopen, N., Koenen, K. C., & Kubzansky, L. D. (2012). Childhood adversity and immune and inflammatory biomarkers associated with cardiovascular risk in youth: a systematic review. *Brain, Behaviour, and Immunity*, *26*(2), 239-250.
- 127 Smith, N. B., Kouros, C. D., & Meuret, A. E. (2014). The Role of Trauma Symptoms in Nonsuicidal Self-Injury. *Trauma Violence Abuse*, *15*(1), 41-56. doi:10.1177/1524838013496332
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- 130 Martinez, W., Polo, A. J., & Zelic, K. J. (2014). Symptom Variation on the Trauma Symptom Checklist for Children: A Within-Scale Meta-Analytic Review. *Journal of traumatic stress*, *27*(6), 655-663. doi:10.1002/jts.21967

Chapter 3

List of 30 records excluded from review of structural neglect grouped by reason for exclusion

7 records were narrative reviews

- 1 Frank, D. A., Klass, P. E., Earls, F., & Eisenberg, L. (1996). Infants and young children in orphanages: One view from paediatrics and child psychiatry. *Paediatrics*, 97(4), 569-578.
- 2 Gunnar, M. R., Bruce, J., & Grotevant, H. D. (2000). International adoption of institutionally reared children: Research and policy. *Development and psychopathology*, 12(4), 677-693.
- 3 Ingersoll, B. D. (1997). Psychiatric disorders among adopted children: A review and commentary. *Adoption Quarterly*, 1(1), 57-73.
- 4 Jones, R., Everson-Hock, E. S., Papaioannou, D., Guillaume, L., Goyder, E., Chilcott, J., . . . Swann, C. (2011). Factors associated with outcomes for looked-after children and young people: a correlates review of the literature. *Child: care, health and development*, 37(5), 613-622. doi:10.1111/j.1365-2214.2011.01226.x
- 5 Juffer, F., Van Ijzendoorn, M. H., & Palacios, J. (2011). Children's recovery after adoption. *Infancia y Aprendizaje*, 34(1), 3-18.
- 6 Nickman, S. L., Rosenfeld, A. A., Fine, P., MacIntyre, J. C., Pilowsky, D. J., Howe, R.-A., . . . Sveda, S. A. (2005). Children in adoptive families: Overview and update. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(10), 987-995.
- 7 van Ijzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller Memorial Lecture 2006: Adoption as intervention. Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry*, 47(12), 1228-1245. doi:10.1111/j.1469-7610.2006.01675.x

7 records were reviews of outcomes of foster care

- 8 Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse and Neglect*, 42, 121-134. doi:10.1016/j.chiabu.2015.02.003
- 9 Goemans, A., van Geel, M., van Beem, M., & Vedder, P. (2016). Developmental outcomes of foster children: A meta-analytic comparison with children from the general population and children at risk who remained at home. *Child Maltreatment*, 21(3), 198-217. doi: 10.1177/1077559516657637
- 10 Gypen, L., Vanderfaeillie, J., De Maeyer, S., Belenger, L., & Van Holen, F. (2017). Outcomes of children who grew up in foster care: Systematic-review. *Children and Youth Services Review*, 76, 74-83. doi:10.1016/j.chilyouth.2017.02.035
- 11 Kääriälä, A., & Hiilamo, H. (2017). Children in out-of-home care as young adults: A systematic review of outcomes in the Nordic countries. *Children and Youth Services Review*.
- 12 Kang-yi, C. D. P., & Adams, D. R. B. A. (2017). Youth with behavioural health disorders aging out of foster care: A systematic review and implications for policy, research, and practice. *Journal of Behavioural Health Services & Research*, 44(1), 25-51. doi:10.1007/s11414-015-9480-9
- 13 Scherr, T. G. (2007). Educational experiences of children in foster care. *School Psychology International*, 28(4), 419-436. doi:10.1177/0143034307084133
- 14 White, K. R. (2016). Placement discontinuity for older children and adolescents who exit foster care through adoption or guardianship: a systematic review. *Child & Adolescent Social Work Journal: C & A*, 33(4), 377-394. doi:10.1007/s10560-015-0425-1

6 records were reviews of outcomes of adoption

- 15 Askeland, K. G., Hysing, M., La Greca, A. M., Aarø, L. E., Tell, G. S., & Sivertsen, B. (2017). Mental health in internationally adopted adolescents: A meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry, 56*(3), 203-213. doi:10.1016/j.jaac.2016.12.009
- 16 Behle, A. E., & Pinquart, M. (2016). Psychiatric disorders and treatment in adoptees: A meta-analytic comparison with non-adoptees. *Adoption Quarterly, 19*(4), 284-306. doi:10.1080/10926755.2016.1201708
- 17 Bimmel, N., Juffer, F., Van, I. M. H., & Bakermans-Kranenburg, M. J. (2003). Problem behaviour of internationally adopted adolescents: A review and meta-analysis. *Harvard Review of Psychiatry, 11*(2), 64-77. doi:10.1080/10673220303955
- 18 Melero, S., & Sánchez-Sandoval, Y. (2017). Mental health and psychological adjustment in adults who were adopted during their childhood: A systematic review. *Children & Youth Services Review, 77*, 188-196. doi:10.1016/j.chilyouth.2017.05.006
- 19 Operario, D., Underhill, K., Chuong, C., & Cluver, L. (2011). HIV infection and sexual risk behaviour among youth who have experienced orphanhood: systematic review and meta-analysis. *Journal of the International AIDS Society, 14*, 25. doi:10.1186/1758-2652-14-25
- 20 Wierzbicki, M. (1993). Psychological adjustment of adoptees: A meta-analysis. *Journal of Clinical Child Psychology, 22*(4), 447.

4 records were reviews of outcomes of residential therapeutic programmes

- 21 Knorth, E. J., Harder, A. T., Zandberg, T., & Kendrick, A. J. (2008). Under one roof: A review and selective meta-analysis on the outcomes of residential child and youth care. *Children and Youth Services Review, 30*(2), 123-140. doi:10.1016/j.chilyouth.2007.09.001
- 22 Maclean, M. J., Sims, S., O'Donnell, M., & Gilbert, R. (2016). Out-of-home care versus in-home care for children who have been maltreated: A systematic review of health and wellbeing outcomes. *Child Abuse Review, 25*(4), 251-272. doi:10.1002/car.2437
- 23 Osei, G. K., Gorey, K. M., & Jozefowicz, D. M. H. (2016). Delinquency and crime prevention: Overview of research comparing treatment foster care and group care. *Child & Youth Care Forum, 45*(1), 33-46. doi:10.1007/s10566-015-9315-0
- 24 Strijbosch, E. L. L., Huijs, J. A. M., Stams, G., Wissink, I. B., van der Helm, G. H. P., de Swart, J. J. W., & van der Veen, Z. (2015). The outcome of institutional youth care compared to non-institutional youth care for children of primary school age and early adolescence: A multi-level meta-analysis. *Children and Youth Services Review, 58*, 208-218. doi:10.1016/j.chilyouth.2015.09.018

2 records were reviews of interventions for structural neglect

- 25 Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., & Juffer, F. (2008). Earlier is better: a meta-analysis of 70 years of intervention improving cognitive development in institutionalized children. *Monographs of the Society for Research in Child Development, 73*(3), 279-293. doi:10.1111/j.1540-5834.2008.00498.x
- 26 Everson-Hock, E. S., Jones, R., Guillaume, L., Clapton, J., Goyder, E., Chilcott, J., . . . Swann, C. (2012). The effectiveness of training and support for carers and other professionals on the physical and emotional health and well-being of looked-after children and young people: a systematic review. *Child: care, health and development, 38*(2), 162-174. doi:10.1111/j.1365-2214.2011.01247.x

2 records were individual studies of structural neglect

- 27 Bos, K., Zeanah, C. H., Fox, N. A., Drury, S. S., McLaughlin, K. A., & Nelson, C. A. (2011). Psychiatric outcomes in young children with a history of institutionalization. *Harvard Review of Psychiatry, 19*(1), 15-24.
- 28 Hoksbergen, R. A. C. (1997). Turmoil for adoptees during their adolescence? *International Journal of Behavioural Development, 20*(1), 33-46.

1 record was a meta-analysis which did not meet 3/4 AMSTAR criteria

- 29 van Ijzendoorn, M. H., & Juffer, F. (2005). Adoption is a successful natural intervention enhancing adopted children's IQ and school performance. *Current Directions in Psychological Science*, 14(6), 326-330. doi:10.1111/j.0963-7214.2005.00391.x

1 record was a review of outcomes of maltreated children

- 30 Romano, E., Babchishin, L., Marquis, R., & Fréchette, S. (2015). Childhood maltreatment and educational outcomes. *Trauma, Violence, & Abuse*, 16(4), 418-437.

Chapter 4

List of 66 records excluded from review of child abuse in long-term residential care

In 23 records the outcome of institutional abuse was not assessed

- 1 Agathonos, H. (1983). Institutional child abuse in Greece: some preliminary findings. *Child Abuse & Neglect*, 7(1), 71-74.
- 2 Albus, K. E., & Dozier, M. Indiscriminate friendliness and terror of strangers in infancy: Contributions from the study of infants in foster care. *Infant Mental Health Journal*, 20(1), 30-41. doi:10.1002/(SICI)1097-0355(199921)20:1
- 3 Attar-Schwartz, S. (2011). Maltreatment by staff in residential care facilities: The adolescents' perspectives. *Social Service Review*, 85(4), 635-664. doi:10.1086/664009
- 4 Atwoli, L., Ayuku, D., Hogan, J., Koech, J., Vreeman, R. C., Ayaya, S., & Braitstein, P. (2014). Impact of Domestic Care Environment on Trauma and Post-traumatic Stress Disorder among Orphans in Western Kenya. *PloS one*, 9(3), 1-7 doi:10.1371/journal.pone.0089937
- 5 Australia Parliament Senate Community Affairs References Committee, McLucas, J., & Marshall, G. (2005). *Protecting vulnerable children: A national challenge: Second report on the inquiry into children in institutional or out-of-home care*. Community Affairs References Committee.
- 6 Charbonneau-Dahlen, B. K. (2010). *Giving voice to historical trauma through storytelling: The impact of boarding school experience on American Indians*. Florida Atlantic University.
- 7 Colton, M., Vanstone, M., & Walby, C. (2002). Victimization, care and justice: reflections on the experiences of victims/survivors involved in large-scale historical investigations of child sexual abuse in residential institutions. *British Journal of Social Work*, 32(5), 541.
- 8 Forde, L. (1999). *Report of the commission of inquiry into abuse of children in Queensland institutions: The Inquiry*. Commission of Inquiry into Abuse of Children in Queensland
- 9 Fowler, P. J., Motley, D., Zhang, J., Rolls-Reutz, J., & Landsverk, J. (2015). Adolescent Maltreatment in the Child Welfare System and Developmental Patterns of Sexual Risk Behaviours. *Child Maltreatment*, 20(1), 50-60. doi:10.1177/1077559514548701
- 10 Frank, D. A., & Klass, P. E. (1996). Infants and young children in orphanages: One view from paediatrics and child psychiatry. *Paediatrics*, 97(4), 569.
- 11 Gallagher, B. (1999). The abuse of children in public care. *Child Abuse Review*, 8(6), 357-365. doi:10.1002/(SICI)1099-0852(199911/12)8:6<357::AID-CAR580>3.0.CO;2-K
- 12 Hawkins, R. M. F., & Briggs, F. (1997). The institutionalised abuse of children in Australia: past and present. *Early Child Development and Care*, 133, 41-55.

- 13 Kang'ethe, S. M., & Makuyana, A. (2015). Re-thinking and reconceptualizing child care institutionalisation in Aouth Africa: Effects and impacts on orphans and vulnerable children (OVCs). *Journal of Social Sciences*, 42(1/2), 121.
- 14 Massachusetts Attorney General's Office. (2003). *The sexual abuse of children in the Roman Catholic Archdiocese of Boston*. Office of the Attorney General, Commonwealth of Massachusetts.
- 15 McFadden, E. J., & Ryan, P. (1991). Maltreatment in family foster homes: dynamics and dimensions. *Child and Youth Services*, 15(2), 209-231.
- 16 McLoone-Richards, C. (2012). Say Nothing! How Pathology within Catholicism Created and Sustained the Institutional Abuse of Children in 20th Century Ireland. *Child Abuse Review*, 21(6), 394-404. doi:10.1002/car.2209
- 17 Middleton, W., Stavropoulos, P., Dorahy, M. J., Krüger, C., Lewis-Fernández, R., Martínez-Taboas, A., . . . Brand, B. (2014). The Australian Royal Commission into Institutional Responses to Child Sexual Abuse. *The Australian and New Zealand Journal of Psychiatry*, 48(1), 17-21. doi:10.1177/0004867413514639
- 18 Mullen, P. (1999). The abuse of children in care: the Grundy reports from Queensland. *Journal of Forensic Psychiatry*, 10(1), 5.
- 19 Newbern, V. B. (1989). Sexual victimization of child and adolescent patients. *IMAGE: Journal of Nursing Scholarship*, 21(1), 10-13.
- 20 Ozbaran, B., Gencer, O., Ergin, H. K., Miral, S., Aydin, C., & Varan, A. (2009). Psychiatric evaluation and follow-up of children and adolescents residing in a children village, following allegations of sexual abuse. *Turkiye Klinikleri Tip Bilimleri Dergisi*, 29(2), 395-404.
- 21 Shaughnessy, M. F. (1984). Institutional child abuse. *Children and Youth Services Review*, 6(4), 311-318. doi:10.1016/0190-7409(84)90050-1
- 22 Sherr, L., Roberts, K. J., & Gandhi, N. (2017). Child violence experiences in institutionalised/orphanage care. *Psychology, Health & Medicine*, 22, 31-57. doi:10.1080/13548506.2016.1271951
- 23 Van de Sande, A., & Boudreau, F. (2000). The Orphans of Duplessis. *Nouvelles Pratiques Sociales*, 13(2), 121-130.
- 17 records did not focus on institutional abuse**
- 24 Baker, A. J. L., Brassard, M. R., Schneiderman, M. S., & Donnelly, L. J. (2013). Foster Children's Report of Psychological Maltreatment Experiences. *Journal of Public Child Welfare*, 7(3), 235-252. doi:10.1080/15548732.2013.779624
- 25 Cook, E. H., Kieffer, J. E., Charak, D. A., & Leventhal, B. L. (1993). Autistic disorder and post-traumatic-stress-disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32(6), 1292-1294. doi:10.1097/00004583-199311000-00025
- 26 Crombach, A., Bambonye, M., & Elbert, T. (2014). A study on reintegration of street children in Burundi: experienced violence and maltreatment are associated h mental health impairments and impeded educational progress. *Frontiers in Psychology*, 5. doi:10.3389/fpsyg.2014.01441
- 27 da Silva Filho, M. S., de Lima Neto, J. A., Rios Rodrigues, I., & Rolim Neto, M. L. (2016). Dignifying Hidden Lives: The Institutionalization of Any Impact Child Development. *Current Paediatric Research*, 20(1), 55-56.
- 29 Guttmacher Institute (1990). Update on the impact of sexual abuse. *Family Planning Perspectives*, 22(5), 196-196.
- 29 Holden, C. (1996). Small refugees suffer the effects of early neglect. *Science*, 274(5290), 1076.

- 30 Juffer, F., & van Ijzendoorn, M. H. (2005). Behaviour Problems and Mental Health Referrals of International Adoptees: A Meta-analysis. *JAMA: Journal of the American Medical Association*, 293(20), 2501-2515.
- 31 Kunkel, B. E. (1983). The alienation response of children abused in out-of-home placement. *Child Abuse & Neglect*, 7(4), 479-484.
- 32 Leite, L. C., & Schmid, P. C. (2004). Institutionalization and psychological suffering: notes on the mental health of institutionalized adolescents in Brazil. *Transcultural Psychiatry*, 41(2), 281-293.
- 33 Mondal, P., & Das, S. (2014). Early abusive experiences and psychological consequences: a study with institutionalized children. *SIS Journal of Projective Psychology & Mental Health*, 21(2), 98-103.
- 34 Morrow, J., Yeager, C. A., & Lewis, D. O. (1997). Encopresis and sexual abuse in a sample of boys in residential treatment. *Child Abuse & Neglect*, 21(1), 11-18. doi:10.1016/S0145-2134(96)00130-5
- 35 Rassenhofer, M., Zimmer, A., Spröber, N., & Fegert, J. M. (2015). Child sexual abuse in the Roman Catholic Church in Germany: Comparison of victim-impact data collected through church-sponsored and government-sponsored programs. *Child Abuse & Neglect*, 40, 60-67. doi:10.1016/j.chiabu.2014.11.013
- 36 Saltzman, L. Y., Easton, S. D., & Salas-Wright, C. P. (2015). A Validation Study of the Post-traumatic Growth Inventory Among Survivors of Clergy-Perpetrated Child Sexual Abuse. *Journal of the Society for Social Work and Research*, 6(3), 305-315.
- 37 Thompson, A. H., & Newman, S. C. (1995). Mortality in a child-welfare population - implications for policy. *Child Welfare*, 74(4), 843-857.
- 38 Twill, S. E., Green, D. M., & Traylor, A. (2010). A descriptive study on sexually exploited children in residential treatment. *Child & Youth Care Forum*, 39(3), 187-199. doi:10.1007/s10566-010-9098-2
- 39 Vindevogel, S., Coppens, K., Derluyn, I., De Schryver, M., Loots, G., & Broekaert, E. (2011). Forced conscription of children during armed conflict: Experiences of former child soldiers in northern Uganda. *Child Abuse and Neglect*, 35(7), 551-562. doi:10.1016/j.chiabu.2011.03.011
- 40 American Academy of Paediatrics. (2000). Developmental issues for young children in foster care. *Paediatrics*, 106, 1145-1150.

In 14 records, institutional abuse and other child abuse were not separated

- 41 Ahrens, K. R., Katon, W., McCarty, C., Richardson, L. P., & Courtney, M. E. (2012). Association between childhood sexual abuse and transactional sex in youth aging out of foster care. *Child Abuse and Neglect*, 36(1), 75-80. doi:10.1016/j.chiabu.2011.07.009
- 42 Ahrens, K. R., McCarty, C., Simoni, J., Dworsky, A., & Courtney, M. E. (2013). Psychosocial pathways to sexually transmitted infection risk among youth transitioning out of foster care: Evidence from a longitudinal cohort study. *Journal of Adolescent Health*, 53(4), 478-485. doi:10.1016/j.jadohealth.2013.05.010
- 43 Bagley, C., Rodberg, G., Wellings, D., Moosa-Mitha, M., & Young, L. (1995). Sexual and physical child abuse and the development of dissociative personality traits: Canadian and British evidence from adolescent child welfare and child care populations. *Child Abuse Review*, 4(2), 99-113. doi:10.1002/car.2380040207
- 44 Beal, S. J., & Greiner, M. V. (2016). Children in nonparental care: health and social risks. *Paediatric research*, 79(1-2), 184-190. doi:10.1038/pr.2015.198
- 45 Bruce, J., Fisher, P. A., Graham, A. M., Moore, W. E., Peake, S. J., & Mannering, A. M. (2013). Patterns of brain activation in foster children and nonmaltreated children during an inhibitory control task. *Development & Psychopathology*, 25(4pt1), 931-941. doi:10.1017/S095457941300028X

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