

UNIVERSITY OF CANTERBURY

# Mental Health Presentations of Clinic- Referred Children in out- of-home Care

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Svenja Maike Köslich

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## **ABSTRACT**

This dissertation examines the mental health presentations of clinic-referred children in state ordered out-of-home care and compares these to the presentations of clinic-referred children from the general population. The results of this study will inform the design of a more comprehensive research project assessing the differences between the psychopathology of clinic-referred children in out-of-home care and children from the general population. The overall goal is for researchers and clinicians to be able to better understand the underlying determinisms of the psychopathology of children in out-of-home care.

Three samples were used for the between-group comparisons. The Children in Care Study (CICS) sample consists of 213 clinic-referred children in out-of-home care between the ages of four and eleven years. Firstly, this group was compared to 800 clinic-referred children, between six and eleven years, from the general population. For this analysis, the CICS sample was adjusted to match this group's age range. Secondly, the entire CICS sample was compared to 1201 clinic-referred children, between the ages of four and eleven, from the general population. Mental health presentations were measured using the Child Behaviour Checklist (CBCL). A within-subject comparison was conducted comparing the CICS sample's CBCL DSM-oriented scores to the children's caregiver-reported diagnosis.

Results indicated that clinic-referred children in care presented with significantly fewer internalising symptoms than clinic-referred children from the general population. Clinic-referred children in care displayed greater correlations among their CBCL subscale scores than other clinic-referred children, which may suggest greater symptom complexity. Additionally, there appeared to be poor concordance between caregiver-reported psychiatric diagnoses and CBCL DSM-oriented scores for clinic-referred children in out-of-home care.

Overall, the mental health presentations measured by the CBCL indicated that the differences between the two populations were relatively small in terms of their severity.

However, clinic-referred children in care presented with less severe internalising problems than other clinic-referred children. Further research is needed to explore the issues underlying diagnostic dis-concordance and the complexity of the mental health presentations of children in state ordered care.

**Key words:** out-of-home care, foster care, mental health, psychopathology, clinic-referred, children, young people.

## **Chapter I - INTRODUCTION**

Children in out-of-home care are an extremely vulnerable and disadvantaged population, who are at significant risk of developing mental health problems. Research indicates that approximately half of all children in out-of-home care suffer from severe mental health issues (Burns et al., 2004; Delfabbro, King, & Barber, 2010; Tamsin Ford, Panos Vostanis, Howard Meltzer, & Robert Goodman, 2007; Hurlburt et al., 2004; Janssens & Deboutte, 2010; Sawyer, Carbone, Searle, & Robinson, 2007; Shin, 2005; Stahmer et al., 2005; Tarren-Sweeney, 2008a). Unfortunately, the nature and complexity of these children's psychopathology is poorly conceptualised and often misunderstood; this can result in non-diagnosis, misdiagnosis, as well as ineffective treatment (DeJong, 2010; Tarren-Sweeney, 2008a).

Consequently, it is important for researchers and clinicians to gain a better understanding of the mental health issues of children in out-of-home care. This entails: understanding its underlying determinisms, how these children's psychopathology may differ from those of other children, and how the mental health needs of children in out-of-home care can be better conceptualised and addressed. This knowledge is essential to improving prevention and early intervention programmes. Providing better services for these children is likely to improve their resilience and adaptive functioning, as well as their quality of life.

### **Prevalence**

Improving researchers' and practitioners' understanding of the mental health needs of children in out-of-home care is vital as this population is on the rise in the Western World (Crawford, 2006; Holzer & Bromfield, 2008). The numbers of New Zealand children residing in out-of-home care and those requiring child protection services are around 4,500 and 27,500 respectively (Ministry of Social Development, 2009). This means that approximately

5 per 1,000 children in New Zealand are in out-of-home placements as a result of care and protection issues (Department of Social Development, 2008). These numbers are similar to those of other Western Countries. In Australia, the number of children in out-of-home care rose by approximately 40 percent between 2001 and 2006; from 3.9 to 5.3 per 1,000 children (Holzer & Bromfield, 2008). In England, 59,500 children were looked after by governmental care and protection services in 2008 (Department of Health, 2009). Again this equals approximately 5 in 1,000 children. In the United States of America (US), over half a million children are reported to reside in out-of-home care, at any given time (Bruskas, 2008; Trout, Hagaman, Casey, Reid, & Epstein, 2008).

### **Characteristics of Children in out-of-home Care**

When children are removed from the care of their parents due to concerns for the children's safety, they frequently display developmental and cognitive delays, educational underachievement, learning difficulties, social deficits and health problems, as well as psychopathology. Children in out-of-home care often come from disadvantaged families who have endured multiple life stressors prior to and after being taken into care. Their original families commonly lack social supports and fiscal resources, and they frequently have a history of mental and physical illness (Berrick, Courtney, & Barth, 1993; Delfabbro, Borgas, Rogers, Jeffreys, & Wilson, 2009; Department of Social Development, 2008; Leslie et al., 2005; Trout, et al., 2008). Furthermore, children in care often come from a family background where they have been exposed to interpersonal violence, maladaptive relationship patterns, inappropriate parenting, criminal offending, and substance abuse (Berrick, et al., 1993; Delfabbro, et al., 2009; Department of Social Development, 2008; Jamora et al., 2009; Leslie, et al., 2005; Trout, et al., 2008). These experiences place children at an increased risk of poor mental and physical health, delinquency, substance abuse, teen

pregnancy, low educational achievement and unemployment (Coman & Devaney, 2011; Department of Social Development, 2008; Jamora, et al., 2009; Richardson & Lelliott, 2003; Trout, et al., 2008). Supporting children who are involved with the child welfare system, as early as possible, and meeting their needs is crucial to achieving positive outcomes and breaking the intergenerational cycle of maltreatment and adversity (Cicchetti & Toth, 1995; Department of Social Development, 2008).

### **Developmental delays**

Children in out-of-home care are frequently found to have developmental delays including cognitive, language and gross motor deficits. These children tend to score below average on numerous standardised developmental measures. Barth and colleagues (2003) reported findings from the National Survey of Child and Adolescent Well-Being (NSCAW), which assessed the characteristics, needs and outcomes of 6,200 children and families who were involved with the child welfare system. Children in out-of-home care fell below the norms on nearly all standardised developmental measures, including cognitive abilities, language skills, gross motor abilities and academic skills (Barth, et al., 2003; Leslie, et al., 2005). Barth et al. (2003) point out that these results are relatively common among children from a low socioeconomic background, which children in care often come from. However, what is unusual are their exceptionally low social skills, their low daily living skills and their severe behaviour problems (Barth, et al., 2003). This discrepancy appears to also be related to children's ability to form and maintain relationships with their peers.

### **Peer Relationship Problems**

Children who have experienced dysfunctional relationship patterns as a result of abuse or neglect often have difficulties forming appropriate relationships with their peers. A

high proportion of maltreated children and children in out-of-home care show signs of peer relationship problems (Cicchetti & Toth, 1995; Egelund & Lausten, 2009; Kim & Cicchetti, 2003; Minnis, Everett, Pelosi, Dunn, & Knapp, 2006). Peer relationships are an important part of children's development. These relationships teach children, amongst other things, social, emotional and cognitive skills (Price & Brew, 1998; Sroufe, Coffino, & Carlson, 2010). Children who have experienced abuse or neglect, which most children in out-of-home care have, are more likely to experience difficulties in making and maintaining friendships (Kim & Cicchetti, 2003). In particular, insecure attachment and dysfunctional family relationships have a strong link to children experiencing little social competence and children exhibiting maladaptive interpersonal skills (Kim & Cicchetti, 2003). Children who have experienced maltreatment appear to be more aggressive towards their peers, are less popular, are more often rejected, and are more socially withdrawn than non-maltreated children (Cicchetti & Toth, 1995; Cullerton-Sen et al., 2008; Dodge, Pettit, & Bates, 1994; Kim & Cicchetti, 2003; Price & Brew, 1998). It has been argued that children in out-of-home care, who have been abused or neglected, may develop mental representations of dysfunctional behaviours and relationships, which may undermine their current and future interpersonal relationships (Price & Brew, 1998; Price & Landsverk, 1998).

Furthermore, maltreated children tend to react aggressively to both their peers' distress and their friendliness (Cicchetti & Toth, 1995). This tendency fundamentally undermines children's ability to form positive interpersonal relationships. Maltreated children have been observed to combine comforting and aggressive behaviours when interacting with their peers (Cicchetti & Toth, 1995). As a result of growing up in a detrimental social environment, where their physical and psychological needs have not been met, maltreated children may have learned to expect negative interactions from themselves and others (Price & Landsverk, 1998). Research suggests that maltreated children are more likely to display

negative evaluations of themselves and others, which may lead them to expect negative outcomes from future interpersonal interactions (Price & Landsverk, 1998). The aggressive and emotionally disorganised behaviour of children in out-of-home care is also frequently reported by their teachers; and it affects not only their peer relationships but also their educational outcomes.

### **Educational Outcomes**

Education is an important part of children's development. It has been linked to adult health, employment, socioeconomic status and quality of life. It is essential for all children to master reading, writing, mathematics and other basic academic skills in order to gain future employment opportunities (Trout, et al., 2008). Furthermore, the school environment is also an important place where children develop an understanding of social rules, build social confidence, develop motivation for educational achievements and improve problem solving skills (Cicchetti & Toth, 1995). Positive educational experiences may be a protective factor for children in out-of home care and may help to reverse some of the effects of adverse early experiences (Cicchetti & Toth, 1995).

However, poor educational outcomes are relatively common among children in out-of-home care. Research suggests that children in out-of-home care have disproportionately high needs for special education services and frequently perform below average on academic achievement measures (Barth, et al., 2003; Toth, Rogosch, Manly, & Cicchetti, 2006). Approximately 50 percent of children in foster care will finish high school or accomplish a General Education Development (GED); with 89 percent of them obtaining a GED rather than finishing high school (Bruskas, 2008). Overall, children in out-of-home care have higher than average school dropout rates (Trout, et al., 2008). They frequently engage in problem behaviours, which mean these children are three times more likely to be expelled from or

suspended by their school, compared to their peers (Trout, et al., 2008). Trout and colleagues (2008) highlight that “[t]hese maladaptive school-related behaviours not only affect short-term school functioning, but also ultimately affect their chances at continuing their education and competitive employment opportunities after graduation” (p. 980). Poor educational outcomes further increase these children’s vulnerability and may affect their long-term mental and physical wellbeing (Bruskas, 2008).

Placement instability may also affect the educational outcomes of children in out-of-home care. For some children in state care, changing placements also means changing school (Bromfield, Higgins, Osborn, Panozzo, & Richardson, 2005; Bruskas, 2008; Trout, et al., 2008). This can lead to children missing classes and having to adjust to multiple new school environments (Bruskas, 2008). Changing school disrupts the development of social relationships as well as the child’s educational support system (Trout, et al., 2008). Additionally, as a result of frequent school changes, pupils’ records may get lost or incorrect data may be recorded on their files (Bruskas, 2008). Consequently, teachers may not be able to implement effective learning strategies and other professionals, including mental health practitioners, may also be limited in their understanding of these children’s needs (Trout, et al., 2008). Trout and colleagues (2008) argue that intervention programmes should not only focus on the behavioural and emotional problems of children in out-of-home care but also target their academic functioning in order to improve their overall wellbeing.

### **Physical Health**

Children in out-of home care have frequently been exposed to environments that are detrimental to their physical health. Children entering out-of-home care often have a history of antenatal drug exposure, poor hygiene, poor nutrition, as well as a chronic lack of health and dental care (Fussell & Evans, 2009; Nathanson & Tzioumi, 2007). Meltzer, Corbin,

Gatward, Goodman and Ford (2003) found in their study of 1,039 children in out-of-home care that two-thirds had at least one physical complaint reported by their caregiver. Commonly reported physical complaints included vision impairments, speech or language difficulties, bed wetting, co-ordination problems and asthma (Meltzer, et al., 2003; Nathanson & Tzioumi, 2007; Tarren-Sweeney, 2008c). Other health issues include growth abnormalities, neurological anomaly and gastrointestinal illness (Barth, et al., 2003; Halfon, Mendonca, & Berkowitz, 1995; Nathanson & Tzioumi, 2007). Meltzer and colleagues (2003) revealed that children in out-of-home care who have a psychological disorder are generally classified as having poorer physical health than children in care without a mental health diagnosis. Furthermore, Meltzer and colleagues (2003) reported that children's general health appears to be positively related to their placement stability. However, finding children who have been removed from the care of their parents a stable placement is one of the greatest challenges child welfare workers face. It is generally acknowledged that a permanent home generally allows children to develop stable, positive relationships and overcome the trauma they have experienced (Department of Social Development, 2008; Tarren-Sweeney, 2008c).

### **Placement Stability**

It appears that a considerable number of children placed in out-of-home care by government agencies do not get to experience a stable home environment where they can recuperate and thrive. Delfabbro and colleagues (2010) published findings from their longitudinal study, which examines the development and well-being of children in out-of-home care in South Australia. The Study found that approximately half of the children, who remained in care for more than two years, had changed placement at least once in the past 12 months. Furthermore, about 25 percent of children had experienced 10 or more placements before entering the study (Delfabbro, et al., 2010). These children are more likely to

experience continuous placement instability compared to children entering the care system for the first time (Delfabbro, et al., 2010). Similarly, Rubin, O'Reilly, Luan and Localio (2007) discovered in their study of 729 children in out-of-home care in the US that almost 30 percent of children did not have a placement that lasted for more than nine months over the three year study timeframe. Research shows that between 20 to 30 percent of children who enter the care system experience continuous placement instability (Delfabbro, et al., 2010; James, Landsverk, & Slymen, 2004; Rubin, et al., 2007). Delfabbro and colleagues (2010) found that these children are more likely to have placement breakdowns because of behaviour problems. They also remain in care for longer periods of time, are generally older children, and have poorer baseline mental health scores compared to children who achieve placement stability (Delfabbro, et al., 2010).

This emphasises the point that finding children a stable placement may be fundamental to ensuring their positive development. Children who reside in unstable placements for more than 12 months display persistent poorer psychological functioning and fewer improvements over time (Delfabbro, et al., 2010). On the contrary, children in stable placements frequently show gradual improvements in their psychological wellbeing (Delfabbro, et al., 2010). Delfabbro and colleagues (2010) argue that placement instability and, thus, failure to thrive in care can be predicted when children enter the care system. They found that children who are over the age of 15 and who display behaviour problems on entry into care have an 80 percent chance of placement breakdown in the first four months of their placement (Delfabbro, et al., 2010). Additionally, Barth (2007) found that children whose Child Behaviour Checklist (CBCL) scores fall in the clinical range are two point five times more likely to have four or more out-of-home placements compared to children who score in the non-clinical range. Ford, et al. (2007) further established that children with psychiatric disorders enter the state care system at a later age, have more placement changes within the

first 12 months of care, and have been in their current placement for shorter periods of time than children without psychiatric disorders.

It should be highlighted that placement instability and poor psychosocial outcomes are likely to have a transactional relationship (Delfabbro, et al., 2010). Children in unstable placements tend to present with more emotional and behavioural problems at entry into care than other children (Bromfield, et al., 2005). Children in unstable placements are also reported to ultimately become more depressed, anxious and antisocial (Bromfield, et al., 2005). This suggests that it is essential to strive to find permanent homes for children placed in care. A permanent home may increase these children's chances of recovering from their previous experiences, and may help to ensure long-term well-being.

### **Impact of Children's Age**

Children's age appears to be related to the amount of time they spend in out-of-home care as well as their mental health outcomes. Research indicates that younger children generally spend less time in state care and they tend to function better psychologically than older children (Barth, et al., 2003). Children who enter the foster care system after their fifth birthday, or who remain in care upon their fifth birthday, are more likely to reside in out-of-home care for long periods of time than children under five years (Department of Social Development, 2008). In addition, Tarren-Sweeney (2008c) found that children's age at entry into care was the most compelling indicator of their psychological well-being, with early age at entry into care being a protective factor. A number of factors may contribute to this finding. One possible explanation for this is that children who enter care at an older age may have experienced prolonged maltreatment and adversity, and may as a result have more severe and complex mental health needs (Delfabbro, et al., 2010; Nickman et al., 2005; Tarren-Sweeney, 2008c). Consequently, their extreme and often poorly managed mental

health problems may make it more challenging to care for these children and to find them permanent homes. In order to overcome this and achieve the best possible outcome for this high risk population, it is essential to develop successful prevention and early intervention programmes (Byrne, O'Connor, Marvin, & Whelan, 2005; Department of Social Development, 2008).

### **Service Use**

Research suggests a gap exists between the mental health needs of children in out-of-home care and their reported use of mental health services. About half of all children in care have clinically significant mental health needs and require interventions (Burns, et al., 2004; Hurlburt, et al., 2004; Leslie et al., 2000; Sawyer, et al., 2007; Shin, 2005; Stahmer, et al., 2005; Tarren-Sweeney, 2008a). However, it has been reported that only a relatively small proportion of them receive mental health services and effective treatment (Burns, et al., 2004; Minnis, Everett, et al., 2006; Sawyer, et al., 2007; Stahmer, et al., 2005; Tarren-Sweeney, 2010b). In order to close this gap, it is essential for practitioners working in the child care and protection field to gain a better understanding of the symptomatology of children in care.

Furthermore, generic out-patient mental health services appear to be ineffective for treating the mental health issues of children in care. Bellamy, Gopalan and Traube (2010) analysed the effects of standard out-patient mental health services on children in long-term foster care from a nationally representative sample from the US. Their results suggested that traditional outpatient interventions “had no independent effect on changes to CBCL scores” (Bellamy, et al., 2010; Tarren-Sweeney, 2010b, p. 616). This indicates that treatments employed by standard outpatient mental health services may not be beneficial for this population (Bellamy, et al., 2010). Additionally, authors have argued that standard mental health treatments, whether psychological or pharmaceutical, are primarily designed to address

the symptoms of one distinct psychiatric disorder (Crismon & Argo, 2009; Tarren-Sweeney, 2010b). Generic interventions were not intended for the treatment of complex biopsychosocial disorders that children in out-of-home may present with and they are less likely to respond to those treatment models (Tarren-Sweeney, 2008a, 2010b).

This study compares the mental health issues of children of the general population (as indicated by the CBCL) with the mental health issues of children in out-of-home care. The following chapter reviews the literature examining the mental health issues of children in out-of-home care, and considers the impact of trauma and attachment difficulties on children in out-of-home care. Chapters three and four then describe the methodology and results of this study; and the final chapter discusses the findings and sums up the conclusion of the current research.

## **Chapter II: LITERATURE REVIEW**

While the severity and scale of the mental health issues of children in out-of-home care has been well established, little is known about the complexity and nature of the psychopathology of children residing in out-of-home care. Most studies in this area have used standardised measures, developed to examine the mental health issues of children from the general population. These measures have often been applied to adopted children or to children who have suffered abuse. However, it has been argued that children in out-of-home care present with mental health issues that are fundamentally different to those of children from the general population (DeJong, 2010; Kreppner et al., 2001). These mental health issues are introduced below.

### **Literature Search**

A literature review was conducted using the EBSCOhost, Science Direct and Web of Science online databases. An internet search using the Google advanced search tool was also conducted. Search terms used were attachment, mental health, psychopathology, conduct disorder, anxiety, attention deficit, out-of-home care, foster care, looked after. Furthermore, the reference lists of relevant articles were reviewed, and specific articles searched for using the databases mentioned above and the internet. Most available research and review papers were published in the US, the United Kingdom and Australia. Additionally, most studies retrieved assessed the severity of mental health problems of children in care. Studies predominantly used the Child Behaviour Checklist (CBCL) or the Strengths and Difficulties Questionnaire (SDQ). Related research has used the same measures to assess the impact of severe early deprivation or maltreatment. However, out-of-home care is not synonymous with a maltreatment history, as some children are removed at birth; and others are abused or neglected but remain in the care of their parents. Nonetheless, this research occasionally is

included in the literature review as the majority of children in care have been abused or neglected.

### **Mental Health Issues of Children in out-of-home Care**

Prior to children in state care being removed from their parents, many have endured multiple adversities over a long period of time. It has been argued that children's risk of developing psychopathology is determined by cumulation and chronicity of adversities, in addition to a lack of positive dynamics, rather than a specific type of maltreatment or adversity (Raviv, Taussig, Culhane, & Garrido, 2010; Stein, Evans, Mazumdar, & Rae-Grant, 1996; Tarren-Sweeney, 2008a). Furthermore, Clausen, Landsverk, Ganger, Chadwick and Litrownik (1998) suggest that children in out-of-home care who present with signs of psychopathology may represent a fairly homogeneous population, with a similar background and similar risk factors including maltreatment, trauma and poverty.

### **Risk and Resilience**

Children who come to the attention of child welfare agencies are at a significant risk of developing or exhibiting mental health difficulties. Research indicates that, at entry into state care, children often already display adaptive functioning deficits and behaviour problems that significantly exceed those of the general population (Clausen, et al., 1998). Clausen and colleagues (1998) argue that two aspects of children's pre-care history are fundamental to the risk of developing mental health issues: maltreatment and separation from their primary caregiver. Arguably, all children in care have experienced enduring separation and the vast majority have also experienced at least one form of severe maltreatment. These two factors seem to be distinctive characteristics of this population and they may contribute to these children's unique mental health presentation.

It is well established that maltreatment, whether it is sexual, physical, emotional abuse or neglect, can lead to detrimental short and long-term consequences for the affected individual. Research has shown that children who have been maltreated are at an increased risk of poor developmental outcomes, educational underachievement, poor physical health, self-regulation deficits, and enduring psychopathology (Cicchetti & Toth, 1995; Coates, 2010; Draper et al., 2008; Friesen, Woodward, Horwood, & Fergusson, 2010; Kim, Cicchetti, Rogosch, & Manly, 2009; Lawrence, Carlson, & Egeland, 2006; Lynch & Cicchetti, 1998; Nathanson & Tzioumi, 2007; Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Špila, Makara, Kozak, & Urbańska, 2008). However, it is also well known that not all children exposed to risk factors such as maltreatment will develop mental health difficulties. Havnen, Jakobsen and Stormark (2009) found that “children placed out-of-home mainly due to parental risk [such as parental mental health issues, deviant behaviour or substance abuse] had less mental health problems than other children, while children placed due to interactional risk or child neglect and abuse had more problems” (p. 235). One theory that seeks to explain how exposure to maltreatment contributes to the development of psychopathology for some children but not for others, is the ecological-transactional model developed by Cicchetti, Toth and Maughan (2000).

Cicchetti, Toth and Maughan (2000) based the ecological-transactional model on Brofenbrenner’s (1994) ecological perspective. The model outlines how child and caregiver characteristics, as well as environmental factors may increase children’s risk of maltreatment and contribute to its intergenerational transmission. Risk factors can be classified as transient or enduring, and they may occur at any ecological level including the macro-, exo-, micro-, or ontogenic-system (Cicchetti, et al., 2000). Enduring risk factors are long-lasting traits or conditions. These may include biological, historical, psychological and sociological predispositions that make a child more vulnerable to maltreatment and psychopathology

(Cicchetti & Toth, 1995). However, it needs to be highlighted at this point that maltreatment and psychopathology are never the child's fault. Transient risk factors indicate a temporary state that fluctuates. These are life challenges that may include loss, physical illness, family problems, marital disputes, and other life transitions (Cicchetti & Toth, 1995). Cicchetti and Toth (1995) argue that maltreatment mainly occurs when a family's risk factors outweigh the protective factors.

As with risk factors, protective factors can be transient or enduring. Enduring protective factors include, amongst other things, positive interpersonal relationships as well as a family history of authoritative parenting (Cicchetti & Toth, 1995). Transient protective factors may consist of improvements in the family's socioeconomic status (SES), intervals of marital satisfaction and a child mastering a developmentally difficult period (Cicchetti & Toth, 1995). Furthermore, research indicates that having their voices heard; having a stable and trusting relationship with at least one other person; being placed within their local community; having positive placement experiences; being of a young age at entry into care; and being placed with a family member or siblings may protect children in care and facilitate psychological well-being (Bromfield, et al., 2005; Holtan, Rønning, Handegård, & Sourander, 2005; Koh, 2010; Nickman, et al., 2005; Tarren-Sweeney, 2008a).

These risk or protective factors may occur within the individual, within his or her family, in the community or the family's culture. At an ontogenic level, risk and protective factors are intrinsic to the individual and affect a child's resilience or vulnerability to later psychopathology (Cicchetti & Toth, 1995). Risk factors that are present in the micro-system have the most direct influence on children's development and the occurrence of child abuse or neglect. For example, micro-system factors determine the presence or absence of family violence (Cicchetti & Toth, 1995). The exo-system involves, amongst other things, the community in which the family lives. Factors such as community violence are linked to an

increased likelihood of child maltreatment occurring (Cicchetti & Toth, 1995; Levy & Orlans, 2000; Lynch & Cicchetti, 1998). The final system that affects the occurrence of child maltreatment is the macro-system. The macro-system symbolises the family's cultural values and beliefs, which may condemn or prompt child abuse or neglect (Cicchetti, et al., 2000). This ecological-transactional model may also help to explain why some maltreated children appear to be more resilient to abuse and neglect than others (Cicchetti & Toth, 1995). The presence of strong protective factors at any level of the child's ecology may increase his or her level of resilience and adaptive functioning.

A second major pre-care risk factor that may impact on the mental health outcomes of children in care is the separation from their family or primary caregiver. Clausen and colleagues (1998) emphasise that children who have been maltreated are likely to have experienced difficulty with developing appropriate attachments with their abusing caregiver. When these children are removed from their home, they may be more vulnerable as they may have less well developed coping mechanisms than securely-attached children to endure the separation (Clausen, et al., 1998). Nonetheless, it is likely that even for non-abused securely-attached children such a separation would be a traumatic event that most would struggle to come to terms with. The separation is likely to be accompanied by significant feelings of loss, but also by feelings such as guilt, shame, anger, abandonment as well as potential dissociative reactions, which place the child at greater risk of developing psychological difficulties (Clausen, et al., 1998; Leslie, et al., 2005).

Research provides some support for the negative effects of disrupting the early parent-child attachment, and describes how this can lead to adjustment and developmental difficulties; particularly when the child has been maltreated by their attachment figure (Howard, Martin, Berlin, & Brooks-Gunn, 2011; Lawrence, et al., 2006). Howard and colleagues (2011) examined the relationship between early mother-child separation and later

behaviour problems amongst children from primarily low socioeconomic backgrounds. Early separation was defined as “any separation from the mother that lasted for one week or more and occurred within the child’s first two years of life” (Howard, et al., 2011, p. 8). Little information is available with regards to the nature of the separation but they were believed to be primarily voluntary. The most frequently reported reasons for separation included vacations taken by the mother and the mother visiting relatives (Howard, et al., 2011). It is possible that the nature of the separation may affect the severity of the consequences of the separation. For instance, mothers who voluntarily separate from their children may minimise the impact of the separation by preparing their children and leaving the children with caregivers who know the children (Howard, et al., 2011). The impact of separation may also be minimised by leaving the children in their usual environment with the second parent, friends or grandparents. Results indicate that early separation from their mothers, occurring within the first two years of children’s lives, is related to significantly higher rates of aggression at age three and age five, compared to children who have not experienced such a separation (Howard, et al., 2011). These results suggest that even short, early separations may have a negative impact on children’s behaviour later on in life. However, these results should be viewed with caution as mothers of children with a difficult temperament or behaviour problems may be more likely to take a holiday without their children (Howard, et al., 2011).

Another study that examined the impact of separation was conducted by Lawrence and colleagues (2006). It is one of the few studies that has explored the behaviour of children before, during and after foster care placements, and compared them to the behaviour problems of children who had been maltreated but remain in the custody of their parents, and children from a similarly disadvantaged background with no history of maltreatment. Teacher Report Forms (TRFs) were used to examine changes in behaviour problems of the 189 children in the three groups. Findings suggested that prior to placement, the behaviour

problems of children who were removed from their homes and maltreated children who remained with their parents did not significantly differ (Lawrence, et al., 2006). However, immediately after children were removed from the care of their parents, they tended to display more behaviour problems than maltreated children who remained with their parents (Lawrence, et al., 2006). Overall, results suggest that out-of-home care exacerbates children's behaviour problems (Lawrence, et al., 2006). More research with larger samples utilising a range of measures is needed to validate these findings.

Other risk factors that may affect the development of psychopathology include age, gender, placement instability, intellectual functioning and socioeconomic status. Bellamy, Gopalan and Traube (2010) found in their review of the literature among children placed in care that older children generally display more severe mental health issues than younger children. Similarly, Brand and Brinich (1999) also conducted a literature review and found that children's older age at entry into care was a strong predictor of behavioural and emotional difficulties. Tarren-Sweeney (2008a, 2008c) reported that children who are older when they enter care, who have experienced placement instability, or who have an intellectual disability are at greater risk of negative mental health outcomes. Furthermore, being male, having a family history of criminal offending, and coming from a low socioeconomic background are factors associated with more internalising and externalising symptoms in children in care (Stein, et al., 1996). Additionally, children in out-of-home care are more likely to have been exposed to genetic and antenatal predisposing factors such as maternal drug use or a family history of psychopathology, which make the occurrence of psychopathology more likely (Leslie, et al., 2005).

Overall, children in out-of-home care are likely to be at greater risk of developing mental health issues as a result of complex interactions of their genetic vulnerability, maltreatment history, the loss of their primary caregiver, their potentially negative in-care

experiences, and their multiple experiences of adversities. At the same time, having a stable placement or being able to develop a trusting relationship with one other person may protect children and enable them to be resilient to life's adversities.

### **Mental Health Needs**

When children in state care come to the attention of mental health service providers these children frequently present with severe and complex mental health issues (DeJong, 2010; Tarren-Sweeney, 2008a). Many of these children suffer from multifaceted developmental impairments including cognitive, emotional, behavioural, social, language and learning difficulties, as well as poor physical and mental health ( Barth, et al., 2003; Berrick, et al., 1993; Crawford, 2006; Ford, Vostanis, Meltzer, & Goodman, 2007; Halfon, et al., 1995; Shin, 2005; Stahmer, et al., 2005; Tarren-Sweeney, 2008a). To date, very few studies have attempted to explore the nature or complexity of these children's mental health issues. Thus far, most research conducted with this population focus on the extent and severity of the mental health issues rather than its nature, characteristics and its underlying mechanisms (Tarren-Sweeney, 2008a). To a large degree, this is "because most available estimates were obtained as outcome measures in studies addressing nonclinical research questions" (Tarren-Sweeney, 2008a, p. 345).

The most commonly diagnosed psychological disorders amongst children in care include conduct disorder, attention deficit/hyperactivity disorder, post-traumatic stress disorder, anxiety disorders and depression. It is estimated that between 17 and 45 percent of children in care meet the criteria for a diagnosis of conduct disorder; 10 to 30 percent qualify for a diagnosis of attention deficit/hyperactivity disorder (ADHD); four to 36 percent meet the requirements for depression; four to 26 percent are diagnosed with an anxiety disorder; and 40 to 50 percent of children meet the criteria for post-traumatic stress disorder (PTSD) at

entry into care (McCann, James, Wilson, & Dunn, 1996; McMillen et al., 2005; Tarren-Sweeney, 2008a). Child Behaviour Checklist scores indicate that children in care are rated particularly highly on a number of subscales including attention problems, social problems, thought problems, aggressive behaviour and rule-breaking/delinquent behaviour (Tarren-Sweeney & Hazell, 2006). Overall, it appears that children in out-of-home care resemble the clinic-referred population more closely than children of the general population (Stein, et al., 1996; Tarren-Sweeney, 2008a; Tarren-Sweeney & Hazell, 2006).

Stein and colleagues (1996) compared the mental health issues of children in care to those of clinic-referred children and to those of the general population. Results suggested that children in care and clinic-referred children had significantly higher psychiatric symptom scores than the community sample. Additionally, Stein et al.(1996) found that clinic-referred children scored higher than the foster care group on externalising and internalising measures. However, this difference was not statistically significant for teacher reported internalising problems. Additionally, the authors pointed out that the results of this study are based on a regional, cross-sectional design, which limits the generalisability of the results.

Furthermore, the research is partly based on caregiver-reported measures of children's mental health difficulties. This includes the reports of caregivers who had children in their care for only two months. Many standardised psychological assessment tools, including the CBCL, require caregivers to rate children's behaviour over a period of time; usually over a period of between four to six months. It has been argued that the reliability of caregivers' reports is likely to be impacted by the length of time the child and caregiver have known each other (Tarren-Sweeney, Hazell, & Carr, 2004). Thus, the mental health problems of children in care may have been underreported in Stein and colleagues' (1996) research. This critique can be extended to most research with children in out-of-home care and may explain some of

the variability of results that have been found in relation to the mental health presentation of children in care.

Persi and Sisson (2008) carried out research in Ontario, Canada, that investigated the differences between the psychopathology of clinic-referred children in care and the mental health problems of the general population. Persi and Sisson (2008) examined the experiences and characteristics of inpatient foster children and compared them to other inpatient children. Previous research from the US found that, by the time they turn 17 years old, 42 percent of children in out-of-home care have had at least one admission to an inpatient mental health facility (McMillen et al., 2004). Persi and Sisson's (2008) findings suggest that children in foster care have their first inpatient admission at a significantly younger age than non-foster children. Furthermore, inpatient foster children score lower on social competency, which suggests they have fewer social skills compared to other children in the inpatient unit (Persi & Sisson, 2008). Children in foster care admitted to the inpatient unit also had significantly higher CBCL total problem scores and externalising problem scores than other children in the units. Moreover, compared to other children in inpatient care, children on foster placements are twice as likely to be restrained while in the inpatient unit and are more frequently diagnosed with externalising disorders. Persi and Sisson (2008) state that externalising problems appear to play a precipitating role in the "interpersonal crises [of children in out-of-home] that contribute to placement breakdown and referrals to emergency departments of hospitals" (p. 81). Although, foster children had slightly more internalising problems reported by their caregivers, interestingly they have considerably fewer diagnoses of internalizing disorders, compared to other inpatient children (Persi & Sisson, 2008). Furthermore, approximately 40 percent of children in foster care were readmitted within two years of their first hospital admission, compared to 17 percent of non-foster children (Persi & Sisson, 2008).

However, Persi and Sisson's (2008) findings did not examine the specific symptoms of children's psychopathology. The study included information on five general disorders: adjustment, externalising, internalising, thought and substance use disorder. Additionally, it reported the results for three CBCL categories: total, externalising and internalising problems. The research did not explore whether existing instruments and classification systems adequately account for the mental health presentation of children in care; or whether a different way of addressing this area is required. In order to achieve this research may need to explore what specific presentations distinguish the mental health issues of children in care from other children.

Tarren-Sweeney and Hazell (2006) published results that examine the specific mental health profiles of children in out-of-home care in more detail. The caregivers of 347 children in care completed the CBCL and the Assessment Checklist for Children (ACC). One of this study's strengths is the use of a psychometric measure that is designed to assess the specific psychological difficulties of children in care, the ACC. Findings suggests that children in care frequently present with psychopathology that is characterised by attachment insecurity; relationship difficulties; conduct problems; inattention and hyperactivity; trauma related anxiety; sexual behaviour problems; self-injury; as well as food maintenance behaviour problems (Tarren-Sweeney & Hazell, 2006). These characteristics and behaviours significantly affect the children's adaptive functioning and wellbeing. However, the majority of these problems are, thus far, neither adequately conceptualised nor included in the current diagnostic systems. Many authors have focused their attention on attachment disorders and have argued that attachment difficulties are the underlying mechanisms that determine the psychological adjustment of children in care.

## **Attachment Difficulties**

Attachment behaviour may be defined as the use of specific behaviours in a young child, which are likely to enhance children's feeling of security for example by increasing "physical proximity to a preferred caregiver at times when the child seeks comfort, support, nurturance, or protection" (Boris, Zeanah, & the Work Group on Quality Issues, 2005, p. 1207). Securely attached children develop close bonds with their primary caregivers, which are postulated to positively affect the children's sense of self, and their ability to form and maintain relationships (Levy & Orlans, 2000; van den Dries, Juffer, van Ijzendoorn, & Bakermans-Kranenburg, 2009). Stovall-McClough and Dozier (2004) found that children placed in care before or at 28 months were generally able to adapt to their new environments and organise their attachment behaviours according to the quality of care they were receiving from their current caregivers. Smyke, Zeanah, Fox, Nelson and Guthrie (2010) reported that children's attachment style remained relatively flexible for the first three years of their lives. These findings correspond to those of other researchers, who found an inverse negative relationship between the psychological well-being of children in care and their age at entry into care (O'Connor, Bredenkamp, & Rutter, 1999; Tarren-Sweeney, 2008c).

According to attachment theorists, children's attachment depends largely on what they have learned from past experiences and the expectations they have formed about how well their needs will be met by their attachment figure (Bowlby, 1988; Pilowsky & Kates, 1996; Stovall-McClough & Dozier, 2004). When their needs are responded to in a sensitive manner by their caregivers, children begin to feel that the world around them is safe and predictable (Bowlby, 1988; Mennen & O'Keefe, 2005; Stovall-McClough & Dozier, 2004; van den Dries, et al., 2009). Conversely, children who learn to expect insensitive or unpredictable responses from their caregivers believe their environment is unpredictable, unsafe and they may think of themselves as not being worthy of being loved (Pilowsky &

Kates, 1996; van den Dries, et al., 2009). These children may display maladaptive behaviours in an attempt to make their environment more predictable. These maladaptive behaviours may be associated with insecure attachment.

Insecure attachment is relatively common in children who have experienced severe early deprivation or maltreatment, and it has been linked to the development of psychopathology later on in life. Insecure attachment can be divided into three categories: avoidant, resistant and disorganised attachment. Children who develop an avoidant attachment style generally experience over-stimulating care (Berk, 2006). They are typically unresponsive to their caregivers' presence, and may later present as withdrawn, isolated and disconnected (Berk, 2006; Cyr, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2010). Resistant attachment is associated with children receiving inconsistent caregiving (Berk, 2006). Children who have experienced inconsistent parenting may be highly dependent on their caregivers but they may combine proximity seeking behaviours with disruptive, angry or difficult behaviours (Berk, 2006; Cyr, et al., 2010). Disorganised attachment can be observed in children who lack goal directed behaviour; they may engage in contradictory behaviour, freeze or appear confused (Berk, 2006; Cyr, et al., 2010; Rutter, Kreppner, & Sonuga-Barke, 2009; van IJzendoorn & Bakermans-Kranenburg, 2003). Studies show that children who have experienced severe emotional deprivation or abuse in the first few years of their lives have higher rates of insecure attachment, particularly disorganised attachment, compared to other children (Cicchetti & Toth, 1995; Howe & Fearnley, 2003; O'Connor et al., 2003; Smyke, et al., 2010; van IJzendoorn, 2004; Vorria et al., 2003; Zeanah, Smyke, Koga, & Carlson, 2005). Research with children in institutional care indicates that highly stressful environments can have a negative impact on children's attachment and brain development, which may result in social, emotional and cognitive delays (Rutter et al., 2007; van den Dries, et al., 2009; Vorria et al., 2006).

It had been suggested that the abuse and neglect may have a similarly negative effect on children's attachment security and psychological well-being as early institutional care (Cyr, et al., 2010; Lamb, Gaensbauer, Malkin, & Schultz, 1985; van den Dries, et al., 2009). In general, children who display insecure attachment behaviours, particularly disorganised attachment behaviours, are at an increased risk of developing behavioural and psychological difficulties, including attachment disorders (Ballen, Bernier, Moss, Tarabulsky, & St-Laurent, 2010; Byrne, et al., 2005; van den Dries, et al., 2009; van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). However, insecure attachment is by no means synonymous with psychopathology (Sroufe, Carlson, Levy, & Egeland, 1999). In order to achieve the best possible outcome for this high risk population, it is essential to develop effective prevention and early interventions programmes (Byrne, et al., 2005; Department of Social Development, 2008).

### **Reactive Attachment Disorder**

Reactive Attachment Disorder (RAD) is the only disorder related to attachment that is formally recognised in Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000). The DSM-IV-TR defines RAD as “markedly disturbed and developmentally inappropriate social relatedness in most contexts that begins before the age of 5 years and is associated with grossly pathological care” (American Psychiatric Association, 2004, p. 127). RAD is estimated to affect less than one percent of the general population (Boris, Zeanah, & Work Group on Quality Issues, 2005). However, amongst children in out-of-home care who have been abused or neglected, the prevalence is estimated to be between 30 and 40 percent (Boris, Zeanah, & Work Group on Quality Issues, 2005; Smyke, Dumitrescu, & Zeanah, 2002; Zeanah et al., 2004; Zeanah, Smyke, & Dumitrescu, 2002). The American Psychiatric

Association (2000) distinguishes between two distinct subtypes: inhibited and disinhibited attachment.

These two subtypes are listed in the DSM-IV-TR as separate and mutually exclusive categories. However, their use remains controversial. RAD inhibited subtype is associated with an individual's inability to instigate or react appropriately to social interactions (Rutter, et al., 2009). Individuals may also be excessively inhibited, hypervigilant or give highly ambivalent response (Rutter, et al., 2009). This subtype appears to be particularly common among maltreated and institutionalised children. However, once these children are moved from institutions to foster placements, the rate of inhibited RAD appears to drop significantly (Rutter, et al., 2009). In contrast, disinhibited RAD is characterised by an absence of social reservation. Children who suffer from disinhibited RAD may approach and attempt to leave with unfamiliar adults (Rutter, et al., 2009). They may also seek socially inappropriate physical contact or fail to check back with their caregiver in stressful situations (Rutter, et al., 2009). Disinhibited attachment behaviours are a very common occurrence among children in institutional care (Rutter, et al., 2009). However, initial findings suggest that stable foster placements do not lead to a decrease in disinhibited symptoms (Rutter, et al., 2009). Research further suggests that many children exhibit symptoms of both inhibited and disinhibited subtypes, and practitioners generally do not distinguish between the two subtypes (Boris, Zeanah, & Work Group on Quality Issues, 2005; Hornor, 2008; Minnis et al., 2009; Minnis & Keck, 2003; Smyke, et al., 2002; Tarren-Sweeney, 2007). Minnis, Rabe-Hesketh and Wolkind (2002) argue that the current diagnostic criteria of RAD and its subtypes do not adequately reflect the phenomenology observed by clinicians.

Additionally, it has been suggested that there are practical and theoretical difficulties in discriminating between behaviours that are associated with RAD and those that are linked to forms of insecure attachment, for instance disorganised attachment (O'Connor & Zeanah,

2003b). Boris and Zeanah (1999) argued that the two subtypes of RAD reflect a misrepresentation of the use of attachment systems. They stated that the diagnostic criteria for RAD were mainly derived from data collected about the social behaviour of maltreated and institutionalised children, with the focus being social behaviour rather than attachment (Boris & Zeanah, 1999). Boris and Zeanah (1999) argued that the two subtypes of RAD describe children who have no preferred attachment figure and, thus, are disorders of non-attachment rather than attachment.

Some authors have suggested the use of a third subtype of RAD, disorganised attachment (O'Connor & Zeanah, 2003a). Disorganised attachment is currently not formally recognised as an attachment disorder, rather it is conceptualised as a form of insecure attachment. Disorganised attachment is considered to describe children who have formed an insecure but selective attachment (O'Connor & Zeanah, 2003a). Several authors have argued that it might be beneficial to place disorganised attachment on a spectrum with RAD (Boris & Zeanah, 1999; O'Connor & Zeanah, 2003b). Conceptualising attachment as a spectrum disorder suggests that secure attachment is on one end of the continuum, followed by avoidant/resistant insecure attachment, disorganised attachment and disorders of non-attachment, for example RAD (Boris & Zeanah, 1999). However, more research is needed to validate this concept.

Another limitation of the conceptualisation of RAD is its focus on interpersonal relationships. Minnis and colleagues (2009) found that 30 percent of children in out-of-home care who met the criteria for RAD were also classified as securely attached. DeJong (2010) states that this finding “raises a number of questions, including the possibility that RAD is not a purely attachment related phenomenon. More fundamentally, it raises questions about the validity of the concept and our attempts to measure it” (p. 594). Many children who have experienced pathogenic care before the age of five also frequently present with severe

oppositional, delinquent, inattentive and aggressive behaviours. These children may display symptomatology of attachment difficulties as well as conduct disorder, ADHD, anxiety disorder and disassociation; all of which are currently conceptualised as distinct disorders (Boris, Zeanah, & Work Group on Quality Issues, 2005; DeJong, 2010; Levy & Orlans, 2000). Other authors suggest that attachment difficulties affect multiple aspects of children's functioning including behaviours, emotions, thoughts, relationships, physical development and moral development (Levy & Orlans, 2000). These exist on a continuum from mild to severe and ought to be recognised in a comprehensive diagnostic system. However, more research is needed to validate these characteristics and establish the relationship between them. Nonetheless, RAD appears to manifest as a distinct disorder with a unique set of symptoms despite being correlated to other forms of psychopathology (Minnis, Marwick, Arthur, & McLaughlin, 2006; O'Connor & Rutter, 2000).

In addition to the characteristics mentioned above, further assessments and conceptualisations are also required for other symptoms of the psychopathology of children in care. These include pseudo-mature interpersonal behaviour, abnormal responses to pain, food maintenance behaviours, self-esteem issues, self-injury and suicidal ideation (Tarren-Sweeney, 2007). These features may be associated with attachment difficulties and all appear to be related to the special mental health needs of children in out-of-home care.

### **Interpersonal Behaviours**

Approximately half of all children in out-of-home care have social relatedness deficits, suggesting the presence of attachment problems, most of which coincide with behaviour problems and other psychopathology (Tarren-Sweeney & Hazell, 2006). However, the nature of and relationship between RAD, social deficits, behaviour problems and other psychopathology remains uncertain (DeJong, 2010; Green, 2003). For many clinicians, core

features of RAD include “shallow or fake emotions, superficial connections to others, lack of remorse, and failures of empathy” (Boris, Zeanah, & Work Group on Quality Issues, 2005, p. 1211; Levy & Orlans, 2000). It has been argued that children who have experienced an abusive or neglecting family environment may have developed internal working models that lead children to believe that other people will harm them (Cicchetti & Toth, 1995; Kim & Cicchetti, 2010; Price & Landsverk, 1998). Thus, early attachment relationships and thought patterns may be carried forward, and are likely to affect children’s perception of themselves and their expectations of and reactions to other people (Byrne, et al., 2005; Cicchetti & Toth, 1995; Pilowsky & Kates, 1996; Price & Landsverk, 1998). On the contrary, children who have developed a secure attachment to their primary caregiver may have been taught how to regulate their emotions. This will enable them to manage stressful or anxiety provoking events, and interpersonal relationships (Cicchetti & Toth, 1995; Kim & Cicchetti, 2010; van der Kolk, 2005). Securely attached infants are likely to have learned to trust how they feel and understand the world around them. This allows them to have confidence in their thoughts and emotions (van der Kolk, 2005). Furthermore, these children are typically able to learn a complex vocabulary that makes it possible for them to strategise, problem-solve and communicate their needs (van der Kolk, 2005). Maltreated children in out-of-home care frequently lack these skills and they often display signs of emotional dysregulation.

### **Emotional Regulation**

Emotional regulation may be another precipitating factor that plays a significant role in the development of childhood psychopathology. Emotional dysregulation is associated with mental illness, personality difficulties, social isolation and interpersonal behaviour problems. Emotional regulation may be defined as “the ability to modulate one’s emotional arousal such that an optimal level of engagement with the environment is fostered” (Kim &

Cicchetti, 2010, p. 706). The ability to regulate emotions affects children's capability to respond in a socially acceptable manner and inhibit inappropriate behaviours (Kim & Cicchetti, 2010). In contrast, children with emotional dysregulation might display inappropriate affect, a lack of empathy, or extreme emotional reactivity (Kim & Cicchetti, 2010). It has been argued that emotion regulation is a vital skill in managing negative emotions and promoting adaptive behaviours (Kim & Cicchetti, 2010). Kim and Cicchetti (2010) highlight that emotional regulation affects both internalising and externalising problems; it is associated with dysregulated expressions of emotions and an impoverished emotional awareness. Research indicates that children with poor emotion regulation are more aggressive and impulsive in social interactions, and are more likely to be rejected by and isolated from their peers (Kim & Cicchetti, 2010).

Emotion dysregulation may lead children to exhibit maladaptive externalising or internalising behaviours, which are not mutually exclusive. Research shows that maltreated children in out-of-home care exhibit significantly more externalising behaviour problems, including conduct problems, than their peers (Richard P. Barth, et al., 2003; Cullerton-Sen, et al., 2008; Delfabbro, et al., 2010; Leslie, et al., 2005; Persi & Sisson, 2008; Tarren-Sweeney & Hazell, 2006). One study found that, compared to externalising disorders (43%), inpatient children in out-of-home care appear to be less likely to be diagnosed with an internalising disorder (9%) (Persi & Sisson, 2008). Interestingly, their internalising problems, recorded by the CBCL, are almost as high as their externalising problems (Persi & Sisson, 2008). One possible explanation for this may be that the internalising behaviours displayed by children in care, such as social withdrawal, severe mood dysregulation, low self-esteem and self-destructive behaviours, are not sufficiently represented in the current diagnostic systems. Alternatively, some children may display both internalising and externalising

behaviours but as the externalising behaviours are more apparent and destructive to their environment, they are seen as the primary disorder.

### **Inattention and Hyperactivity**

Children in out-of-home care commonly present with inattention and hyperactivity symptoms (McCann, et al., 1996; Stevens et al., 2008; Tarren-Sweeney, 2008a, 2008c). The relationship between early maltreatment, possible attachment disorder, and inattention and hyperactivity appears to be complex. Most studies in this field have been conducted with children raised in institutions and with children from the general population (Clarke, Ungerer, Chahoud, Johnson, & Stiefel, 2002; Kreppner, et al., 2001; Roy, Rutter, & Pickles, 2004; Stevens, et al., 2008). Roy and colleagues (2004) studied attention and overactivity problems in 19 children in residential care and compared them to 19 children in stable foster care placement. The terminology inattention and overactivity (I/O) were used by the authors to emphasise the prospect that these behaviours may represent a distinct type of hyperactivity that is different to the current diagnosis of ADHD; “not least because of its association with impaired selective attachments and social disinhibition” (Roy & Rutter, 2006, p. 480). Roy and colleagues’ (2004) results indicate that a lack of selective interpersonal relationships between children and their peers or caregiver have a strong association with overactivity and inattention (Roy, et al., 2004). However, a lack of selective relationships was only found in boys in residential care.

Kreppner and colleagues (2001) compared the levels of I/O in 165 children, who were exposed to severe deprivation before being adopted into the United Kingdom, with 52 within-UK adoptees who had not experienced such deprivation. Kreppner et al. (2001) found that children who had experienced severe deprivation displayed significantly more signs of I/O than children without such experiences. Furthermore, Kreppner’s et al. (2001) results

suggested that the duration of deprivation had a significant effect on the occurrence of I/O but not on the occurrence of emotional or behavioural disturbances. Kreppner and colleagues (2001) concluded that, overall, their study results suggest “that some forms of I/O may constitute an institutional deprivation syndrome” (p. 525). The authors highlight that I/O is likely to be not the only specific response to severe deprivation; other responses may include attachment difficulties, cognitive impairment and quasi-autistic patterns (Kreppner, et al., 2001).

To date, attention deficit/hyperactivity disorder is the only disorder recognised in the current diagnostic systems that conceptualises the inattentive and hyperactive problems experienced by severely deprived children or children in out-of-home care. It is generally accepted that heritability as well as multi-factorial features contribute to the aetiology of ADHD (Roy, et al., 2004; Sandberg, 2002). Evidence from epidemiological and clinical research suggest that ADHD in children is frequently associated with a history of institutional care or numerous caregivers (Roy, et al., 2004). Some researchers contend that there may potentially be multiple pathways that lead to a diagnosis of ADHD; and that inattention might, in some cases, represent a self-regulation deficit rather than motor control or cognitive processing difficulties (Finzi-Dottan, Manor, & Tyano, 2006; Kreppner, et al., 2001; Ladnier & Massanari, 2000). Stevens, et al. (2008) suggest that early severe deprivation may permanently alter children’s brain function, suggesting a neurodevelopmental pathway that may be associated with a specific early critical period of children’s development. Others advocate that attachment problems lie at the core of inattention/overactivity disorders (Clarke, et al., 2002; Kreppner, et al., 2001; Ladnier & Massanari, 2000; Roy, et al., 2004; Rutter, Kreppner, & O’Connor, 2001). The distinct mechanisms accounting for ADHD or I/O may also affect the effectiveness of treatments models (Tarren-Sweeney, 2010b).

As mentioned above, during infancy and early childhood, securely attached children learn from their caregivers vital self-regulation skills that enable them to moderate their psycho-physiological arousal. Insecurely attached children are more vulnerable to using maladaptive regulation skills; they may exhibit impulse control difficulties and a lack of self-soothing skills, features that are characteristic of ADHD (Clarke, et al., 2002). Clarke and colleagues (2002) reported that case reviews suggested that children diagnosed with ADHD had an early relationship history similar to those of insecurely attached children. Furthermore, children with ADHD are at a substantial risk of also experiencing interpersonal relationship difficulties and social functioning impairments (Clarke, et al., 2002; Ladnier & Massanari, 2000). It appears that attachment difficulties and ADHD share a common symptomatology including hyperactivity, inattention, impulsivity and social function impairments (Ladnier & Massanari, 2000).

### **Trauma and Dissociation**

Children in out-of-home care generally have experienced complex forms of maltreatment and adversity, as well as the potentially traumatic experience of being removed from their home. As mentioned above, PTSD is a relatively common occurrence among children in care (Carrion, Weems, Ray, & Reiss, 2002; Tarren-Sweeney, 2008a). However, it has been argued that the current diagnostic criteria for PTSD do not take adequately into consideration the impact of chronic trauma on children's development (Cook et al., 2005; van der Kolk, 2005). Furthermore, the definition of a traumatic event in the DSM-IV fails to include significant aspects of the interpersonal trauma that many children in out-of-home care have experienced (van der Kolk, 2005). Consequently, the many traumatised children fail to meet the criteria of PTSD (van der Kolk, 2005). Van der Kolk (2005) argues that PTSD is primarily an adult-oriented disorder that fails to recognise the developmental impact of chronic

trauma on children including affect dysregulation, attachment difficulties, behavioural and emotional regression, aggression, self-harm and self-hatred, developmental delays, somatic problems, loss of vigilance, and chronic feelings of insufficiency and ineffectiveness.

Children's physiological responses to trauma and severe stress are regulated by involuntary activities of their brain. It has been suggested that maltreatment in the early years of children's lives may alter their brain functioning and lead them to believe they are in permanent danger and, thus, their brains stay in constant acute stress mode (Committee on Early Childhood, 2000). This suggests that these children constantly are in fight, flight or freeze mode, which can make them hypervigilant, aggressive, apathetic, overly anxious or withdrawn (Committee on Early Childhood, 2000). However, it is likely this experience of chronic trauma will eventually result in many of these children becoming psychologically disengaged and detached, rather than continuously trying to fight or flee from the danger (Committee on Early Childhood, 2000; Cook, et al., 2005; van der Kolk, 2005). Carrion, et al. (2002) state that "[c]hildren's initial response to trauma is often characterized by physiological and behavioral hyperarousal, and when the trauma is ongoing, the response may become complicated by dissociation" (p. 166). This may partly explain some of the unusual emotional and behavioural patterns of children in care, as well as the high levels of other psychopathology in children in care. However, this relationship needs to be explored further. Additional research is needed to help explain the varying psychopathology of children in care, maltreated children who remain in their homes, and other clinic-referred children. Furthermore, research also needs to assess the relationship between trauma and attachment disturbances as attachment disturbances may contribute to children's trauma (Boris, Zeanah, & Work Group on Quality Issues, 2005; DeJong, 2010).

## **Atypical Mental Health Issues**

Children in out-of-home care frequently present with mental health difficulties that are uncommon amongst the general clinic-referred population. These issues are seldom mentioned and inadequately conceptualised. Tarren-Sweeney and Hazell (2006) found three characteristic behaviours that were at least 20 percent more likely to occur in children in care than in other children. These behaviours included elimination or toileting problems, conduct problems and sexual problems. Behaviours that were less likely to occur in children in out-of-home care included perfectionistic, self-conscious and shy behaviours (Tarren-Sweeney & Hazell, 2006). Other uncommon behaviours that are experienced by children in care but which are often overlooked by researchers and clinicians include atypical eating behaviours, an abnormal response to pain, and self-injury or suicide. These relatively uncommon mental health issues are explored below.

### **Sexual behaviour problems**

As mentioned above, sexual behaviour problems (SBP) are one aspect that contributes to the complex mental health profile of children in out-of-home care. Approximately one-third of children in care present with problematic sexual behaviour (Friedrich et al., 2005; Tarren-Sweeney, 2008b). Sexual behaviour problems refer to behaviours that are age, culturally, socially or developmentally inappropriate and potentially harmful. These behaviours “may or may not be related to sexual gratification or sexual stimulation. The behaviors may be related to curiosity, anxiety, imitation, attention seeking, self-calming, or other reasons” (Association for the Treatment of Sexual Abusers, 2006, p. 3). At present, SBP are not recognised as a diagnosable disorder or a psychological or paediatric syndrome. Sexual behaviour problems instead refer to a group of behaviours that are considered to be extremely socially unacceptable (Association for the Treatment of Sexual Abusers, 2006). In

a study, Tarren-Sweeney (2008b) found that virtually all children in care with SBP also had other mental health issues; in particular inattention, conduct problems and interpersonal behaviour problems were indicative of attachment disturbances.

One other factor that is linked to sexual behaviour problems is child sexual abuse and most research has focused on the relationship between child sexual abuse (CSA) and SBP. Although it is clear that sexual abuse is detrimental to children's development, ability to maintain relationships, general mental health and sexual development, the strength of this relationship is less apparent. Most research suggests that a significant relationship exists between CSA and SBP (Friedrich et al., 2001; Tarren-Sweeney, 2008b, 2008c).

However, it appears that the relationship between sexual abuse and sexual behaviour problems is complex. Friedrich, Davies, Feher and Wright (2003) found only a moderate correlation between CSA and SBP but a significant relationship with multiple other contextual factors including PTSD, externalising and internalising behaviour problems, low social competence, a history of maltreatment, as well as exposure to domestic violence. Furthermore, some authors hypothesize that attachment mechanisms operate as mediators between the trauma resulting from sexual abuse or maltreatment, and children's problematic sexual behaviours (Friedrich, 2007 cited in Tarren-Sweeney, 2008b). More research is required to better understand the processes that explain the disproportionate development of SBP among children who have experienced maltreatment (Tarren-Sweeney, 2008b). Children in out-of-home care are one possible population group that may be suitable for elucidating these processes (Tarren-Sweeney, 2008b).

### **Atypical Eating Behaviour**

Aberrant eating patterns are a widely overlooked aspect of the psychopathology of children in out-of-home care. Anecdotal evidence from clinicians working with children in

out-of-home care and case reviews suggest that abnormal eating behaviours are a relatively common occurrence amongst children in care (Tarren-Sweeney, 2006). Tarren-Sweeney (2006) conducted a study assessing the food related behaviour problems of 374 pre-adolescent children in care. Findings indicate that 24 percent of children in foster or kinship care exhibit aberrant eating behaviours. Two different types of abnormal eating behaviours were identified: food maintenance syndrome and pica-type eating behaviour (Tarren-Sweeney, 2006). Children with the food maintenance problems primarily engage in excessive eating and food hoarding. Related behaviours include gorging, hiding, storing or stealing food. This generally occurs while children retain a normal body-mass index. Findings indicate that food maintenance syndrome is associated with comorbid conduct disorder and aggression (Tarren-Sweeney, 2006). Furthermore, food maintenance problems appear to be elicited by acute stress and are related to current maltreatment experienced in out-of-home care (Tarren-Sweeney, 2006).

The second eating pattern, pica-type eating behaviour, refers to children who consume inedible or undrinkable items, for example rubbish. This behaviour has been linked to developmental disabilities and self-harming behaviours (Tarren-Sweeney, 2006). Both, pica-type eating behaviour and food maintenance syndrome coincide with other psychological difficulties (Tarren-Sweeney, 2006). DeJong (2010) states that “[t]hese patterns of abnormal eating are associated with other diagnosable psychopathology, but like the sexualized behaviour, do not fit a particular diagnostic category” (p. 592). Given the extent and implication of these findings, this aspect of children’s psychopathology needs to be paid closer attention to and more research is needed in this field.

## **Abnormal Pain Response**

Abnormal Pain Response has been defined as “any observable behaviour or self-reported experience suggestive of abnormal experiences, tolerance, or communication of pain” (Tarren-Sweeney, 2010a, p. 65). There has been some research into pain insensitivity, which has been reported by the parents of children with intellectual disability, autism, and amongst foster children with foetal alcohol syndrome and hyperphagic short stature (Tarren-Sweeney, 2010a). Still, it remains uncertain if these children perceive pain in a different way or are unable to communicate it effectively (Tarren-Sweeney, 2010a). Tarren-Sweeney (2010a) conducted the only study that explicitly assessed the response to pain of children in out-of-home care. Initial findings indicate that nine percent of children in care present with noticeable dysfunctional responses to pain (Tarren-Sweeney, 2010a). Furthermore, it appears that an abnormal response to pain is a distinct clinical phenomenon that generally coincides with other psychological difficulties (Tarren-Sweeney, 2010a). Several hypotheses have been proposed suggesting that an unusual reaction to pain may be the result of significant childhood trauma, attachment difficulties or a form of dissociation (Liotti, 2006; Tarren-Sweeney, 2010a). A substantial amount of additional research is needed to validate any of these hypotheses and further define the clinical presentation of an abnormal pain response.

## **Self-injury and Suicide**

Children in out-of-home care also present with higher incidences of self-harm and suicidal behaviour (Cousins, McGowan, & Milner, 2008; Meltzer, Lader, Corbin, Goodman, & Ford, 2004). Meltzer and colleagues (2004) reported that 24 percent of children looked after by local authorities in Great Britain had attempted to harm themselves or commit suicide. In contrast, 5.8 percent of children from the general population, between 11 and 15 years of age, are reported to have attempted “to harm, hurt or kill themselves” in Great

Britain (Meltzer, Harrington, Goodman, & Jenkins, 2001, p. 9). Researchers and clinicians need to be aware of this statistic in order to be able to conduct appropriate screens and risk assessments. Further research needs to assess the relationship between self-harm/injury, suicidal ideation and other aspects of the psychopathology of children in care.

### **Clinical Implications**

Authors have argued that neither the current Diagnostic and Statistical Manual of Mental Disorder (DSM-IV) nor the International Classification of Diseases (ICD-10), adequately recognise or account for the mental health profiles of children in care (DeJong, 2010; Tarren-Sweeney, 2010b). No formally recognised disorder exists that adequately describes the complex psychopathology of children in care. These children are currently diagnosed with multiple comorbid disorders, a disorder that explains only part of their mental health difficulties, or none at all. Furthermore, the nature of these children's psychopathology is poorly conceptualised and often misunderstood, which can lead to their problems being ignored or treated ineffectively (DeJong, 2010; Tarren-Sweeney, 2008a).

The high prevalence of mental health issues suggests that practitioners working with children in out-of-home care need to be aware of these children's particular needs and the mechanisms that affect developmental change and resilience (Tarren-Sweeney, 2008c). However, due to researchers' reliance on standard survey instruments such as the CBCL, many studies have been unsuccessful in assessing the specific problems manifested by children in out-of-home care (Tarren-Sweeney & Hazell, 2006). Researchers and practitioners particularly need to be aware and assess children's "attachment and peer relationship difficulties, anxiety and dissociative responses to trauma, sexual behaviour and self-injury" behaviour (Tarren-Sweeney & Hazell, 2006, p. 89). Thus far, not much is known about the development of these psychosocial and mental health issues. Nevertheless, it

appears to be evident that children's attachment experiences have a profound effect on their development, particularly their mental health (Tarren-Sweeney, 2008c).

### **Methodological Considerations**

Research with children in out-of-home care faces a number of methodological weaknesses that are difficult to overcome. Firstly, many studies have a low response rate from participants and are based on a relatively small sample size (Sawyer, et al., 2007). Secondly, comparison across studies is difficult as different target populations and assessment tools are frequently used (Janssens & Deboutte, 2010). Thirdly, researchers regularly use short caregiver reported psychometrics to measure children's mental health that were not designed to be used with the target population (Sawyer, et al., 2007; Tarren-Sweeney, 2007). This has a number of implications as the reliability of short-term caregivers remains uncertain, and the use of standardised measures that were designed for the general population often fail to measure the problems specific to the out-of-home care population (Tarren-Sweeney, 2007; Tarren-Sweeney, et al., 2004). The current research is unable to overcome these limitations. However, the results of this study will contribute to the design of a research project that will be conducted over a longer timeframe, use more than one assessment tools and gather information from more than one source.

### **Rationale**

Significant numbers of vulnerable children reside in out-of-home care in the Western world and approximately half of these children present with clinically significant levels of psychopathology. Studies suggest that the severity of psychopathology of children in out-of-home care closely resemble those of clinic-referred children from the general population. However, the symptomatology of children in care has been described as atypical and more

complex than that of other children. The nature and phenomenology of the symptoms of children in out-of-home care remains under-researched. Additionally, current diagnostic systems and psychometric assessments inadequately describe and assess the complexity of the mental health presentations of children in care. Generic interventions appear to be ineffective in treating the mental health issues of children in care. These findings suggest that the psychopathology of children in care may be fundamentally different to the mental health issues of other children outside the state care system. It is essential for practitioners and researchers to be aware of the phenomenology of the psychopathology of children in care in order to develop effective screening and early intervention treatments. To achieve this, researchers and practitioner need to understand the differences between the psychopathology of children in care and the general clinically-referred population. The present research seeks to compare the mental health presentations of clinic-referred children in out-of-home care and compare them to clinic-referred children from the general population.

## **Chapter III – METHOD**

### **Research question**

To what extent do the scale, types and patterns of mental health difficulties of pre-adolescent, school-aged children who have been referred to mental health services, vary between children placed in out-of-home care and children from the general population?

### **Research Aims**

The present dissertation consists of two related research projects, designed to examine the symptomatology and diagnoses given to clinic-referred children residing in out-of-home care and compare these to clinic-referred children in the general population. The overall objective of this research was to assist in providing more insight into the symptomatology of children in out-of-home care who are referred to mental health services; and to examine how this differs to those manifested by other clinic-referred children. This may help to improve the current diagnostic systems, service provision, and inform the development of appropriate interventions.

The two related research projects pursued a number of specific aims:

1. The first project was to conduct a number of analyses of mental health data previously obtained in the New South Wales Children in Care Study (CICS). The broad aim of this project was to yield data that would inform the design of a proposed study, which will be the focus of the second research project. The specific aims of the first project were:
  - i. To compare the mental health presentations, utilising the CBCL, of clinic-referred children in out-of-home care to those of clinic-referred children from the general population.

- ii. To examine the differences between the CBCL DSM-oriented scores of clinic-referred children in out-of-home care and of clinic-referred children of the general population.
  - iii. To estimate the concordance between caregiver-reported diagnoses of clinic-referred children in out-of-home care and their DSM-oriented CBCL scores.
2. The second project can be summarised as the author's contribution to the design of a comparative study of the mental health of clinic-referred children, stratified by child welfare and out-of-home care status. This contribution included working with the research team on the broad design of the proposed study, and preparing approval documents and ethics applications. The proposed study will be carried out with clients of the Child & Family Speciality Service, a Child and Adolescent Mental Health Service in Christchurch, New Zealand. The specific aims of the proposed study are:
- i. To examine variation in the scale, types and patterns of mental health difficulties of pre-adolescent, school-aged children referred for mental health services, according to their histories of placement in out-of-home care, or of other involvement with a statutory child welfare authority;
  - ii. To ascertain the extent to which caregiver-reported scores on the Assessment Checklist for Children (ACC) differentiate children with histories of out-of-home care or maltreatment, from other children, among a sample of pre-adolescent, school-aged children referred to mental health services;
  - iii. To estimate the reliability of caregiver-reported mental health scores of clinic-referred children among three groups of informants: 'foster carers' versus 'parents of children with other child welfare background' versus 'parents of other referred children'; and

- iv. To estimate the inter-rater reliability of ACC scores for pre-adolescent, school-aged children referred for mental health services.

## **Research Design**

### **Children in Care Study**

The CICS baseline survey was designed and conducted by Tarren-Sweeney (2008c; Tarren-Sweeney & Hazell, 2006) between the years 2000 and 2003 in New South Wales, Australia. The author of this dissertation was not involved in this process. The CISC is a prospective epidemiological study that assessed the mental health issues of children in foster or kinship care using the CBCL and ACC, which was completed in 2010. Both measures are caregiver-report checklists and children did not actively participate in the study. Demographic information, as well as potential risk and protective factors were obtained from the New South Wales Department of Community Services' child welfare database Client Information System (CIS) and mail-order caregiver surveys. The baseline survey collected information about the children's and carers' current circumstances; as well as information about their history and educational background (Tarren-Sweeney, 2008c). The CIS provided retrospective information about the children's birth families, their maltreatment history and their placement history. Table 1 provides a summary of information collected.

**Table 1**  
Study factors measured in the CICS baseline survey

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- I. Measured from carer-report questionnaire
    - Type of care (foster or kinship)
    - Length of care order
    - Carer's prior training
    - Child's placement initially temporary or permanent
    - Relationship of informant to child
    - Number of carers
    - Occupational status of carers
    - Who lives in the home?
    - Carer's health
    - Carer's experience
    - Carer's prior training
    - Support of other carers
    - Carer's perceived training needs
    - Child's case plan
    - Expectations about restoration
    - Recent adverse and positive events for the child
    - Child's birth family contact
    - Child's physical health problems
    - Medications
    - Reported intellectual disability
    - History of speech problems and speech therapy
    - Reading difficulties
    - Education, special education support, tuition
    - In-school behavioural support, school disciplinary actions
    - Child's utilization of services
    - Perceived service needs
    - Provision of casework support
    - Sibling-related factors:
      - 1. Number of children in foster home
      - 2. Age difference to nearest aged child in placement
      - 3. Sibling in shared placement is study participant
  - II. Measured from child welfare/alternate care database (CIS)
    - Maltreatment history prior to entering care:
      - 1. Forms of reported maltreatment
      - 2. Timing and frequency of maltreatment events
    - Birth parent factors related to child maltreatment
    - Maternal age
    - Reports of maltreatment in care
    - Child's age at entry into care
    - Care history (e.g. placement changes, history of temporary care, prior restoration)
    - Length of care order
    - Demographic factors (child's age, ethnicity, gender, location)
    - Time in care
    - Type of care (foster or kinship)
    - Child's case plan
    - Sibling-related factors:
      - 1. Child's birth order
      - 2. Any siblings ever in care
      - 3. Current placement shared with sibling
      - 4. Oldest sibling in shared placement
      - 5. Biological relationship to sibling in shared placement
- 

*Note.* Table cited in Tarren-Sweeney (2008c, p. 5)

A further important variable recorded by the carer-reported baseline survey was the caregivers' knowledge of the children's mental health diagnoses.

Overall, the caregivers of 347 children in state ordered out-of-home care, who had children between the ages of four and eleven in their care, participated in the CICS. The study had a 56 percent response rate (Tarren-Sweeney, 2008c; Tarren-Sweeney & Hazell, 2006). Tarren-Sweeney and Hazell (2006) report that "non-participant children entered care at a younger age, had less exposure to maltreatment, and were more likely to have spent the larger part of their life with their current carers. This bias resulted in a slight overestimation of psychopathology in the study population" (p. 90). For the CICS, ethical approval was obtained from the University of Newcastle's Human Research Ethics Committee and the study was approved by the NSW Department of Community Services (DOCS).

### **Current Analysis of CICS Data**

The present study compared the mental health presentations of clinic-referred children who were or were not in out-of-home care. The analyses compared data obtained in the CICS to two different samples of previously published CBCL norm data (Achenbach, 1991; Achenbach & Rescorla, 2001). These two latter samples consisted of clinic-referred CBCL norms from the US (Achenbach, 1991; Achenbach & Rescorla, 2001). Results were analysed using descriptive statistics and comparative analyses. Ethical approval for this analysis was not sought as previous approval has been granted for the CICS, covering subsequent data analyses.

### *Samples*

The CICS sample for the current research consisted of 213 clinic-referred children, between the ages of four and eleven, who resided in court-ordered kinship or foster care in

New South Wales, Australia. Children in out-of-home care who had not been referred to mental health clinics were excluded from the present study. The mean age of children was 8.06 years. More clinic-referred boys (N=115, 54%) took part in this study. The caregivers of these children completed mail-out questionnaires between 2000 and 2003. The questionnaires ascertained caregiver estimates of children's mental health issues, using the CBCL, as well as caregiver-reported psychiatric diagnoses. This sample was matched to previously published CBCL norms by age and gender (Achenbach, 1991; Achenbach & Rescorla, 2001). These CBCL norms refer to clinic-referred samples, which were used to identify clinical ranges for the 1991 and 2001 versions of the CBCL respectively (Achenbach, 1991; Achenbach & Rescorla, 2001). CBCL clinic-referred norms were used as comparison data because they represent a large, representative clinic-referred sample that has published results using the same standardised measure as the CICS sample.

The first CBCL clinic-referred comparison sample (Achenbach & Rescorla, 2001) was used for the *t*-test for independent means. This sample included 800 clinic-referred children, between six and eleven years, from the US (Achenbach & Rescorla, 2001; Tarren-Sweeney & Hazell, 2006). Fifty percent of this sample were girls (Tarren-Sweeney & Hazell, 2006). The CICS sample, mentioned above, had to be matched to the published results of the CBCL norm sample. Consequently, children aged four and five from the CICS sample had to be excluded from this analysis. For the *t*-test analysis, CICS participants were 187 clinic-referred children, between the ages of six and eleven. The mean age of these children was 8.46 and slightly more boys (N=95, 51%) met the inclusion criteria.

The second CBCL comparison sample consisted of a different sample of published norms (Achenbach, 1991). This CBCL normative sample was made up of 1201 clinic-referred children (51.54% girls) between four and eleven years (Achenbach, 1991). This

CBCL norm sample and the total clinic-referred CICS sample were used for the correlation coefficient comparison.

### *Outcome measure*

The CBCL measures caregivers' perceptions of children's behaviour and emotional problems as well as their competencies across eight empirically-derived subscales. The eight CBCL subscales are: anxious/depressed, withdrawn, somatic complaints, social problems, thought problems, attention problems, rule breaking behaviour and aggressive behaviour scales. Two higher-order CBCL scales combine children's anxious, withdrawn, depressed and somatic symptoms into an internalising scale; and children's social, thought, attention, rule breaking and aggressive behaviours into an externalizing scale. The CBCL further includes six empirically derived DSM-oriented scales. Caregivers are asked to rate children's behaviours as "Not True", "Somewhat or Sometimes True" or "Very True or Often True". The CBCL is a well established measure with good validity and reliability (Achenbach, 1991; Achenbach & Rescorla, 2001). It has been used with numerous high-risk samples, and it has high inter-country and cross-cultural reliability (Achenbach et al., 2008; Tarren-Sweeney, 2008c; Tarren-Sweeney & Hazell, 2006). The CBCL was used as an outcome measure for the CICS sample and the two CBCL norm samples.

A second outcome measure was used for the CICS sample. This was the baseline carer-report survey that collected information about study factors such as caregiver-reported mental health diagnoses of children (see Table 1).

## *Data Analysis*

Study Aim 1: *Compare the mental health presentations of clinic-referred children in out-of-home care to those of clinic-referred children from the general population, as identified by the CBCL.*

*T*-tests for independent means and correlation coefficients were used to compare the mental health presentations of clinic-referred children living at home or in out-of-home care. *T*-test analyses were conducted using the Microsoft Office Excel 2007 computer programme. *T*-tests for independent means are used for comparing two sets of group scores, which have been collected from two entirely different samples (Aron, Aron, & Coups, 2009). This analysis was used to establish the differences between mental health presentations of clinic-referred boys and girls in out-of-home care, and those of the general population; as identified by CBCL raw scores. The formula used in Excel was  $t = \frac{(mean1 - mean2)}{\sqrt{(\frac{SD1^2}{n1} + \frac{SD2^2}{n2})}}$ .

The Statistical Package for the Social Sciences (SPSS) version 19 for Windows 7 was used to calculate the CBCL correlations for the CICS data. Correlations are used to describe the relationship between two variables of equal numerical intervals (Aron, et al., 2009). Two-tailed bivariate correlations were applied to analyse the relationship between the CBCL subscale and higher-order scores for children in out-of-home care. The bivariate correlation is used to identify the differences between clinic-referred children living with their original families and those in out-of-home care. The relationships between CBCL scales may differ for children in care, which would indicate that the mental health presentation of children in care may have been more complex and possibly of a different nature to those of other children.

Study Aim 2: *Examine the differences between the CBCL DSM-oriented scores of clinic-referred children in out-of-home care and those of clinic-referred children of the general population.*

*T*-test for independent means was used to establish the difference between the DSM-oriented scores of clinic-referred children in care and those residing at home. CBCL DSM-oriented scales were designed to combine items from the CBCL with some of the DSM criteria for Dysthymia, Major Depression, Generalised Anxiety Disorder, Separation Anxiety Disorder, Specific Phobias, Somatisation and Somatoform Disorders, Attention Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder and Conduct Disorder (Achenbach, Dumenci, & Rescorla, 2001). CBCL items were constructed to match DSM criteria for six diagnostic clusters. The six CBCL DSM-oriented scales are entitled Affective Problems, Anxiety Problems, Somatic Problems, Attention Deficit/ Hyperactivity Problems, Oppositional Defiant Problems and Conduct Problems. The same computer programmes and formulae that were used in Study Aim 1 were also used for this analysis.

Study Aim 3: *Estimate the concordance between the clinical diagnosis of clinic-referred children in out-of-home care and their DSM-oriented CBCL scores.*

Kappa statistics were used to ascertain the concordance between the clinical diagnosis of clinic-referred children in out-of-home care and their DSM-oriented CBCL scores. Cohen's kappa coefficient was calculated using STATA version 8.0, a data analysis and statistical software programme, which measures the inter-rater agreement of qualitative variables. Kappa was used to estimate the agreement between caregivers' reports of children's clinical mental health diagnosis and children's equivalent CBCL DSM-oriented score. The CICS sample was stratified by gender and 13 children had to be excluded due to missing diagnostic values. Results were interpreted using Vanbelle and Albert's (2008)

published guidelines. Findings from this research will assist in the planning of the Children and Family Speciality Service study.

### **Child and Family Speciality Service Study**

The proposed CFSS study was designed by the author's supervisors (Dr. Michael Tarren-Sweeney and Dr. Matt Eggleston), several additional clinicians from the CFSS, as well as the author. The study will seek to compare the psychopathology of children in out-of-home care, who have been referred to the Canterbury District Health Board's Child and Family Specialty Service, to that of other children referred to this service. The CFSS study will employ a cross-sectional survey design to compare the distributions of mental health difficulties of clinic-referred school-age children, who are stratified by child welfare and care status. Outcome measures of children's mental health presentations will be two caregiver-report forms: the CBCL and the ACC. Further information, including the child's placement history, will be obtained from CAMHS intake forms and the Teacher Report Form (TRF). Ethical approval is being sought from the Human Research Ethics Committee of the University of Canterbury, the Ministry of Health's Regional Health and Disability Ethics Committee, the Canterbury District Health Board, as well as from Child Youth and Family (CYF).

Planning for the study commenced in 2009. It was initially envisaged that the study would commence in 2010, and that the author would carry out preliminary analyses of the study findings as work for her dissertation. However, a number of factors intervened to ensure that the study would not commence in 2010, including the Christchurch earthquake on the 4<sup>th</sup> of September and a lack of research funding. The second project is, thus, documented in the present dissertation as a research protocol, to which the author made a substantive

contribution. Additionally, the author has been involved in preparing ethics and funding applications. The author has also attended planning meetings with the research team.

## **Draft Research Protocol**

### *Authors*

This draft research protocol was prepared by Michael Tarren-Sweeney, Svenja Köslich, Matt Eggleston, and Kathryn Newman in 2010.

### *Method*

The proposed study will compare the distributions of mental health difficulties of clinic-referred children, aged between four and 12 years, who will be stratified by their alternate care and child welfare status. Three discrete child welfare status groups are defined as:

1. Alternate care: Any history of placement in alternate care (i.e. foster, kinship/whanau, or residential care) by the statutory child welfare authority (CYF).
2. Child protection: Any reported contact with child protection services without ever being in care.
3. Normative: No reported alternate care or child protection history.

The survey will be conducted with caregivers of children referred to the Canterbury District Health Board's CFSS (Whakatata House), a Child and Adolescent Mental Health Service (CAMHS) for 4 to 12 year-old children in Christchurch, New Zealand. CFSS provides mental health services for children with known or suspected moderate to severe mental health disorders. With caregivers' consent, the study will determine group membership and obtain mental health data by two means: information recorded routinely as part of the intake assessment procedure; and caregiver questionnaires.

### *Participants*

The sampling frame will be caregivers of all children referred to the CFSS, who are aged 4 to 12 years, and whose caregivers are able to complete English language versions of the study measures. Approximately 400 such children are referred to CFSS annually, including a large proportion with alternate care or other child welfare backgrounds. While the study subjects will be clinic-referred children, the study participants will be their caregivers (i.e. the study will not directly involve children). There is no sampling procedure. Instead, a rolling recruitment strategy will attempt to recruit all eligible caregivers from the date the study commences, until a recruitment ceiling for each of the three study groups is obtained (see sample size estimates below). In cases where caregivers have more than one child referred to the service, the caregivers will only be invited to provide information about the first child referred to the service during the study period, so to avoid the introduction of a respondent bias. If two or more children are referred at the same time, their caregiver will be asked to provide information about one randomly selected child.

### *Sample size estimation*

There is little available information for estimating likely group differences in the distributions of mental health scale scores. However, it could be argued that group mean differences above one third of a standard deviation would be clinically meaningful. The minimum sample size required for calculating differences of this magnitude for two-sided  $t$ -tests, with  $\alpha = 0.05$  and 90 percent statistical power, is 90 per group, or 270 in total. Assuming a maximum participation rate of 40 percent, the study is planned to run for between two and three years.

### *Outcome measures*

In addition to the previously described CBCL, this second research project will also employ the ACC and the TRF as outcome measures. Like the CBCL, the Teacher Report Form consists of eight empirically-derived mental health scales. It was designed as a cross-informant measure to the CBCL. The Assessment Checklist for Children was developed to assess the specific characteristics of children in care; it measures many of the problems mentioned in the Literature Review, and it may be used for research and clinical practice (Tarren-Sweeney, 2007). The ACC is a 120-item carer-report psychometric rating scale, measuring behaviours, emotional states, traits, and manners of relating to others frequently manifested by maltreated children and children in care. The instrument contains 18 low self-esteem items and 102 clinical items, with the latter contributing to 10 empirically-derived clinical scales, namely: Sexual Behaviour; Pseudo-mature Interpersonal Behaviour; Non-reciprocal Interpersonal Behaviour; Indiscriminate Interpersonal Behaviour; Insecure Interpersonal Behaviour; Anxious –Distrustful; Abnormal Pain Response; Food Maintenance; Self-injury; and Suicide discourse (Tarren-Sweeney, 2007). Although there is initial evidence supporting the reliability and validity of the ACC, further research is needed to validate the instrument.

### *Procedure*

CFSS clinicians will briefly introduce the study to eligible caregivers at the end of the initial assessment interview, provide caregivers with a study information sheet and consent form. Clinicians will enquire whether or not caregivers would prefer to have the research officer read the information letter to them, or assist them to complete the questionnaire. This will be done after caregivers are informed of their children's eligibility for the service, so as to avoid any inference that service access might be linked to participation in the study. The

information sheet describes the purpose of the study; the information that would be used in the study; provision of \$20 child/adult movie vouchers to thank them for their time; and consideration of privacy; informed consent and other ethical issues. Caregivers may either indicate an intention to participate or not participate at that time, or they will take the information sheet and consent form home for further consideration (with a return envelope).

Those who indicate they wish to participate at the end of the interview will be provided a study questionnaire consisting of the ACC, and if applicable, the group ascertainment questions, as well as a return envelope. The questionnaire takes between 10 and 20 minutes to complete. If relevant, caregivers will also be asked if they would agree to take a second copy of the information and consent forms and the ACC for completion by their child's second caregiver (for the purpose of estimating inter-rater reliability). Caregivers who return their participation consent through the mail will have the study questionnaire (and where indicated, a second copy of the ACC) mailed to them by the study research officer. All participants will have the option of returning the completed questionnaires by mail (in a return envelope), or bringing it with them in a sealed envelope to their next appointment.

### *Statistical analysis*

Data analyses will be performed using version 8.0 of the STATA computer programme. Between-group comparisons of the distributions of item and scale scores will entail three-way ANOVA and t-tests analysis. Chi squared analyses will provide between-group comparisons of proportions of scores in clinical ranges. Cluster analysis procedures will be employed to examine patterns and complexity of children's mental health difficulties across 18 CBCL and ACC clinical syndrome scales. The ACC validation procedure will utilise weighted scores to control for between-group differences in the overall scale of children's mental health difficulties (as estimated from the CBCL total problems score). This

will allow the researchers to determine how well the ACC discriminates between the target and non-target groups, whilst controlling for the overall scale of children's difficulties. Within-group inter-rater reliability will be estimated using Pearson's correlation, and intra class correlation (ICC) for two sets of comparisons: 1. Agreement between caregiver-report CBCL scores and teacher-report TRF scores; and 2. Agreement between ACC scores reported by two caregivers/parents. Preliminary estimates of effects sizes for available data will be calculated at the end for the purpose of obtaining a more precise estimate of the required sample size for each of the study groups.

#### **Chapter IV – RESULTS of the CICS analysis**

Clinic-referred boys and girls in out-of-home care between six and eleven years of age scored significantly lower than other clinic-referred children (ASEBA) on the CBCL Internalising problem scale (boys:  $t = 3.71, p = 0.0002$ ; girls:  $t = 2.29, p = 0.02$ ). Compared to clinic-referred boys from the general population, clinic-referred boys in out-of-home care scored significantly lower on the Anxious/Depressed ( $t = 3.44, p = 0.0006$ ), Withdrawn ( $t = 3.50, p = 0.0005$ ) and Somatic Complaints ( $t = 2.16, p = 0.03$ ) subscales. They also scored significantly lower than other clinic-referred boys on the Affective ( $t = 3.75, p = 0.0002$ ) and Somatic problems ( $t = 2.59, p = 0.01$ ) DSM-oriented scales. Clinic-referred girls in out-of-home care scored significantly lower than other clinic-referred girls on the CBCL Anxious/Depressed ( $t = 3.16, p = 0.0003$ ) and Withdrawn ( $t = 2.13, p = 0.03$ ) subscales, as well as on the DSM-oriented Affective problems ( $t = 2.71, p = 0.007$ ) and Anxiety problems ( $t = 2.00, p = 0.05$ ) scales. On all other CBCL scales the mental health presentations of clinic-referred children in out-of home care did not significantly differ to the mental health presentation of children from the general population. CBCL raw score means, standard deviations and  $t$ -test for independent means results for clinic-referred boys and girls between six and eleven years of age are reported in Table 2.

**Table 2**

*T-test for independent means results for CBCL Raw Scores for ASEBA and CICS Clinic-Referred Children 6-11 Years*

	Boys				<i>t</i> - statistic	<i>p</i> -value	Girls				<i>t</i> - statistic	<i>p</i> -value
	ASEBA N = 400		CICS N = 95				ASEBA N = 400		CICS N = 92			
	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
<u>Subscales</u>												
Anxious/depressed	7.4	5.0	5.6	4.6	3.44***	0.0006	6.8	5.1	4.9	4.5	3.61***	0.0003
Withdrawn	4.1	3.2	2.9	2.9	3.50***	0.0005	3.9	3.2	3.2	3.0	2.13*	0.03
Somatic complaints	2.9	3.2	2.3	2.3	2.16*	0.03	2.8	2.9	3.0	3.6	0.40	0.7
Social problems	7.2	4.3	6.7	4.3	0.98	0.3	6.3	4.1	6.5	4.4	0.34	0.7
Thought problems	5.9	4.7	5.6	4.5	0.64	0.5	4.7	4.4	5.0	4.9	0.45	0.6
Attention problems	10.1	4.4	9.5	5.1	1.04	0.3	8	4.8	8.4	5.2	0.61	0.5
Rule-breaking behaviour	6.8	4.5	7.8	5.6	1.67	0.09	5.8	4.4	6.5	5.1	1.20	0.2
Aggressive behaviour	17.0	8.5	15.2	8.6	1.89	0.06	14.1	9	12.3	8.9	1.71	0.09
<u>Broadband scales</u>												
Internalising	14.3	9.6	10.8	8.0	3.71***	0.0002	13.4	9.4	11.0	9.1	2.29*	0.02
Externalising	23.8	12	22.3	13.5	1.00	0.3	19.8	12.6	18.8	13.1	0.65	0.5
Total problems	68.2	32.2	62.8	32.5	1.45	0.1	58.5	32	56.5	34.7	0.51	0.6
<u>DSM-oriented scales</u>												
Affective problems	5.7	4.4	4.0	3.8	3.75***	0.0002	5.1	4.3	3.9	3.9	2.71**	0.007
Anxiety problems	3.8	2.7	3.2	2.7	1.88	0.06	3.6	2.7	3.0	2.6	2.00*	0.05
Somatic problems	1.7	2.2	1.2	1.6	2.59**	0.01	1.7	2.1	1.8	2.7	0.30	0.8
ADH problems	8.4	3.7	8.4	4.1	0.09	0.9	6.9	4	6.3	4.4	1.23	0.2
Oppositional defiant problems	6.3	2.6	5.8	3.1	1.47	0.1	5.3	3	5.0	3.2	0.82	0.4
Conduct problems	9.6	6.5	10.0	7.1	0.49	0.6	7.6	6.1	7.0	6.5	0.77	0.4

*Note.* CBCL = Child Behaviour Checklist; ADH = Attention Deficit Hyperactivity. ASEBA = Achenbach System of Empirically Based Assessment (Achenbach & Rescorla, 2001). Numbers for ASEBA sample were retrieved from Tarren-Sweeney and Hazell (2006). CICS = Children in Care Study.

\*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$

Correlations for the CBCL *t*-scores of clinic-referred boys and girls in home and in out-of-home care, between four and eleven years, are reported in Table 3. On average, boys and girls in out-of-home care display higher correlations of CBCL scales than clinic-referred boys and girls from the general population. Of the 56 possible correlations on the eight CBCL subscales, clinic-referred children in care score at least .05 higher than other clinic-referred children on 31 correlation coefficients. Vice versa, out of the above mentioned 56 CBCL subscale correlations, clinic-referred children from the general population score .05 higher than clinic-referred children in out-of-home care on four CBCL subscales. Clinic-referred

girls in out-of-home care show higher correlations between thought problems and rule-breaking behaviours ( $r = .64$ ) and thought problems and social problems ( $r = .62$ ); than clinic-referred girls from the general population ( $r = .42$  and  $r = .46$  respectively). For clinic-referred girls in out-of-home care, it appears that the mental health problems that are measured by the CBCL subscales are related to attention problems. For clinic-referred boys in care, there appears to be a correlation between social problems, attention problems and aggressive behaviours; and the other mental health issues measured by the CBCL.

**Table 3**

*Pearson Correlations of CBCL t-scores for clinic-referred children aged 4-11: CICS sample versus (CBCL norms).  
Girls above diagonal; Boys below diagonal.*

	Anxious/ Depressed	Withdrawn	Somatic Complaints	Social Problems	Thought Problems	Attention Problems	Rule- Breaking	Aggressive Behaviour	Internalising	Externalisin.	Total Problems
Anxious/Depressed	—	.56 (.59)	.51 (.46)	.39 (.52)	.44 (.38)	.45 (.47)	.43 (.39)	.52 (.47)	.82 (.89)	.50 (.50)	.65 (.71)
Withdrawn	.61 (.61)	—	.45 (.36)	.52 (.44)	.44 (.42)	.59 (.46)	.42 (.41)	.39 (.38)	.78 (.77)	.43 (.44)	.64 (.63)
Somatic Complaints	.42 (.36)	.31 (.27)	—	.20 (.27)	.36 (.27)	.25 (.27)	.31 (.25)	.36 (.28)	.70 (.64)	.34 (.29)	.49 (.48)
Social Problems	.46 (.50)	.55 (.42)	.26 (.22)	—	.62 (.46)	.77 (.66)	.55 (.48)	.52 (.61)	.51 (.54)	.60 (.62)	.73 (.74)
Thought Problems	.53 (.48)	.47 (.53)	.31 (.30)	.56 (.42)	—	.60 (.55)	.64 (.42)	.54 (.47)	.49 (.45)	.60 (.47)	.67 (.60)
Attention Problems	.50 (.52)	.57 (.47)	.37 (.28)	.76 (.63)	.61 (.58)	—	.60 (.53)	.56 (.58)	.56 (.52)	.63 (.62)	.76 (.75)
Rule-Breaking	.38 (.38)	.42 (.30)	.21 (.22)	.54 (.41)	.41 (.40)	.54 (.45)	—	.73 (.73)	.51 (.44)	.86 (.81)	.79 (.71)
Aggressive Behaviour	.51 (.54)	.48 (.36)	.27 (.29)	.63 (.53)	.58 (.49)	.60 (.52)	.77 (.65)	—	.55 (.49)	.91 (.93)	.79 (.80)
Internalising	.86 (.88)	.79 (.78)	.59 (.56)	.56 (.51)	.58 (.53)	.61 (.56)	.42 (.40)	.51 (.51)	—	.59 (.56)	.81 (.82)
Externalising	.47 (.53)	.46 (.37)	.24 (.29)	.63 (.54)	.57 (.49)	.61 (.54)	.87 (.79)	.95 (.92)	.49 (.55)	—	.90 (.88)
Total Problems	.64 (.74)	.61 (.61)	.43 (.43)	.76 (.68)	.70 (.63)	.80 (.71)	.76 (.67)	.86 (.80)	.72 (.82)	.90 (.87)	—

Note. CBCL = Child Behaviour Checklist. CBCL norms are reported in brackets and are published in Achenbach (1991). CBCL norms include N= 619 girls and N=582 boys. CICS = Children in Care Study. The CICS sample is made up of N=98 girls and N=115 boys.

Kappa statistics compare the CBCL DSM-oriented scales and caregiver-reported clinical diagnoses of children from the CICS sample. These results are reported in Table 4. The highest concordance, between CBCL and caregiver-reported diagnoses, for both boys and girls is for ADHD (21% and 11% respectively). In general, results show that there is little agreement between the DSM-oriented psychometric scale and caregiver-reported clinical diagnoses. The highest discordance for clinic-referred children in out-of-home care is for conduct disorder, with positive CBCL diagnosis and negative caregiver-reported diagnosis (boys 56% discordance; girls 43% discordance). Overall, 56 percent of clinic-referred children in out-of-home care had a caregiver-reported psychiatric diagnosis, 41 percent had no reported diagnosis, and for 3 percent of clinic-referred CICS children this data was missing.

**Table 4**

*Kappa coefficient: concordance between caregiver-reported clinical diagnoses and DSM-oriented CBCL results for clinic-referred boys from the CICS sample.*

Variables	Kappa	Standard error	Strengths of agreement	Concordance: no diagnosis	Disconcordance: CBCL diagnosis positive, caregiver-reported diagnosis negative	Disconcordance: CBCL diagnosis negative, caregiver-reported diagnosis positive	Concordance: positive CBCL and caregiver-reported diagnosis	Overall agreement
<u>Boys:</u>								
Affective Disorder	0.07	0.07	Slight	70%	24%	4%	3%	72.38%
Anxiety Disorders	0.12	0.09	Slight	73%	15%	8%	4%	77.14%
ADHD	0.31	0.10	Fair	47%	15%	17%	21%	67.62%
Oppositional Defiant Disorder	0.19	0.06	Slight	58%	33%	1%	8%	65.71%
Conduct Disorder	0.00	0.00	Poor	47%	56%	0%	0%	46.67%
<u>Girls:</u>								
Affective Disorder	0.02	0.08	Slight	69%	23%	5%	2%	71.58%
Anxiety Disorders	0.15	0.09	Slight	77%	16%	4%	3%	80.00%
ADHD	0.33	0.10	Fair	66%	14%	9%	11%	76.84%
Oppositional Defiant Disorder	0.03	0.02	Slight	60%	39%	0%	1%	61.05%
Conduct Disorder	-0.02	0.02	Slight	56%	43%	1%	0%	55.79%

*Note.* N=105; CBCL = Child Behaviour Checklist; DSM = Diagnostic Statistic Manual; ADHD = Attention Deficit Hyperactivity Disorder. The strengths of agreement was reported using Viera & Garrett (2005) guidelines.

## **Chapter IV - DISCUSSION**

Results suggest, for the most part, that the scale or severity of mental health presentations of clinic-referred children in out-of-home care as measured by the CBCL are not statistically different to that of clinic-referred children in general; the only exception to this was internalising problems. Clinic-referred children in out-of-home care scored significantly lower on internalising problems than clinic-referred children from the general population. Conversely, it appears that the correlations between CBCL subscale scores are higher for clinic-referred children in out-of-home care than for clinic-referred children in general, which may indicate greater complexity. The results show that there is, generally, poor agreement between DSM-oriented CBCL scales and caregiver-reported diagnoses of clinic-referred children in care.

Analysis shows that clinic-referred children in care present with equally severe mental health issues as clinic-referred children in general, with the exception of internalising problems. The results are somewhat contradictory to previous findings. Persi and Sisson (2008) discovered that inpatient children in out-of-home care score significantly higher on the CBCL Externalising and Total problem scores than inpatient children living at home. Furthermore, inpatient children living at home or in out-of-home care did not significantly differ on the CBCL Internalising scale (Persi & Sisson, 2008).

However, the finding that clinic-referred children in out-of-home care display less internalising than externalising symptoms is consistent with previous research. Persi and Sisson (2008) also found that inpatient children in out-of-home care were diagnosed with significantly less internalising diagnoses and with significantly more externalising diagnoses, than inpatient children who reside at home. Inpatient children residing in out-of-home care have a greater prevalence of externalising disorders than internalising disorders (Persi & Sisson, 2008). Compared to externalising problems, internalising problems tend to be less

overt and include problems such as withdrawal, anxiety, internal distress and depression. Thus, internalising problems are potentially less obvious than externalising problems; which may result in the underreporting of internalising problems by caregivers. While most research suggests that children in out-of-home care display more externalising behaviours than internalising behaviours, most authors focus on the reasons behind higher externalising behaviours (Persi & Sisson, 2008; Stein, et al., 1996). Authors rarely explore the reasons why children in care present with considerably less internalising behaviours than externalising behaviours, and also less internalising behaviours than other clinic-referred children.

Thus, it is unclear why the clinic-referred children in out-of-home care scored lower on internalising problems than other clinic-referred children. It may be argued that children in care may express their internalising problems such as emotional distress, insecurity and anxiety through externalising behaviours. As mentioned above, it is more common for children in care to display significant externalising problems than predominantly internalising problems (Clausen, et al., 1998; Meltzer, et al., 2004; Sawyer, et al., 2007; Stein, et al., 1996). Another possible explanation for why clinic-referred children in out-of-home care score lower on some CBCL scales than other clinic-referred children, is that a number of children in care may be referred to mental health services for reasons related to their exposure to harm - for example sexual abuse - rather than their behaviour. When interpreting the findings of the current study, it is important to note that the CBCL was not designed to measure the specific mental health problems of children in out-of-home care.

The mental health profiles of children in out-of-home care may be unduly limited by the problems measured during the assessment (Tarren-Sweeney, 2007). For instance, the CBCL measures mental health presentations such as anxiety, depression, somatic complaints, social problems, thought problems, inattention, delinquency and aggression. While these scales and problems are representative of the mental health issues of children from the

general population, they may not adequately measure the symptomatology displayed by children in out-of-home care (Tarren-Sweeney, 2007). For decades, population studies of high-risk children have employed standardised survey instruments such as the CBCL and the Strengths and Difficulties Questionnaire (SDQ). While these instruments provide valid survey estimates of children's mental health issues within the normal population, they fail to measure many of the characteristic problems described by caregivers of maltreated children and children in care. Notably, these instruments generally do not assess: attachment-related interpersonal behaviour difficulties, dissociation, post traumatic symptoms, self-injury, abnormal pain responses, atypical eating behaviour, and sexual behaviour problems (Tarren-Sweeney, 2007). Therefore, it is possible that while clinic-referred children in care score lower on some CBCL subscales than other clinic-referred children, children in care may exhibit additional behaviours that significantly impact on their functioning and mental health that are not measured by this instrument. The CFSS study will address this limitation by using the ACC in addition to the CBCL and the TRF.

Furthermore, children's CBCL profiles are not necessarily an accurate reflection of the well-being and functioning of children in care. It may be possible that clinic-referred children in care score below the threshold on standardised mental health measures but display elevated levels of problem behaviours over multiple subscales. For example, clinic-referred children in general may present with clinically significant scores on one or two CBCL scales, while clinic-referred children in out-of-home care may be more likely to score below the clinical cut-off point but display somewhat more elevated levels on four or five CBCL scales. DeJong (2010) made a similar point in relation to diagnoses.

It is often the case that a child may be sub-threshold on a number of different diagnoses; [however,] the resulting impairment is far greater than would be indicated by the diagnostic profile. If clinics are organized around diagnosis there is a danger that these children may not reach the threshold for

treatment; an opportunity to reduce impairment and prevent further escalation may be lost. (DeJong, 2010, p. 590)

This argument may also be true for practitioners and researchers who interpret the psychometric results assessing the mental health issues of children in care. By dismissing lower or sub-threshold results as meaning “not important”, opportunities may be missed to provide interventions to these children and to gain a better understanding of their difficulties.

Furthermore, when interpreting the results, it is important to be aware of the limitations of using temporary caregivers as respondents. Most standardised assessment tools, such as the CBCL, are designed to be administered to parents or caregivers who have a good knowledge of the child’s behaviour over the past six months. This is not always possible when assessing children in out-of-home care. Thus, the reliability of caregivers, who act as respondents for children who have had numerous short-term placements and who may have particularly severe mental health issues, is uncertain. However, initial evidence supports the reliability of long-term foster parents as respondents for mental health assessments (Tarren-Sweeney, et al., 2004). When children are residing in stable placements for an extended period of time, foster parents tend to be at least as reliable respondents as parents (Tarren-Sweeney, et al., 2004). However, parents and foster parents overall are both less reliable when reporting children’s felt experiences as opposed to children’s observable behaviours (Tarren-Sweeney, et al., 2004).

Additionally, this study found poor agreement between DSM-oriented scales and caregiver-reported diagnoses of clinic-referred children in care. It was discovered that agreement regarding non-diagnoses, which are also reflected in the overall agreement, was higher than concordance for positive diagnoses. Again, it is important to be aware that the DSM-oriented scales measure the most common difficulties of the general child population that cluster into diagnostic factors. DSM-oriented scales on the CBCL do not include PTSD, dissociative identity disorder or reactive attachment disorder, which are relatively common

among maltreated children and children in out-of-home care (Cloitre et al., 2009; Haviland, Sonne, & Woods, 1995; Minnis, Marwick, et al., 2006; Olafson, 2011; van der Kolk, 2005). Furthermore, caregiver-reported diagnoses may be prone to bias and may not represent an accurate measure of the children's symptoms or their diagnoses.

As with the CBCL scales, caregiver-reported diagnoses reflect the capacity to which the caregiver knows the child and his or her history. Caregivers of children who frequently change placements may be unaware of the child's diagnosis, while others may have forgotten the name of the diagnosis, and some may only remember the most predominant diagnosis. The CFSS study will overcome this limitation by recording the clinical diagnoses given to children by the clinicians. Further research is needed in this area to better assess the effectiveness of the current diagnostic system, and determine what changes may need to be made to the DSM-IV to adequately reflect the psychopathology of children in out-of-home care.

In this study, a little more than half of all clinic-referred children in out-of-home care had a caregiver-reported diagnosis. Previous studies have reported that between 20 and 60 percent of all children in out-of-home care receive a psychiatric diagnosis (Egelund & Lausten, 2009; McCann, et al., 1996; Milburn, Lynch, & Jackson, 2008). Egelund and Lausten (2009) assessed the mental health issues of 1,072 children in out-of-home care, in Denmark. Results of this study suggest that 20 percent of children in out-of-home care present with at least one psychiatric diagnosis (Egelund & Lausten, 2009). McCann and colleagues (1996) propose that adolescents in state care present with higher rates of psychiatric disorders, suffer from more severe disorders, and display higher rates of comorbidity, "reflecting the complexity of these adolescents' difficulties" (p. 1530), than adolescents living with their families. McCann et al. (1996) further state that "[o]ne of the most worrying findings was that a significant number of adolescents were suffering from

severe, potentially treatable psychiatric disorders which had gone undetected” (p. 1530). Milburn et al. (2008) report that at least 60 percent of children in out-of-home care meet criteria for a psychiatric diagnosis, 19 percent meet criteria for two diagnoses and five percent meet criteria for three major diagnoses. Milburn and colleagues (2008) excluded children who were already receiving treatment from mental health services from their study. More research is needed to assess the complexity the psychopathology of children in care.

### **Limitations and Further Research**

In the current study, correlations measure the relationship between pairs but not the complexity of the mental health issues of children in care in terms of the extent to which scores are associated across scales. Tarren-Sweeney (2009) conducted a cluster analysis that suggested that 21 percent of all CICS boys suffer from severe and complex trauma- and attachment-related psychopathology. This is an area of research, which has thus far been overlooked by researchers. The CFSS study will conduct a cluster analysis of clinic-referred children that examines the complexity and patterns of children’s psychopathology across the clinical scales of the CBCL, TRF and ACC.

A further limitation of this study is the use of a single informant at a single point in time. James, Landsverk and Slymen (2004) point out that studies examining children at a single point in time during their placement are biased towards children who remain in out-of-home care for longer periods of time. Furthermore, the response rate of the CICS sample was 56 percent and Tarren-Sweeney & Hazell (2006) report that “the sample was somewhat unrepresentative of children in long-term care in NSW” (p. 96). This limits the generalisability of this study’s results.

For future research it would be helpful to utilise multiple outcome measures including observations and self-reports to assess the mental health needs of children in out-of-home

care. Furthermore, pre-placement assessments would help explore the impact on children of being up-lifted from the home.

### **Implications for the CFSS Study**

The results of this study have several implications for the design of the CFSS study. Firstly, it was expected that clinic-referred children in out-of-home care display more severe mental health issues than other clinic-referred children. The CFSS study's sample size was calculated based on alpha equalling 0.05. Clinically meaningful results were estimated to have a mean group difference above one third of a standard deviation. However, these sample size estimates may need to be adjusted to detect smaller differences between the two groups as the mental health issues of clinic-referred children in care, measured by the CBCL, are relatively similar to the mental health issues of other clinic-referred children. Secondly, this study highlighted the importance of using more than one assessment and outcome measure to increase the CFSS study's reliability and validity. Thirdly, findings from the correlation analysis suggest that clinic-referred children in out-of-home care may present with more complex mental health issues than other clinic-referred children. This finding supports the CFSS rationale that the mental health issues of children in care and other children with a history of maltreatment are, thus far, poorly conceptualised; and it emphasises the need to conduct a more comprehensive cluster analysis to better understand this complexity.

### **Conclusion**

The specific psychopathology of children in care remains a largely under-researched field of clinical practice, and much is still unknown about its nature and complexity. This study indicates that clinic-referred children residing in out-of-home care for the most parts present with similarly severe CBCL scores as other clinic-referred children. However, it is

unlikely that the CBCL adequately reflects the overall level of impairment with which children in out-of-home care may present. This highlights the need to examine the differences between the two groups more closely in order to develop effective classification systems and intervention programmes. Furthermore, it is uncertain why clinic-referred children in care present with significantly less internalising symptoms and have higher correlations between CBCL subscales than other clinic-referred children. This research further emphasises the need to employ screening and assessment tools that examine various internalising and externalising symptoms, as well as symptoms of attachment disturbances, low self-esteem, interpersonal behaviour problems and other mental health symptoms commonly observed amongst children in care. Additionally, more research is needed to help explore the impact attachment difficulties and chronic trauma may have on the development of psychopathology.

## References

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist / 4-18 and 1991 Profile*. Burlington, VT: University of Vermont.
- Achenbach, T. M., Becker, A., Döpfner, M., Heiervang, E., Roessner, V., Steinhausen, H.-C. (2008). Multicultural assessment of child and adolescent psychopathology with ASEBA and SDQ instruments: research findings, applications, and future directions. [Article]. *Journal of Child Psychology & Psychiatry*, 49(3), 251-275. doi: 10.1111/j.1469-7610.2007.01867.x
- Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2001). Ratings of Relations Between DSM-IV Diagnostic Categories and Items of the CBCL/6-18, TRF, and YSR. Retrieved from <http://www.aseba.org/research/DSM6-18ratings.pdf>
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profile*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Family.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (IV ed.). Washington, D.C. : American Psychiatric Association.
- American Psychiatric Association. (2004). *Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition, Text Revision* (IV ed.). Washington, D.C. : American Psychiatric Association.
- Aron, A., Aron, E. N., & Coups, E. J. (2009). *Statistics for Psychology*. Upper Saddle River, NJ: Pearson Education.
- Association for the Treatment of Sexual Abusers. (2006). ATSA Task Force on Children with Sexula Behaviour Problems (pp. 1-34). Oklahoma: University of Oklahoma Health Sciences Center.
- Ballen, N., Bernier, A., Moss, E., Tarabulsky, G. M., & St-Laurent, D. (2010). Insecure attachment states of mind and atypical caregiving behavior among foster mothers. *Journal of Applied Developmental Psychology*, 31(2), 118-125. doi: 10.1016/j.appdev.2009.10.001
- Barth, R. P., Chapman, M., Gibbons, C., Craig, C., Landsverk, J., Haines, M. (2003). National Survey of Child and Adolescent Well-Being (NSCAW): One Year in Foster Care Wave 1 Data Analysis Report. Washington, D.C.: U.S. Department of Health and Human Services, Administration for Children, Youth and Families.
- Barth, R. P., Lloyd, E. C., Green, R. L., James, S., Leslie, L. K., & Landsverk, J. (2007). Predictors of placement moves among children with and without emotional and behavioral disorders. [Article]. *Journal of Emotional & Behavioral Disorders*, 15(1), 46.
- Bellamy, J. L., Gopalan, G., & Traube, D. E. (2010). A national study of the impact of outpatient mental health services for children in long-term foster care. *Clinical Child Psychology & Psychiatry*, 15(4), 467-479.
- Berk, L. E. (2006). *Child Development* (7th ed.). Boston: Allyn and Bacon.
- Berrick, J. D., Courtney, M., & Barth, R. P. (1993). Specialized Foster Care and Group Home Care: similarities and differences in the characteristics of children in care. *Children and Youth Services Review*, 15, 453-473.
- Boris, N. W., & Zeanah, C. H. (1999). Disturbances and disorders of attachment in infancy: An overview. *Infant Mental Health Journal*, 20(1), 1-9.
- Boris, N. W., Zeanah, C. H., & the Work Group on Quality Issues. (2005). Practice parameter for the assessment and treatment of children and adolescents with reactive attachment disorder of infancy and early childhood. *Journal of the American Academy of Child*

- and Adolescent Psychiatry*, 44(11), 1206-1219. doi: 10.1097/01.chi.0000177056.41655.ce
- Boris, N. W., Zeanah, C. H., & Work Group on Quality Issues. (2005). Practice parameter for the assessment and treatment of children and adolescents with reactive attachment disorder of infancy and early childhood. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(11), 1206-1219. doi: 10.1097/01.chi.0000177056.41655.ce
- Bowlby, J. (1988). *A Secure Base: Clinical Applications of Attachment Theory*. London: Routledge.
- Brand, A. E., & Brinich, P. M. (1999). Behavior problems and mental health contacts in adopted, foster, and nonadopted children. *The Journal of Child Psychology and Psychiatry*, 40(8), 1221-1229.
- Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education*, 3(2), 1643-1647.
- Bromfield, L., Higgins, D., Osborn, A. L., Panozzo, S., & Richardson, N. (2005). *Out-Of-Home Care in Australia: Messages from Research*. Melbourne: Australian Institute of Family Studies Retrieved from <http://www.aifs.gov.au/nch/pubs/reports/outofhome/outofhome.pdf>.
- Bruskas, D. (2008). Children in foster care: a vulnerable population at risk. *Journal of Child & Adolescent Psychiatric Nursing*, 21(2), 70-77.
- Burns, B. J., Phillips, S. D., Wagner, H. R., Barth, R. P., Kolko, D. J., Campbell, Y. (2004). Mental health need and access to mental health services by youths involved with child welfare: a national survey. *Journal of the American Academy of Child & Adolescent Psychiatry* 43(8), 960-970.
- Byrne, J. G., O'Connor, T. G., Marvin, R. S., & Whelan, W. F. (2005). Practitioner review: the contribution of attachment theory to child custody assessments. *Journal of Child Psychology and Psychiatry*, 46(2), 115-127.
- Carrion, V. G., Weems, C. F., Ray, R., & Reiss, A. L. (2002). Toward an empirical definition of pediatric PTSD: the phenomenology of PTSD symptoms in youth. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(2), 166-173.
- Cicchetti, D., & Toth, S. L. (1995). A developmental psychopathology perspective on child abuse and neglect. *Journal Of The American Academy Of Child And Adolescent Psychiatry*, 34(5), 541-565.
- Cicchetti, D., Toth, S. L., & Maughan, A. (2000). An ecological–transactional model of child maltreatment. In A. J. Sameroff, M. Lewis & S. M. Miller (Eds.), *Handbook of developmental psychopathology (2nd ed.)*. (pp. 689-722). Dordrecht Netherlands: Kluwer Academic Publishers.
- Clarke, L., Ungerer, J., Chahoud, K., Johnson, S., & Stiefel, I. (2002). Attention Deficit Hyperactivity Disorder is associated with attachment insecurity. *Clinical Child Psychology and Psychiatry*, 7(2), 179–198. doi: 10.1177/1359104502007002006
- Clausen, J. M., Landsverk, J., Ganger, W., Chadwick, D., & Litrownik, A. (1998). Mental health problems of children in foster care. [Article]. *Journal of Child & Family Studies*, 7(3), 283-296.
- Cloitre, M., Stolbach, B. C., Herman, J. L., Kolk, B. v. d., Pynoos, R., Wang, J. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. [Article]. *Journal of Traumatic Stress*, 22(5), 399-408.
- Coates, D. (2010). Impact of Childhood Abuse: Biopsychosocial pathways through which adult mental health is compromised. [Article]. *Australian Social Work*, 63(4), 391-403. doi: 10.1080/0312407x.2010.508533

- Coman, W., & Devaney, J. (2011). Reflecting on outcomes for looked-after children: an ecological perspective. [Article]. *Child Care in Practice*, 17(1), 37-53. doi: 10.1080/13575279.2010.522976
- Committee on Early Childhood, A. a. D. C. (2000). Developmental issues for young children in foster care. *Pediatrics*, 106, 1145-1150.
- Cook, A., Spinazzola, J., Ford, J. D., Lanktree, C., Blaustein, M., Cloitre, M. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390-398.
- Cousins, W., McGowan, I., & Milner, S. (2008). Self-harm and attempted suicide in young people looked after in state care. *Journal of Children's & Young People's Nursing*, 2(2), 51-54.
- Crawford, M. (2006). Health of children in out-of-home care: can we do better? *Journal of Paediatrics and Child Health*, 42, 77-78.
- Crismon, M. L., & Argo, T. (2009). The use of psychotropic medication for children in foster care. *Child Welfare*, 88(1), 71-100.
- Cullerton-Sen, C., Cassidy, A. R., Murray-Close, D., Cicchetti, D., Crick, N. R., & Rogosch, F. A. (2008). Childhood maltreatment and the development of relational and physical aggression: the importance of a gender-informed approach. *Child Development*, 79(6), 1736-1751. doi: 10.1111/j.1467-8624.2008.01222.x
- Cyr, C., Euser, E. M., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. *Development and Psychopathology*, 22(1), 87-108. doi: 10.1017/s0954579409990289
- DeJong, M. (2010). Some reflections on the use of psychiatric diagnosis in the looked after or "in care" child population. *Clinical Child Psychology & Psychiatry*, 15(4), 589-599. doi: 10.1177/1359104510377705
- Delfabbro, P., Borgas, M., Rogers, N., Jeffreys, H., & Wilson, R. (2009). The social and family backgrounds of infants in South Australian out-of-home care 2000–2005: predictors of subsequent abuse notifications. *Children and Youth Services Review*, 31, 219-226.
- Delfabbro, P., King, D., & Barber, J. (2010). Children in foster care: five years on. [Article]. *Children Australia*, 35(1), 22-30.
- Department of Health. (2009). Statutory guidance on promoting the health and well-being of looked after children (pp. 1-91). Nottingham, UK: Department of Health.
- Department of Social Development. (2008). *Briefing the incoming Minister: supporting New Zealand's vulnerable families*. Wellington, New Zealand: Department of Social Development.
- Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Effects of physical maltreatment on the development of peer relations. [Article]. *Development & Psychopathology*, 6(1), 43-55.
- Draper, B., Pfaff, J. J., Pirkis, J., Snowdon, J., Lautenschlager, N. T., Wilson, I. (2008). Long-term effects of childhood abuse on the quality of life and health of older people: results from the Depression and Early Prevention of Suicide in General Practice Project. *Journal of the American Geriatrics Society*, 56(2), 262-271.
- Egelund, T., & Lausten, M. (2009). Prevalence of mental health problems among children placed in out-of-home care in Denmark. *Child & Family Social Work*, 14(2), 156-165. doi: 10.1111/j.1365-2206.2009.00620.x
- Finzi-Dottan, R., Manor, I., & Tyano, S. (2006). ADHD, temperament, and parental style as predictors of the child's attachment patterns. *Child Psychiatry and Human Development* 37(4), 103-114.

- Ford, T., Vostanis, P., Meltzer, H., & Goodman, R. (2007). Psychiatric disorder among British children looked after by local authorities: comparison with children living in private households. *British Journal of Psychiatry, 190*, 319-325. doi: 10.1192/bjp.bp.106.025023
- Ford, T., Vostanis, P., Meltzer, H., & Goodman, R. (2007). Psychiatric disorder among British children looked after by local authorities: comparison with children living in private households. *The British Journal Of Psychiatry: The Journal Of Mental Science, 190*, 319-325.
- Friedrich, W. N., Bakery, A. J. L., Parker, R., Schneiderman, M., Gries, L., & Archer, M. (2005). Youth with problematic sexualized behaviors in the child welfare system: a one-year longitudinal study. *Sexual Abuse: A Journal of Research and Treatment, 17*(4), 391-406. doi: 10.1177/107906320501700404
- Friedrich, W. N., Davies, W. H., Feher, E., & Wright, J. (2003). Sexual behavior problems in preteen children: developmental, ecological, and behavioral correlates. *Annals Of The New York Academy Of Sciences, 989*, 95.
- Friedrich, W. N., Fisher, J. L., Dittner, C. A., Acton, R., Berliner, L., Butler, J. (2001). Child Sexual Behavior Inventory: Normative, psychiatric, and sexual abuse comparisons. *Child Maltreatment, 6*(1), 37-49. doi: 10.1177/1077559501006001004
- Friesen, M. D., Woodward, L. J., Horwood, L. J., & Fergusson, D. M. (2010). Childhood exposure to sexual abuse and partnership outcomes at age 30. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 40*(4), 679-688. doi: 10.1017/s0033291709990389
- Fussell, J. J., & Evans, L. D. (2009). Medical status of school-age children reentering foster care. *Child Maltreatment, 14*(4), 382-386. doi: 10.1177/1077559508326222
- Green, J. (2003). Are attachment disorders best seen as social impairment syndromes? *Attachment & Human Development, 5*(3), 259-264. doi: 10.1080/14616730310001593956
- Halfon, N., Mendonca, A., & Berkowitz, G. (1995). Health status of children in foster care. The experience of the Center for the Vulnerable Child. *Archives of Pediatrics & Adolescent Medicine, 149*(4), 386-392.
- Haviland, M. G., Sonne, J. L., & Woods, L. R. (1995). Beyond Posttraumatic Stress Disorder: object relations and reality testing disturbances in physically and sexually abused adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(8), 1054-1059.
- Havnen, K. S., Jakobsen, R., & Stormark, K. M. (2009). Mental health problems in Norwegian school children placed out-of-home: the importance of family risk factors. *Child Care in Practice, 15*(3), 235-250.
- Holtan, A., Rønning, J. A., Handegård, B. H., & Sourander, A. (2005). A comparison of mental health problems in kinship and nonkinship foster care. *European Child & Adolescent Psychiatry, 14*(4), 200-207. doi: 10.1007/s00787-005-0445-z
- Holzer, P., & Bromfield, L. (2008). *NCPASS comparability of child protection data*. Melbourne, Australia: Commonwealth of Australia.
- Honor, G. (2008). Reactive Attachment Disorder. *Journal of Pediatric Health Care, 22*(4), 234-239. doi: DOI: 10.1016/j.pedhc.2007.07.003
- Howard, K., Martin, A., Berlin, L. J., & Brooks-Gunn, J. (2011). Early mother-child separation, parenting, and child well-being in Early Head Start families. *Attachment & Human Development, 13*(1), 5-26. doi: 10.1080/14616734.2010.488119
- Howe, D., & Fearnley, S. (2003). Disorders of attachment in adopted and fostered children: recognition and treatment. *Clinical Child Psychology and Psychiatry, 8*(3), 369-387. doi: 10.1177/1359104503008003007

- Hurlburt, M. S., Leslie, L. K., Landsverk, J., Barth, R. P., Burns, B. J., Gibbons, R. D. (2004). Contextual predictors of mental health service use among children open to child welfare. *Archives of General Psychiatry*, *61*, 1217-1224.
- James, S., Landsverk, J., & Slymena, D. J. (2004). Placement movement in out-of-home care: patterns and predictors. *Children and Youth Services Review*, *26*, 185-206.
- Jamora, M. S., Brylske, P. D., Martens, P., Braxton, D., Colantuoni, E., & Belcher, H. M. E. (2009). Children in foster care: adverse childhood experiences and psychiatric diagnoses. [Article]. *Journal of Child & Adolescent Trauma*, *2*(3), 198-208. doi: 10.1080/19361520903120491
- Janssens, A., & Deboutte, D. (2010). Psychopathology among children and adolescents in child welfare: a comparison across different types of placement in Flanders, Belgium. *Journal Of Epidemiology And Community Health*, *64*(4), 353-359.
- Kim, J., & Cicchetti, D. (2003). Social self-efficacy and behavior problems in maltreated and nonmaltreated children. [Article]. *Journal of Clinical Child & Adolescent Psychology*, *32*(1), 106.
- Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, *51*(6), 706-716.
- Kim, J., Cicchetti, D., Rogosch, F. A., & Manly, J. T. (2009). Child maltreatment and trajectories of personality and behavioral functioning: Implications for the development of personality disorder. *Development and Psychopathology*, *21*(3), 889-912. doi: 10.1017/s0954579409000480
- Koh, E. (2010). Permanency outcomes of children in kinship and non-kinship foster care: Testing the external validity of kinship effects. *Children and Youth Services Review*, *32*, 389-398.
- Kreppner, J. M., O'Connor, T. G., Rutter, M. L., Beckett, C., Castle, J., Croft, C. (2001). Can inattention/overactivity be an institutional deprivation syndrome? *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology*, *29*(6), 513-528. doi: 10.1023/a:1012229209190
- Ladnier, R. D., & Massanari, A. E. (2000). Treating ADHD as attachment deficit hyperactivity disorder. In T. M. Levy (Ed.), *Handbook of attachment interventions*. (pp. 27-65). San Diego, CA US: Academic Press.
- Lamb, M. E., Gaensbauer, T. J., Malkin, C. M., & Schultz, L. A. (1985). The effects of child maltreatment on security of infant-adult attachment. *Infant Behavior and Development* *8*, 35-45.
- Lawrence, C. R., Carlson, E. A., & Egeland, B. (2006). The impact of foster care on development. *Development and Psychopathology*, *18*(1), 57-76.
- Leslie, L. K., Gordon, J. N., Lambros, K., Premji, K., Peoples, J., & Gist, K. (2005). Addressing the developmental and mental health needs of young children in foster care. *Developmental and Behavioral Pediatrics*, *26*(2), 140-151.
- Leslie, L. K., Landsverk, J., Ezzet-Lofstrom, R., Tschann, J. M., Slymen, D. J., & Garland, A. F. (2000). Children in foster care: factors influencing outpatient mental health service use. *Child Abuse & Neglect*, *24*(4), 465-476. doi: Doi: 10.1016/s0145-2134(00)00116-2
- Levy, T. M., & Orlans, M. (2000). Attachment disorder as an antecedent to violence and antisocial patterns in children. In T. M. Levy (Ed.), *Handbook of attachment interventions*. (pp. 1-26). San Diego, CA US: Academic Press.

- Liotti, G. (2006). A model of dissociation based on attachment theory and research. *Journal Of Trauma & Dissociation: The Official Journal Of The International Society For The Study Of Dissociation (ISSD)*, 7(4), 55-73.
- Lynch, M., & Cicchetti, D. (1998). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology*, 10(2), 235-257. doi: 10.1017/s095457949800159x
- McCann, J. B., James, A., Wilson, S., & Dunn, G. (1996). Prevalence of psychiatric disorders in young people in the care system. *BMJ (Clinical Research Ed.)*, 313(7071), 1529-1530.
- McMillen, J. C., Scott, L. D., Zima, B. T., Ollie, M. T., Munson, M. R., & Spitznagel, E. (2004). Use of mental health services among older youths in foster care. *Psychiatric Services*, 55(7), 811-817.
- McMillen, J. C., Zima, B. T., Scott, L. D., Jr., Auslander, W. F., Munson, M. R., Ollie, M. T. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(1), 88-95. doi: 10.1097/01.chi.0000145806.24274.d2
- Meltzer, H., Corbin, T., Gatward, R., Goodman, R., & Ford, T. (2003). The mental health of young people looked after by local authorities in England: Summary Report (D. o. Health, Trans.). Norwich, U.K.: Social Survey Division of the Office for National Statistics.
- Meltzer, H., Harrington, R., Goodman, R., & Jenkins, R. (2001). Children and adolescents who try to harm, hurt or kill themselves (pp. 1-73). Norwich, UK.
- Meltzer, H., Lader, D., Corbin, T., Goodman, R., & Ford, T. (2004). The mental health of young people looked after by local authorities in Scotland. London: Office of National Statistics.
- Mennen, F. E., & O'Keefe, M. (2005). Informed decisions in child welfare: The use of attachment theory. *Children and Youth Services Review*, 27(6), 577-593. doi: DOI: 10.1016/j.childyouth.2004.11.011
- Milburn, N. L., Lynch, M., & Jackson, J. (2008). Early identification of mental health needs for children in care: a therapeutic assessment programme for statutory clients of child protection. *Clinical Child Psychology & Psychiatry*, 13(1), 31-47.
- Ministry of Social Development. (2009). Statistical report for the year ending June 2008. Wellington: Ministry of Social Development, New Zealand Government.
- Minnis, H., Everett, K., Pelosi, A. J., Dunn, J., & Knapp, M. (2006). Children in foster care: mental health, service use and costs. *European Child & Adolescent Psychiatry*, 15(2), 63-70.
- Minnis, H., Green, J., O'Connor, T. G., Liew, A., Glaser, D., Taylor, E. (2009). An exploratory study of the association between reactive attachment disorder and attachment narratives in early school-age children. *Journal of Child Psychology and Psychiatry*, 50(8), 931-942.
- Minnis, H., & Keck, G. (2003). A clinical/research dialogue on Reactive Attachment Disorder. *Attachment & Human Development*, 5(3), 297-301. doi: 10.1080/14616730310001593929
- Minnis, H., Marwick, H., Arthur, J., & McLaughlin, A. (2006). Reactive attachment disorder - A theoretical model beyond attachment. *European Child & Adolescent Psychiatry*, 15(6), 336-342. doi: 10.1007/s00787-006-0539-2
- Minnis, H., Rabe-Hesketh, S., & Wolkind, S. (2002). Development of a brief, clinically relevant, scale for measuring attachment disorders. *International Journal Of Methods In Psychiatric Research*, 11(2), 90-98.

- Nathanson, D., & Tzioumi, D. (2007). Health needs of Australian children living in out-of-home care. *Journal of Paediatrics and Child Health*, *43*, 695-699.
- Nickman, S. L., Rosenfeld, A. A., Fine, P., Macintyre, J. C., Pilowsky, D. J., Howe, R.-A. (2005). Children in adoptive families: overview and update. *Journal of the American Academy of Child & Adolescent Psychiatry*, *44*(10), 987-995.
- O'Connor, T. G., Bredenkamp, D., & Rutter, M. L. (1999). Attachment disturbances and disorders in children exposed to early severe deprivation. [Article]. *Infant Mental Health Journal*, *20*(1), 10-29.
- O'Connor, T. G., & Rutter, M. L. (2000). Attachment disorder behavior following early severe deprivation: extension and longitudinal follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(6), 703-712.
- O'Connor, T. G., & Zeanah, C. H. (2003a). Attachment disorders: Assessment strategies and treatment approaches. *Attachment & Human Development*, *5*, 223 - 244. doi: 10.1080/14616730310001593974
- O'Connor, T. G., & Zeanah, C. H. (2003b). Current perspectives on attachment disorders: Rejoinder and synthesis. *Attachment & Human Development*, *5*(3), 321-326. doi: 10.1080/14616730310001593901
- O'Connor, T. G., Marvin, R. S., Rutter, M. L., Oldrik, J. T., Britner, P. A., & Team, T. E. a. R. A. S. (2003). Child-parent attachment following early institutional deprivation. *Development and Psychopathology*, *15*, 19-38.
- Olafson, E. (2011). Child sexual abuse: demography, impact, and interventions. [Article]. *Journal of Child & Adolescent Trauma*, *4*(1), 8-21. doi: 10.1080/19361521.2011.545811
- Perry, B. D., Pollard, R. A., Blakley, T. L., Baker, W. L., & Vigilante, D. (1995). Childhood trauma, the neurobiology of adaptation, and "use-dependent" development of the brain: how "states" become "traits". [Article]. *Infant Mental Health Journal*, *16*(4), 271-291.
- Persi, J., & Sisson, M. (2008). Children in foster care: before, during, and after psychiatric hospitalization. *Child Welfare*, *87*(4), 79-99.
- Pilowsky, D. J., & Kates, W. G. (1996). Foster children in acute crisis: Assessing critical aspects of attachment. *Journal of the American Academy of Child & Adolescent Psychiatry*, *35*(8), 1095-1097. doi: 10.1097/00004583-199608000-00021
- Price, J. M., & Brew, V. (1998). Peer relationships of foster children: Developmental and mental health service implications. *Journal of Applied Developmental Psychology*, *19*(2), 199-218. doi: Doi: 10.1016/s0193-3973(99)80036-7
- Price, J. M., & Landsverk, J. (1998). Social information-processing patterns as predictors of social adaptation and behavior problems among maltreated children in foster care. *Child Abuse & Neglect*, *22*(9), 845-858. doi: Doi: 10.1016/s0145-2134(98)00072-6
- Raviv, T., Taussig, H. N., Culhane, S. E., & Garrido, E. F. (2010). Cumulative risk exposure and mental health symptoms among maltreated youth placed in out-of-home care. *Child Abuse & Neglect*, *34*(10), 742-751. doi: DOI: 10.1016/j.chiabu.2010.02.011
- Richardson, J., & Lelliott, P. (2003). Mental health of looked after children. *Advances in Psychiatric Treatment*, *9*, 249-251. doi: 10.1192/apt.9.4.249
- Roy, P., & Rutter, M. L. (2006). Institutional care: associations between inattention and early reading performance. *Journal of Child Psychology and Psychiatry*, *47*(5), 480-487. doi: 10.1111/j.1469-7610.2005.01526.x
- Roy, P., Rutter, M. L., & Pickles, A. (2004). Institutional care: associations between overactivity and lack of selectivity in social relationships. *Journal of Child Psychology and Psychiatry*, *45*(4), 866-873.

- Rubin, D. M., O'Reilly, A. L. R., Luan, X. Q., & Localio, A. R. (2007). The impact of placement stability on behavioral well-being for children in foster care. *Pediatrics*, *119*(2), 336-344. doi: 10.1542/peds.2006-1995
- Rutter, M. L., Colvert, E., Kreppner, J., Beckett, C., Castle, J., Groothues, C. (2007). Early adolescent outcomes for institutionally deprived and non-deprived adoptees. I: Disinhibited attachment. *Journal of Child Psychology and Psychiatry*, *48*(1), 17-30.
- Rutter, M. L., Kreppner, J., & Sonuga-Barke, E. (2009). Emanuel Miller Lecture: Attachment insecurity, disinhibited attachment, and attachment disorders: where do research findings leave the concepts? *Journal of Child Psychology and Psychiatry*, *50*(5), 529-543. doi: 10.1111/j.1469-7610.2009.02042.x
- Rutter, M. L., Kreppner, J. M., & O'Connor, T. G. (2001). Specificity and heterogeneity in children's responses to profound institutional privation. *British Journal of Psychiatry*, *179*, 97-103. doi: 10.1192/bjp.179.2.97
- Sandberg, S. (2002). Psychosocial contributions. In S. Sandberg (Ed.), *Hyperactivity and attention disorders of childhood* (2nd ed., pp. 367–416). Cambridge: Cambridge University Press.
- Sawyer, M. G., Carbone, J. A., Searle, A. K., & Robinson, P. (2007). The mental health and wellbeing of children and adolescents in home-based foster care. *The Medical Journal of Australia*, *186*, 181-184.
- Shin, S. H. (2005). Need for and actual use of mental health service by adolescents in the child welfare system. *Children and Youth Services Review*, *27*(10), 1071-1083. doi: DOI: 10.1016/j.childyouth.2004.12.027
- Smyke, A. T., Dumitrescu, A., & Zeanah, C. H. (2002). Attachment disturbances in young children. I: the continuum of caretaking casualty. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*(8), 972-982.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2010). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development*, *81*(1), 212-223.
- Śpila, B., Makara, M., Kozak, G., & Urbańska, A. (2008). Abuse in childhood and mental disorder in adult life. [Article]. *Child Abuse Review*, *17*(2), 133-138.
- Sroufe, L. A., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology*, *11*(1), 1-13. doi: 10.1017/s0954579499001923
- Sroufe, L. A., Coffino, B., & Carlson, E. A. (2010). Conceptualizing the role of early experience: Lessons from the Minnesota longitudinal study. *Developmental Review*, *30*(1), 36-51. doi: DOI: 10.1016/j.dr.2009.12.002
- Stahmer, A. C., Leslie, L. K., Hurlburt, M., Barth, R. P., Webb, M. B., Landsverk, J. (2005). Developmental and behavioral needs and service use for young children in child welfare. *Pediatrics*, *116*(4), 891-900. doi: 10.1542/peds.2004-2135
- Stein, E., Evans, B., Mazumdar, R., & Rae-Grant, N. (1996). The mental health of children in foster care: a comparison with community and clinical samples. *The Canadian Journal of Psychiatry*, *41*(6), 385-391.
- Stevens, S. E., Sonuga-Barke, E. J. S., Kreppner, J. M., Beckett, C., Castle, J., Colvert, E. (2008). Inattention/Overactivity following early severe institutional deprivation: presentation and associations in early adolescence. *Journal of Abnormal Child Psychology*, *36*(3), 385-398.
- Stovall-McClough, K. C., & Dozier, M. (2004). Forming attachments in foster care: Infant attachment behaviors during the first 2 months of placement. *Development and Psychopathology*, *16*(2), 253-271. doi: 10.1017/s0954579404044505

- Tarren-Sweeney, M. (2006). Patterns of aberrant eating among pre-adolescent children in foster care. *Journal of Abnormal Child Psychology* 34, 623–634. doi: 10.1007/s10802-006-9045-8
- Tarren-Sweeney, M. (2007). The Assessment Checklist for Children — ACC: A behavioral rating scale for children in foster, kinship and residential care. *Children and Youth Services Review*, 29, 672–691.
- Tarren-Sweeney, M. (2008a). The mental health of children in out-of-home care. *Current Opinion in Psychiatry*(21), 345–349.
- Tarren-Sweeney, M. (2008b). Predictors of problematic sexual behavior among children with complex maltreatment histories. *Child Maltreatment*, 13(2), 182-198. doi: 10.1177/1077559508316043
- Tarren-Sweeney, M. (2008c). Retrospective and concurrent predictors of the mental health of children in care. *Children and Youth Services Review*, 30, 1-25.
- Tarren-Sweeney, M. (2009). *Attachment- and trauma-related psychopathology among children in alternate care*. Paper presented at the Annual Conference of the Faculty of Child and Adolescent Psychiatry, Queenstown, New Zealand
- Tarren-Sweeney, M. (2010a). An exploratory investigation of abnormal pain response among preadolescent children in foster care. *Clinical Child Psychology and Psychiatry*, 15(1), 65-79. doi: 10.1177/1359104509338433
- Tarren-Sweeney, M. (2010b). It's time to re-think mental health services for children in care, and those adopted from care. *Clinical Child Psychology and Psychiatry*, 15(4), 613-626.
- Tarren-Sweeney, M., & Hazell, P. (2006). Mental health of children in foster and kinship care in New South Wales, Australia. *Journal of Paediatrics and Child Health*, 42, 89–97. doi: 10.1111/j.1440-1754.2006.00804.x
- Tarren-Sweeney, M., Hazell, P. L., & Carr, V. J. (2004). Are foster parents reliable informants of children's behaviour problems? *Child: Care, Health & Development*, 30(2), 167–175.
- Toth, S. L., Rogosch, F. A., Manly, J. T., & Cicchetti, D. (2006). The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: A randomized preventive trial. *Journal of Consulting and Clinical Psychology*, 74(6), 1006-1016. doi: 10.1037/0022-006x.74.6.1006
- Trout, A. L., Hagaman, J., Casey, K., Reid, R., & Epstein, M. H. (2008). The academic status of children and youth in out-of-home care: A review of the literature. *Children and Youth Services Review*, 30(9), 979-994. doi: DOI: 10.1016/j.childyouth.2007.11.019
- van den Dries, L., Juffer, F., van Ijzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2009). Fostering security? A meta-analysis of attachment in adopted children. *Children and Youth Services Review*, 31(3), 410-421. doi: DOI: 10.1016/j.childyouth.2008.09.008
- van der Kolk, B. A. (2005). Developmental Trauma Disorder. *Psychiatric Annals*, 35(5), 401-408.
- van Ijzendoorn, M. H. (2004). Attachment theory: psychological. *International Encyclopedia of the Social & Behavioral Sciences*, 864-868.
- van Ijzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2003). Attachment disorders and disorganized attachment: similar and different. *Attachment & Human Development*, 5(3), 313-320.
- van Ijzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11(2), 225-249. doi: 10.1017/s0954579499002035

- Vanbelle, S., & Albert, A. (2008). A bootstrap method for comparing correlated kappa coefficients. [Article]. *Journal of Statistical Computation & Simulation*, 78(11), 1009-1015. doi: 10.1080/00949650701410249
- Viera, A. J., & Garrett, J. M. (2005). Understanding interobserver agreement: the kappa statistic. *Family Medicine*, 37, 360-363.
- Vorria, P., Papaligoura, Z., Dunn, J., van Ijzendoorn, M. H., Steele, H., Kontopoulou, A. (2003). Early experiences and attachment relationships of Greek infants raised in residential group care. *Journal of Child Psychology and Psychiatry*, 44(8), 1208-1220.
- Vorria, P., Papaligoura, Z., Sarafidou, J., Kopakaki, M., Dunn, J., Van Ijzendoorn, M. H. (2006). The development of adopted children after institutional care: a follow-up study. *Journal of Child Psychology & Psychiatry*, 47(12), 1246-1253.
- Zeanah, C. H., Scheeringa, M., Boris, N. W., Heller, S. S., Smyke, A. T., & Trapani, J. (2004). Reactive attachment disorder in maltreated toddlers. *Child Abuse & Neglect*, 28, 877-888.
- Zeanah, C. H., Smyke, A. T., & Dumitrescu, A. (2002). Attachment disturbances in young children. II: indiscriminate behavior and institutional care. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(8), 983-989.
- Zeanah, C. H., Smyke, A. T., Koga, S. F., & Carlson, E. (2005). Attachment in institutionalized and community children in Romania. *Child Development*, 76(5), 1015-1028.