THE PLACE OF EMOTION IN OPPOSITIONAL DEFIANT- AND CONDUCT DISORDERS: A RORSCHACH STUDY OF 9-12 YEAR OLD BOYS

JAMIE RUNDLE
GRAD. DIP. PSYCH.
Department of Psychology

Thesis submitted to Victoria University in partial fulfilment of the requirements for the degree of Doctor of Psychology (Clinical Psychology) 2004

Declaration

I declare that this thesis does not incorporate without acknowledgement any material previously submitted for a degree in any University or other educational institution, and to the best of my knowledge, it does not contain any material previously published or written by another person except where due reference is made in the text.

I further declare that the ethical principles and procedure specified by the Department of Psychology Ethics Committee of Victoria University have been adhered to in the preparation of this report.

Jamie Rundle. October 2004

Acknowledgements

I would like to thank the children, parents and staff of the schools involved for their significant contributions to this research. I am also grateful to Anne Graham whose expert scholarly guidance was always matched by her patience and good humour. There are numerous others who have supported my completion of this project whom I will thank in a less formal, but by no means less heartfelt way.

Table of Contents

List of Appendices

List of Tables

List of Figures

Abstract

It is clear from previous research that a variety of biological, psychological and environmental characteristics represent modest risk factors for the development of chronic conduct problems in children. Disturbances in emotional functioning in particular have been implicated in children's disruptive behaviour disorders at almost every level of analysis. In spite of this, emotional disturbances have not typically been regarded as core features of children's conduct problems and the considerable overlap between affective- and conduct disordered symptoms in this diagnostic group remains poorly understood. The aim of the present study was to examine empirically the extent to which affective disturbances might be implicated in the persistent pattern of disruptive behaviour exhibited by many children diagnosed with conduct- or oppositional defiant disorder. The role of affective irritability and dysphoria, and pessimism in mediating these children's perception of the social environment was of particular interest. A cross-sectional methodology was utilised comparing clinical and non-clinical groups on emotional characteristics and functioning as assessed by the Rorschach Inkblot Test. Participants were 20 boys diagnosed with oppositional defiant- or conduct disorder, and 20 same age peers without persistent conduct problems, all aged between 9 and 12 years. Data were analysed using both parametric and non-parametric tests of association, prediction and group differences. Several key findings are reported that are relevant to a number of longstanding issues concerning the symptom presentation of children with conduct- and oppositional defiant disorder. Most notably, a significant number of children diagnosed with conduct- or oppositional defiant disorder also exhibited signs of disturbed emotional functioning that have not usually been regarded as typical features of these disorders. Specifically, a significant proportion of children diagnosed with conduct- or oppositional defiant disorder exhibited irritable and dysphoric affects that were likely to be poorly modulated, and associated with an unconventional or inaccurate perception of the environment, including a negative view of social relationships. Pessimistic cognitions were also a prominent feature of the clinical group. Extending beyond previous studies then, was the finding that these children's perceptual biases tended to be congruent with their irritable and dysphoric affective state. This was consistent with the study thesis that emotional processes mediate the relationship between life events, other psychosocial risk factors, and conduct problem outcomes. Study limitations are discussed, as are implications for clinical practice and future research.

CHAPTER 1

INTRODUCTION

As described in the text-revised fourth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR; American Psychiatric Association [APA], 2000) the collective term, Disruptive Behaviour Disorders refers to the diagnostic classifications of conduct disorder and oppositional defiant disorder. These childhood disorders are generally characterized as disruptive, destructive, and negativistic, and as violating social norms (Baum, 1989).

Conduct problems are among the most frequently presented reason for referral to child and adolescent mental health services in Australia (e.g. Kosky, McAlpine, Silburn & Richmond, 1985) and are the predominant juvenile disorders seen in mental health and community clinics internationally (Loeber, Burke, Lahey, Winters, & Zera, 2000). Disruptive behaviour disorders are associated with substantial impairment in the health-related quality of life of children and their families (e.g. Sawyer et al., 2002) at a significant and mounting cost to public health services (Scott, Knapp, Henderson, & Maughan, 2001). Particularly with early onset, and in their most severe forms, these disorders tend to show a rather chronic course even in spite of treatment efforts. Educational underachievement, substance abuse, criminal conviction and antisocial personality disorder are not uncommon adult sequelae (see review by Burke, Loeber & Birmaher, 2002).

Epidemiological research suggests that lifetime prevalence rates for these disorders may be as high as 16 per cent for males and 9 per cent for females (APA, 1994). In spite of the sizeable magnitude of the problem however, the literature on risk factors for disruptive

behaviour disorders is as varied as the symptoms of the disorders (Burke et al. 2002). Hence, although it is generally held that the etiology of conduct and oppositional defiant disorder in children is multi-determined (e.g. Dodge & Pettit, 2003; Greenberg, Speltz & DeKlyen, 1993; Hendren, 1999; Patterson, DeBaryshe & Ramsey, 1989), it is clear that many questions remain to be answered (Burke et al., 2002).

Pivotal among these according to some researchers (e.g. Fergusson, Lynskey & Horwood, 1996) is that the meaning and developmental sequence of comorbidity between mood disorders and disruptive behaviour disorders remains unclear. Also of importance is the nature and role of cognitive and emotional processes within the child in mediating the relation between life experiences, psycho-social risk factors and conduct problem outcomes (Dodge & Pettit, 2003).

The theoretical conception upon which this study was based was strongly influenced by the views of Cole and Zahn-Waxler (1992) who argued convincingly that affective disturbances associated with disruptive behaviour disorders were not as distinctly, or discretely different from depression-related disorders as they sometimes appeared to be. Further, the study thesis was influenced by Dodge (1986, 1991) who proposed that cognitive and emotional processes within the child mediate life experiences and conduct problem outcomes.

Hence, the aim of the research was to examine empirically the extent to which affective disturbances might be implicated in the persistent pattern of disruptive behaviour exhibited by children diagnosed with conduct or oppositional defiant disorder. The role of affective irritability and dysphoria, and pessimism in mediating these children's perception of the social environment was of particular interest.

The investigation commenced with an examination of the clinical features of children's disruptive behaviour disorders, including core symptoms, course, prevalence and comorbidity. The multi-factorial etiological model of conduct and oppositional defiant disorder was then surveyed. After a review of theoretical and empirical literature concerning emotional development and regulation, the inquiry proceeded to an empirical study of the relationship between children's emotional functioning and psychiatric diagnosis of conduct or oppositional defiant disorder.

CHAPTER 2

DISRUPTIVE BEHAVIOUR DISORDERS: AN OVERVIEW

According to Burke et al. (2002) the basic developmental model expressed in the DSM-IV (APA, 1994) is that disruptive behaviour disorders are not transient but are stable disorders and that oppositional defiant disorder can be a precursor to conduct disorder, which in turn can lead to antisocial personality disorder. Although considerable debate has taken place, the majority of empirical evidence supports a distinction between oppositional defiant disorder and conduct disorder (Loeber et al., 2000), with the latter generally considered a more severe disorder with longer duration of symptoms required before the diagnosis can be made (APA, 2000).

2.1 Oppositional Defiant Disorder

The DSM-IV-TR noted that the essential feature of oppositional defiant disorder (ODD) is a recurrent pattern of negativistic, defiant, disobedient and hostile behaviour toward authority figures lasting at least 6-months that leads to impairment in academic, occupational or social functioning (APA, 2000). Given that the main characteristic of ODD is non-compliance with authority figures, the disorder mostly affects parents, although it may also affect teachers, prompting Egan (1991) to remark that the victims are often more troubling than troubled.

The diagnosis of ODD may include angry and vindictive behaviour and problems with control of temper, but there are no major antisocial violations. ODD is not limited to a particular age group, but most often emerges in childhood, typically in late pre-school or early-school-age children (Steiner, 1999).

Disruptive behaviour disorders are currently conceived of as polythetic diagnoses, meaning that no one specific criterion is necessary and that any combination of criteria will suffice to establish the diagnosis. Diagnostic criteria require that a minimum of four symptoms are present over a period of 6-months. However there is no formal provision for evaluating the context in which these symptoms occur. As Steiner (1999) pointed out, these features contribute to the fact that the category is inherently heterogeneous.

In practice then ODD has become a term used to describe a wide range of children and adolescents with problematic behaviours, who can be very different from each other. As Rey and Walter (1999) suggested, some begin showing symptoms in infancy, and the behaviours persist during childhood, and worsen after puberty. Other young people show non-compliance and defiance for shorter periods, and do not go on to develop more serious problems.

Associated features noted in the DSM-IV-TR include low self-esteem, mood lability, low frustration tolerance and the abuse of alcohol, tobacco or illicit drugs (APA, 2000). The same associated features have been noted frequently to accompany the diagnosis of conduct disorder, lending support to the developmental view of these disorders.

2.2 Conduct Disorder

Defined in the DSM-IV-TR as a repetitive and persistent pattern of behaviour in which the basic rights of others are disregarded, or major age-appropriate societal norms or rules broken, conduct disorder (CD) symptoms are clustered in four areas: Aggression to people and animals, destruction of property, deceitfulness and theft, and serious rule violations. The

current diagnostic criteria require that at least three of fifteen antisocial behaviours be present over a period of 12-months, with at least one present in the past 6-months (APA, 2000).

Although some authors have questioned the distinction between ODD and CD, the majority of empirical evidence (e.g. Cohen & Flory, 1998; Fergusson, Horwood, Lynskey, 1994b) supports a distinction between these two disorders. This is consistent with the view that, in general, oppositional defiant disorder and conduct disorder are two developmentally staged levels of the same disorder. From this perspective, the more severe symptoms characteristic of conduct disorder are seen as a function of development, including increased physical growth, greater peer involvement, and more independent functioning.

This view is supported by the finding reported by Lahey et al. (1992) that oppositional defiant disorder symptoms had a median age at onset between five and eight years, compared to conduct disorder symptoms which had an age of onset between eight and thirteen years. In the same sample of clinic-referred boys, all symptoms of conduct disorder emerged after the onset of 80 per cent of the oppositional defiant disorder symptoms, lending further support to the developmental distinction between the two disorders.

In addition to the debate concerning the distinction between oppositional defiant and conduct disorder, another body of evidence appears to support a distinction between one syndrome that includes both conduct problems and aggressive behaviours, and another that includes only non-aggressive conduct problems (Loeber et al., 2000). This latter distinction derives from multivariate studies that have revealed several characteristics across two dimensions of child conduct problems. On the one hand, fighting, disobedience, temper tantrums, destructiveness, impertinence, and uncooperativeness have been noted on one

factor that some have referred to as undersocialized aggressive conduct disorder. In contrast, disruptive friendships, truancy from home and school, stealing with others, loyalty to delinquent friends, lying and setting fires also appear in some studies, and have been labelled under the dimension of socialized conduct disorder (Baum, 1989). These two dimensions have received further support from studies using cluster analyses with normal and clinic children (Baum, 1989).

Accordingly, the role of aggression in disruptive behaviour disorders has attracted some research attention. In particular, many have noted stability and continuity in early-onset aggressive behaviours in males (Loeber & Hay, 1997). For example, Stattin and Magnusson (1989) found that two-thirds of 10- and 13-year old boys with high teacher-rated aggression scores had a criminal record of violence by the age 26-years.

Whilst such studies highlighted a strong correlation between aggression and conduct problems, others have noted that an aggressive style of behaviour and interaction may have earlier precursors. For example, Shaw and Vondra (1995) found persistent attention seeking at 12-months to relate to non-compliance at age 18-months, which correlated with aggression at 24-months. Others (e.g.. Epstein, 1979) have argued that aggression is not a stable trait and is entirely influenced by situational and contextual factors.

Whilst the stability and role of aggressive behaviours in a persistent pattern of conduct problems remains unclear, research has generally shown that conduct and oppositional defiant disorders are rather chronic conditions that are difficult to treat successfully (Mandel, 1997). As outlined below, several studies have established that early onset and severe symptoms in particular are associated with a poorer prognosis.

2.3 Course

Comprehensive reviews of research concerning the stability of disruptive behaviour disorders have been undertaken by Caspi and Moffit (1995), Loeber (1991), and Maughan and Rutter (1998). In sum, the stability of disruptive behaviours in the preschool and early grade school years has been established in several studies suggesting that such behaviours often lead to serious delinquency, substance abuse, and, in some cases, adult antisocial personality disorder. For example, Offord, Boyle and Racine (1992) reported that 44 per cent of children initially assessed with conduct disorder persisted with the same diagnosis at follow-up 4 years later. Similarly, Lahey, Loeber and Hart (1995) found 88 per cent of a clinic-referred sample with conduct disorder again met the diagnostic criteria at least once in the next 3 years.

Research concerning the persistence of conduct problems in older age groups also suggests that the disruptive behaviour of many young people will continue into adulthood. For example Rey, Morris-Yates, Singh, Andrews and Stewart (1995) reported that 40 per cent of adolescents diagnosed with attention-deficit or disruptive behaviour disorders had also been diagnosed with a personality disorder, within a 6 year follow up period. The most significant association was found between conduct disorder and antisocial personality disorder.

Age of onset and severity of symptoms appears to influence the stability of conduct problems with early onset and severe symptoms predictive of a more chronic course. For example, Cohen, Cohen and Brook (1993) found high stability from late childhood to adolescence for severe oppositional defiant and conduct disorder and lower stability for mild or moderate types.

Earliest research support for the poorer prognosis of children with an early onset of conduct problems was provided by Robins (1966) who found that youth with an onset of conduct disorder prior to eleven years were at twice the risk of being diagnosed with antisocial personality disorder in their adulthood, compared to children with onset after eleven years. More recently, Patterson and colleagues reported data that suggested children with an early onset of conduct problems were at greater risk for more serious offending in adolescence and adulthood (Patterson, Reid & Dishion, 1992).

This pattern of early problems preceding later disorder has been called the early starter model (Patterson, DeBaryshe & Ramsey, 1989), in contrast to a late-onset pattern in which delinquency and other conduct problems do not emerge until the adolescent period. Moffit (1993) suggested that early starters are characterized by neuropsychological deficits in the child that compromise verbal and executive functioning. Psychosocial risk factors are hypothesized to interact with child characteristics to place children at further risk for a persistent course of conduct problems.

In comparison, Patterson and colleagues' (e.g. Patterson, 1982; Patterson et al., 1992) research placed a greater emphasis on the role of parenting, and in particular the interaction of parent and child characteristics and behaviours in provoking and maintaining persistent child behaviour problems. Whilst these researchers discussed potential pathways by which early starters begin their trajectory toward serious conduct problems, the specific cognitive and affective mechanisms within the child that are supposed to mediate psychosocial risk and conduct problem outcome have not be been extensively empirically examined. This issue will be further taken up in more detail following a consideration of the prevalence and comorbidity of disruptive behaviour disorders, below.

2.4 Prevalence

Whilst conduct and oppositional defiant disorders are cited as common behavioural syndromes among children and adolescents, actual prevalence of the disorders has been difficult to estimate because of methodological limitations, including changing diagnostic criteria, and the common practice of combining these diagnostic categories (Stahl & Clarizio, 1999). The authors of the DSM-IV-TR note that prevalence rates vary widely depending on the nature of the population sampled, and methods of ascertainment. General population studies report rates ranging from around 1 per cent to more than 10 per cent (APA, 2000).

In Australia, until recently, studies of the prevalence of child and adolescent mental disorders have been limited to a single state or region. For example, Connell, Irvine and Rodney (1982) reported an overall prevalence rate for conduct disorder approaching 7 per cent, based on a study of nine-hundred and eighty six Queensland children. Sawyer, Sarris, Baghurst, Cornish and Kalucy (1990) reported rates of disorders in South Australian schools of different socio-economic class ranging from 2 to 14 per cent.

More recently, Sawyer et al. (2001) reported the preliminary findings of the National Survey of Mental Health and Wellbeing in Australia which suggested that the prevalence of externalizing mental health problems for 4-17-year-olds was 13 per cent for both males and females. The one-year prevalence rate for conduct disorder in 7-17-year-old children however was only 3 per cent. One likely explanation for the discrepancy between the prevalence of externalizing problems and conduct disorder would be the absence of separate data regarding the less severe diagnosis of oppositional defiant disorder in this study.

According to the DSM-IV-TR (APA, 2000) prevalence rates of ODD ranging from 2 to 16 per cent have been reported, in part reflecting differences in methodology and diagnostic criteria. In a recent review, Loeber et al. (2000) reported different prevalence rates for ODD according to age, gender, socioeconomic status, neighbourhood, and degree of urbanicity, highlighting the difficulty in providing an accurate description of the number of children that the disorder affects. Suffice to say, conduct problems are frequently identified as the most common reason for psychiatric evaluation of children or adolescents (e.g. Kazdin, 1985; Kosky et al., 1985) with prevalence rates of conduct- and oppositional defiant disorder as high as 10 per cent commonly reported in community samples.

2.5 Gender Features

The DSM-IV-TR (APA, 2000) indicated that oppositional defiant disorder is more prevalent in males that in females before puberty, although the rates may be more similar after puberty. Nevertheless, in a review of several studies, Loeber et al. (2000) concluded that contrary to popular notions, oppositional defiant and conduct disorder are relatively common mental health diagnoses in girls, especially in clinical settings.

Some studies (e.g. Keenan & Shaw, 1997; Loeber & Hay, 1997) suggested that boys exhibit more overt forms of disruptive behaviour, including confrontational aggression, particularly later in childhood. In comparison, so-called indirect or relational aggression, including spreading rumours or ostracizing peers likely applies more to girls (Crick & Grotpeter, 1985).

In spite of these reported findings, concerns have been raised that the great majority of current information about conduct and oppositional defiant disorders stems from studies of

males (Widiger, Frances, Pincus, First & Davis, 1997). In addition, there is evidence to suggest that somewhat different mechanisms might influence the development of aggression in girls compared to boys (Mandler, 1997). Whilst such issues are of significant importance, and require examination, the focus of the present investigation was on boys with disruptive behaviour disorders. There is no substantive reason however that the proposed role of emotional processes in mediating conduct problems could not be examined in a sample of girls.

2.6 Comorbidity

During the past decade and a half, epidemiological studies have documented high rates of psychiatric comorbidity among children with psychiatric disorder (Biederman, Newcorn & Sprich, 1991; Bird, Gould & Staghezza, 1993). This finding is consistent with the adult epidemiological literature suggesting that comorbidity is the rule, rather than the exception, for psychiatric disorders.

Studies have consistently shown four clinical conditions that are typically associated with conduct disorder in children and adolescents: Attention deficit hyperactivity disorder (e.g. Biederman et al., 1991); substance abuse (Lynskey & Fergusson, 1995); depression (e.g. Angold & Costello, 1993; Chiles, Miller & Cox, 1980); and anxiety (Russo et al., 1991). The frequency of comorbidity in oppositional defiant disorder is not well known, partly because of the tendency for other disorders to emerge later in development, but also because many study designs combine oppositional defiant- and conduct disorder.

A handful of exceptions exist however, including Angold and Costello (1993) who reported rates of comorbidity in a community sample of 14 per cent for both ODD and Attention Deficit Hyperactivity Disorder and ODD and Anxiety Disorder. These authors also found that ODD was associated with depressive disorder in 9 per cent of cases. Such findings prompted Hendren (1999) to highlight the importance of enquiring not only about symptoms of attention-deficit and conduct disorder, but also emotional disturbance in young people who present with defiance and non-compliance.

2.6.1 Comorbidity of disruptive behaviour and mood disorders

Not unlike the phenomena generally, the meaning of comorbidity of disruptive behaviour disorders and mood disorders is poorly understood. This is reflected both in the wide range of rates ranging from 21 to 83 per cent reported in epidemiological studies (see review by Angold & Costello, 1993), as well as in inconsistent findings regarding the temporal pattern (see Capaldi, 1992).

Further underlining the uncertainty regarding a mixed clinical presentation is that comorbid states showing a mixture of depressive features and conduct problems are separately coded as d*epressive conduct disorder* in the 10th edition of the International Classification of Mental and Behavioural Disorders; ICD-10 (World Health Organisation, 1992). Indeed, according to Simic and Fombonne (2001) the assumption in the ICD-10 is that a mixed clinical picture is more likely to signify a single disorder than several different disorders that happen to occur in the same individual at the same time.

Fergusson et al. (1996) provided an excellent review of the origins of comorbidity between conduct and affective disorders, summarising the possible explanations for the association according to three different accounts: First, a direct causal explanation for comorbidity is that the presence of one condition acts to influence or increase susceptibility to the other condition. From this perspective conduct disorder might be seen as a direct cause of affective disorder. Alternatively, affective disorder may be a direct cause of conduct disorder. Finally, affective and conduct disorders may be reciprocally related so that the presence of conduct disorder causally influences risks of affective disorder while, at the same time, the presence of affective disorder causally influences risks of conduct disorder.

The second explanation for the origins of comorbidity of affective and behaviour disorders derives from a common syndrome account. From this viewpoint individuals showing comorbid disorders are seen to experience a specific syndrome of conduct/affective disorder that is distinct from conduct disorder or affective disorder in isolation. Along similar lines, this combined syndrome may reflect the individual's generalized vulnerability to psychiatric disorder which is manifest in comorbidity between different types of disorder (Weiss, Susser & Catron, 1998).

Finally, a causally antecedent model supposes that the comorbidity between affective and conduct disorder arises because the risk factors and life pathways that are associated with an increased vulnerability to one condition are also associated with increased risks for the other condition. From this perspective the risk factors for one disorder may be the same as the risk factors for the other disorder, or risk factors for each disorder may be correlated with each other.

While a number of theoretical explanations of the origins of the comorbidity between affective and conduct disorders have thus been proposed, relatively few studies have set out to test systematically the models outlined by Fergusson and his colleagues. Moreover, findings have been reported that lend support to each model. For example, Marriage, Fine, Moretti and Haley (1986) identified 11 out of 60 children referred for assessment of depression as meeting criteria for both conduct disorder and affective disorder, whose antisocial behaviour preceded the onset of dysphoria.

In a different study with a younger population of 47 prepubertal male subjects, Puig-Antich (1982) found 37 per cent who met research criteria for depression and DSM-III criteria for conduct disorder. In this subgroup, conduct problems developed following the onset of depression, remitted when depressed mood responded to medication, and recurred in those whose mood disturbance returned.

In a 16-year longitudinal study of a birth cohort of New Zealand children, Fergusson et al. (1996) concluded that a major reason for the comorbidity between affective and conduct disorders arose because the antecedent personal, family, and related factors that were associated with conduct disorders were "comorbid" with personal, family, and related factors that likely contributed to affective disorders. However, these authors also identified a residual correlation between affective and conduct disorders that possibly reflected the presence of a number of individuals who had a comorbid disorder of conduct/affective disorder that was different from conduct or affective disorder in isolation.

More recent investigations, such as Lambert, Wahler, Andrade and Bickman (2001) and Thomas and Guskin (2001) have suggested that an overlap in internalizing and externalizing

symptoms is common to many, if not the majority, of children with a primary diagnosis of conduct or oppositional defiant disorder, and that many of these symptoms represent global as opposed to specific pathology (see also Weiss et al., 1998). This prompted Thomas and Guskin (2001) to remark that "diagnosing externalizing disorders without identifying less salient internalizing symptoms and disorders minimizes the complexity of young children's behaviour problems" (p.49). Further, these authors drew attention to the similarity of presenting symptoms across diagnostic categories, reflecting:

> the challenges of diagnosis in these young children and the nonspecificity of young children's expressions of distress. That is, in young children, increased activity, aggression, and defiance and internalizing symptoms are common responses to a variety of risk factors, including traumatic, affective, constitutional/maturational, and relational factors (Thomas & Guskin, 2001, p.49).

Further research is clearly needed, particularly in regard to elucidating the nature of disturbance associated with the mix of conduct/affective symptoms that a subgroup of children diagnosed with disruptive behaviour or affective disorder, or both, seem likely to experience. It seems possible that certain emotional processes might influence, or interact with cognitive and other risk factors and mediate conduct-disordered outcomes.

In the following section consideration is given to the possible etiological significance of emotional problems, in the context of life experiences and other psycho-social risk-factors associated with oppositional defiant and conduct disorder.

2.7 Etiology

The complexity of the presentation of children with conduct and oppositional defiant disorders may have frustrated attempts to identify reliable etiological pathways. At present, risk-factor, or multi-factorial models are commonplace, although there is considerable debate over the relative importance of the factors that have been implicated and how they manifest (see Dodge & Pettit, 2003; Greenberg et al., 1993; Hendren, 1999; Malmquist, 1997; Patterson et al., 1989).

Domains of risk that have been implicated in the development of a persistent pattern of disruptive behaviour in children include (a) child biological factors, (b) child temperament, (c) family factors, (d) parental management and socialization practices, (e) attachment relations during infancy and toddlerhood, (f) child cognitive factors, and (g) child trauma. Although (h) emotional processes have been implicated in conduct problems within each other domain, little research attention has been paid to specific emotional disturbances that might mediate conduct disordered outcomes.

2.7.1 Child Biological Factors

As Greenberg et al. (1993) pointed out, there is a strongly held belief that individual differences in the child's internal organization at the physiological, neurological, and neuropsychological levels are implicated in the development of disruptive behaviour problems. Hence, one area of research that is linked to genetic influences relates to the evaluation of the Autonomic Nervous System (ANS). The ANS has been shown to exhibit differential reactivity to stressors as well as different basal rates among groups with different

psychological characteristics, particularly aggressiveness, emotional distress, and self-restraint (Hendren, 1999). For example, Raine and Jones (1987) found children with conduct disorder to have lower resting heart rate than those with attention-deficit hyperactivity disorder or internalizing disorders. As Burke et al. (2002) pointed out these measures may be markers of anxiety, which is hypothesized to inhibit children from engaging in disruptive or criminal behaviour.

Also of interest are several abnormalities in neurotransmitter systems that have been found to be associated with conduct disorder (Hendren, 1999). For example, Kruesi et al. (1992) found that the serotonin metabolite, 5-hydroxyindoleacetic acid, was predictive of physical aggression in a 2-year prospective study involving hospitalized children and adolescents with severe disruptive behaviour. Prolactin levels, which index synaptic serotonin levels, also appear to show developmental variation between aggressive and non-aggressive children (see Burke et al., 2002).

These findings suggest that a reduction in the turnover of central serotonin may be associated with aggression and other aspects of disruptive behaviour in children. However, as Burke et al. (2002) pointed out, serotonin function is also linked to the regulation of mood and impulsive behaviour. Thus, the link between serotonin and aggression likely reflects a more complex relationship between neuroanatomical and neurochemical interconnectivity, executive brain function, and behavioural dysregulation.

Moreover, although holding promise as important predictor variables in a multifactorial risk model, these findings are limited in that it remains unclear whether the biological processes are the cause or result of disruptive behaviour. Furthermore, as Steiner (1999) pointed out,

many of these studies have failed to be replicated, perhaps because of the small sample sizes involved.

2.7.2 Temperament

Possibly related to child biological factors are temperamental factors that may predispose childhood behaviour problems. Kazdin (1995) defined temperament as the prevailing aspects of one's personality that are consistent with respect to time and situations. Hitherto, several key dimensions of temperament have been identified, although not without debate (Baum, 1989). For example, Thomas and Chess (1977) identified three different behavioural styles in infants, namely, easy, difficult and slow to warm up. The easy child is usually in a positive mood, adapts easily and quickly establishes routines. The difficult child generally reacts negatively, cries frequently, is slow to accept new experiences, and engages in irregular routines. The slow to warm up child, on the other hand, is somewhat negative with low adaptability, intensity of mood and activity level.

Kasani, Ezpeleta and Danday (1991) suggested that the difficult child was at special risk for developing behavioural disorders, perhaps because these children repeatedly evoked an angry parental response. Indeed, in a review primarily focused on longitudinal studies, Sanson and Prior (1999) concluded that a pattern of negative emotionality, intense and reactive responding, and inflexibility were predictive of externalizing behaviour problems by late childhood. Gjone and Stevenson (1997) also found that emotionality in boys, and high activity scores, particularly in younger children, were significantly associated with aggressive behaviour.

Among the limitations of temperament studies are the difficulties distinguishing environmental influences on gene expression, the lack of consensus regarding definitions of the construct, and a difficulty distinguishing between temperament and the early demonstration of conduct problems. Further, the use of parents' ratings to determine temperament in many studies confounds parental perceptions with actual child behaviour (Baum, 1989). Hence, in their review of risk-factors, Burke et al. (2002) concluded that if temperament can be distinguished from the early emergence of behaviour disorder, it may represent a link between biological predisposition and later disruptive behaviour disorder.

2.7.3 Family Factors

One consistent finding that has long been recognized is that of a familial intergenerational link of antisocial behaviour, including conduct problems, criminality and aggression (Frick, 1994). Although the extent of familial aggregation of conduct disorder is highly suggestive of genetic determinants of behaviour, it is difficult to separate the influence of psychosocial factors associated with being raised in an environment conducive to, if not provocative of, antisocial behaviours (Steiner & Cauffman, 1998; Wakefield, 1992). For example, indices of family adversity, including parent characteristics (e.g. psychiatric illness), family functioning (e.g. marital distress, family violence), and environmental provisions (e.g. poverty) have been found to be related to disruptive behaviour problems in early childhood (see reviews by Burke et al., 2002; Loeber et al., 2000).

In particular, marital conflict and divorce have long been found to be associated with childhood behaviour problems (Rutter, Tizard & Whitmore, 1970; Davies & Cummings, 1994). Bowlby (1973) interpreted this association as being the result of the disruption caused

by the separation from the parent. However, Loeber and Stouthamer-Loeber (1986) alternatively hypothesized that parental conflict associated with divorce is precipitous of childhood disruptive behaviour problems. In support of this hypothesis, these authors cited data which showed that children living in intact, high conflict homes had poorer adjustment than children from both divorced and intact low conflict homes.

In recent decades, researchers have turned from documenting the relationship between marital conflict and child behaviour problems to establishing mechanisms by which these factors are related (Ingoldsby, Shaw, Owens & Winslow, 1999). For example, Patterson and Dishion (1988) proposed two models to account for the ways in which family ecology might affect child behaviour. According to the first model, maternal or familial distress and adversity are mediated by their negative influence on parenting practices that, in turn, promote disruptive behaviour. According to the second model, family adversity affects the child both directly, by causing distress, as well as indirectly, by impacting on parenting. Research has in fact demonstrated support for both models (Forgatch, Patterson & Skinner, 1988) however a large amount of variance in child behaviour problems remained unaccounted for.

Extending on findings concerning the distressing impact of interparental conflict on children, Davies and Cummings (1994) proposed an emotional security hypothesis, which emphasized a mediational role of children's emotional security in the link between marital functioning and child adjustment. From this perspective children are proposed to be distressed by interparental conflict because it threatened their sense of emotional security, either by threatening personal safety or by threatening their relationship with caretakers. According to this model, conflict is highly aversive and children are hypothesized to engage

in behaviours that reduce their distress. Behaviours that succeed in reducing distress are maintained and repeated at future exposures to conflict. Over time, children's negative reactions to witnessing parental conflict are proposed to generalize to other conflict situations, such as with teachers or peers.

Indeed, a large body of research has demonstrated that children exhibit significant emotional and behavioural reactions when exposed to interadult conflict in analogue experiments (Cummings, Ianotti & Zahn-Waxler, 1985; Davies & Cummings 1998). However, the majority of the studies have examined these processes in relatively small samples of married, middle-class families, including children without significant adjustment or conduct problems. Further, in an examination of the utility of the emotional security model in a sample of pre-school boys at risk for child psychopathology, Ingoldsby et al. (1999) found no direct relationship between children's emotional security, interparental conflict and child adjustment. As these authors pointed out, the measures of emotional security utilised in the study (emotional and behavioural reactivity) may play a less salient or indirect role for younger children from high-risk environments.

Additional research is required to clarify the nature of any relationship between emotional processes and conduct problems in children diagnosed with conduct or oppositional defiant disorder. In particular, emotional reactivity has been identified as a potentially important mediating variable between psychosocial risk factors and conduct disordered outcomes, and hence warrants examination in a clinical sample.

2.7.4 Parental Management

The domain of parenting practices is perhaps the most well researched correlate of early childhood disruptive behaviour problems. Several aspects of child-rearing practices, such as degree of involvement, monitoring, and harsh and inconsistent discipline have been found to be associated with children's disruptive behaviour (Burke et al., 2002). For example, research by Patterson (1982) strongly supported a relationship between disruptive behaviour disorders and parental hostility, permissiveness, lack of monitoring and inconsistent limit setting. Similarly, Loeber and Stouthamer-Loeber (1986) identified low parental involvement in their children's activities and low parental supervision as being constantly associated with disruptive behaviour disorders.

Social learning theorists, such as Bandura (1977), maintained that children learn by observing what others do. However, the past 15 years have seen an increase in the complexity of models of child-parent interactions, with greater emphasis on considering the full constellation of parenting behaviours and contextual and genetic factors together when attempting to describe the relationships among parenting and child behaviours.

Hence, Patterson (1982) outlined a model of coercion between child and parent that proposed a reciprocal relationship between parenting practices and child conduct problems. According to this model one subject's aversive behaviour (e.g. parent nagging) is commonly reinforced by the termination of the other's aversive behaviour (e.g. child's whining), leading to repetitive patterns of coercive interaction. This process is also proposed to frequently involve parental surrender to the child's demanding behaviours in the context of inconsistent

limit-setting, which leads to positive reinforcement of persistent demanding, temper tantrums, and oppositional behaviour.

Although there is considerable research support for the model, there remains a lack of data disentangling parenting behaviours from parental psychopathology, and other indices of family adversity. For example, an association between parental psychopathology and childhood behaviour problems has been demonstrated in a number studies (e.g. Loukas, Zucker, Fitzgerald & Krull, 2003; Mufson, Nomura & Warner, 2002). Hence, the extent to which parental mental health problems mediate, or interact with child pathology or other child variables is not clear (Griest & Wells, 1983).

2.7.5 Attachment

John Bowlby's attachment theory was principally concerned with the role that enduring attachments played in shaping the life course. Bowlby (1988) defined attachment as an individual's disposition to seek proximity to a preferred individual in specified conditions: "The disposition to behave in this way is an attribute of the attached person, a persisting attribute which changes only slowly over time and which is unaffected by the situation of the moment" (p.28).

Research on attachment (e.g. Ainsworth, Blehar, Waters & Wall, 1978) hence shifted the focus to an assessment of the parent-child relationship, with particular emphasis on the child's response to the parent. Broadly, the *secure* child was said to be typically distressed by separation from the primary attachment figure, but to greet the parent upon reunion, receive comfort if required, and then return to contented play. The *insecure-avoidant* child showed

few overt signs of distress on separation, ignored their mother on re-union, and played in an inhibited manner. The *insecure-ambivalent* was seen as highly distressed upon separation and not easily soothed upon reunion, alternating between seeking contact and expressing anger and hostility. Later an *insecure-disorganised* style of attachment was identified, involving a diverse range of confused behaviours including freezing upon reunion with the primary caregiver (Holmes, 1993).

Similarities between the behavioural manifestations of insecure attachment and disruptive behaviour disorders prompted investigation into the relationship between insecure attachment in the first 2 years and later disruptive behaviour problems. From this perspective, the child's attachment security was broadly regarded as a working model that included the child's expectations regarding intimacy and care from others. Thus, one mechanism through which insecure attachment might play a causal role in later externalizing difficulties is through the crystallization of working models in which relationships are generally viewed as characterised by anger, mistrust, chaos, and insecurity (Greenberg et al., 1993). For instance Sroufe (1983) suggested that insecure-avoidant children may develop a hostile, aggressive, antisocial pattern in response to their experience with a rejecting and emotionally unavailable caregiver. Underlying anger may then become manifested through lying or bullying, blaming and being insensitive to others.

Indeed, several studies have reported findings that suggested links between insecure attachment and disruptive behaviour. For example, Turner (1991) found that insecure preschool boys showed more aggressive, disruptive, assertive, controlling, and attention-seeking behaviour than secure children during indoor free play. In a review of the available research Greenberg and Speltz (1988) noted that insecure attachment prior to 2 years of age

had been found to be related to lower sociability, anger, poorer peer relations, and less behavioural self-control during the pre-school years.

Although a link between attachment and disruptive behaviour disorders is of interest to many, findings concerning this relationship have been inconsistent. In a more recent review Burke et al. (2002) reported that although some studies reported links between disorganized insecure-avoidant or coercive insecure attachment and disruptive behaviour, others reported no predictive relationship to disruptive behaviour severity or diagnostic status. These authors concluded that further research was necessary particularly to determine whether other inter-correlated risk factors such as temperament, maternal or family stressors, or early oppositional and defiant child behaviours better explain the association of early attachment and later problem behaviours.

2.7.6 Social Cognition

In a series of studies conducted over almost two decades, Dodge and colleagues (e.g. Dodge, 1986; Dodge & Somberg, 1987; Dodge & Pettit, 2003) have reported findings that have been taken to suggest that the interpersonal difficulties of aggressive children may be due to differences in their interpretation of social stimuli, particularly the tendency to attribute hostile intentions to others. These findings have been incorporated into one of the most comprehensive models of the development of chronic conduct problems available. The major points as they relate to the role of emotional disturbance in child conduct problems will be reviewed here. However, the interested reader is referred to Dodge and Pettit's (2003) lengthy paper for an excellent overview of other biopsychosocial factors that have been implicated.

In summary, Dodge and Pettit (2003) argued convincingly that cognitive and emotional processes within the child, including the acquisition of knowledge and social-information processing patterns, mediate the relation between life experiences and conduct problem outcomes. From this perspective, dispositions, context and life experiences are said to lead children to develop idiosyncratic social knowledge about their world. This knowledge is represented in memory and provides the link between past life experiences and future behavioural tendencies.

Hence, upon presentation of a social stimulus, the child is believed to draw on social knowledge to guide the processing of social information. The child's pattern of processing social information leads directly to specific social (or antisocial) behaviours thereby mediating the effect of early life experiences on later chronic conduct problems. Dodge (1991) summarised several sequential stages of cognitions associated with responding to social demands:

> When presented with a social cue, such as provocation by a peer or a group of peers engaged in a fun game, a child first encodes this information through sensory reception and perception. The child then mentally represents those cues as threatening or benign through the application of rules acquired in socialization and may experience emotions such as fear, anger, or a desire for pleasure. The child then engages in a response search, in which one or more behavioural responses are accessed from long-term memory. These responses are evaluated as acceptable or unacceptable, and one is selected for enactment (p.211).

According to Dodge (1986, 1991) a child or adolescent may experience a deficiency in any of these steps, leading to faulty perceptions and actions. For example, an incomplete search

of social cues prior to evaluating others' intention is a common encoding deficit. Alternatively, interpretation deficits may occur as a result of biased perceptions of hostile intention that may be due to developmental experiences including parental psychopathology and actual victimization.

Indeed, research has shown that processing responses at each step alter the probability of aggressive behaviour in a particular situation. Selective attention to hostile peer cues, an attribution that others are being hostile toward the self, rapid accessing of aggressive responses, and positive evaluations of aggressive responses all increase the likelihood of aggressive behaviour (Crick & Dodge, 1994; Dodge, 1986).

Consistent with these findings aggressive and socially rejected boys have also been found to be more likely than non-aggressive peers to assume that others have hostile intentions (Dodge & Somberg, 1987; Nasby, Hayden & De Paulo, 1980). Aggressive boys also present perceptual biases of their own and their peers' level of aggression in interpersonal interactions, underestimating their own aggression and overestimating the aggressive behaviour of opposite status (nonaggressive) peers (Lochman, 1987). These differences in attributional tendencies are most apparent in response to ambiguous stimuli (Dodge, 1980) and to interpersonal threat (Dodge & Somberg, 1987).

The other social-cognitive factor proposed to mediate the interpersonal difficulties of aggressive children is interpersonal cognitive problem solving (ICPS; Spivack, Platt & Shure, 1976). Research on ICPS has found the generation of fewer problem solutions to be related to poor adjustment, including externalizing behaviour problems (Spivack & Shure, 1974). Furthermore, consistent with expectations, children rated by their peers as rejected (Asarnow

& Callan, 1985) or aggressive (Richard & Dodge, 1982) have been shown to differ qualitatively in their responses, generating a greater proportion of aggressive problem solutions than their popular or nonaggressive peers.

Taken together, these results suggest that a number of social-information processing deficits occur in aggressive children. Often, however, these correlations are weak in magnitude, and do not account for large portions of variance in aggression (Dodge, 1991). Moreover, most research concerning social information processing deficits relates to child aggression, and does not encompass the range of behaviours associated with children's disruptive behaviour disorders. As Frick (1994) cautioned, although aggression is related to disruptive behaviour disorders, studies utilizing psychiatric diagnosis may be more meaningful.

Finally, although emotional processes within the child are hypothesized to play an important role in mediating social information processing problems and conduct disordered outcomes, few studies have attempted to examine the psychological processes and mechanisms that might be involved. Additional research is hence required to examine the psychological correlates of interpretation deficits that Dodge and his colleagues posited may be due to developmental experiences.

2.7.7 Child Trauma

Research suggests that extremely harsh or abusive parenting behaviours, including physical and sexual abuse, significantly increase the risk of conduct problems in children. For example, Stormshak, Bierman, McMahon and Lengua (2000) demonstrated links between physically aggressive punishment and child aggression, and low parental

warmth/involvement and oppositional child behaviour. Several other studies have found an association between traumatic victimization and oppositional defiant disorder (e.g. Flisher et al., 1997; Merry & Andrews, 1994) and conduct disorder (e.g. Fergusson, Horwood & Lynskey, 1996; Kaplan et al., 1998; Lynskey & Fergusson, 1997).

Such findings have prompted contemporary researchers to attempt to integrate the research literatures concerning the development of oppositional defiance and traumatic victimization in childhood and adolescence. In particular, Ford (2002) noted that the impairments in emotion and social information processing identified by Dodge and colleagues closely resemble the emotional and cognitive dilemmas and deficiencies of children who have suffered traumatic victimization (Ford, 2002).

According to Ford's (2002) preliminary conceptual model, physical abuse and other forms of violence provoke emotional disturbances, including anger and emotional numbing, irritability, anhedonia, and cognitive problems, such as impaired concentration and problem solving:

> (This) dysregulation of emotion and information processing caused by traumatic victimization can lead a child to adopt an unspoken belief that distrust and defiance, whether expressed as overt oppositionality or as covert resistance, are essential to protect against the harm caused by people or to cope with otherwise unmanageable emotions (Ford, 2002, p.40).

Such "victim coping" involves feeling emotionally numb and empty, disoriented, and unable to think clearly. Hence, victim coping and oppositional defiance are seen as having a

common underlying psychological basis: problems with the processing of emotional and social information.

Although a number of studies have now been reported that suggest that social information processing problems are a common feature of ODD and CD symptoms, few studies have attempted to examine the relationship between these deficits and the kind of emotional problems identified by Ford (2002) in a sample of children with ODD or CD. As outlined below, further research is required to examine the possible influence of emotional disturbance on children's cognitive and behavioural functioning.

2.7.8 Emotional Disturbance

As Dodge and Pettit (2003) pointed out, it is clear from reviews that a variety of heterogenous predisposition, context, and life-experience factors in early life represent modest risk factors for chronic conduct problems. Most contemporary theories acknowledge the importance of each kind of factor, and their interactions. However the major question has become how these factors relate to each other in leading to conduct problem outcomes.

Although significant disturbances in emotional functioning have been implicated in many substantive theoretical conceptualisations and research investigations concerning persistent conduct problems in children, few empirical studies have attempted to operationalize and examine the specific emotional processes that might be involved. For example, earliest research attempts to explain the comorbidity of internalising and externalizing symptoms in children with persistent conduct problems perceived the youngster's antisocial conduct as a defence against a depressive core. For instance, Kaufman and Heims (1956) interpreted the

antisocial behaviour of delinquent juveniles as an attempt to avoid the pain of unfulfilled dependency needs.

Such direct-cause explanations assumed that juvenile delinquency was caused by depression: The delinquency followed the depression chronologically and functioned as a defence mechanism. Later, Toolan (1967) alternatively proposed that temper tantrums, disobedience, truancy, absconding, self-destructive behaviour, boredom, restlessness, hypochondriasis, and other forms of acting out, including aggression were the childhood *equivalent* of adult depression. However, these researchers tended not to operationalise their hypotheses, and applied few experimental controls in examining their proposals (see Carlson & Cantwell, 1980).

Although there is limited research concerning the emotional functioning of children with disruptive behaviour disorders, findings have been reported that are consistent with the idea that irritability and distress, and poor emotional regulation may be implicated in some children's persistent manifestations of oppositional and defiant behaviour. For example, in a study of infants and toddlers that pointed to the importance of emotion regulation to later outcomes, Stifter, Spinrad and Braungart-Rieker (1999) found that infants exhibiting low levels of emotion regulation were more likely to exhibit noncompliant behaviors as toddlers.

In a different study involving a sample identified as being at-risk, Cole, Zahn-Waxler and Smith (1994) found that, compared to low-risk children, preschool-aged boys identified as high-risk for disruptive behavior disorders expressed more negative emotion in front of the experimenter. Whilst providing important empirical data, these studies did not involve clinical samples. Hence it was not clear whether the relationship between low levels of

emotion regulation and behaviour problems would differ for children with more severe difficulties.

Whilst few investigators have examined emotion regulation in psychopathological samples, two sets of studies stand out as exceptions. Weinberger and Gomes (1995) used time series and path analytic methods to examine the relationship between mood shifts, and the emergence of disruptive behaviour in 20 preadolescent boys enrolled in a day treatment program. Findings suggested that that the boys "... did engage in emotional acting out, in that their morning period mood predicted their subsequent disruptive behaviours". Furthermore, boys' mood changes served as a mediator between the intensity of interpersonal conflicts, and decrements in their self-restraint (p.1473).

These authors concluded that negative moods may have primed the children's level of emotional reactivity to subsequent events: "For children prone to active, externalizing responses to frustrating situations, negative moods may accentuate their use of disinhibitory processes when confronted with impediments to achieving their immediate desires" (Weinberger & Gomes, 1995, p.1479). Although providing much needed empirical support for the proposed role of emotional disturbances in mediating disruptive behaviour, Weinberger and Gomes (1995) study was limited by the absence of a control group, and the inclusion of children with a primary diagnosis of attention deficit hyperactivity disorder, hence preventing the researchers from determining whether the findings were unique to children with conduct and oppositional defiant disorder.

Casey and colleagues (Casey & Fuller, 1994; Casey & Schlosser, 1994; Casey, 1996) also examined the emotional correlates of psychopathology in children diagnosed with disruptive

behaviour disorders. These authors found that in response to background anger, children with ODD exhibited more negative emotion than children without a clinical diagnosis. These researchers also found that children diagnosed with ODD or CD exhibited more hostility and more surprise in response to positive peer feedback, and more negative emotion in joint play.

It may be that, consistent with the features of their disorder, children with ODD are highly reactive to hostility, and have difficulty containing their emotional response. Hence these children's perception of social stimuli may be highly affected by their emotional state. This would be consistent with Dodge and colleagues' (e.g. Dodge, 1980; Nasby et al., 1980) findings that aggressive children tend to demonstrate hostile attribution biases in ambiguous social situations that may be due in part to experiences of victimization.

This is also consistent with Bower (1981) who reviewed a large number of research studies and concluded that emotion powerfully influenced such cognitive processes as free associations, imaginative fantasies, social perceptions and judgments in a fashion congruent with mood. Bower's semantic-network theory explained such findings on the basis that mood activates and primes mood-congruent categories of interpretation into readiness. However, to date, the relationship between cognitive and emotional processes has not been examined in a sample of children diagnosed with conduct or oppositional defiant disorder.

As Southam-Gerow and Kendall (2002) pointed out the paucity of research with psychopathological samples limits the conclusions that can be drawn. Although certain patterns of emotion regulation may be related to psychological disorders, specific pathways remain to be elucidated. Further research is needed then, to examine the relationship between the disruptive child's emotional, cognitive and behavioural functioning.

2.7.9 Summary

In summary, disturbances in emotional functioning have been implicated in children's disruptive behaviour disorders at almost every level of analysis. At the biological level, differences in the autonomic nervous system and within neurotransmitters have been proposed to affect regulation of mood and emotional reactivity that may in turn mediate children's behaviour problems. Temperamentally difficult children who are emotionally reactive and exhibit intensity of mood and activity have been shown to be at risk of developing conduct problems, especially when in the context of parental or family adversity. Hence, marital conflict, parental psychopathology and harsh and inconsistent discipline that distresses children are also associated with heightened risk of conduct or oppositional defiant disorder. Finally life events, including sexual and physical abuse have been shown to be associated with impairments in emotion and social information processing that have long been recognised as characteristic features of child conduct problems, particularly aggression.

What remains unclear is the nature of the relationship between behavioural and emotional problems in children with chronic conduct problems, and in particular how disturbance in emotional functioning might interact with other risk factors in leading to conduct disordered outcomes. What is henceforth needed is research to examine specific emotional processes that might influence, or interact with cognitive and other risk factors in a sample of children who have been diagnosed with ODD or CD.

An overview of the theoretical and empirical literature concerning the child's development of the capacity to regulate emotion follows, providing the background out of which the

theoretical conceptualisation underpinning this study emerged, and hence placing the research questions and propositions in context.

CHAPTER 3

THEORETICAL BACKGROUND TO STUDY

3.1 Emotion

Although long considered a basic and essential feature of human experience, there has never been any clear agreement on a definition and theory of affects, nor the place of cognition in emotional experience and expression (e.g. Cannon, 1927; Lange & James, 1922, 1967). Even in the past two decades cognition and affects have been conceptualised as independent systems (e.g. Zajonc, Dietromonico & Bargh, 1982) as well as parallel systems (e.g. Piaget, 1982). Some conceived emotions as resulting in cognition (e.g. Izard, 1977, 1982) whilst others viewed cognition as producing emotions (e.g. Mandler, 1982).

More recently, Campos, Campos and Barrett (1989) and others (e.g. Frijida, 1986) have proposed that emotions be viewed not merely as feelings, but rather as processes of establishing, maintaining, or disrupting the relations between the person and the internal or external environment, when such relations are significant to the individual. According to Keltner and Kring (1998) the emphasis on the interpersonal characteristics of emotion can be summarized in a *social-functional* approach to emotion. From this perspective emotions are conceptualised as multichannel responses that enable the individual to respond adaptively to social problems and take advantage of social opportunities.

Four assumptions are said to be central to a social-functional approach to emotion. First, it is assumed that humans are social by nature and meet many of the problems of survival in

social relationships. For example, humans respond to threat, generate and distribute resources, and raise offspring in the context of social relationships.

Second, it is assumed that emotions invite adaptations or solutions to specific problems related to the formation and maintenance of social relationships. Hence, certain emotions, such as anxiety and love are seen to motivate individual and interactive behaviours that enable individuals to form social bonds (e.g., Bowlby, 1969; Hazan & Shaver, 1987). Other emotions, such as sympathy, anger and jealousy are believed to enable individuals to maintain, protect, and restore social bonds in the face of immediate threat to the individual or relationship.

Third, it is assumed that emotions are dynamic, relational processes that coordinate the actions of individuals in ways that guide their interactions toward more preferred conditions. Thus, emotions are not only seen to organize physiological, behavioral, experiential, and cognitive responses within the individual, but also to organize the actions of individuals in face-to-face interactions.

Fourth, a social-functional account presupposes that the experience and expression of emotions potentially bring about beneficial social consequences for individuals and their relationships. For instance, embarrassment can evoke forgiveness in others or prompt reconciliation following social transgressions (e.g. Keltner & Buswell, 1997), whilst sadness and distress may elicit sympathy, helping, and increased proximity (Bowlby, 1969; Eisenberg et al., 1989).

One of the important implications of a social-functional approach is that emotions are given both intrapersonal and interpersonal consequences. From this perspective the social functions of emotions are able to be examined, as are both the conceptual and empirical connections between the nature of emotional and social disturbances in psychopathology (Keltner & Kring 1998). Moreover a relational view renders emotion regulation central to emotion theory, because both the appreciation of the significance of events and the types of reactions that are made to events are crucial phases of both the generation and the control of affect (see Campos et al., 1989).

3.2 Emotion Regulation

Research on emotion and emotion regulation has increased rapidly in the last decade. However, as many investigators have noted, definitions of terms have typically been implied rather than explicitly stated (Southam-Gerow & Kendall, 2002). For the purpose of this study, emotion as defined above will be distinguished from mood and affect according to Larsen's (2000) attempt to identify common and distinguishing features.

According to Larsen (2000), both mood and emotion recruit bodily support, including a cascade of physiological response, but differ in both duration and intensity. Hence, moods are typically viewed as longer lasting than emotions, with some moods lasting for hours or days or even weeks, whilst emotions tend to be shorter lived, but more intense. Both mood and emotions are typically conceived as experiential entities that are felt or sensed to some degree. This felt aspect of mood and emotion is referred to as the affective component. Affect is thus the feeling tone associated with mood and emotion, and it is primarily

evaluative: "Affect is felt as good or bad, as pleasant or unpleasant, as a felt tendency to approach or to avoid" (Larsen, 2000, p.130).

Recent efforts have also been made to clarify the construct of emotion regulation and a broad definition of the term appears to have emerged (e.g., Calkins, 1994; Campos et al., 1989; Cole, Michel, & Teti, 1994; Gross, 1998; Kopp, 1989; Thompson, 1994). Most researchers in this area share a general emphasis on the conscious or unconscious use of internal and transactional processes to modulate a range of emotion-related experiences over time and across situations, including "access to the range of emotions, flexible modulation of intensity, duration, and transitions between emotions, acquisition and use of cultural display rules, and the ability to reflect on the complexity and value of one's own emotions in a self-supporting manner" (Cole et al., 1994, p. 73).

Thompson (1994) defined emotion regulation as the "extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions especially their intensive and temporal features, to accomplish one's goals" (p.27). Gross (1998, 2002) who similarly defined emotion regulation as the processes by which individuals influence which emotions they have, when they have them, and how they experience and express them, also outlined a broad scheme of emotion regulation strategies.

At the broadest level, Gross (1998, 2002) drew a distinction between antecedent- and response focussed emotion regulation strategies. Antecedent-focused strategies refer to activities that occur before the emotion response tendencies have become fully activated thereby altering behaviour and peripheral physiological responding. In contrast, response-

focused strategies refer to activities that take place once an emotion response is already underway, after the response tendencies have been generated.

Five specific families of emotion regulation strategies are located within this broad scheme. The first of these, situation selection refers to approaching or avoiding certain people, places, or things so as to regulate emotion. Once selected, a situation may be tailored so as to modify its emotional impact. This constitutes situation modification, which has also been referred to as problem-focussed coping (Lazarus & Folkman, 1984) or as primary control (Rothbaum, Weisz, & Snyder, 1982). Third, attentional deployment determines which aspects of a situation are focussed on, whilst cognitive change refers to the many possible meanings that might be attached. Finally, response modulation refers to attempts to influence emotion response tendencies that have already been elicited.

In sum, the concept of emotion regulation is part of the broader construct of self-regulation. From this viewpoint, factors that influence the generation, experience and expression of emotion may be automatic or controlled, conscious or unconscious, and may occur at one or more points in the emotion generative process (Gross, 1998).

3.3 Emotion Regulation: A Developmental View

Demos (1986) noted that because distress is unavoidable for humans, a developmental task for infants involves learning to modulate, tolerate and endure experiences of negative affect. Eisenberg and colleagues proposed that the capacity to control expression of emotion, particularly negative emotions, develops over the first few years of life, and has particular

importance for the unfolding of appropriate and adaptive social behaviour (Eisenberg, Murphy, Maszak, Smith, & Karbon, 1995).

Calkins and Fox (2003) argued that intrinsic and extrinsic factors contribute to the development of this self-control of emotions. From this perspective, intrinsic factors are seen as innate, although environmental input is thought to influence their expression. Intrinsic factors therefore include the temperamental disposition of the child, certain cognitive processes, such as attention and inhibitory control, and the underlying neural and physiological systems that support and are engaged in the process of control.

Extrinsic factors include the manner in which caregivers shape and socialize emotional responses of the child. In addition, other socializing agents, including siblings and peers, as well as cultural expectations regarding emotional displays are believed to influence the extent to which children successfully utilize self-control strategies. In the following sections, key intrinsic and extrinsic factors that are said to influence the development of the child's capacity to regulate affective experience and expression are outlined.

3.3.1 Temperament

According to Calkins and Fox (2003) self-control of emotion is influenced by the infant's reactivity to environmental stimulation that is in turn influenced by physiological factors. Hence, initial responses of the infant are said to be characterized by their physiological and behavioural reactions to sensory stimuli of different qualities and intensities. This reactivity is believed to be present at birth and to reflect a relatively stable characteristic of the infant (Rothbart, Derryberry, & Hershey, 2000).

These initial affective responses that are said to be characterized by vocal and facial indices of negativity are presumed to reflect generalized distress, a rudimentary form of the more sophisticated and differentiated emotions that will later be labelled as fear, anger, sadness:

> Emotions undergo further differentiation with cognitive development and the emergence of self-awareness during early childhood. This initial emotion reactivity has neither the complexity nor the range of later emotional responses. Nevertheless, the infant's subjective experience is "emotional" in the sense that it reflects a viscerally aroused internal state and a defined motor component. In addition, the infant's signals of visceral arousal will usually elicit an adaptive response from the environment (Calkins & Fox, 2003, p.10).

Research has amplified the findings on the importance of temperament for later child outcome by examining the influences of other important variables, such as emotion regulation and family environment. For example, across a series of cross-sectional and longitudinal studies, Eisenberg and colleagues (e.g. Eisenberg, Fabes & Murphy, 1995; Eisenberg et al., 1996) examined the relations among emotionality (conceptualised as a temperamental or personality trait), emotion regulation, and social adjustment.

For instance, Eisenberg et al. (1996) investigated the relations of emotion regulation and emotionality to problem behaviour in a nonclinical group of elementary school children. They found that low emotion regulation and high emotionality predicted behaviour problems, and that emotion regulation buffered the effects of negative emotionality. Elevated levels of negative emotionality (i.e., negative emotions like anger, sadness, or fear) represented the greatest risk factor, but high general and even positive emotionality were linked to negative outcomes. These authors concluded that frequency of problem behaviours in a nonclinical

sample of children was predicted by low regulation, but highlighted the need for similar research in samples with more variation in problem behaviour and more individuals with clinical levels of problem behaviour.

3.3.2 Attention

A number of writers have suggested that the child's increasing capacity to control or modulate emotional reactivity is a function of increasing cognitive control. According to Calkins and Fox (2003) the cognitive processes involved include regulation of attention, inhibitory control, and certain processes that have been called executive function. Rothbart (1989) suggested that the capacity for control of attention begins to emerge toward the end of the first year of life. However, development of complex processes involved in attention continues throughout the preschool and school years.

According to Gross (1998), strategies for changing attention control may be broadly headed under the terms distraction, concentration, and rumination. Distraction focuses attention on non-emotional aspects of the situation, or moves attention away from the immediate situation altogether. Distraction may also involve changing internal focus, such as when individuals disengage from elusive goals by shifting attention to more tractable ones. Concentration engages cognitive resources and may be used to draw attention to emotion triggers. Rumination also involves directed attention however the focus is directed to feelings and their consequences. For example, ruminating on the negative emotions characteristic of depression leads to more severe depressive symptoms.

Evidence attesting to the role of attention in infants' regulatory behaviours was provided by Rothbart, Posner and Boylan (1990) who observed that control of attention was related to decreases in negative emotionality in situations that evoked distress in infants. Calkins and Fox (2003) also summarised a number of studies that found clear relations between the capacity for focused attention and multiple indices of emotional self-control. For example, individual differences in 9-month old infants' attention in a distraction task were related to subsequent emotion control and social behaviour. Specifically, greater attention focus and lower distractibility were related to higher positive affect, less reticence and social withdrawal in peer situations, lower morning cortisol levels, and greater relative left frontal EEG asymmetry. Thus, children with a higher capacity for attention control displayed behaviours suggesting greater self-control of emotion (Calkins & Fox, 2003).

3.3.3 Interpersonal Regulation

A common assumption of much of the research on the acquisition of self-control is that care-giving practices may support or undermine such development (Thompson, 1994). In infancy, there is an almost exclusive reliance on caregivers as the "regulators" of emotion. Over time, interactions with parents in emotion-laden contexts teach children the use of particular strategies that may be useful for the reduction of emotional arousal. There is also evidence that infants rely on parents for help in regulating physiological arousal related to behavioral organization (Calkins & Fox, 2003).

Hence, early in development, infants' feelings are considered to relate to the recognition of bodily discomfort or pain, whilst behavioural-expressive manifestations are the means of communication and expression (Edgcumbe, 1984; Katan, 1961). Moreover, precursor

emotional states of contentment and distress are said to require external regulation from a sensitively attuned caregiver, due to the infant's psychological immaturity (Mayes & Cohen, 1992). Edgcumbe (1984) summarised the position succinctly:

> ... early understanding and communication between mother and baby have an important role to play in the organization of somatic and psychic experience; in the individual's ability to contain, manage, and adaptively express feelings and reactions to somatic and psychological events and situations; and in structural development, which includes the capacity to create representations or symbolize such events and situations (p.139).

Eisenberg, Cumberland, and Spinrad (1998) outlined three sorts of parental behaviours that directly impact on the development of social and emotional competence: (a) parental reactions to child emotions; (b) parent–child discussion of emotion; and (c) parental expression of emotion. Along similar lines, Stern (1984) elaborated upon the specific interpersonal interactions which are supposed to play an important role in this process. In particular, Stern emphasised the primary caregiver's *attunement* to the behavioural expression of her infant that guides her to respond with appropriate caregiving and facial and other emotional expressions, that, in turn, help organize and regulate the emotional life of the infant.

Osofsky (1992) also noted that "... it is possible to observe a matching of mental states between the infant and the parent as well as both parties' abilities to share feelings" (p.236). Osofsky emphasized that being able to share emotions is extremely important for affective development because it is the sharing of emotions with the infant that indicates that a feeling state is understood.

Indeed, research attesting to the importance of maternal sensitivity or attunement has been provided in a number of investigations. For example, Schore (1994) summarized a vast array of neuro-developmental research and concluded that the mother's skill in the proper affective attunement (containment) of her infant has a direct effect on the quality and quantity of her infant's brain development, especially up to and including the practising subphase of separation-individuation, and particularly involving orbito-frontal cortex. Research studies on attachment styles in infancy and childhood have also confirmed that the sensitivity and responsiveness of the primary caregiver to the child's emotional states is a major determinant of the way the child learns to regulate distressing affects and to relate to other people (Bretherton, 1985; Goldberg, MacKay-Soroka & Rochester, 1994).

Studies of social referencing, the process by which individuals use others' emotional displays to interpret ambiguous stimuli, have also shown that children's behaviour is influenced by parents' emotional expressions. For example research has shown that parents' facial and vocal displays of positive emotion or fear will determine whether their infants will walk across a visual cliff, play in a novel context, or respond to a stranger with positive emotion (Klinnert, Campos, Sorce, Emde & Svejda, 1983).

3.3.4 Transitional Objects & Play

Although initially the infant's precursor emotional states of contentment and distress are regulated primarily by the responses of an empathically attuned caregiver, by three years of age, several perceptual, neurological, and cognitive functions mature in such a way as to allow the child increasing separateness from the parent (Mayes & Cohen, 1992). Indeed, psychoanalytic theorists (e.g. Pine, 1984) have long been concerned with the manner in

which the developmental phase of gradual separation and individuation is achieved. For example, Winnicott (1953) described young children's attachment to a special object such as a soft toy, a small blanket, or jumper, which the child selects and repeatedly seeks out during states of distress, especially anxious states evoked by separations from the mother. According to Winnicott, the child's use of this transitional object emerges at around four to six months of life, and is used for self-soothing and comforting.

Winnicott and several more recent theorists (e.g. Deri, 1984; Mayes & Cohen, 1992) also regarded imagination and play as critical to the children's developing capacity to regulate their emotional lives. For example, Mayes and Cohen (1992) suggested that the child's ability to play disappearing games such as peek-a-boo precedes " ... the capacity to create similar situations in thought, that is, to imagine the comings and goings of another" (p.31).

Izard and Kobak (1991) similarly viewed play as one of the most important developmental processes through which children learn to integrate affect, cognition and action. "It is through play that children have repeated opportunities to rehearse verbal and motoric responses to their emotion-feeling states. In the various types of play, children make connections among their feelings, thoughts and activities" (p.317).

Recent research suggests that failure to acquire the skills needed to manage emotional responses and emotional arousal may lead to difficulties in such areas as social interaction. For example, children who display aggressive behaviours toward their peers may do so because they have developed maladaptive strategies for regulating anger affect (Fabes & Eisenberg, 1992). Strategies such as attention control, avoidance, and instrumental coping may be useful in dealing with anger. Children who fail to use such strategies tend to vent

their emotions and may become aggressive. Rubin, Coplan, Fox and Calkins (1995) observed that "dysregulated children" displayed more externalizing symptoms and more solitary active behaviour (behaviour characterized by physical or self-stimulating actions) when interacting with peers.

3.3.5 Language Development

Alongside play, language and verbalisation have been seen to acquire an increasingly important role in the regulation of affects in the second year of life (see Edgcumbe, 1984; Furman, 1992; Katan, 1961). Bretherton, Fritz, Zahn-Waxler and Ridgeway (1986) provided an excellent review of the literature on the development of expressing emotions verbally, including talking about feelings. These authors traced the development from social referencing to intentional communication, with the onset of emotion language occurring around 18 months, with rapid increase in the next 1-1/2 years.

As Edgcumbe (1984) pointed out: "The capacity for psychological representation leads to potential for a new order of intelligence and a growing ability to elaborate ideas and fantasy (symbols), reality orientation in the cognitive world and in the emotion-laden interpersonal realm" (p.144). Kopp (1989) likewise suggested the benefits associated with the acquisition of verbal language included the value of communication and feedback, whilst Furman (1992) identified the risks associated with delay:

> When toddlers have not been helped to make affective mental sense of their sensations and motoric discharges to know and value their own feelings, they may persist with bodily manifestations or may adopt mother's feeling responses, but they may also use a variety of primitive defensive manoeuvres ... (p.74)

Katan (1961) made similar claims: "If the child does not learn to name his feelings, a situation may arise in which there develops a discrepancy between the strength and complexity of his feelings on the one hand, and his modes of expression on the other" (p.186). Evidence attesting to the role of language in emotion regulation has been provided by Bretherton et al. (1986) who reported that toddlers between 18 and 36 months use emotion labels not only to comment on or explain their own or someone else's feeling state, but also to guide or influence their companions' behaviour. Similarly, Katan (1961) noted that teaching a child to name feelings and express them in words was associated with greater mastery, and secondary feelings of increased security.

3.3.6 Ego Resilience and Mechanisms of Defence

According to Sroufe (1996) children must protect themselves at an increasing rate from being overwhelmed by stimulation or the disorganizing influences of their own feelings. In particular, they must delay, defer, and accept substitutions without becoming aggressive or disorganised. As Eisenberg et al. (1996) pointed out, Block and Block's (1980) construct of ego resilience seems to reflect this notion of optimal coping.

Ego resiliency thus refers to the dynamic capacity of individuals to modify their level of ego control, or regulation, as a function of the demands of the internal and external environment. At one extreme of the dimension, high ego resiliency is defined as resourceful adaptation to changing circumstances, analysis of the fit between situational demands and behavioural possibilities, and the flexible use of the available repertoire of social, personal and cognitive problem-solving strategies. At the other end of the continuum, ego brittleness implies little adaptive flexibility, an inability to respond to changing demands, and a tendency to become

disorganized when confronted with changes in circumstances or when stressed (Eisenberg et al., 1996).

A number of factors have been proposed to influence optimal coping or ego resilience, including e*go mechanisms of defence* (e.g. Vaillant, 1971) which are seen to have important implications by virtue of their role in protecting the individual from overwhelming affects (see also Lazarus & Folkman, 1984). As described in the DSM-IV (APA, 1994) defence mechanisms "are automatic psychological processes that protect the individual against anxiety and from the awareness of internal or external dangers or stressors. Individuals are often unaware of these processes as they operate. Defence mechanisms mediate the individual's reaction to emotional conflicts and to internal and external stressors" (p.751).

In regard to children, most of the ego mechanisms of defence that are referred to today derive from Anna Freud's (1936) publication of The Ego and the Mechanisms of Defence. In it, Freud, A. (1936) described several defences, including that of *projection*, which has ever since featured in numerous accounts of clinicians' attempts to understand and treat children with disruptive behaviour.

3.3.6.1 Projection

According to Riviere (1937) children's defences were particularly important in providing security against painful emotions such as hate, envy, jealousy and greed that, if too strong, threatened to overwhelm. Riviere thus defined projection as the most fundamental of insurances or *safety measures* against feelings of pain, fear and helplessness:

> All painful and unpleasant sensations or feelings in the mind are by this device automatically relegated outside oneself; one assumes that they belong elsewhere, not in oneself. We disown and repudiate them as emanating from ourselves; in the ungrammatical but psychologically accurate phrase, we blame them on to someone else (Riviere, 1937, p.11).

The essential elements of Riviere's (1937) definition of projection were retained in the DSM-IV (APA, 1994) description of projection:

> The individual deals with emotional conflict or internal or external stressors by falsely attributing to another his or her own unacceptable feelings, impulses or thoughts (p.756).

Phenomenologically, the concept of projection thus accounts for the child's (or adult's) tendency to misattribute threatening ideas, affects or urges to others in his interpersonal world. According to this perspective, the disruptive child's tendency to attribute hostility to others may represent a defence against threatening or painful emotions. The defence is complete if the child is successful in psychologically distancing himself from the threatening feelings, impulses or thoughts involved.

Clinical examples of projection have been provided by a number of investigators. For example, Fonagy, Moran and Target (1993) described therapeutic work with a 10 year old boy who was persistently violent towards family members, children at school and himself:

> David entered treatment and soon began to attack and provoke his therapist whom he perceived as frightening and potentially violent ... The more the therapist tried to forge links (between the boy's thoughts and feelings), the more hostile or withdrawn he

became. The boy frequently accused the therapist of wearing masks, such as Darth Vader, the evil hero of Star Wars. At other times, he would look at him and say 'What's the matter? Do you want some bother?' (p. 477).

Hence, as Sandler and Perlow (1987) pointed out, projection, in its most general sense, may be described as the tendency to search for an outside cause rather than an internal one. The interpersonal consequences of projection were incorporated into a related concept, that of projective identification, which was introduced by Melanie Klein (1946) and later elaborated most notably by Wilfred Bion (1962), Thomas Ogden (1982) and Otto Kernberg (1986). Ogden's (1982) account is summarised below, with clinical vignettes to illustrate applications of the concept to the disruptive child.

3.3.6.2 Projective Identification

Ogden (1982) discussed projective identification as if it were a sequence of three phases or steps. First, there is a wish to rid oneself of a part of the self, including thoughts, feelings or impulses, either because that part is experienced as threatening, or because one feels that the part is in danger of attack by other aspects of the self. Second, the projector interacts in such a way as to pressure the recipient to experience him or herself, and behave, in a way that is congruent with the projection. Third, the projection is reinternalized after it has been psychologically processed by the recipient.

Phenomenologically then, the first step in projective identification involves the false attribution of unwanted feelings, impulses or thoughts to another. For example, the chronically disruptive child might regard his teacher as hostile and moody. However, unlike

in the case of projection, the child does not feel estranged or threatened by the recipient of the projection, but rather maintains some empathy with the attribution. For instance in the case of the projection of anger, the child perceives his teacher as angry, just like himself. Second, the child interacts with his teacher in such a way as to induce the projected feeling. From this perspective oppositional and defiant behaviours might be seen as part of the defensive repertoire of the disruptive child that involves the induction of unwanted emotions in teachers and parents alike. For example Kalu (2002) described feelings of inadequacy, confusion and futility in relation to her experience teaching disruptive children in ancillary school settings.

According to Ogden (1982) this is not an imaginary pressure, but rather, real pressure exerted by means of a multitude of interactions between the projector and the recipient:

> A 12-year-old in-patient, who as an infant had been violently intruded upon psychologically and physically ... did almost nothing on the ward but made her presence powerfully felt by perpetually jostling and bumping into people. This was generally experienced as infuriating by other patients and the staff. In the therapy hours, her therapist said he felt as if there were no space in the room for him. Everywhere he stood seemed to be her spot (p.14).

Thus this interaction highlighted the therapist's experience of himself as inescapably intruded upon. In reality however, the recipient's experience is a new set of feelings experienced by a different person, with a different personality and different strengths and weaknesses. Hence, the recipient potentially offers a new method for managing the projected material. According to Ogden (1982) this can be viewed as a processed version of the original projected feelings and might involve the sense that the projected feelings, thoughts and representations can be lived with, without damaging other aspects of the self. For example, Caspary (1993)

provided clinical material that suggested that therapeutic gains were related to the development of the child's capacity to empathize with the therapist's experience and communication of thoughts and feelings that had initially been projected by the child.

3.4 Summary

Essentially, these propositions are influenced by the hypothesis that there are discrete emotion systems, and that emotion is regulatory and regulated (Cole & Zahn-Waxler, 1992). Here, the basic premise involves the idea that the nature and intensity of emotional experience is mediated not only by cognitive strategies such as discrimination and attention, but also by attachment relationships, play, language and communication, and defences.

As Cole and Zahn-Waxler (1992) and others (e.g. Gross, 2002) have proposed, delay or disturbance in any of these areas of functioning may result in the child having insufficient resources for managing the intensity and range of his or her emotional experience, particularly if other psychosocial risk factors are present. With resources that are not well developed, certain children may be vulnerable to being emotionally overwhelmed, or prone to feelings of anger, hostility, anxiety or depression dominating their social and interpersonal functioning. Although investigators have begun to consider the implications for children's behaviour problems, there is a paucity of research that has examined emotion regulation in samples of children with significant psychopathology, and specific pathways between emotional disturbance and conduct-disordered outcomes remain to be elucidated.

CHAPTER 4

RATIONALE FOR THE STUDY

4.1 Rationale

The field of clinical child psychology refers commonly to "emotional disorders" or "emotional problems". However many current theoretical models and the research they have generated have not adequately considered the role of emotion in development and psychopathology (Southam-Gerow & Kendall, 2002). Given the high rates of comorbidity amongst mood- and disruptive behaviour disorders (see review by Angold & Costello, 1993; Hendren, 1999; Loeber & Keenan, 1994), evidence of moderate correlations between internalizing and externalizing disorders (e.g. Rose, Rose & Feldman, 1989; Lambert et al., 2001), and the frequent clinical findings that children with disruptive behaviour disorders have atypical emotional lives (e.g. Fonagy et al., 1993), it seems remarkable that the role of emotional factors in conduct and oppositional defiant disorders have not been more extensively examined.

To date, multi-factorial models have made the major contribution to advances in the understanding of risk and protective factors, and their relationship to the development of disruptive behaviour disorders. However, the considerable overlap between affective- and conduct disordered symptoms in these diagnostic groups remains poorly understood. For some children, affective- and mood disturbances appear to follow on from persistent conduct problems, possibly because of the mediating effects of peer rejection and social isolation. For others, conduct problems appear as a reaction to severe unhappiness and depression. Yet

others present with a mixture of behavioural and affective symptoms that might reflect global as opposed to specific pathology, and the variation in children's expressions of distress.

More recently, researchers (e.g. Eisenberg et al., 1996; Weinberger & Gomes, 1995) have begun to examine the relationship between children's disruptive behaviour and mood variation, lending weight to the argument that emotional dysregulation is implicated in the disruptive behaviour disorders (e.g. Cole & Zhan-Waxler, 1992). Such research has made a valuable contribution by providing much needed empirical support for the notion, but has been limited either by the absence of a clinical sample, or failure to examine the specific features of emotional functioning that are proposed to play a role in children's disruptive behaviour. What is hence needed is research that attends to specific emotional states and processes that might be implicated in a persistent pattern of disruptive behaviour in children diagnosed with conduct or oppositional defiant disorder.

In keeping with Weinberger and Gomes (1995) this study proposed that a significant number of children with oppositional and conduct disorders are likely to have particularly strong links between their negative moods and behaviour for several reasons: First, many of these children are believed to possess emotionally reactive or difficult temperaments, and to engage in aversive interactions with carers, characterised by crying, temper tantrums and hostility that is often reinforced. In terms of the development of emotion regulation, these children may not acquire the capacity to modulate, tolerate and endure experiences of negative affect.

Second, research has shown that a significant number of these children have been exposed to family and parental adversity that is associated with a sense of emotional neglect and

deprivation (De Zulueta, 1994). As Weinberger and Gomes (1995) pointed out, these children are hence more likely to have the types of environmental stressors that have been shown to engender feelings of unhappiness, irritability and affective malaise, while simultaneously being ill-equipped to inhibit the resulting impulses.

Third, by middle childhood, aggressive children with poorly developed social skills are often rejected by their peers (e.g. Coie & Dodge, 1998). The disruptive child is thus likely to view interpersonal relations with a sense of pessimism or doubt, possibly adding further to feelings of anger, resentment or dysphoria, and simultaneously undermining the social supports which have been shown to buffer distress (Cohen & Wills, 1985).

Finally, Klein's (1946) work on projection, Bower's (1981) network-semantic theory, and Dodge and colleagues' (e.g. Dodge & Somberg, 1987) research concerning hostile misattribution are all consistent with the notion that emotional state strongly influences perception and the assimilation of indeterminate experiences. Should the disruptive child indeed be prone to significant affective disturbance of a dysphoric nature, unconscious mechanisms of defence, including projection and projective identification may lead to feelings of hostility, irritation, aggression or pessimism being attributed to, or engendered in others, and acted out in social encounters.

This conceptualisation operationalised emotional acting out as the tendency towards conflict that many children with conduct and oppositional defiant disorder engender in social situations, and with authority figures. The intense anger, hostility, and aggression common to the interpersonal interactions of these children is hence considered to reflect more broadly

upon the disruptive child's chronic feelings of irritability, unhappiness and pessimism that he is unable to experience and express (or inhibit) in a more adaptive fashion.

If *acting out* reflects difficulties with emotional experience and expression in a significant number of children diagnosed with conduct or oppositional defiant disorder, these children should differ from nonclinical groups not only in terms of their behaviour, but also in terms of the quality of their affective experience and capacity for regulating affect. Further, the perceptual accuracy of these children would be expected to be associated with their negative affective state.

This study hence sought to provide empirical support for a conceptualisation of disruptive behaviour disorders that included emotional processes in mediating the relationship between life events, other psychosocial risk factors, and conduct problem outcomes. The function of affective irritability and dysphoria, and pessimism in mediating children's perception of the social environment was of particular interest. The investigation added to previous research by: (a) investigating this conceptualisation in a sample of children with existing conduct problems, (b) examining specific emotional processes and their relation to diagnostic status, and (c) examining the relationship between cognitive and emotional processes in a sample of children with and without conduct problems.

4.2 Conceptual Hypotheses

The conceptual hypotheses for the investigation are outlined below.

1. A significant number of children diagnosed with conduct or oppositional defiant disorder will show evidence of emotional disturbance, in the form of depressive features, such as disturbed mood.

2. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will exhibit greater levels of emotional disturbance, including disturbed mood and pessimistic cognitions.

3. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will exhibit greater levels of emotional disturbance, in the form of poorly regulated emotional reactivity.

4. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be less likely to make conventional responses to ambiguous stimuli.

5. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be more likely to make perceptually distorted responses to ambiguous stimuli.

6. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be more likely to perceive interpersonal relationships negatively.

7. Children diagnosed with conduct or oppositional defiant disorder who show evidence of emotional disturbances, including depressive features and emotional reactivity, will be less inclined to make conventional responses to ambiguous stimuli.

8. Children diagnosed with conduct or oppositional defiant disorder who show evidence of emotional disturbances, including irritability and dysphoria, will also exhibit a tendency towards perceptual distortion.

9. Children diagnosed with conduct or oppositional defiant disorder who exhibit negative or hostile attitudes toward interpersonal relationships will also show evidence of emotional disturbance in the form of disturbed mood and pessimistic cognitions.

10. Emotional disturbances, including disturbed mood, pessimistic cognitions, negative interpersonal perception and emotional reactivity will serve as reliable predictors of a diagnosis of conduct or oppositional defiant disorder

CHAPTER 5

METHOD

5.1 Study Design

Although it is difficult to demonstrate empirically that behaviour is associated with emotional processes, the investigation of individual differences has proven helpful in ruling out alternative explanations (e.g. Weinberger, 1990; Weinberger & Davidson, 1994). Hence, the study design involved comparison of a group of boys with conduct or oppositional defiant disorder with a group of peers without conduct problems, on the Rorschach Inkblot Test (Rorschach, 1921). The Rorschach Inkblot Test is a standardised projective measure of personality functioning, with particular emphasis on how individuals construct their experience and the role of emotion in the psychology and functioning of the subject (Groth-Marnat, 1997). Hence, the study design incorporated comparison of group differences in the emotional functioning of children with and without conduct problems.

In spite of heated debate regarding the psychometric adequacy of the norms developed by J.E. Exner (1993) for the Rorschach Comprehensive System (see Shaffer, Erdberg, & Haroian, 1999), the test remains one of the most widely used and thoroughly researched techniques in the field of psychology (Watkins, Campbell, Nieberding, & Hallmark, 1995). Indeed, although very recent detractors (e.g. Wood, Nezworski, & Garb, 2001) have echoed early critics (e.g. Jensen 1965) who suggested abandoning the use of the technique altogether, rejoinders from Weiner (2000), Hibbard (2003) and others are supported by meta-analytic reviews by Parker and colleagues (Parker, 1983; Parker, Hanson and Hunsley, 1988) that

concluded that the Rorschach can be considered to have adequate psychometric properties if used for the purpose for which it was designed and validated.

Specifically, Parker (1983) reported that reliabilities in the order of .80 and validity coefficients of .50 and higher can be expected. Hence, "when researchers have used dependent measures derived from the Rorschach to test hypotheses supported by empirical or theoretical rationales ... the test has proved to be both reliable and valid" (p.231). More recently, Groth-Marnat (1997) agreed that the general consensus among several well-designed meta-analytic reviews (e.g. Atkinson, 1986; Parker et al., 1988; Weiner, 1996) was that validity ranged from .40 to .50 meaning that the Rorschach has achieved levels of reliability and validity that are generally comparable to the Minnesota Multiphasic Personality Inventory and almost as high as the Wechsler scales.

The central assumption of the Rorschach Inkblot Test is that perceptions of stimuli from the environment are organized by a person's specific needs, motives, conflicts, and by certain perceptual "sets". This need for organization becomes more exaggerated, extensive, and conspicuous when subjects are confronted with ambiguous stimuli, such as inkblots. Thus, subjects must draw on their personal internal images, ideas, and relationships in order to create a response. This process requires that persons organize these perceptions as well as associate them with past experiences and impressions (Groth-Marnat, 1997).

A significant advantage of employing the Rorschach Inkblot Test in this study then, was in the opportunity to assess affective disturbances in school children who typically lack the capacities of older people to conceptualize and verbalize moods and attitudes (see Weiner, 1982). Moreover, the test also allowed assessment of unconscious (habitual, automatic,

procedural) influences, including pessimistic cognitions, on perception. As Greenwald (1992) pointed out, unconscious cognition is now solidly established in empirical research, with several reviews of the concept providing empirical confirmation. Finally, a further advantage of the Rorschach Inkblot Test is that test results may be studied with reference to normative data derived from a standardization sample that yielded 1,390 records.

Hence, the study design utilised norm-referenced testing of unconscious cognition and emotional functioning, comparison of group differences, and measures of association, from which inferences about the impact of emotional functioning on children's disruptive behaviour could be made.

5.2 Sample

The sample was made up of two groups of primary school boys aged between 9 and 12 years. The clinical group consisted of 20 boys recruited from specialist schools for children with disruptive behaviour problems. The control group was comprised of 20 boys without clinically significant conduct problems, recruited from mainstream primary schools in the Melbourne metropolitan area.

5.3 Materials

5.3.1 Demographic Questionnaire

A brief self-report questionnaire was designed for the purpose of this research to obtain demographic information concerning participants (see Appendices A & B). The

demographic questionnaire included items concerning participant's age, living situation, nationality and parents' employment.

5.3.2 The Rorschach Inkblot Test

The Rorschach Inkblot Test (Rorschach, 1921) involves a set of ten bilaterally symmetrical inkblots that are introduced to the examinee one at a time. Examinees are requested to tell the examiner what the inkblots might be. During the Response (also referred to as Association) phase, examinees responses are recorded verbatim.

Once all cards have been administered, the test proceeds to the Inquiry Phase, the purpose of which is to gain whatever additional information is necessary to identify the major components involved in the scoring, or *coding* of the response. As outlined above, Exner's Comprehensive System of Rorschach structural scores have been demonstrated to be reliable and valid measures of a range of personality processes (see Exner, 1993). Moreover, the scores have been extensively standardised on a variety of groups, including children. Interpretation of structural scores is hence undertaken with reference to a normative sample. Procedures for scoring the Rorschach Inkblot Test and the specific scores used in this study are described in sections 5.4.3 and 5.5, below.

5.4 Procedure

5.4.1 Recruitment of Participants

Participants were recruited via metropolitan primary schools. Permission to approach parents and children to invite participation in the study was obtained from each school

principal and grade teacher, after approval from the Victoria University Ethics Committee, Department of Education, Employment and Training, and Catholic Education Office was first granted (see Appendix C).

Subjects in the clinical group participated with the approval of the school Senior Psychologist and the child's psychologist/therapist. Parental consent was obtained for the participation of all subjects (see Appendix D).

Subjects were recruited through a written invitation which was provided along with information about the nature and aims of the study to parents and school staff (see Appendix E). Parents were requested to discuss this information with their child, and to seek the child's consent to participate. A non-probability sampling method was used with the aim of obtaining two equal sized groups of boys of a similar demographic, who attended either mainstream or ancillary schools in the Melbourne metropolitan area. For the clinical group 40 families were invited to participate, and 20 agreed. A higher rate of return was observed in the control group with 34 of 40 families agreeing, from which 20 boys were selected at random to participate.

5.4.1.1 Clinical Group

The clinical group was selected on the basis of an existing diagnosis of conduct or oppositional defiant disorder, made by a qualified mental health clinician, according to DSM-IV-TR (APA, 2000) criteria (see Appendix F). A range of techniques were used in arriving at a diagnosis, including the use of multiple informants (including parent interview and teacher

observation), standardised testing and projective techniques. Clinical interviewing was the most frequently reported means of diagnosing subjects in the clinical group.

In order to control for possible confounding variables, children with comorbid conditions that potentially involved symptoms of emotional disturbance, oppositional behaviour or both were not included in the sample. Thus children with a history of significant head injury, diagnosis of Intellectual Disability, Pervasive Developmental Disorder, Substance-related Disorder, Schizophrenia or other Psychotic Disorder, Mood- or Anxiety Disorder, or Eating Disorder were excluded from the study (see Appendix B).

5.4.1.2 Control Group

The behaviour of subjects in the control group was screened in the first instance by requesting teachers to nominate children to participate who did not exhibit problem behaviours in the classroom. The parents of these children then completed a questionnaire item pertaining to their level of concern about their child's conduct (see Appendix A). Parents responded on a 4-point likert-scale ranging from *not at all* to *extremely* concerned. Children nominated by their teacher for inclusion, whose parents were *not at all* concerned about conduct problems exhibited by their child were included in the control group.

5.4.2 Data Collection

Diagnostic information for the clinical sample was obtained from the child's school psychologist/therapist using a brief questionnaire that requested the child's diagnosis and method of assessment (see Appendix F). Demographic information for the clinical and

control groups was collected using a brief questionnaire, which was completed by participants' parents, and returned in reply-paid post (see Appendices A & B).

The Rorschach Inkblot Test (Rorschach, 1921) was administered at the child's school by the researcher who is trained in the use of the instrument. Standard procedures of administration, including seating, instructions, and recording, as outlined by Exner (1993) were adhered to, including informing subjects about the general purpose of the assessment, and reporting of results. The measures and scoring procedures used in the study are described in more detail below, along with variables in the investigation.

5.4.3 Scoring of Variables in the Study

Following administration of the Rorschach Inkblot Test (Rorschach, 1921), each child's test protocol was later coded according to: (1) *Location* (the part of the blot to which the response occurred; for example Whole or Common Detail) (2) Determinants (the blot features that contributed to the formation of the percept; for example Color, Movement, Shading) and (3) Content (the object or class of objects that was reported in the response; for example, Human, Animal, Landscape).

Along with the *Developmental* and *Form Quality* (the quality of cognitive processing and 'goodness of fit' of the response to the blot area), coded responses were converted into *Structural Scores,* represented by letter notations, using a range of quantitative formulas specified by Exner (1993). The structural scores used in the study related to the role of emotion, particularly *dysphoria, irritability* and *reactivity* in the intrapsychic functioning of the subject. Also of interest was subjects' cognitive structuring or processing, and in

particular *perceptual accuracy*. These variables and their measurement are described below, along with relevant research, including reliability and validity data.

5.5 Rorschach Measures of Emotional Disturbance

As affective disorders are primarily disorders of mood, Rorschach assessment of these conditions rests heavily on test indices of dejection. These indices of disturbed mood usually are drawn from structural features of Rorschach data, from the kinds of thematic imagery that appear, and from the manner in which subjects approach the test situation (Exner & Weiner, 1995). Seven indices of dejection or distress that characterize a depressed mood contribute to the Depression Index Score (DEPI; depressive features) in Exner's (1993) Comprehensive System. Hence, along with the Depression Index Score (DEPI), three components of the DEPI - Experience Base (eb; dysphoria), Morbid Special Score (MOR; pessimism), and White Space Response (S; irritability) were examined separately in the study.

Other variables of interest included Emotional Reactivity which was measured according to the Form-Colour Ratio (FC: CF + C). In addition, Cognitive Processing was measured by the Rorschach Structural Scores of *Conventional*, (X+) and *Distorted Form* (X-), which assess perceptual conformity and distortion.

Finally, Interpersonal Perception was measured according to Aggressive (AG) and Cooperative (COP) Movement Responses. A more detailed description of these variables follows.

5.5.1 Depressive Features, as measured by the Depression Index Score (DEPI)

The Depression Index Score (DEPI) consists of 15 Rorschach variables that form the basis for the seven indices that are involved in this index. Scores for the DEPI range from 0 to 7 however values of 0 to 4 provide no information about diagnostic status. A value of 5 indicates the subject has many features that are common among those diagnosed as being depressed or having an affective disorder, but may also simply indicate that the psychological organization of the subject can easily give rise to depression or fluctuations in mood. DEPI values of 6 and 7 are much more definitive. According to Exner (1993) subjects having these values for the DEPI will almost always be diagnosed as having some significant affective problem.

Nevertheless, Exner (1993) has warned that interpretation of the DEPI should be formulated cautiously, particularly given that false negative findings are relatively common. For example, in one group of 315 inpatient adults diagnosed with depressive disorder, only 75 per cent had a DEPI of more than 4, which means that the index did not detect the diagnosed depression in the remaining one fourth of these patients (Exner, 1991).

Although comparable data for children and adolescents are sparse, they tend to confirm that the vast majority of young people with elevated DEPIs are clinically depressed, but that many children and adolescents who appear depressed are not identified as such by DEPI (Ball, Archer, Gordon, & French, 1991). Hence, Exner and Weiner (1995) suggested "that clinicians are not only well advised to thinks seriously about the probable presence of an affective disorder when DEPI is elevated, but to avoid dismissing the possibility of affective

disorder just because DEPI is less than 5" (p.194). In this study, a DEPI value greater than 5 is used as an indicator that depressive features are present in the subject.

5.5.2 Dysphoria, as measured by Experience Base (eb) and SumShading (SH)

Experience Base (eb) is a ratio comparing the use of all nonhuman movement determinants (FM + m), with the use of shading (SumShading) and achromatic colour (SumC') determinants. According to Exner (1993) the ratio provides information concerning stimulus demands experienced by subjects, with the data for the right side of the ratio (shading and achromatic color determinants) being important for an understanding of the impact of irritating affects on the psychological activity of a subject.

The symbol (SH) is often used to represent the composite of shading and achromatic colour determinants, represented by the right side of the Experience Base (eb) ratio. SH variables relate to the experience of affect that is created by demand stimuli. "These are irritating or prompting feelings created by any of a variety of psychological experiences. Some are obviously generated by need states. Others are provoked when feelings are not expressed openly or fully and still more result from a sort of rumination about the self" (Exner, 1993, p.379).

Usually the value for (SH) will range between 2 and 4 among nonpatients. Hence, emotional distress is signalled when the value is inordinately high, such as greater than 5, or if it exceeds the value in the left side of the eb. For example, Exner (1993) reported that 90% of nonpatient children between ages 5 and 14 produced records with more nonhuman movement determinants than shading and achromatic color determinants. In contrast, the

reference sample of seriously depressed subjects included 61% who had a higher value in the right side of the eb, reflecting a higher frequency of shading and achromatic colour determinants. In this study, a value for SumShading (SH) greater than 4 is used as an indicator that the subject was likely experiencing dysphoric feelings at the time of test administration.

5.5.3 Pessimistic Cognitions, as measured by Morbid Special Scores (MOR)

The coding of Morbid Special Score (MOR) is used for any response in which an object is identified as "dead, destroyed, ruined, spoiled, damaged, injured or broken, or alternatively, if a clearly dysphoric feeling or characteristic is attributed to an object" (Exner, 1993, p.172). Responses containing morbid content invariably include some projected material. They are embellishments of the stimulus field that attribute features to the object that are not obvious in the stimulus field (Exner, 1993).

The coding of Morbid Special Score (MOR) evolved from efforts to study depression in children, with most of the subsequent data regarding the relationship between Morbid content responses and thinking derived from research concerning depression, and the reports of therapists working with depressed patients (Exner, 1993). For example, Exner and Weiner (1982) found that inpatient children with a primary symptom of depression averaged nearly three MOR responses as compared with about one for other inpatient children. The test-retest reliability of the Morbid Special Score (MOR) for nonpatient children, over brief intervals, is slightly higher than for adults, ranging from .84 to .94 (Exner, 1993).

An elevated number of MOR responses signals an orientation towards the self, and probably toward the environment, that is marked by pessimism (Exner, 1993). It is not unusual for an

11-year-old to obtain a value of 1 for MOR, and such scores offer no interpretive significance. Scores above 2 for Morbid Special Score (MOR) however signal that the thinking of the subject is marked frequently by a pessimistic set in which relationships are viewed with a sense of doubt and/or discouragement. Such individuals anticipate gloomy outcomes regardless of the quality of the effort invested, whilst the self-image is conceptualised by the subject to include more negative and possibly damaged features than is commonplace (Exner, 1993). In this study, a value for Morbid Special Score (MOR) greater than 2 is used as an indicator that a pessimistic orientation was present in the subject.

5.5.4 Irritability, as measured by White Space Responses (S)

The symbol S is included in the Location coding whenever a white space area of the card is included in the response. According to Exner (1993), data concerning answers that include the use of white space often add information concerning some of the affective characteristics of the subject. In particular, the feelings of anger and irritability that often accompany depression are indicated by frequent White Space (S) responses. For instance, if the value for White Space (S) is three or more, and at least one of the S responses occurred after Card II, it suggests that the subject is disposed to be more negativistic, angry or oppositional toward the environment.

Exner (1993) cautioned that such findings should be reviewed however, to differentiate trait-like hostility from situational related negativism. For instance, if all S responses were given to the first two blots, it indicates that the subject probably responded negatively to the demands of the testing situation. Alternatively, the presence of a very negative, angry trait-

like attitude toward the environment is signalled if the value for S is four or more, and at least one of the S answers was given after Card III (Exner, 1993).

Retest correlations for White Space Responses (S) range from .59 to .73 for brief intervals, and from .72 to .79 for lengthy intervals. According to Exner (1993) this is possibly because as S elevates well beyond the mean, it reflects a more stable characteristic, and hence a different psychological operation. In this study, a value for White Space Response (S) greater than 2 is used as an indicator that the subject was inclined to experience irritable affect at the time of test administration.

5.5.5 Emotional Reactivity, as measured by Form-Color Ratio (FC: CF + C)

The Form-Colour Ratio (FC: CF+C) provides an index of the extent to which form determinants have influenced the subject's translation of color stimuli. According to Exner's (1993) Comprehensive System, the Form-Colour determinant is applied to responses that are created mainly because of form features, although chromatic colour is used with secondary importance. In contrast, Colour-Form determinants are coded for responses that are formulated primarily because of the chromatic colour features of the blot, whilst the Pure Colour determinant (C) is used for responses based exclusively on the blot's chromatic colour features.

Because less cognitive effort is required to identify colours than forms, Form-Colour determinants suggest that more cognitive control has been inserted into the process (Exner, 1993). Hence according to Exner (1993), FC responses equate with affective experiences that have been controlled and/or directed by cognitive elements. On the other hand, CF and

C responses illustrate instances in which the subject has been more prone to give way to the affective stimulus, and inject less cognitive modulation into the translation of the stimulus field.

The Form-Colour ratio thus provides an index of the extent to which emotional discharges are modulated. A higher right side value in the ratio (CF+C) suggests that emotional behaviours will be "marked more often by characteristics of intensity or even impulsiveness" (Exner, 1993). Accordingly, a predominance of Colour-Form over Form-Color responses and the presence of Pure C answers occur more commonly in young people than in adults, typically reflecting a less mature psychological organization, and affective exuberance and limited modulation that frequently manifests in the behaviours of the younger subject (Exner, 1993). Hence, in the normative sample children gave significantly more CF+C than FC at every age through to 12-years (Exner, 1993).

Although not a completely uncommon finding among younger children and adolescents, a laxness in modulating emotion may prove problematic when in combination with more chronic affective irritation, anger or stress. Indeed, there has been some indirect support for such a notion, with several early studies (e.g. Sommer & Sommer, 1958; Townsend, 1967) finding a higher frequency of CF+C associated with impulsive or aggressive behaviours. In this study a score of CF + C greater than FC is used as an indicator of emotional reactivity in the subject (FC<CF+C).

5.6 Rorschach Measures of Interpersonal Perception: Aggressive (AG) and Cooperative (COP) movement responses

The values for Cooperative (COP) and Aggressive (AG) movement responses often provide information about the "sets" that a subject may have concerning interactions between people.

The Aggressive (AG) movement coding is used for "any movement response in which the action is clearly aggressive, such as fighting, breaking, tearing, stalking, exploding, or arguing" (Exner, 1993, p.172). In contrast, the Cooperative (COP) movement coding is assigned to any movement response involving two or more objects in which the interaction is clearly positive or cooperative. Although the two scores do not correlate with each other, it is important that the interpretation of either be formulated with regard to the data for the other (Exner, 1993).

Hence, if the value for COP is zero or one, and the value for AG is two, it is probable that the subject tends to perceive aggressiveness as a natural manifestation in interpersonal relationships. According to Exner (1993) such scores signify attitudes toward others that are more negative and/or hostile than is customary. People with elevations in AG tend to see the social environment as marked by aggressiveness, and they have incorporated that attitude or set, so that it has become a feature of their own personality.

Much of the research concerning AG has examined its association with aggressive behaviours. For example, Exner and colleagues examined videotapes of 33 sixth-grade children during two 30-minute free periods in their classroom, and rated aggression. The group was divided twice, using a median split for the distributions for verbal and nonverbal aggression. The mean AG scores obtained 3 weeks earlier were significantly greater for the upper half than for the lower half in both instances (Exner, 1993).

Other studies have provided consistent results that appear to support the notion that elevations in AG signify an increased likelihood of aggressive behaviours, either verbal or nonverbal, and that they also indicate attitudes towards others that are more negative or

hostile than is customary (Exner, 1993). In this study combined scores above 1 for Aggressive (AG) movement and below 2 for Cooperative (COP) movement were used as indicators of negative interpersonal perception.

5.7 Rorschach Measures of Cognitive Processing: Form Quality Determinants (FQ)

Form is a basic ingredient to almost all Rorschach responses, involving a description of the details of the object perceived so as to emphasize the shape. According to Exner (1993) the coding of *Form Quality (FQ)* represents an index of goodness of fit. That is, whether or not the contours of the blot conform accurately to the form requirements of the object specified. Early in the development of the Comprehensive System it was decided that decisions concerning Form Quality should also be based on an empirical approach so as to increase inter-coder reliability, and to maintain consistency in evaluating form fit that could be subject to a variety of validation studies. Hence, coding decisions concerning Form Quality also take into account the frequency of responses obtained in a study of 7500 protocols involving over 162 000 responses (Exner, 1993).

Rorschach postulated that the manner and quality in which form is applied in creating the response represents the subject's ability to perceive things conventionally, or realistically. According to Exner (1993) the bulk of research concerning form quality that was published during the first 50 years after Rorschach's death focused on the Conventional Form Quality (X+%) variable, and lent considerable support to his contentions about it. This, and variables that provide an index of less conventional use of form are described below.

5.7.1 Perceptual Conformity, as measured by Conventional Form Quality (X+%)

The percentage of responses with Conventional Form Quality in a protocol, represented by the symbol (X+%) represents the extent to which form use has been conventional. These responses involve the easily articulated use of form features to define an object reported frequently by others. Interpretively, Conventional Form Quality (X+%) provides data that relate to the use of the form features of the blot in a commonplace, reality-oriented manner. Although some aspects of perceptual accuracy are related to it, Conventional Form Quality (X+%) is probably more a measure of perceptual and/or mediational conventionality, because the calculation is based on the proportion of answers that are defined as commonplace by frequency criteria (Exner, 1993).

Research is consistent with this view. For example, Conventional Form Quality (X+%) has been shown to be a critical variable in the identification of schizophrenia, and discriminates well among nonpatient and the more seriously disturbed psychiatric groups (Exner, 1978). Retest reliabilities for Conventional Form Quality (X+%) are consistently high, over both brief and lengthy intervals, usually ranging from the mid .80s to the low .90s (Exner, 1993). Further it is the only variable that shows consistently high retest reliability when studied longitudinally from age 8 through 16 (Exner, Thomas, & Mason, 1985).

If Conventional Form Quality (X +%) falls between 70% and 89%, it indicates the frequency rate for making conventional responses is similar to that of most people. Elevations in the coding of Conventional Form often signal an excessive preoccupation with social acceptability, whilst scores below 70% signal an orientation toward more unconventional translations of stimuli (Exner, 1993). According to Exner (1993) a low X+%

may be caused by any of, or a combination of three features: perceptual-mediational distortion, over-commitment to individuality, or failures in modulating affective experiences, or ideational impulses. In this study, lower scores for Conventional Form Quality (X+%) were used as indicators that conventional responses to ambiguous stimuli were less likely.

5.7.2 Perceptual Distortion, as measured by Distorted Form Quality (X-%)

The score for Distorted Form Quality, expressed as a percentage of responses in the record, and represented by the symbol X-%, reflects the proportion of uncommon responses in the record that disregard the appropriate use of the contours of the blots. These are the answers in which the objects specified are, at best, very difficult to see, and in many cases, impossible to find (Exner, 1993).

Minus responses are not uncommon, but usually occur in low frequencies (Exner, 1993). For example, in the reference sample of 10-year-olds the mean for X-% is .08 per cent. In comparison, the depressive reference sample shows that 99% of those subjects gave at least one minus response, with a median of 4 such responses per record, translating to a X-% of 20 per cent.

Such elevations for X-% signal an increased incidence of perceptual inaccuracy, with scores exceeding 20 per cent, indicating that significant problems exist that promote perceptual inaccuracy and/or mediational distortion (Exner, 1993). In this study, higher scores for Distorted Form Quality (X-%) were used as indicators that perceptual distortion was more likely.

5.8 Summary of Study Variables

Study variables and their measurement are set out in Figure 1, below.

Figure 1: Summary of Study Variables and Rorschach Inkblot Test Measures

Variable	Measurement: Rorschach Score	Criteria for clinical Significance
Emotional Functioning		
Depressive Features	Depression Index (DEPI)	DEPI >5
Dysphoria	Experience Base (eb) SumShading (SH)	FM+m < SumShading SH>4
Pessimistic Cognitions	Morbid Special Score (MOR)	MOR > 2
Irritability	White Space Response (S)	S > 2
Emotional Reactivity	Form-Color Ratio (FC: CF + C)	FC < CF + C
Interpersonal Perception	Aggressive (AG) and Cooperative (COP) Movement Responses	AG > 1, COP < 2
Cognitive Processing		
Perceptual Conformity	Conventional Form (X+%)	X+% < 70
Perceptual Distortion	Distorted Form (X-%)	X-% > 20

5.9 Operational Hypotheses

The conceptual hypotheses for the investigation were operationalised as follows:

1. A significant number of children diagnosed with conduct or oppositional defiant disorder will show evidence of emotional disturbance, in the form of depressive features, as signalled in clinically elevated scores on the Depression Index on the Rorschach Inkblot Test.

2. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will exhibit more depressive features as signalled by a greater frequency of clinically significant elevations on the Depression Index (DEPI), and its composite variables, Experience Base (eb), White Space Response (S) and Morbid Special Score (MOR) that measure dysphoria, affective irritability, and pessimistic cognitions respectively.

3. Children diagnosed with conduct or oppositional defiant disorder will be more emotionally reactive than children without a clinical diagnosis, as signalled by a greater frequency of Colour than Form determinants (Colour-Form Ratio; FC:CF + C) on the Rorschach Inkblot Test.

4. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be less likely to make conventional responses to ambiguous stimuli, as reflected in a lower percentage of Conventional Form (X+%) scores on the Rorschach Inkblot Test.

5. In comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be more likely to perceive inaccurately, as reflected in a higher percentage of Distorted Form (X-%) scores on the Rorschach Inkblot Test.

6. In comparison to children without a clinical diagnosis, Children diagnosed with conduct or oppositional defiant disorder will be more likely to perceive interpersonal relationships negatively, as signalled by a greater frequency of scores for Aggressive Movement Response (AG) above one and Cooperative Movement Response (COP) below two.

7. For children diagnosed with conduct or oppositional defiant disorder, emotional disturbances, including depressive features, as signalled by clinically significant elevations in the Depression Index Score (DEPI), and emotional reactivity, as signalled by greater frequency of Colour than Form determinants (Form-Colour Ratio; FC:CF+C), will be negatively associated with the frequency of conventional responses to ambiguous stimuli, as reflected in the percentage of Conventional Form (X+%) scores on the Rorschach Inkblot Test.

8. For children diagnosed with conduct or oppositional defiant disorder, emotional disturbances, including irritability and dysphoria, as signalled by clinical elevations for White Space Response (S) and SumShading (SH), will be positively associated with the frequency of perceptually inaccurate responses to ambiguous stimuli, as reflected in the percentage of Distorted Form (X-%) scores on the Rorschach Inkblot Test.

9. For children diagnosed with conduct or oppositional defiant disorder, more severe pessimism, irritability and dysphoria, as signalled by greater elevations for Morbid Special Score (MOR), White Space Response (S) and SumShading (SH) on the Rorschach Inkblot Test, will be associated with a larger number of Aggressive Movement Responses (AG), reflecting more hostile interpersonal perception.

10. Emotional disturbances, including dysphoria, irritability, pessimistic cognitions, negative interpersonal perception and emotional reactivity as signalled by clinical elevations in SumShading (SH), White Space Response (S), Morbid Special Score (MOR), Aggressive Movement Response and Form-Colour Ratio (FC:CF+C) on the Rorschach Inkblot Test, will serve as reliable predictors of a diagnosis of conduct or oppositional defiant disorder in the specified sample.

5.10 Data Analysis Procedures

5.10.1 Data Screening & Reliability

Data were obtained for a total of 40 participants. All Rorschach Inkblot Test protocols were initially scored by the researcher conducting the study, according to Exner's (1993) Comprehensive System. One subject in each of the clinical and control groups did not give sufficient number of responses on the Rorschach Inkblot Test (Rorschach, 1921) to obtain fully reliable quantitative data hence these protocols were not included in the analysis.

A random selection of 20 protocols was re-scored by a psychologist trained in the use of the instrument, who was blind to the diagnosis of each subject. A high rate of agreement in

coding (above 80 per cent) was obtained on Rorschach measures of emotional functioning. A very small number of determinants were re-coded following discussion between scorers.

Data from the measures used in the study were manually coded and entered into a data file in the Statistical Package for the Social Sciences (SPSS: Windows Version). Prior to conducting the principal analyses, preliminary data checks were performed with the assistance of SPSS *Frequencies* and *Descriptives*. All variables were examined for accuracy of data input, missing values, and the degree to which data met the assumptions for multivariate analysis.

Preliminary checks of input, means and range of scores indicated that data were entered with a high degree of accuracy. A small total of four missing values were located within the ten Rorschach variables in the study. These missing values were randomly distributed. As a small amount of random missing data rarely poses serious problems in multivariate analysis, missing values were replaced with mean or mode values, or treated as data, in order to retain the associated cases in the remaining analyses (see Tabachnick & Fidell, 1989).

Variables were examined for the presence of multivariate outliers. No variables in the analysis fell outside of the range of $\pm$ 3 standard deviations from the mean suggested by Tabachnick and Fidell (1989) to prevent undue influence over the analysis.

The distributions of the variables in the analysis were examined using SPSS *Frequencies* to provide a check for the assumption of univariate normality. A significant skew in the frequency of Aggressive Movement Response (AG>2) was identified in the total sample. In the control group, the frequency of Depression Index Score (DEPI>5) was significantly

skewed, as were Form-Colour Ratio (FC:CF+C), Aggressive Movement Response (AG>2) and Morbid Special Score (MOR>2). In the clinical group, the Depression Index Score (DEPI>5) was skewed. Hence, for multivariate analyses in which normality and linearity are assumed, interval scores were submitted for analysis, rather than dichotomous clinical cut-off scores. For example, the Depression Index Score (DEPI) with a maximum possible score of 7 and a minimum of 0 was included in the evaluation of the seventh hypothesis of the investigation.

Residual scatterplots were employed to assess for multivariate normality, linearity and homoscedasticity. Examination of residuals revealed no threat to the assumptions of multivariate analysis. Given the research questions and nature of the data involved, the hypotheses were submitted for multivariate statistical analysis of association, group differences and group membership. The principal statistical analyses employed to test the study hypotheses are described below.

5.10.2 Principal Analyses

Four principal strategies of data analysis were employed in the study. First, for Hypothesis 1, the chi-square test for goodness of fit was calculated to compare the frequency of clinically elevated Rorschach test scores in the clinical group with that of a theoretical population that did not exhibit significant depressive signs. For this test, the Depression Index Score was scored according to whether or not Exner's (1993) criteria for clinical significance were met (DEPI>5). The resultant data was hence both dichotomous and categorical, and therefore suitable for the nonparametric statistical analysis that was undertaken.

Second, for Hypotheses 2 to 6, independent-measures t-tests and chi-square tests for independence were calculated to assess the statistical significance of differences between the clinical and control groups on Rorschach measures of emotional characteristics and functioning. For the chi-square tests, Rorschach data was again scored according to whether or not Exner's (1993) criteria for clinical significance were met. Variables in the analyses therefore included clinically elevated depressive features (Depression Index Score; DEPI>5), dysphoria (SumShading; SH>4), pessimistic cognitions (Morbid Special Score; MOR>2) and irritability (White Space Response; S>2).

Independent measures t-tests were calculated to asses for mean differences between the clinical and control groups on Rorschach variables that were measured at the interval level. These included the percentage of Conventional (X+%) and Distorted (X-%) Form responses given by subjects in the clinical and control groups.

The third principal strategy of data analysis in the study involved standard multiple regression analyses involving Rorschach measures of emotional characteristics and functioning, and perception in the clinical group. In these analyses, testing Hypotheses 7 to 9, different measures of perception were identified as the dependent variable. These included the Aggressive Movement Response (AG), Conventional Form (X+%), and Distorted Form (X-%), measured at the interval level. Independent variables were subjects' scores on the Depression Index (DEPI; depressive features), White Space Response (S; irritability), SumShading (SH; dysphoria), Morbid Special Score (MOR; pessimistic cognitions), and Aggression Special Score (AG; interpersonal perception), measured at the interval level. The Form-Color Ratio (FC:CF+C) was also included as an independent variable, but was scored dichotomously, according to whether or not the right side of the ratio was greater than the

left. Such scores signal that emotional behaviours will be marked more often by characteristics of intensity or even impulsiveness.

Finally, the fourth principal strategy of data analysis in the study involved an evaluation of the usefulness of Rorschach measures of emotional characteristics and functioning in predicting membership of the clinical group (Hypothesis 10). Predictors were scores for irritability (White Space Response; S), pessimistic cognitions (Morbid Special Score, MOR) and interpersonal perception (Aggression Special Score; AG), measured at the interval level. Emotional reactivity (FC<CF+C) was included as a dichotomous predictor. A discriminant function analysis was calculated to evaluate the adequacy of classification of cases on the basis of these test scores. All findings are presented in the following chapter.

CHAPTER 6

RESULTS

6.1 Sample characteristics

The average age of children in both the clinical and control groups was 10-years 9-months. The youngest child in the clinical group was 9-years 1-month old, compared to the youngest in the control group who was 9-years 8-months. The oldest children in the clinical and control groups were 12-years 6-months, and 12-years 9-months respectively. The number of responses given in the clinical and control groups on the Rorschach Inkblot Test was not significantly different t (2,36)= .680, p=.51)". Hence, there were no significant differences in age or test behaviour that would account for differences in Rorschach Inkblot Test results in the clinical and control groups.

In the clinical group, 80 per cent of children were diagnosed with oppositional defiant disorder, and 20 per cent were diagnosed with conduct disorder. However, consistent with the epidemiological data, significant comorbidity was reported, with 16 per cent of children diagnosed with oppositional defiant disorder having a second diagnosis of attention deficit/hyperactivity disorder, and a further 16 per cent diagnosed with comorbid learning or communication disorders. Over half of children diagnosed with conduct disorder exhibited comorbid attention deficit/hyperactivity disorder. Altogether, attention deficit/hyperactivity disorder was a comorbid feature in 26 per cent of cases in the clinical group. As outlined in section 5.4.1.1 above, children with comorbid conditions that potentially involved symptoms of emotional disturbance, including mood disorders, were not included in the sample.

Concerning custody arrangements, 53 per cent of children in the clinical group were living with both parents at the time that the Rorschach Inkblot Test was administered. Forty-two per cent of children in the clinical group lived with their mother, whilst 5 per cent were in unspecified care arrangements. These living arrangements were significantly different from the control group, in which all children were living with both parents at the time of the study.

Table 1 Employment status of parents

Group	Unpaid	Nonskilled	Skilled	Professional
Clinical				
Mother	5	3	6	3
Father	1	3	10	2
Control				
Mother	5	5	1	6
Father	-	-	10	8

Note. Missing data are not included. N=19 for both the clinical and control groups

The majority of mothers of children in the clinical group were in either skilled (32 per cent) or unpaid employment (26 per cent) at the time of the study. This appeared similar to the occupational status of mothers in the control group of whom 26 per cent were also not in paid employment, although a larger number of mothers in the control group were employed in a professional capacity (32 per cent) (see Table 1, above).

Most fathers (52 per cent) of children in both the clinical and control groups were in skilled employment. There were however, a larger number of fathers of children in the control group employed in a professional capacity (see Table 1, above).

Finally, there were no significant differences in the place of birth of children in the clinical and control groups, with 90 per cent of children in each group born in Australia.

6.2 Hypothesis Tests

6.2.1 Evidence of Emotional Problems in the Clinical Group

The first hypothesis of the investigation posited that a significant number of children diagnosed with conduct or oppositional defiant disorder would show evidence of emotional disturbance in the form of depressive features. This hypothesis was tested by calculating the chi square test for goodness of fit to determine whether the observed frequency of clinically elevated Depression Index (DEPI>5) test scores in the clinical sample differed significantly from that expected on the basis of diagnostic criteria. Since clinically elevated depressive signs are not a predominant feature of conduct or oppositional defiant disorder diagnoses, the null hypothesis was that fewer than 10 per cent of children in the clinical group would obtain scores above five on DEPI>5 (Depression Index Score). Findings are reported in Table 2, below.

Table 2 Frequency data for clinical elevations on the Depression Index (DEPI>5) in the clinical group (n=19)

Variable	Frequency	%	p
Depression Index (DEPI>5)	9	47	.001

Chi square (1, n=19) = 27.382, p<.001 indicated that a statistically significant number of children diagnosed with conduct or oppositional defiant disorder obtained scores above five on the Depression Index (DEPI) of the Rorschach Inkblot Test, signalling the presence of clinically significant affective and ideational depressive features. Indeed, examination of the observed frequencies revealed that almost 50 percent of children diagnosed with conduct or oppositional defiant disorder scored above the clinical cut-off on this variable. If the less stringent criteria for interpretation of the Depression Index (DEPI>4) specified by Exner (1993) is applied, then 84 per cent of children in the clinical group exhibited many features that are common among those diagnosed as being depressed or having an affective disorder. Hypothesis one of the study was hence supported.

The second hypothesis of the investigation posited that in comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder would exhibit more depressive features including dysphoria, irritability and pessimistic cognitions, as measured by the Rorschach Inkblot Test. In order to evaluate the comparative significance of elevations on the Depression Index (DEPI>5) and composite scores in the clinical sample then, Chi-Square Tests For Independence were calculated to determine whether the frequency of clinically elevated scores on the Depression Index (DEPI>5) and its composite variables, SumShading (Sh>4), White Space Response (S>2) and Morbid Special Score (MOR>2), were significantly different in the clinical and control groups.

Findings related to the second hypothesis of the investigation are presented in Tables 3 through 6, below.

Table 3 Frequency data for clinical elevations on the Depression Index (DEPI>5) and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
Depression Index (DEPI>5)	9	47	0	0	11.793**

** p = .001

The analysis showed that 2 cells had expected count less than 5, so an exact significance test was selected for Pearson's chi-square. As reported in Table 3, there was a significant difference in the frequency of clinically elevated scores on the Depression Index (DEPI>5) between the clinical and control groups (chi square = 11.793, df=1, exact p=.001). As is evident in Table 3, this difference was in the predicted direction, with more children in the clinical group exhibiting signs of significant depressive features compared to the control group.

As shown in Table 4, more children in the clinical group obtained clinically elevated scores on SumShading (SH>4) compared to the control group. However Chi Square (1, n=19) = 2.632, p=.105 indicated that the difference between groups was not statistically significant. This means that children in the clinical group did not exhibit, at a statistically significant level, more signs of dysphoria compared to children in the control group.

Table 4 Frequency data for clinical elevations on SumShading (SH>4) and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
SumShading (SH>4)	12	63	7	37	2.632

As reported in Table 5, there was a significant difference in the frequency of clinically elevated scores on Morbid Special Score (MOR>2) between the clinical and control groups (Chi Square= 8.686, df=1, p<.001). Examination of frequencies revealed that this difference was in the predicted direction, with around half of children in the clinical group exhibiting signs of persistent pessimistic cognitions compared to 1 child in the control group who obtained a clinically elevated score.

Table 5 Frequency data for clinical elevations on the Morbid Special Score (MOR>2) and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
Morbid Special Score (MOR>2)	9	47	1	5	8.686**

** p < .001

Table 6 Frequency data for clinical elevations on White Space Response (S>2) and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
White Space Response (S>2)	11	58	5	26	3.886*

* $p < .05$

As shown in Table 6, Chi Square (1, n=19) = 3.886, p<=.05, indicated that there was a significant difference between the clinical and control groups in the frequency of clinically elevated White Space Responses (S>2). This difference was in the predicted direction with almost 60 per cent of children in the clinical group exhibiting signs of irritability, as signalled by clinical elevations in White Space Response (S>2), compared to the control group, in which a quarter of children obtained elevated scores.

Taken together, these findings indicated that the clinical and control groups differed significantly in terms of the number of children that obtained clinically elevated scores on the Depression Index (DEPI>5), Morbid Special Score (MOR>2) and White Space Response (S>2). As is evident from the much higher percentage of children scoring above the clinical cut-off on each of these variables, these differences were in the predicted direction, with children in the clinical group exhibiting more depressive features (DEPI>5), including pessimistic cognitions (MOR>2) and irritability (S>2).

Compared to the control group, more children in the clinical sample also obtained scores above the clinical cut-off on the SumShading (SH) variable, signalling the presence of dysphoric affect in over half of these children. However the difference between groups was not statistically significant, because almost 40 per cent of children in the control group also obtained scores above the clinical cut-off on SumShading (SH>4). On the basis of these four comparisons of the clinical and control groups then, the second hypothesis of the investigation was partially supported.

6.2.2 Emotional Reactivity in the Clinical and Control Groups

The third hypothesis of the investigation posited that significantly more children diagnosed with conduct or oppositional defiant disorder would show signs of emotional reactivity than children without a clinical diagnosis. This hypothesis was evaluated by calculating the Chi-Square Test For Independence to determine whether the frequency distribution of scores on the Colour-Form Ratio (FC:CF+C) was significantly different in the clinical and control groups. Findings are reported in Table 7 below.

Table 7 Frequency data for elevated Colour-Form Ratio (FC:CF+C) scores and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
Colour-Form Ratio (FC<CF +C)	11	58	1	5	12.179**

** $p < .001$

As predicted, a statistically significant difference was observed (Pearson Chi Square (1) = 12.179, $p < .001$), with the clinical group giving comparatively fewer FC responses that equate with affective experiences that have been controlled, and more CF and C responses that illustrate instances in which the subject has been more prone to give way to the affective stimulus. Examination of frequencies revealed that 58 per cent of children in the clinical group obtained scores on the Colour-Form Ratio (FC:CF+C), that signal emotional behaviours in these children will likely be marked more often by characteristics of intensity or even impulsiveness. This contrasted sharply with the control group in which only one child (5 per cent) obtained such a score. The third hypothesis of the investigation was hence supported.

6.2.3 Perceptual Accuracy and Convention in the Clinical and Control Groups

The fourth hypothesis of the investigation posited that in comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will make fewer conventional responses to ambiguous stimuli, as reflected in a lower percentage of Conventional Form (X+%) scores on the Rorschach Inkblot Test. This hypothesis was tested by calculating the t-test for independent measures to determine the statistical significance of differences between the clinical and control groups in Conventional Form (X+%) scores.

As summarised in Table 8 below, $t(2,36) = -2.56$, $p < .01$ indicated that there was a significant difference between the clinical and control groups in Conventional Form (X+%) scores. Examination of mean scores revealed that children diagnosed with conduct or oppositional defiant disorder gave fewer responses that involve the easily articulated use of form features in the inkblot to define an object reported frequently by others. The fourth

hypothesis of the investigation that predicted that children in the clinical group would give fewer commonplace or conventional responses was hence supported.

Also reported in Table 8 are findings from the fifth hypothesis of the investigation that predicted that an increased frequency of perceptually inaccurate responses would be observed in the clinical group in comparison to the control group. This hypothesis was tested by calculating the t-test for independent measures to determine the statistical significance of differences between the clinical and control groups in Distorted Form (X-%) scores.

As summarised below, t (2,36)=1.961, $p<.05$ indicated that Distorted Form (X-%) scores were significantly different in the clinical and control groups investigated, with children diagnosed with conduct or oppositional defiant disorder giving more uncommon responses that disregarded the appropriate use of the contours of the blots. The fifth hypothesis of the investigation that predicted that children in the clinical group would make significantly more perceptually inaccurate responses was hence supported.

Table 8 T-Tests for mean differences in the clinical and control groups on Rorschach Inkblot Test measures of perception (n=19)

	Clinical		Control		
Variable	Mean	sd	Mean	Sd	t
Conventional FormX+%	.367	.156	.496	.150	2.596**
Distorted Form X-%	.335	.128	.253	.132	1.961*

** $p < .01$, * $p < .05$

Note. Mean percentages are expressed in decimals

The sixth hypothesis of the study posited that in comparison to children without a clinical diagnosis, children diagnosed with conduct or oppositional defiant disorder will be more likely to perceive interpersonal relationships negatively, as signalled by a greater frequency of Aggressive Movement (AG) responses, and fewer Cooperative Movement (COP) responses. This hypothesis was evaluated by calculating a Chi Square Test For Independence to determine whether the number of children that obtained combined scores above 1 for Aggressive Movement Response (AG) and below two for Cooperative Movement Response (COP) was significantly different in the clinical and control groups. Findings are reported in Table 9, below.

Table 9 Frequency data for Rorschach signs of negative interpersonal perception (AG>1, COP<2) and statistical significance of differences between the clinical and control groups (n=19)

	Clinical		Control		
Variable	Freq	%	Freq	%	Chi
Aggressive & Cooperative Movement Responses (AG>1; COP<2)	11	58	0	0	15.481***

*** $p < .001$

As summarised in Table 9, there was a significant difference in the number of children in the clinical and control groups that obtained combined scores above 1 for Aggressive Movement, and below 2 for Cooperative Movement (Chi-square=15.481, df=1, p<.001. As is evident in Table 9, this difference was in the predicted direction, with more children in the clinical group exhibiting signs of negative interpersonal perception compared to the control group. The sixth hypothesis of the study was hence supported.

6.2.4 Perception and Emotion in the Clinical Group

The seventh hypothesis of the study posited that in the clinical group, Perceptual Conformity, reflected in Conventional Form (X+%) scores, would be inversely associated with measures of emotional disturbance, including depressive features, as signalled by clinically elevated Depression Index scores (DEPI), and emotional reactivity, as signalled by greater frequency of Colour than Form determinants (Form-Colour Ratio; FC:CF+C).

This hypothesis was tested by calculating a standard multiple regression analysis using the enter method, with Conventional Form (X+%) identified as the dependent variable, and the Depression Index (DEPI) and Form-Colour Ratio (FC:CF+C) entered as independent variables. Findings are reported in Table 10, below.

Table 10 Summary of Standard Multiple Regression Analysis for Variables Predicting Perceptual Conformity (Conventional Form; X+%) (n=19)

Predictor Variable	B	SE B	Beta	t	R_2	AR_2
Depression Index (DEPI)	-7.04	.031	-.472	-2.268*	...	...
Form-Colour Ratio (FC<CF+C)	-8.81	.064	-.286	-1.337	.308	.221

* $p < .05$

As summarised in Table 10, a significant model emerged ($F(2,16)=3.554$, $p<.05$). The Depression Index score (DEPI) contributed significantly to the regression equation but the Form-Colour Ratio (FC:CF+C) did not. The adjusted R square value of .221 indicated that 22 per cent of the variability in Perceptual Conformity (X+%) scores was predicted through knowledge of Depression Index (DEPI) scores and the Form-Colour Ratio (FC:CF+C).

In terms of variables in the equation then, this finding signalled that elevations in depressive features (Depression Index score; DEPI), but not emotional reactivity (Form-Colour Ratio; FC<CF+C) were inversely correlated with the number of conventional responses to ambiguous stimuli given by children diagnosed with conduct or oppositional defiant disorder. The seventh hypothesis of the investigation was hence partially supported.

The eighth hypothesis of the investigation posited that in the clinical sample, irritability and dysphoria, as signalled by elevations for White Space Response (S) and SumShading (SH), will be positively associated with the frequency of perceptually inaccurate responses to ambiguous stimuli, as reflected in the percentage of Distorted Form (X-%) scores on the Rorschach Inkblot Test.

This hypothesis was tested by calculating a standard multiple regression analysis using the enter method, with Distorted Form (X-%) identified as the dependent variable, and White Space Response (S) and SumShading (SH) entered as independent variables. Findings are reported in Table 11, below.

Table 11 Summary of Standard Multiple Regression Analysis for Variables Predicting Perceptual Distortion (Distorted Form; X-%) (n=19)

Predictor Variable	B	SE B	Beta	t	R_2	AR_2
White Space Response (S)	2.436	.011	.490	2.183*	...	...
SumShading (SH)	8.035	.009	.191	.852	.364	.284

* $p < .05$

As summarised in Table 11, a significant model emerged ($F(2,16) = 4.570$, $p<.05$). White Space Response (S) was a significant predictor variable in this model, but SumShading (SH) was not. Overall, the adjusted R square value of .284 indicated that 28 per cent of the variability in Perceptual Distortion (X-%) scores was predicted through knowledge of variables in the equation. In these terms, this finding signalled that in the clinical group, elevations in irritability (White Space Response (S) were associated with a higher proportion of uncommon responses in which the appropriate use of the contours of the blots was disregarded. The eighth hypothesis of the investigation was hence partially supported.

The ninth hypothesis of the study posited that for children in the clinical group, more severe pessimism, irritability and dysphoria, as signalled by elevations in Morbid Special Score (MOR), White Space Response (S) and SumShading (SH) on the Rorschach Inkblot Test will be associated with a larger number of Aggressive Movement Responses (AG), reflecting more hostile interpersonal perception.

This hypothesis was tested by calculating a standard multiple regression analysis using the enter method, with Aggressive Movement Response (AG) identified as the dependent variable, and Morbid Special Score (MOR), White Space Response (S) and SumShading (SH) entered as independent variables. As summarised in Table 12, a significant model emerged ($F(3, 15)=5.702$, $p<.01$). Only SumShading (SH) contributed reliably to the regression equation. Overall, the adjusted R square value of .439 indicated that 44 per cent of the variability in Aggressive Movement Response scores (AG) was predicted through knowledge of variables in the equation. In these terms, this finding signalled that in the clinical group, elevations in dysphoria (SumShading; SH), but not irritability (White Space Response; S) or pessimistic cognitions (Morbid Special Score; MOR) were associated with

more hostile interpersonal perception. The ninth hypothesis of the investigation was hence partially supported.

Table 12 Summary of Standard Multiple Regression Analysis for Variables Predicting Interpersonal Perception (Aggressive Movement Response; AG) (n=19)

Predictor Variable	B	SE B	Beta	t	R_2	AR_2
SumShading (SH)	.337	.085	.786	3.954***	...	...
Morbid Special Score (MOR)	.103	.138	.137	.749	...	...
White Space Response (S)	-.111	.104	-.219	-1.068	.533	.439

*** $p < .001$

6.2.5 Prediction of conduct problems from emotional problems

The final conceptual hypothesis posited that emotional disturbances, including dysphoria, irritability, pessimistic cognitions, negative interpersonal perception and emotional reactivity as signalled by clinically elevated scores on the Rorschach Inkblot Test will serve as reliable predictors of a diagnosis of conduct or oppositional defiant disorder in the specified sample.

This hypothesis was tested by calculating a standard (simultaneous) discriminant function analysis using four measures of emotional functioning as predictors of membership in the clinical or control groups. Predictors were irritability (White Space Response; S), pessimistic cognitions (Morbid Special Score; MOR), negative interpersonal perception (Aggressive Movement Response; AG) and emotional reactivity (Form-Colour Ratio; FC<CF+C).

Dysphoria (Sumshading; SH) was omitted from the analysis because of its strong association with the Aggression Special Score (AG). Findings are summarised in Tables 13 and 14, below.

Table 13 Standardized Canonical Discriminant Function Coefficients

Predictor Variables	Function 1
Aggression Special Score (AG)	.598
Morbid Special Score (MOR)	.298
Form-Colour Ratio (FC<CF+C)	.505
Space Response (S)	.301

Table 14 Summary of discriminant function analysis results of emotional functioning variables predicting clinical or control group membership

Actual Group	N	Predicted Group	
		Clinical	Control
Clinical	19	16	3
%		84.2	15.8
Control	19	0	19
%		0	100.0

A single statistically significant discriminant function was identified. The value of this function was significantly different for the clinical and control groups (Wilk's lambda = .440,

chi square (4) = 27.930, p< .001). The obtained canonical correlation of .748 indicated that 56 per cent of the variance on that function was shared between groups and predictors.

As is evident in Table 13 above, all predictor variables were at least modestly positively correlated with the function, suggesting that children with clinically elevated scores were more likely to have a clinical diagnosis. The correlations between predictor variables and the discriminant function suggested that negative interpersonal perception (Aggression Special Score; AG) and emotional reactivity (FC<CF+C) were the best predictors of clinical diagnosis of conduct or oppositional defiant disorder. Examination of pooled within groups correlations revealed a modest correlation of .423 between Morbid Special Score and Form-Colour Ratio, possibly contributing to a minor inflation in the correlation between these variables and the discriminant function.

Once the discriminant function was obtained, the subjects in the sample were classified according to scores on each variable in the function. Findings revealed that 92 per cent of children in the clinical and control groups were correctly identified on the basis of the test scores. Three subjects in the clinical group were incorrectly classified (false negative). The final hypothesis that posited that Rorschach signs of emotional disturbances will serve as reliable predictors of a diagnosis of conduct or oppositional defiant disorder was hence supported.

CHAPTER 7

DISCUSSION

In the present investigation a significant number of children diagnosed with conduct or oppositional defiant disorder also exhibited signs of disturbed emotional functioning that have not usually been regarded as typical features of these disorders. This is consistent with the study thesis that forecast a model of disruptive behaviour disorders that included emotional processes in mediating the relationship between life events, other psychosocial risk factors, and conduct problem outcomes. Findings hence contribute towards clarifying the role of affective disturbances in the pattern of defiant, hostile and negativistic interactions typically maintained by the disruptive child.

The major findings are as follows: First, a significant number of children diagnosed with conduct or oppositional defiant disorder also exhibited clinically significant affective and ideational depressive features as indicated by the Depression Index of the Rorschach Inkblot Test. Hypothesis one was hence supported. Compared to their same age peers, children diagnosed with conduct or oppositional defiant disorder showed evidence of more irritable affect and pessimistic cognitions, but not dysphoric affect. The second hypothesis of the investigation was therefore mostly supported.

Second, there was evidence that children diagnosed with conduct or oppositional defiant disorders were much more likely than their peers to lack control of their emotional expressions. Hence, the third hypothesis of the investigation that posited that children with persistent conduct problems would be more emotionally reactive than their same age peers was also supported.

Third, compared to their same age peers, children in the clinical group gave fewer conventional responses to ambiguous stimuli, and more inaccurate responses, including Aggressive Movement Responses (AG) that signal negative interpersonal perception. Taken together, these findings indicated that children diagnosed with conduct and oppositional defiant disorder experienced more perceptual problems than children in the control group. The fourth, fifth and sixth hypotheses of the study were therefore supported.

Fourth, as predicted, the perceptual accuracy of children diagnosed with conduct or oppositional defiant disorder was found to be associated with aspects of their negative affective state. Specifically, depressive features were inversely associated with the frequency of conventional responses to ambiguous stimuli, whilst irritability was positively associated with perceptual inaccuracy. Dysphoria was highly associated with negative interpersonal perception. Emotional reactivity and dysphoria were not significantly associated with the number of conventional or inaccurate responses respectively given by the clinical group. Likewise, pessimistic cognitions and irritability were not related to negative interpersonal perception in the clinical group. The seventh, eight and ninth hypotheses of the study were hence partially supported.

Finally, as predicted, children with disruptive behaviour problems were able to be reliably distinguished from same age peers on the basis of Rorschach Inkblot Test scores of emotional functioning, lending further support to the notion that these children have atypical emotional lives.

Although a number of clinically significant findings concerning the emotional functioning of children with conduct and oppositional defiant disorders were found, methodological

limitations affect the conclusions that can be drawn from this study. These are described, along with implications for future research and clinical practice, following discussion of the major findings of the investigation, below.

7.1 Sampling Issues

Comparison of demographic variables in the clinical and control groups revealed a number of pre-existing differences that must be taken into account in interpreting the study findings. Of particular note is the finding that significantly more children in the clinical group lived with only one parent, most likely signalling a greater incidence of separation and divorce of parents in this group, and probably a lower total household income. Occupational status was also slightly lower in the clinical group compared to the control.

The demographics in the clinical group in fact are consistent with previous research that has shown that children exposed to parental separation had elevated risks of a range of conduct problems (e.g. Fergusson, Horwood & Lynskey, 1994a). Some have taken this to suggest that exposure to conflict (e.g. Davies & Cummings, 1998) and economic disadvantages (e.g. McLoyd, 1998) are precipitous of disruptive behaviour disorders in children. In contrast, demographic characteristics indicated that economic adversity was not a likely feature of the control group.

Differences in occupational and family status in the clinical and control groups highlighted the possibility that negative life events and stress may have contributed to the clinical status of children diagnosed with conduct or oppositional defiant disorder. Differences on Rorschach indices of emotional functioning in the clinical and control groups may therefore

be partly attributable to differences in negative life events and stress that children in each group had experienced (see Mathijssen, Koot & Verhulst, 1999). This is not contrary to any of the research hypotheses.

No differences in age or birthplace were found in the clinical and control groups. Observed differences in Rorschach indices of emotional functioning in the clinical and control groups were therefore unlikely to be attributable to cultural or developmental factors.

7.2 Discussion of Findings

7.2.1 Evidence of Emotional Problems in the Clinical Group

The first two hypotheses of the investigation were concerned with evidence of emotional disturbances, particularly affective and ideational features of depression, in the clinical group. A significant number of children in the clinical group obtained Rorschach Depression Index (DEPI) scores typical among those diagnosed as being depressed, or as having some significant affective problem. This is a particularly noteworthy finding given that the clinical group was screened to exclude children diagnosed with comorbid dysthymia or major depression. This is in contrast to the control group, in which no children obtained clinically elevated scores above 5 on the Depression Index (DEPI).

Indeed if the less stringent criteria for interpretation of the Depression Index (DEPI>4) specified by Exner (1993) is applied, then 84 per cent of children in the clinical group exhibited signs that are common among those diagnosed as being depressed or having an affective disorder. This finding has a number of possible interpretations.

First, it is possible that diagnosis of mood disorder was consistently overlooked by clinicians in the specialist schools from which children in the clinical sample were recruited to participate in the study. Although possible, this appears a most unlikely explanation, given that diagnosis of conduct or oppositional defiant disorder in the clinical group was made on the basis of a range of assessment techniques and multiple informants (including parent interview and teacher observation). Further, diagnosis of conduct or oppositional defiant disorder and screening for mood disorder in the clinical group was undertaken by a range of clinicians, meaning that systematic diagnostic bias is unlikely.

A second and alternative interpretation of this finding is that a significant proportion of children in the clinical group experienced subclinical depressive features that did not satisfy DSM-IV-TR (APA, 2000) diagnostic criteria for major depression or dysthymia. Hence, a symptom pattern of disruptive behaviour may well have been present in a number of children in the clinical group, along with depressive features such as irritability, dysphoria and pessimism that were not sufficiently severe or pervasive to warrant a comorbid diagnosis of a mood disorder.

This interpretation of the presence of depressive signs in the clinical group is conceptually similar to the *common syndrome* explanation for the co-occurrence of depressive symptoms and conduct problems that Fergusson et al. (1996) summarised. As previously outlined, the presence in children of multiple symptoms across two separate diagnostic categories is explained from this perspective, in terms of a specific syndrome, such as conduct/affective disorder that is distinct from conduct disorder or affective disorder in isolation (see also Zoccollilo, 1992). A significant number of children in the clinical group exhibited a pattern of depressive signs on the Rorschach Inkblot Test that can be accounted for by such a model

that assumes an overlap in conduct and emotional problems in children is more likely to represent global, as opposed to specific pathology (see Lambert et al., 2001; Thomas & Guskin, 2001; Weiss et al., 1998).

This interpretation draws attention to the potential limitations of a categorical approach to the diagnosis of children's conduct problems and of the division of children's affective and behaviour disorders based on criteria sets that imply homogeneity within a classification, or diagnosis (Fisher, 1998). In the present study, diagnostic criteria for conduct and oppositional defiant disorder were based upon DSM-IV-TR (APA, 2000) diagnostic criteria. As Simic and Fombonne (2001) pointed out, unlike the ICD-10 (World Health Organisation, 1992), the DSM-IV (APA, 1994) does not contain a separate category for a mixed disturbance of conduct and emotion, indicating that the supporting evidence for such a diagnosis is still not sufficiently established and, more generally, a different approach to diagnostic classification and comorbidity.

In spite of the warning by the editors of the DSM-IV (APA, 1994, p.xxii) that "there is no assumption that each category of mental disorders is a completely discrete entity with absolute boundaries dividing it from other mental disorders or from no mental disorder", the present findings may be taken to suggest that categorical diagnostic classification potentially fails to capture the less salient symptoms of emotional disturbance, and therefore understates the complexity of disruptive behaviour disorders in children (see Thomas & Guskin, 2001).

The findings of the present investigation lend weight to the argument that subclinical affective problems may well be a more common feature of conduct and oppositional defiant disorder than is currently accepted, irrespective of whether or not a comorbid diagnosis of

mood disorder is made. Findings also highlighted specific psychological features that might characterise children with mixed conduct/affective problems. For instance, in the present study, Rorschach signs of irritability (White Space Response; S) and pessimistic cognitions (Morbid Special Score; MOR) were found to be elevated in about half of children with conduct or oppositional defiant disorder, and to distinguish the clinical from the control groups. Elevations in dysphoria (SumShading; SH) that were noted in the clinical group were not significantly different from the control group.

One interpretation of these findings then, is that irritation and possibly anger might contribute significantly to the disruptive behaviour of this subgroup of children diagnosed with conduct or oppositional defiant disorder. For instance, persistent irritability might predispose conflict in these children's interactions with their peers and caregivers, while at the same time repeated conflict may be reciprocally related to irritability and other affective problems, such as depressed mood.

This is in line with findings reported by Dodge and his colleagues (e.g Dodge & Somberg, 1987) that aggressive children commonly exhibit hostile attribution biases, particularly in ambiguous situations. However, the present findings suggest that some children with conduct or oppositional defiant disorder may not only *misinterpret* social cues (e.g. Dodge, 1986), but psychologically *distort* their perception of the stimulus field in a manner congruent with their irritable or dysphoric mood. That is, about half of the clinical group gave a significant number of responses containing morbid content (MOR) that invariably included some *projected* material. These responses are embellishments of the stimulus field that attribute features to the object that are not obvious in the blot (Exner, 1993). In the case of morbid content (MOR), the projection is of damage, or a clearly dysphoric feeling or characteristic.

Indeed, if a less stringent clinical cutoff of 2 for MOR were applied, the thinking of almost 70 percent of the clinical group could be considered to be marked by a pessimistic or negative *set* or attitude towards the self and the environment. In terms of a common syndrome explanation for the co-occurrence of affective and conduct problems then, these findings highlighted the "comorbidity" of pessimistic cognitions, irritable affects and disruptive behaviour in a significant number of children in the clinical group. The apparent interdependence of these features in a significant number of children in the clinical group is further discussed below, in the context of additional findings regarding perception and emotion. First, in the following section, findings regarding the third hypothesis of the investigation are considered.

7.2.2 Emotional Reactivity in the Clinical and Control Groups

Findings concerning the third hypothesis of the investigation suggested that a subgroup of children in the clinical group tended to manage their feelings in a qualitatively different manner from children in the control group. Specifically, findings suggested that these children in the clinical group gave fewer Form-Colour (FC) responses that equate with affective experiences that have been controlled by cognitive elements. These children also gave more CF (Colour-Form) and C (Colour) responses, illustrating instances in which the subject has been more prone to give way to the affective stimulus, and inject less cognitive modulation into the translation of the stimulus field.

Hence, at least half of the children in the clinical group were likely to experience significant difficulty, or to make little cognitive effort to modulate their emotional expressions. Although this is not an altogether uncommon finding among younger children and adolescents, immaturity in the development of emotion regulation strategies may prove

problematic when in combination with persistent affective irritation including anger or dysphoria, such as that signalled in the previous results. Also underlining the possible role of emotional reactivity in a persistent pattern of disruptive behaviour is the finding that only one child in the control group obtained a score in the same clinical range.

This finding is therefore consistent with the frequently presented clinical picture of children with conduct or oppositional defiant disorder, who "often show intense emotion, especially when their wellsprings of anger are tapped" (Exner & Weiner, 1995, p.294). Such problems in the regulation of emotion might predispose oppositional, aggressive, and angry behaviour via a number of pathways.

First, these children appear more likely to respond to *actual* disappointment, frustration, hurt, defeat and hindrance with intense emotional displays that potentially place them at odds with social or familial expectation or requirement. For example, denial or delay of a request or withdrawal of privileges would seem likely to arouse an emotional reaction that these children appear prone to express in a much less restrained manner compared to their peers. Hence, the emotionally reactive child in the classroom who has found himself in the middle of the queue for a much coveted reward might respond to anxious anticipation, envy or annoyance by openly complaining, perhaps crying, 'having a tantrum' or even pushing to the front. Meanwhile, in terms of the development of emotion regulation (Eisenberg, Murphy, et al., 1995), his peers who are better able or more willing to contain these same feelings might wait eagerly, perhaps *talking* about their excitement, *imagining* their turn, or standing from one foot to the other, in an effort to moderate their frustrated enthusiasm.

Second, if, as this and other (e.g. Dodge & Somberg, 1987) research has suggested, a number of these children are prone to misinterpret or distort their perception of others' intentions as hostile or aggressive, findings of the present study indicate that their emotional response would more likely be intense and poorly restrained. For example, in the above hypothetical vignette, the disruptive child might complain to his teacher that she has intentionally forced him to the back of the queue, and proceed to vent his anger without inhibition. As Patterson and others (e.g. Patterson & Dishion, 1988) pointed out, repetitive patterns of coercive interactions are at risk of developing if the child's emotional displays are reinforced. This would be the case for example, if the abovementioned child was to be brought forward in the queue to circumvent his 'tantrum'.

These findings suggest that emotional reactivity may be a risk factor for the development of conduct or oppositional defiant disorder, particularly when coupled with persistent irritability or parental management strategies that reinforce the child's uninhibited emotional expressions. This is consistent with temperament research (e.g.. Gjone & Stevenson, 1997; Sanson & Prior, 1999) that suggested that negative emotionality, intense and reactive responding, and inflexibility were predictive of externalizing behaviour problems by late childhood. This is also consistent with the heuristic model proposed by Eisenberg and Fabes (1992) and research (e.g. Eisenberg, Murphy, et al., 1995) in which emotional reactivity and regulation are proposed as predictors of social responding.

7.2.3 Perceptual Accuracy and Convention in the Clinical and Control Groups

The fourth, fifth and sixth hypotheses of the study were concerned with evidence of perceptual problems in the clinical group. Compared to their same age peers, children

diagnosed with conduct or oppositional defiant disorder gave significantly fewer conventional responses to ambiguous stimuli and more perceptually inaccurate responses, including Aggressive Movement Responses (AG) that signal negative interpersonal perception. Indeed, almost 60 per cent of the clinical group obtained scores signalling attitudes toward others that are more negative and/or hostile than is customary. According to Exner's interpretive (1993) guidelines, these children tend to see the social environment as marked by aggressiveness, and they have incorporated that attitude or set, so that it has become a feature of their own personality.

One interpretation of these findings, consistent with guidelines proposed by Exner (1993), is that failures in modulating affective experiences may have promoted perceptual inaccuracy or distortion in the clinical group. From this perspective instances of impaired judgment may be prompted by underlying feelings of anger, irritability or dysphoria. This would be consistent with previous findings that suggested irritability and emotional reactivity were prominent features in the clinical group. This would also be consistent with Dodge and colleagues' theory and research (e.g. Dodge, 1980; Dodge & Pettit, 2003) that holds that cognitive and emotional processes within the child, including the acquisition of knowledge and social-information processing patterns, mediate the relation between life experiences and conduct problem outcomes.

Standard multiple regression analyses were conducted in order to determine whether, as Exner (1993) and Dodge (1980) forecast, affective problems were statistically associated with perceptual biases in the clinical group. The evidence of an association between perceptual and emotional problems in the clinical group is discussed below, in terms of the seventh, eight and ninth hypotheses of the investigation.

7.2.4 Perception and Emotion in the Clinical Group

Findings from the seventh hypothesis of the study revealed a significant inverse association between the Depression Index score (DEPI) and the frequency of conventional responses to ambiguous stimuli (Conventional Form; X+%) reported by children diagnosed with conduct or oppositional defiant disorder. This is consistent with Exner's (1993) interpretive guidelines, and the previous results that suggested an orientation toward making more unconventional translations of stimuli may be the product of social alienation or affective problems. Interesting then, is the finding that emotional reactivity, represented by the Form-Colour Ratio (FC<CF+C), was not significantly associated with the frequency of Conventional Form (X+%) responses in the clinic group. One possibility is that clinically elevated depressive features directly undermine conventional translations of stimuli in children with conduct problems, whereas the impact of emotional reactivity on perceptual conformity is less direct.

The meaning of this result also needs to be considered in the light of findings from the eighth hypothesis that revealed a significant association between irritability (White Space Response; S) and perceptual distortion (Distorted Form; X-%). Indeed 24 per cent of the variance in Distorted Form (X-%) scores was accounted for by this variable on its own. This was comparable to the 22 per cent of the variability in Perceptual Conformity (X+%) scores that was predicted through knowledge of the Depression Index (DEPI) scores. Taken together, these results suggest that lower scores for Conventional Form (X+%) obtained in the clinical group, were likely a product of the higher scores for Distorted Form (X-%), that were in turn found to be associated with White Space Response (S; irritability).

Put differently, in terms of variables in the analysis, these findings might be taken to suggest that irritability predisposed perceptually inaccurate responses in the clinical group, and, by extension, a decreased likelihood of conventional responses to ambiguous stimuli, compared to the control group. The inverse association between depressive features and perceptual conformity in the clinical group provided further evidence of the undermining influence of disturbed mood on perception in these children.

Buttressing these findings were results from the ninth hypothesis of the investigation that revealed a very strong association between negative interpersonal perception (Aggressive Movement Response; AG) and dysphoric affect (SumShading). Indeed, close to 50 per cent of the variance in Aggressive Movement (AG) scores was accounted for by SumShading (SH) scores in the clinical group.

Hence findings of the seventh, eighth and ninth hypotheses suggested that affective disturbances, in the form of irritable and dysphoric affects were associated with a greater frequency of perceptually inaccurate responses, including hostile attribution biases, in the clinical group. A number of possible interpretations exist for this finding. First, as Bower (1981) and others (e.g. Ogden, 1982) have suggested, the child's emotional state might influence cognitive processes in a fashion congruent with mood. From this perspective, and as previously outlined, some children in the clinical group who might be considered irritable, unhappy and pessimistic might have projected, or otherwise attributed these psychological features in their approach to the inkblot. In extending this interpretation to their actual interpersonal relationships, it could be reasonably speculated that these children tend to attribute their negative and unhappy ideas and feelings to other children or adults, and then proceed to fight, disagree, protest and argue against them.

This is consistent with Epictetus' doctrine that men (sic) are troubled not so much by things as by their perception of things, which Holmes (1993) pointed out is a reminder that environmental difficulty is mediated by a person's state of mind, and that mental set may powerfully influence how a person responds to stress. However, the present findings are also perhaps a timely reminder that the disruptive child's capacity to think about, and alter his thoughts may be limited not only by his cognitive development, but also by his affective state that might have a commanding influence over his perceptual experience. This is what Caspary (1993) described clinically in his work with a young boy who was seen due to oppositional behaviour and a tendency to boss and bully peers. This boy communicated fears that if he allowed anyone to set limits on his behaviour, he would be subjected to the same sadistic, controlling attacks that he witnessed in severe parental conflicts and domestic violence.

An alternative, but not mutually exclusive explanation of these findings is that this subgroup of children diagnosed with conduct or oppositional defiant disorder perceive the social environment as hostile and aggressive, because of some actual experience of deprivation or loss that has had a lasting impact on the child's affective state. Hence, oppositional and aggressive behaviours might be seen as a *reaction* (Dodge, 1991) to any number of anticipated or actual threats, including parental separation, peer rejection, loss, hostility, conflict or the like.

This interpretation would account for the significant correlation between dysphoric affect and negative interpersonal perception that was observed in this study. From this perspective, the child's experience of loss may be seen to provoke depressive feelings that are associated with a view of interpersonal relationships as marked by aggression and hostility. This is

consistent with several studies that have shown that many children with disruptive behaviour disorders have experienced adverse interpersonal relationships, including exposure to marital conflict (e.g. Davies & Cummings, 1998; Fergusson et al., 1994a), sexual abuse (e.g. Merry & Andrews, 1994) and peer rejection (e.g. Coie & Dodge, 1998).

A number of psychological mechanisms, including behavioural modelling (e.g. Bandura, 1977), psychological defences such as projection (e.g. Fonagy et al., 1993) or projective identification (e.g. Caspary, 1993) and coercive family interactions (e.g. Patterson, 1982) could potentially perpetuate the problem of disturbed conduct in response to perceived or actual loss. For example, Holmes (1993) suggested that rigid defence mechanisms may interfere with the emotional processing of painful affect. Hence the child may be more inclined to repeatedly *act out* his feelings as the means of communication and expression, not unlike the pre-verbal toddler (e.g. Edgcumbe, 1984; Furman, 1992; Katan, 1961). Similarly, and in line with the model proposed by Patterson (1982), the child's angry, irritable affective state that is so often triggered by the experience of being denied or frustrated may be maintained if the child is consistently accommodated in order to circumvent a tantrum.

Finally, an alternate interpretation of these findings is that impaired perceptual abilities, such as an unusual or unconventional orientation to the perceptual field, or significant distortions in reality testing, might predispose mood-related problems. From this perspective, mood and affective problems arise as a *consequence* of the frequent negative interpersonal interactions that stem from the child's pessimistic and hostile perceptual set. Certainly, the logical possibility exists that the child who is repeatedly out of step with his peers in terms of his interpretation and response to the environment may be predisposed to social problems that impact his mood and self-concept. The findings of the present investigation do not reveal the

direction of the observed associations between measures of affective, cognitive-perceptual and behavioural problems in the sample, or indeed, whether the variables are causally related. The implications of this study for further research are outlined later, following discussion of the final study hypothesis, below.

7.2.5 Prediction of Conduct Problems from Emotional Problems

Findings from the ninth hypothesis of the investigation revealed that children with disruptive behaviour were able to be distinguished from their same age peers convincingly on the basis of projective test scores of their emotional functioning. Specifically, pessimistic cognitions (Morbid Special Score; MOR), irritability (White Space Response; S), emotional reactivity (Form-Colour Ratio; FC:CF+C) and negative interpersonal perception (Aggressive Movement Response, AG) contributed to a reliable prediction of a diagnosis of conduct or oppositional defiant disorder.

Taken together then, the findings of the present investigation revealed a pattern of affective and ideational depressive signs in the clinical group that was consistent with the study thesis that emotional processes mediate the relationship between life events, other psychosocial risk factors, and conduct problem outcomes. Namely, a significant proportion of children diagnosed with conduct or oppositional defiant disorder exhibited irritable and dysphoric affects that were likely to be poorly modulated, and associated with an unconventional or inaccurate perception of the environment, including a negative view of social relationships. Pessimistic cognitions were also a prominent feature of the clinical group. Extending beyond previous studies then, was the finding that these children's perceptual biases tended to be congruent with their irritable and dysphoric affective state. These psychological

characteristics distinguished this subgroup of children diagnosed with conduct or oppositional defiant disorder from their same age peers who did not exhibit persistent behaviour problems.

Indeed, about half of the clinical group exhibited a profile involving clinically significant affective irritation that the child was prone to openly express, and that appeared associated with a negative view of both the self and the social environment. Of note was the striking similarity of these findings to the cognitive triad that Beck (1987) identified as a characteristic feature of depressed adults, namely involving a negative view of the self, tendency to interpret experiences in a negative manner and pessimistic outlook.

Although speculative, such a profile appeared consistent with the notion that these children employ projection and projective identification as the major defensive response to unpleasant or anxiety provoking affects. From this perspective, the child is seen to manage emotional conflict or internal or external stressors by falsely attributing to another his or her own unacceptable feelings, impulses or thoughts (DSM-IV, 1994). Furthermore, by interacting in such a way as to actually induce the projected feelings in the other, the child's psychological defences enter the interpersonal realm, and transact with other known risk factors such as parental management practices, family dynamics and peer relationships.

7.3 Study Limitations

The constraints associated with this study are common to empirical research of this kind, and derive mainly from the characteristics of the study design. By implication, the conclusions that can be drawn from this study must take account of the following:

First, causal inferences cannot be made from the results of this study, given the cross-sectional nature of the research design. Longitudinal research that assesses children at different time intervals, including developmental stages would be required in order to demonstrate a causal association between affective and behavioural problems. Moreover, the low temporal stability of Rorschach Inkblot Test scores for children, reflecting the significant developmental changes that occur during this life-stage, affirms that long-term predictions based on these Rorschach data are unwarranted.

Second, the small, non-random sample selected for the purposes of this investigation was not necessarily representative of same or different aged children diagnosed with conduct or oppositional defiant disorder, and hence caution must be exercised in generalizing the findings of this investigation to other samples. Similar research that aims to replicate these findings in a larger sample would be necessary to confirm the relevance to other children diagnosed with conduct or oppositional defiant disorder.

Third, although the Rorschach Inkblot Test (Rorschach, 1921) is a long established technique for the assessment of the role of emotion in the psychology and functioning of the subject, a number of writers have highlighted the need for multimodal assessment practices to ensure comprehensive diagnostic and clinical formulation. For example, Kendall, Cantwell and Kazdin (1989) suggested that multiple assessment methods and periods, including child self-report, peer nominations, ratings by significant others, measures of overt behaviour, and physiological measures are advisable in the assessment of children's emotional functioning. The reliability and validity of emotion constructs examined in this study would have been enhanced with such additional measures.

7.4 Implications for Practice

The constraints of the study identified above extend to the implications of the findings for clinical practice. Therefore, the following discussion concerning treatment mostly relates to the clinical sample investigated, and not necessarily to other children diagnosed with conduct or oppositional defiant disorder. Nevertheless, given that mood and anxiety disorders have been repeatedly identified as comorbid with conduct and oppositional defiant disorder, the implications for assessment highlighted here would appear relevant to the broader population of children who present with behaviour problems of any description.

Hence, the major finding that a significant proportion of the clinical sample exhibited signs of emotional disturbance, in spite of the absence of a diagnosis of a mood disorder, reinforced the importance of assessing for indications of anger, irritability, dysphoria, hopelessness, and pessimism in children whose presentation includes persistent oppositional and defiant behaviours. This was highlighted by Hendren (1999) who argued the importance of enquiring not only about behavioural symptoms, but also symptoms of emotional disturbance in young people who present with defiance and non-compliance. Extending beyond this suggestion however, the present findings favour incorporating projective techniques such as the Rorschach Inkblot Test (Rorschach, 1921) into the clinical assessment of children to assist in the identification of these problems that the young person might otherwise not verbalise.

From this perspective, the study findings favoured a *multivariate* approach to the assessment of children who present with behaviour problems. As Kazdin (1989) articulated, a multivariate approach involves a description of the degree to which one or several

characteristics are present, as opposed to a categorical statement that the individual has a particular disorder. Fisher (1998) extended the argument further by suggesting that "a multidimensional assessment approach that incorporates multi-sources, multi-methods, and multi-settings throughout a process comprised of diagnostic assessment, functional assessment, and a bio-psychosocial history will assist clinicians' efforts to systematically articulate the range of clinical concerns, as well as identify the transactional nature of factors that may be contributing to the nature of children's mental health problems" (p.172).

In regards to treatment, the study findings pointed to the importance for some children with conduct problems, of interventions that focus on resolution of anger and dysphoria, as a means towards promoting the child's judgment and reality testing. Moreover, if the child's social or family environment has involved significant deprivation or loss, then, as Bowlby (1988) proposed, the child is likely, perhaps even expected to respond with anger as a normal part of grief and mourning. In identifying anger and protest as a common, perhaps typical response to loss, Durbin and Bowlby (1938) emphasized the importance of expression of anger, rather than its repression, and the important role of the parents in fostering, and at the same time neutralising and defusing the destructive effects of rage in response to loss: "To permit children to express their *feelings* of aggression, whilst preventing *acts* of irremediable destruction is, we suggest, one of the greatest gifts that parents can give to their children" (Durbin & Bowlby, 1938 in Holmes, 1993, p.88).

Hence, interventions that assist children to regulate their own emotions and to accurately identify and understand their own as well as others' feelings may have an important role in the treatment of children diagnosed with conduct and oppositional defiant disorder. Webster-Stratton (1990) published one such program that has since been reported to have established

efficacy with that population (Webster-Stratton & Reid, 2004). In addition to interpersonal problem solving, and friendship and communications skills, the curricular content of The Incredible Years Dinosaur Social Skills and Problem-Solving Training Program (Webster-Stratton, 1990) includes anger management, emotional literacy and empathy, or perspective taking, the need for which is affirmed by the findings of this study.

Findings of the present study are consistent with a social-functional perspective of emotional development and functioning that holds that children's behaviour and emotional expressions are intimately related to interpersonal functioning and social disturbances. Namely, children in the clinical sample with significant conduct problems appeared to possess a negative view of the self and social environment that was associated with dysphoric and irritable affect. Hence results were in support of interventions that include the child's immediate social environment, including parents, teachers and possibly even peers.

In particular, if, as findings in the present study suggest, some children with persistent conduct problems employ projection and projective identification as the major defensive response to unpleasant or anxiety provoking affects, interventions that involve parental and possibly teacher support and containment are likely to be necessary. From this perspective, parents' and teachers' emotional reactions to the child are seen as providing both a window to an understanding of the child's emotional difficulties, as well as a potential means of modifying the child's emotional experience. In terms of the development of emotion regulation then, caregiver sensitivity or *attunement* (Stern, 1983), including empathic mirroring of emotion may be a legitimate focus of intervention, particularly for younger children with emerging conduct problems. Later in the course of persistent conduct

problems, interventions that address negative and coercive patterns of interaction between the child and his parents and teachers may be more of a priority.

7.5 Implications for Future Research

Although research over the past 20 years has identified a number of apparent contributors to conduct problems in children and adolescents, there is much contention concerning whether these factors are the cause, or the result of the antisocial behaviour (Mandel, 1997). In particular, though behaviour and emotional problems frequently co-exist in children, few studies have attempted to empirically investigate the role of emotional disturbances in predisposing or maintaining a chronic pattern of disruptive, oppositional behaviour and poor social relationships (Weinberger & Gomes, 1995).

As an intermediary step, the findings of the present investigation revealed an association between emotional functioning, perception and diagnostic status, and as such called attention to several possible pathways by which emotional disturbances might exert an influence on the course of conduct and oppositional defiant disorder. Future research should extend on these findings in at least two ways:

First, further attention to the nature and direction of the association between irritability, dysphoria, emotional reactivity, interpersonal perception, pessimistic ideation and oppositional-defiant behaviour is needed. Longitudinal designs incorporating direct observation and serial assessments that include multiple sources might begin to clarify the complex interplay of theses variables. Further, a social-functional approach to emotion and the psychodynamic concepts of projection and projective identification appear to offer fertile

grounds for elucidating the comorbidity of emotional and behavioural problems often observed in conduct or oppositional defiant disorder.

As Holmes (1993) pointed out the "integration of psychodynamic ideas into psychiatry has always been beleaguered by the challenge of translating the language of the inner world into the quantifiable terms of scientific psychiatry" (p.177). However Ogden's (1982) extension of projective identification into the interpersonal realm, and a social-function approach to emotional functioning that includes the social consequences of emotion, offer opportunities for these defence mechanisms to be operationalized and investigated in the light of children's disruptive behaviour.

Second, findings of the present investigation add to an existing research body that has called for a restructuring of diagnostic criteria to capture adequate subtypes and indicators of conduct and oppositional defiant disorder (see review by Loeber et al., 2000). In particular, findings call for further research into mixed presentations that include disturbances of both behaviour and emotion. Also, given the signs of negative interpersonal perception evident in the clinical group, further research into subtypes of conduct or oppositional defiant disorder taking into account social context is needed. This would follow on from Wakefield's (1992) warning over a decade ago, of the danger of confusing disorder with nondysfunctional reactions to environmental conditions. In the mean time and as Loeber et al. (2000) pointed out, the difficulty of discriminating between internal dysfunction and reaction to social context remains.

7.6 Summary and Conclusions

Mood and emotional disturbances, including depression have repeatedly been shown to co-exist with children's persistent conduct problems. Although a number of models have been proposed, comorbidity of conduct or oppositional defiant disorder and mood disorders is nevertheless not well understood. The results of the present investigation were hence clinically significant in that signs of emotional disturbance were evident in a significant number of children diagnosed with conduct or oppositional defiant disorder *without* comorbid mood disorders. This was consistent with the study thesis that forecast a model of disruptive behaviour disorders that included emotional processes in mediating the relationship between life events, other psychosocial risk factors, and conduct problem outcomes.

Attention was called to several possible pathways by which emotional disturbances might exert an influence on the course of conduct and oppositional defiant disorder. A number of these pathways had been previously identified, including common-syndrome models of psychiatric comorbidity. Extending beyond previous research however, was the finding that perceptual biases exhibited by children diagnosed with conduct or oppositional defiant disorder tended to be congruent with their irritable and dysphoric affective state. In particular, hostile attribution biases were strongly associated with dysphoric affect in the clinical group, whilst irritable affects were likewise associated with a tendency towards perceptual distortion.

The implications of these findings include the possibility that psychological defences involving projection might play a significant role in predisposing and maintaining children's

disruptive behaviour. From this perspective, the child's attribution of his own unacceptable feelings, impulses or thoughts to another are seen as a means of managing emotional conflict or internal or external stressors. Future research might elucidate the comorbidity of affective and behavioural problems in children by operationalizing the concepts of projection and projective identification and examining disruptive children's emotional functioning and interactions with their parents, teachers and peers over time.

Finally, findings of this investigation also reinforced the heterogenous nature of conduct and oppositional defiant disorder, supporting the call for further research regarding the most useful subtypes. In the mean time, and as Burke et al. (2002) pointed out, the mounting evidence suggests that treatment efforts should be directed to the multiple facets of the disruptive behaviour disorders, rather than having a narrow focus.

Reference List

Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Hillsdale, NJ: Erlbaum.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV* (4th ed.). Washington: American Psychiatric Press.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (4th ed., text revision). Washington DC: American Psychiatric Press.

Angold, A., & Costello, E.J. (1993). Depressive comorbidity in children and adolescents: Empirical, theoretical and methodological issues. *American Journal of Psychiatry, 150,* 1779-1791.

Asarnow, J.R., & Callan, J.W. (1985). Boys with peer adjustment problems: Social cognitive processes. *Journal of Consulting and Clinical Psychology, 53,* 80-87.

Atkinson, L. (1986). The comparative validities of the Rorschach and MMPI: A meta-analysis. *Canadian Psychology, 27,* 238-347

Ball, J.D., Archer, R.P., Gordon, R.A., & French, J. (1991). Rorschach depression indices with children and adolescents: Concurrent validity findings. *Journal of Personality Assessment, 57,* 465-476.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall.

Baum, C.G. (1989). Conduct disorders. In T.H. Ollendick & M. Hersen (Eds.), *Handbook of child psychopathology* (2nd ed.) (pp.171-196). New York: Plenum Press.

Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety, and other disorders. *American Journal of Psychiatry, 148*, 564-577.

Bion, W.R. (1962). *Learning from experience.* London: Heinemann.

Bird, H.R., Gould, M.S., & Staghezza, B.M. (1993). Patterns of diagnostic comorbidity in a community sample of children aged 9 through 16 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 361-368.

Block, J.H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behaviour. In W.A. Collins (Ed.), *The Minnesota symposia on child psychology: Vol. 13. Development of cognition, affect, and social relations* (pp. 39-101). Hillsdale, NJ: Erlbaum.

Bower, G. H. (1981). Mood and memory. *American Psychologist, 36,*129-148.

Bowlby, J (1969). *Attachment.* New York: Basic Books.

Bowlby, J. (1988). *A secure base: Clinical implications of attachment theory.* London: Routledge & Keagan Paul.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research* (pp. 3-35) Chicago, Ill: University of Chicago Press.

Bretherton, I., Fritz, J., Zahn-Waxler, C. & Ridgeway, D. (1986). Learning to talk about emotions: A functionalist perspective. *Child Development, 57,* 529-548.

Burke, J.D., Loeber, R., & Birmaher, B. (2002). Oppositional defiant disorder and conduct disorder: A review of the past 10 years, part II. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 1275-1293.

Calkins, S.D. (1994). Origins and outcomes of individual differences in emotion regulation. *Monographs of the Society for Research in Child Development, 59*, 53-72.

Calkins, S.D., & Fox, N.A. (2003). The development of self-control of emotion: Intrinsic and extrinsic influences. *Motivation and Emotion, 27*, 7-26.

Campos, J.J., Campos, R.G., & Barrett, K.C., (1989). Emergent themes in the study of emotional development and emotion regulation. *Developmental Psychology, 25,* 394-402.

Cannon, W.B. (1927). The James-Lange theory of emotion: A critical examination and an alternative theory. *American Journal of Psychology, 39*, 106-124.

Capaldi, D.M. (1992). The co-occurrence of conduct problems and depressive symptoms in early adolescent boys, II: A 2-year follow-up at Grade 8. *Development and Psychopathology, 4*, 125-144.

Carlson, G.A., & Cantwell, D.P. (1980). Unmasking masked depression in children and adolescents. *American Journal of Psychiatry, 137,* 445-449.

Casey, R.J. (1996). Emotional competence of children with externalizing and internalizing disorders. In M. Lewis, & M.W. Sullivan (Eds.), *Emotional development in atypical children* (pp.203-225). Mahwah, NJ: Erlbaum.

Casey, R.J. & Fuller, L.L. (1994). Maternal regulation of children's emotions. *Journal of Nonverbal Behavior, 18*, 57-89.

Casey, R.J., & Schlosser, S. (1994). Emotion regulation: Influences on attachment relationships. *Monographs of the Society for Research in Child Development, 59*, 228-249.

Caspary, A.C. (1993). Aspects of the therapeutic action in child analytic treatment. *Psychoanalytic Psychology, 10*, 2, 207-220.

Caspi, A. & Moffit, T.E. (1995). The continuity of maladaptive behaviour: From description to understanding in the study of antisocial behaviour. In D. Cicchetti, & D. Cohen (Eds.), *Developmental Psychopathology* (v2., pp. 472-511), New York: Wiley.

Chiles, J.A., Miller, M.L., & Cox, G.B. (1980). Depression in an adolescent delinquent population. *Archives of General Psychiatry, 37*, 1179-1184.

Cohen, P., Cohen, J., & Brook, J. (1993). An epidemiological study of disorders in late childhood and adolescence, II: Persistence of disorders. *Journal of Child Psychology and Psychiatry, 34*, 869-877.

Cohen, P. & Flory, M. (1998). Issues in the disruptive behaviour disorders: Attention deficit disorder without hyperactivity and the differential validity of oppositional defiant and conduct disorders. In T.A. Widiger, A.J. Frances, H.J. Pincus, R. Ross, M.B. First, W. Davis, & M. Kline (Eds.), *DSM-IV Sourcebook* (Vol. 4, pp. 455-463). Washington, DC: American Psychiatric Press.

Cohen, S., & Wills, T.A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357.

Coie, J.D. & Dodge, K.A. (1998). Aggression and antisocial behaviour. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (5th ed., Vol. 3, pp. 779-862). New York: Wiley.

Cole, P.M., Michel, M.K., & Teti, L.O. (1994). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the Society for Research in Child Development, 59,* 73-100.

Cole, P.M., & Zahn-Waxler, C. (1992). Emotional dysregulation in disruptive behavior disorders, In D. Cicchetti, & S.L. Toth (Eds.), *Rochester Symposium on Developmental Psychopathology. Vol 4: Developmental perspectives on depression* (pp. 173-209). University of Rochester Press: New York.

Cole, P.M., Zahn-Waxler, C., & Smith, K.D. (1994). Expressive control during a disappointment: Variations related to preschoolers' behaviour problems. *Developmental Psychology, 30,* 835-846.

Connell, H.M., Irvine, L., & Rodney, J. (1982). Psychiatric disorder in Queensland primary school children. *Australian Pediatric Journal, 18,* 177-180.

Crick, N.R., & Dodge, K.A. (1994). A review and reformulation of social-information processing mechanisms in children's social adjustment. *Psychological Bulletin, 115,* 74-101.

Crick, N.R., & Grotpeter, J.K. (1985). Relational aggression, gender, and social psychological adjustment. *Child Development, 66,* 710-722.

Cummings, E.M., Ianotti, R.J. & Zahn-Waxler, C. (1985). Influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology, 21*, 495-507.

Davies, P.T., & Cummings, E.M., (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*, 387-411.

Davies, P.T., & Cummings, E.M. (1998). Exploring children's emotional security as a mediator of the link between marital relations and child adjustment. *Child Development, 69,* 124-139.

DeKlyen, M., & Speltz, M.L. (2001). Attachment and conduct disorder. In J. Hill & B. Maughan (Eds.), *Conduct disorders in childhood and adolescence.* (pp. 320-345). New York: Cambridge University Press.

Deri, S.K. (1984). *Symbolization and creativity.* New York: International Universities Press.

De Zulueta, F. (1994). *The traumatic roots of destructiveness: From pain to violence.* Northvale, NJ: Jason Aronson.

Dodge, K.A. (1980). Social cognition and children's aggressive behavior. *Child Development, 51,* 162-170.

Dodge, K.A. (1986). A social information processing model of social competence in children. In M. Perlmutter (Ed.), *Minnesota symposium in child psychology*, (Vol. 18, p. 77-125). Hillsdale, NJ: Erlbaum.

Dodge, K.A. (1991). The structure and function of reactive and proactive aggression. In D.J. Pepler & K.H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 201-218). Hillsdale NJ: Erlbaum.

Dodge, K.A., & Pettit, G.S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology, 39*, 349-371.

Dodge, K.A., & Somberg, D.R. (1987). Hostile attributional biases among aggressive boys are exacerbated under conditions of threats to self. *Child Development, 58,* 213-224.

Durbin, E.F.M., & Bowlby, J. (1939). *Personal Aggressiveness and War.* London: Keagan Paul.

Edgcumbe, R.M. (1984). Modes of communication: The differentiation of somatic and verbal expression. *Psychoanalytic Study of the Child, 39*, 137-154.

Egan, J. (1991). Oppositional defiant disorder. In J.M. Weiner (Ed.), *Textbook of child and adolescent psychiatry* (pp. 459-466) Washington, DC: American Psychiatric Press.

Eisenberg, N., Cumberland, A., & Spinrad, T.L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*, 241-273.

Eisenberg, N., & Fabes, R.A. (1992). Emotion, regulation, and the development of social competence. In M.S. Clark (Ed.) *Review of personality and social psychology: Vol. 14. Emotion and social behaviour* (pp. 119-150). Newbury Park, CA: Sage.

Eisenberg, N., Fabes, R.A., Guthrie, I.K., Murphy, B.C., Maszk, P., Holmgren, R., & Suh, L. (1996). The relations of regulation and emotionality to problem behaviour in elementary school children. *Development and Psychopathology, 8,* 141-162.

Eisenberg, N., Fabes, R.A., Miller, P.A., Fultz, J., Shell, R., Mathy, R., & Reno, R.R. (1989). Relation of sympathy and distress to prosocial behaviour: A multimethod study. *Journal of Personality and Social Psychology, 57,* 55-56.

Eisenberg, N., Fabes, R.A., & Murphy, B.C. (1995). Relations of shyness and low sociability to regulation and emotionality. *Journal of Personality and Social Psychology, 68,* 505-517.

Eisenberg, N., Murphy, B.C., Maszak, P., Smith, M., & Karbon, M. (1995). The role of emotionality and regulation in children's social functioning: A longitudinal study. C*hild Development, 66,* 1360-1384.

Epstein, S. (1979). The stability of behaviour I: On predicting most of the people much of the time. *Journal of Personality and Social Psychology, 37,* 1097-1126.

Exner, J.E., Jr. (1978). *The Rorschach: A comprehensive system: Vol. 2. Current research and advanced interpretation.* New York: Wiley.

Exner, J.E., Jr. (1991). *The Rorschach: A comprehensive system: Vol. 2. Interpretation* (2nd ed.). New York: Wiley.

Exner, J.E., Jr. (1993). *The Rorschach: A comprehensive system: Vol. 1. Basic foundations* (3rd ed.). New York: Wiley.

Exner, J.E., Thomas, E.A., & Mason, B. (1985). Children's Rorschachs: Description and prediction. *Journal of Personality Assessment, 49*, 13-20.

Exner, J.E., Jr., & Weiner, I.B. (1995). *The Rorschach: A comprehensive system: Vol. 3. Assessment of children and adolescents* (2nd ed.). New York: Wiley

Fabes, R.A., & Eisenberg, N. (1992). Young children's coping with interpersonal anger. *Child Development, 63*, 116-128.

Fergusson, D.M., Horwood, L.J., & Lynskey, M.T. (1994a). Parental separation, adolescent psychopathology, and problem behaviors. *Journal of the American Academy of Child & Adolescent Psychiatry, 33*, 1122-1131.

Fergusson, D., Horwood, L., & Lynskey, M. (1994b). Structure of DSM-III-R criteria for disruptive childhood behaviours: Confirmatory factor models. *Journal of the American Academy of Child and Adolescent Psychiatry, 33,* 1145-1157.

Fergusson, D., Horwood, L., & Lynskey, M. (1996). Childhood sexual abuse and psychiatric disorder in young adulthood II. *Journal of the American Academy of Child and Adolescent Psychiatry, 35,* 1365-1374.

Fergusson, D.D., Lynskey, M.T., & Horwood, L.J. (1996). Origins of comorbidity between conduct and affective disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 451-460.

Fisher, S.G. (1998). Childhood depression misdiagnosed as a disruptive behavior disorder: A critical review. Dissertation Abstracts International. Section B: the sciences and engineering, Vol. 59 (7-B) (UMI No. 9840161)

Flisher, A.J., Kramer, R.A., Grosser, R.C., Alegria, M., Bird, H.R., Bourdon, K., Goodman, S., Greenwald, S., Horwitz, S., Moore, R., Narrow, W., & Hoven, C. (1997). Correlates of unmet need for mental health services by children and adolescents, *Psychological Medicine, 27,* 1145-1154.

Fonagy, P., Moran, G.S., & Target, M. (1993). Aggression and the psychological self. *International Journal of Psycho-Analysis, 74*, 471-484.

Ford, J.D. (2002). Traumatic victimization in childhood and persistent problems with oppositional-defiance. *Journal of Aggression, Maltreatment & Trauma, 6*, 25-58.

Forgatch, M.S., Patterson, G.R., & Skinner, M.L. (1988). A mediational model for the effects of divorce on antisocial behaviour in boys. In E.M. Hetherington & J.D. Aresteh (Eds.), *Impact of divorce, single parenting, and step-parenting on children* (pp.135-154). Hillsdale, NJ: Erlbaum.

Freud, A. (1936/1946). *The ego and the mechanisms of defence* (rev. ed.) New York: International Universities Press.

Frick, P.J. (1994). Family dysfunction and the disruptive disorders: A review of recent empirical findings. In T.H. Ollendick & R.J. Prinz (Eds.), *Advances in Clinical Child Psychology* (pp.203-226). New York: Plenum.

Frijida, N. (1986). *The emotions.* New York: Cambridge University Press.

Furman, E. (1992). On feeling and being felt with. *Psychoanalytic Study of the Child, 47,* 67-84.

Gjone, H., & Stevenson, J. (1997). A longitudinal twin study of temperament and behaviour problems: Common genetic or environmental influences? *Journal of the American Academy of Child and Adolescent Psychiatry, 36,* 1448-1456.

Goldberg, S., MacKay-Soroka, S. & Rochester, M. (1994). Affect, attachment and maternal responsiveness. *Infant Behavior and Development, 17,* 335-339.

Greenberg, M.T., & Speltz, M.L. (1988). Contributions of attachment theory to the understanding of conduct problems during the preschool years. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 177-218). Hillsdale, NJ: Erlbaum.

Greenberg, M.T., Speltz, M.L., & DeKlyen, M. (1993). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology, 5*, 191-213.

Greenwald, A.G. (1992). Unconscious cognition reclaimed. *American Psychologist, 47*, 766-779.

Griest, D.L., & Wells, K.C. (1983). Behavioral family therapy with conduct disorder children. *Behavior Therapy, 14*, 37-53.

Gross, J.J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271-299.

Gross, J.J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*, 281-291.

Groth-Marnat, G. (1997). *Handbook of psychological assessment* (3rd ed.). New York: Wiley.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualised as an attachment process. *Journal of Personality and Social Psychology, 52*, 511-524.

Hendren, R.L. (1999). *Disruptive behavior disorders in children and adolescents.* Washington: American Psychiatric Press.

Hendren, R.L., & Mullen, D. (1997). Conduct disorder in childhood. In J.M. Wiener (Ed.), *Textbook of child and adolescent psychiatry* (2nd ed., pp. 427-440). New York: American Psychiatric Press.

Hibbard, S. (2003). A critique of Lilienfeld et al.'s (2000) "The scientific status of projective techniques". *Journal of Personality Assessment, 80,* 260-271.

Holmes, J. (1993). *John Bowlby and attachment theory.* New York: Routledge.

Ingoldsby, E.M., Shaw, D.S., Owens, E.B., & Winslow, E.B. (1999). A longitudinal study of interparental conflict, emotional and behavioural reactivity, and preschoolers' adjustment problems among low-income families. *Journal of Abnormal Child Psychology, 27,* 343-356.

Izard, C.E. (1977). *Human emotions.* New York: Plenum Press.

Izard, C.E. (1982). Comments on emotion and cognition: Can there be a working relationship? In M.S. Clarke & T.S. Fiske (Eds.), *Affect and cognition* (pp.229-242). Hillsdale, NJ: Erlbaum.

Izard, C.E., & Kobak, R.R. (1991). Emotions system functioning and emotion regulation. In J. Garber & K.A. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 303-321). Cambridge: Cambridge University Press.

Jensen, A.R. (1965). Review of the Rorschach. In O.K. Buros (Ed.), *The sixth mental measurements yearbook* (pp. 501-509). Highland Park, NJ: Gryphon Press.

Kalu, D. (2002). Containers and containment. *Psychodynamic Practice: Individuals, Groups and Organizations, 8*, 3, 359-373.

Kaplan, S., Pelcovitz, D., Salzinger, S., Weiner, M., Mandel, F., Lesser, M., & Labruna, V. (1998). Adolescent physical abuse: Risk factors for adolescent psychiatric disorders. *American Journal of Psychiatry, 155*, 954-959.

Kasani, J.H., Ezpeleta, L., & Danday, A.C. (1991). Psychiatric disorders in children and adolescents: The contribution of the child's temperament and the parents' psychopathology and attitudes. *Canadian Journal of Psychiatry, 36*, 569-573.

Katan, A. (1961). Some thoughts about the role of verbalization in early childhood. *Psychoanalytic Study of the Child, 16*, 184-188.

Kaufman, I., & Heims, L. (1956). The body image of the juvenile delinquent. *American Journal of Orthopsychiatry, 28,* 146-159.

Kazdin, A. (1985). *Treatment of antisocial behaviour in children and adolescents.* Homewood, IL: Dorsey,

Kazdin, A.E. (1989). Conduct and oppositional disorders. In C.G. Last, M. Hersen (Eds.), Handbook of child psychiatric diagnoses (pp. 129-155), New York: Wiley.

Kazdin, A.E. (Ed.). (1995). *Conduct disorders in childhood and adolescence.* (2nd ed.). Thousand Oaks, CA: Sage.

Keenan, K., & Shaw, D. (1997). Developmental and social influences on young girls' early problem behaviour. *Psychological Bulletin, 121*, 95-113.

Keltner, D., & Buswell, B.N. (1997). Embarrassment: Its distinct form and appeasement functions. *Psychological Bulletin, 122*, 250-270.

Keltner, D., & Kring, A.M. (1998). Emotion, social function, and psychopathology. *Review of General Psychology, 2*, 320-342.

Kendall, P.C., Cantwell, D.P., & Kazdin, A. E. (1989). Depression in children and adolescents: Assessment issues and recommendations. *Cognitive Therapy & Research, 13,* 109-146.

Kernberg, O.F. (1986). Projection and projective identification: Developmental and clinical aspects. In J. Sandler (Ed.), *Projection, identification, projective identification* (pp 1-11). Madison: International Universities Press.

Klein, M. (1946). Notes on some schizoid mechanisms. *International Journal of Psycho-Analysis, 27,* 99-110.

Klinnert, M., Campos, J., Sorce, J., Emde, R., & Svejda, M. (1983). Emotions as behaviour regulators: Social referencing in infants. In R. Plutchik & H. Kellerman (Eds.), *Emotion*

theory, research and experience: Vol. 2. Emotions in early development (pp. 57-69). New York: Academic Press.

Kopp, C.B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology, 25*, 343-354.

Kosky, R., McAlpine, I., Silburn, S., & Richmond, J. (1985). A survey of child psychiatry outpatients: I. Clinical and demographic characteristics. *Australian & New Zealand Journal of Psychiatry, 19*, 2, 158-166.

Kovacs, M., Paulauskas, S., Gatsonis, C., & Richards, C. (1988). Depressive disorders in childhood, III. A longitudinal study of comorbidity with and risk factors for conduct disorders. *Journal of Affective Disorders, 15,* 205-217.

Kruesi, M.J., Hibbs, E.D., Zahn, T.P., Keysor, C.S., Hamburger, S., Bartko, J.J., & Rapoport, J.L., (1992). A 2-year prospective follow-up study of children and adolescents with disruptive behaviour disorders. *Archives of General Psychiatry, 49*, 429-435.

Lahey, B.B., Loeber, R., & Hart, E.L. (1995). Four-year longitudinal study of conduct disorder in boys: Patterns and predictors of persistence. *Journal of Abnormal Psychology, 104*, 83-93.

Lahey, B.B., Loeber, R., & Quay, H.C. (1992). Oppositional defiant and conduct disorders: Issues to be resolved for DSM-IV. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 539-546.

Lambert, E.W., Wahler, R.G., Andrade, A.R., & Bickman, L. (2001). Looking for the disorder in conduct disorder. *Journal of Abnormal Psychology, 110*, 110-123.

Lange, C.G., & James, W. (1967). *The Emotions.* New York: Hafner. (Original work published 1922).

Larsen, R.J. (2000). Toward a science of mood regulation. *Psychological Inquiry, 3*, 129-141.

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

Lochman, J.E. (1987). Self- and peer perceptions and attributional biases of aggressive and nonaggressive boys in dyadic interactions. *Journal of Consulting and Clinical Psychology, 55*, 404-410.

Loeber, R. (1991). Antisocial behaviour: More enduring than changeable? *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 393-397.

Loeber, R., Burke, J.D., Lahey, B.B., Winters, A., & Zera, M. (2000). Oppositional defiant disorder and conduct disorder: A review of the past 10 years, part I. *Journal of the American Academy of Child and Adolescent Psychiatry, 39,* 1468-1484.

Loeber, R., & Hay, D.F. (1997). Key issues in the development of aggression and violence from childhood to early adulthood. *Annual Review of Psychology, 48*, 371-410.

Loeber, R., & Keenan, K. (1994). Interaction between conduct disorder and its comorbid conditions: Effects of age and gender. *Clinical Psychology Review, 14*, 497-523.

Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlate and predictors of juvenile conduct problems and delinquency. In M. Tonry & N. Morris (Eds.), *Crime and justice*, (pp.29-149). Chicago: University of Chicago Press.

Loukas, A., Zucker, R.A., Fitzgerald, H.E., & Krull, J.L. (2002). Developmental trajectories of disruptive behaviour problems among sons of alcoholics: Effects of parent psychopathology, family conflict, and child undercontrol. *Journal of Abnormal Psychology, 112,* 1, 119-131.

Lynskey, M.T., & Fergusson, D.M. (1995). Childhood conduct problems, attention deficit behaviors, and adolescent alcohol, tobacco, and illicit drug use. *Journal of Abnormal Child Psychology, 23*, 281-302.

Lynskey, M., & Fergusson, D. (1997). Factors protecting against the development of adjustment difficulties in young adults exposed to childhood sexual abuse. *Child Abuse and Neglect, 21*, 1177-1190.

Malmquist, C.P. (1997). Conduct disorder: diagnostic and conceptual issues. In J.M. Wiener (Ed.), *Textbook of child and adolescent psychiatry,* (2nd ed., pp. 411-425). New York: American Psychiatric Press.

Mandel, H.P. (1997). *Conduct disorder and underachievement: Risk factors, assessment, treatment and prevention.* New York: Wiley.

Mandler, G. (1982). The structure of value: Accounting for taste. In M.S. Clark & S.T. Fiske (Eds.), *Affect and cognition* (pp. 3-36). Hillsdale, NJ: Erlbaum.

Marriage, K., Fine, S., Moretti, M., & Haley, G. (1986). Relationship between depression and conduct disorder in children and adolescents. *Journal of the American Academy of Child Psychiatry, 25*, 687-691.

Mathijssen, J.J.J.P., Koot, H.M., & Verhulst, F.C. (1999). Predicting change in problem behaviour from child and family characteristics and stress in referred children and adolescents. *Development and Psychopathology, 11*, 305-320.

Maughan, B., & Rutter, M. (1998). Continuities and discontinuities in antisocial behaviour from childhood to adult life. In T.H. Ollendick & R.J. Prinz (Eds.), *Advances in Clinical Child Psychology* (Vol. 20, pp. 1-47). New York: Plenum.

Mayes, L.C. & Cohen, D.J. (1992). The development of a capacity for imagination in early childhood. *Psychoanalytic Study of the Child, 47*, 23-47.

McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*, 185-204.

Merry, S., & Andrews, L. (1994). Psychiatric status of sexually abused children 12 months after disclosure of abuse. *Journal of the American Academy of Child and Adolescent Psychiatry, 36, 37*-44.

Moffitt, T. (1990). Juvenile delinquency and attention deficit disorder: Boys developmental trajectory from age 3 to 15. *Child Development, 61*, 893-910.

Moffitt, T.E. (1993). The neuropsychology of conduct disorder. *Development and Psychopathology, 5,* 135-151.

Mufson, L., Nomura, Y., & Warner, V. (2002). The relationship between parental diagnosis, offspring temperament and offspring psychopathology: A longitudinal analysis. *Journal of Affective Disorders, 71*, 1-3, 61-69.

Nasby, W., Hayden, B., & DePaulo, B.M. (1979). Attributional bias among aggressive boys to interpret unambiguous social stimuli as displays of hostility. *Journal of Abnormal Psychology, 89*, 459-468.

Offord, D.R., Boyle, M.H., & Racine, R.A. (1992). Outcome, prognosis, and risk in a longitudinal follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 31,* 916-922.

Ogden, T.H. (1982). *Projective identification and psychotherapeutic technique.* Northvale, NJ: Jason Aronson.

Osofsky, J.D. (1992). Affective development and early relationships: Clinical implications. In J.W. Barron, M.N. Eagle & D.L. Wolitzky (Eds.), *Interface of psychoanalysis and psychology* (pp.233-244). Washington DC: American Psychological Association.

Parker, K. (1983). A meta-analysis of the reliability and the validity of the Rorschach. *Journal of Personality Assessment, 47,* 227-231.

Parker, K.C.H., Hanson, R.K., & Hunsley, J. (1988). MMPI, Rorschach, and WAIS: A meta-analytic comparison of reliability, stability and validity. *Psychological Bulletin, 103,* 367-373.

Patterson, G.R. (1982). *Coercive family process.* Eugene, OR: Castalia.

Patterson, G.R., DeBaryshe, B.D., & Ramsey, E. (1989). A developmental perspective on antisocial behaviour. *American Psychologist, 44,* 329-335.

Patterson, G.R., & Dishion, T.J. (1988). Multilevel family process models: Traits, interactions, and relationships. In R.A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp.283-310). Oxford: Clarendon Press.

Patterson, G.R., Reid, J.B., & Dishion, T.J. (1992). *Antisocial boys.* Eugene, OR: Castalia.

Piaget, J. (1981). *Intelligence and affectivity: Their relationship during child development.* Palo Alto, CA: Annual Reviews.

Pine, F. (1984). Some refinements of the separation-individuation concept on light of research on infants. *Psychoanalytic Study of the Child, 39*, 103-116.

Puig-Antich, J. (1982). Major depression and conduct disorder in pre-puberty. *Journal of the American Academy of Child Psychiatry, 21*, 118-128.

Raine, A., & Jones, F. (1987). Attention, autonomic arousal, and personality in in behaviourally disordered children. *Journal of Abnormal Child Psychology, 15,* 583-599.

Rey, J.M., Morris-Yates, A., Singh, M., Andrews, G., & Stewart, G.W. (1995). Continuities between psychiatric disorders in adolescents and personality disorders in young adults. *American Journal of Psychiatry, 152*, 895-900.

Richard, B.A., & Dodge, K.A. (1982). Social maladjustment and problem solving in school-aged children. *Journal of Consulting and Clinical Psychology, 30*, 226-233.

Riviere, J. (1937/1953). Hate, greed and aggression. In J. Rickman (Ed.), *Psycho-analytic epitomes, Vol. 2: Love, hate and reparation. Two lectures by Melanie Klein and Joan Riviere.* London: Hogarth Press & The Institute of Psycho-analysis.

Robins, L.R. (1966). *Deviant children grow up: A sociological and psychiatric study of sociopathic personality.* Baltimore: Williams & Wilkins.

Rorschach, H. (1941). *Psychodiagnostics.* (Hans Huber Verlag, Trans.). Bern: Bircher. (Original work published 1921).

Rose, S.L., Rose, S.A., & Feldman, J.F. (1989). Stability of behaviour problems in very young children. *Development and Psychopathology, 1*, 5-19.

Rothbart, M.K. (1989). Temperament and development. In G. Kohnstamm, J. Bates, & M.K. Rothbart (Eds.), *Temperament in childhood* (pp. 187-248). Chichester, England: Wiley.

Rothbart, M.K., Derryberry, D., & Hershey, K.L. (2000). Stability of temperament in childhood: Laboratory infant assessment to parent report at seven years. In V.J. Malfese & D.L. Malfese (Eds.), *Temperament and personality development across the life span* (pp.85-119). Mahwah, NJ: Erlbaum.

Rothbart, M.K., Posner, M.I., & Boylan, A. (1990). Regulatory mechanisms in infant development. In J. Enns (Ed.), *The development of attention: Research and theory* (pp. 139-160). Amsterdam: Elsevier.

Rothbaum, F., Weisz, J.R., & Snyder, S.S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology, 42,* 5-37.

Rubin, K.H., Coplan, R.J., Fox, N.A., & Calkins, S.D. (1995). Emotionality, emotion regulation and behaviour problems from infancy to 4 years. *Developmental Psychology, 25*, 413-420.

Russo, M.H., Lahey, B.B., Christ, M.A.G., Frick, P.J., McBurnett, K., Walker, J.L., Loeber, R., Stouthamer-Loeber, M., & Green, S. (1991). Preliminary development of a Senation Seeking Scale for Children. *Personality and Individual Differences, 12,* 399-405.

Rutter, M. (1989). Isle of Wight revisited: Twenty-five years of child psychiatric epidemiology. *Journal of the American Academy of Child and Adolescent Psychiatry, 28,* 633-653.

Rutter, M., Tizard, J. & Whitmore, K. (1970). *Education, health and behaviour.* London: Longmans.

Rutter, M., Yule, B., Quinton, D., Eowlands, O., Yule, W., & Berger, M. (1975). Attainment and adjustment in two geographical areas. III. Some factors accounting for area differences. *British Journal of Psychiatry, 126,* 520-533.

Sandler, J., & Perlow, M. (1987). Internalization and externalization. In J. Sandler (Ed.), *Projection, Identification, Projective Identification* (pp. 1-11) Madison: International Universities Press.

Sanson, A., & Prior, M. (1999). Temperament and behaviour precursors to oppositional defiant disorder and conduct disorder. In H.C. Quay & A.E. Hogan (Eds.), *Handbook of disruptive behaviour disorders* (pp. 397-417). New York: Kluwer Academic/Plenum.

Sawyer, M.G., Arney, F., Baghurst, P., Clark, J.J., Graetz, B.W., Kosky, R.J., Nurcombe, B., Patton, G.C., Prior, M.R., Raphael, B., Rey, J.M., Whaites, L.C., & Zubrick, S.R.

(2001). The mental health of young people in Australia; Key findings from the child and adolescent component of the national survey of mental health and wellbeing: *Australian and New Zealand Journal of Psychiatry, 35,* 806-814.

Sawyer, M.G., Sarris, A., Baghurst, P.A., Cornish, C.A., & Kalucy, R.S. (1990). The prevalence of emotional and behaviour disorders and patterns of service utilisation in children and adolescents. *Australian and New Zealand Journal of Psychiatry, 24*, 323-330.

Sawyer, M.G., Whaites, L., Rey, J.M., Hazell, P.L., Graetz, B.W., & Baghurst, P. (2002). Health-related quality of life of children and adolescents with mental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 530-537.

Schore, A.N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development.* Hillsdale, NJ: Erlbaum.

Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: Follow-up study of antisocial children into adulthood. *British Medical Journal, 323,* 1-5.

Shaffer, T.W., Erdberg, P., & Haraoian, J. (1999). Current nonpatient data for the Rorschach, WAIS-R, and MMPI-2. *Journal of Personality Assessment, 73*, 305-316.

Shaw, D.D., Owens, E.B., Giovannelli, M.S., & Winslow, E.B. (2001). Infant and toddler pathways leading to early externalizing disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 36-43.

Shaw, D.S., & Vondra, J.I. (1995). Attachment security and maternal predictors of early behaviour problems: A longitudinal study of low-income families. *Journal of Abnormal Child Psychology, 23, 335-357.*

Simic, M. & Fombonne, E. (2001). Depressive conduct disorder: Symptom patterns and correlates in referred children and adolescents. *Journal of Affective Disorders, 62,* 175-185.

Sommer, R., & Sommer, D. (1958). Assaultiveness and two types of Rorschach color response. *Journal of Consulting Psychology, 22,* 57-62.

Southam-Gerow, M.A., & Kendall, P.C. (2002). Emotion regulation and understanding: Implications for child psychopathology and therapy. *Clinical Psychology Review, 22,* 189-222.

Spivack, G., Platt, J.J., & Shure, M.B. (1976). *The problem solving approach to adjustment.* San Francisco: Jossey-Bass.

Spivack, G., & Shure, M.B. (1974). *Social adjustment of young children.* San Francisco: Jossey-Bass.

Sroufe, L.A. (1986). *Emotional development: The organization of emotional life in the early years.* Cambridge: Cambridge University Press.

Sroufe, L.A. (1983). Infant caregiver attachment and patterns of adaptation in preschool: The roots of maladaptation and competence. In M. Perlmutter (Ed.). *Minnesota symposium on child psychology.* (Vol.16, pp. 41-81). Hillsdale NJ: Erlbaum.

Stahl, N.D., & Clarizio, H.F. (1999). Conduct disorder and comorbidity. *Psychology in the Schools, 36,* 41-50.

Stattin, H., & Magnusson, D. (1989). The role of early aggressive behaviour in the frequency, seriousness, and types of later crime. *Journal of Consulting and Clinical Psychology, 57,* 710-718.

Steiner, H. (1999). Disruptive behavior disorders. In B.J. Sadock & V.A. Sadock (Eds.), *Kaplan and Sadock's Comprehensive textbook of psychiatry* (Vol .2, pp. 2693-2703). Philadelphia: Lippincott Williams & Wilkins.

Steiner, H., & Cauffman, E. (1998). Juvenile justice, delinquency, and psychiatry. *Child and Adolescent Psychiatric Clinics of North America, 7,* 653-672.

Stern, D.N. (1984). Affect attunement. In J.D. Call, E. Galenson & R.L. Tyson (Eds.), *Frontiers of infant psychiatry,* (Vol. 2, pp. 3-14). New York: Basic Books.

Stifter, C.A., Spinrad, T.L., & Braungart-Rieker, J.M. (1999). Toward a developmental model of child compliance: The role of emotion regulation in infancy. *Child Development, 70*, 21-32.

Stormshack, E.A., Bierman, K.L., McMahon, R.J., & Lengua, L.J. (2000). Parenting practices and child disruptive behaviour problems in early elementary school. *Journal of Clinical Child Psychology, 29*, 17-29.

Tabachnick, B.G., & Fidell, L.S. (1989). *Using multivariate statistics* (2nd ed.). Northridge: Harper Collins.

Thomas, A. & Chess, A. (1977). *Temperament and development.* New York: Brunner/Mazel

Thomas, J.M., & Guskin, K.A. (2001). Disruptive behaviour in young children: What does it mean? *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 44-51.

Thompson, R.A. (1994). Emotion regulation: a theme in search of a definition. *Monographs of the Society for Research in Child Development, 59,* 24-52.

Toolan, J.M. (1967). Depression in children and adolescents. *American Journal of Orthopsychiatry, 32,* 404-415.

Townsend, J.K. (1967). The relation between Rorschach signs of aggression and behavioral aggression in emotionally disturbed boys. *Journal of Projective Techniques and Personality Assessment, 31*, 13-21.

Turner, P.J. (1991). Relations between attachment, gender, and behaviour with peers in preschool. *Child Development, 62*, 6, 1475-1488.

Vaillant, G.E. (1971). Theoretical hierarchy of adaptive ego mechanisms: A 30-year follow-up of 30 men selected for psychological health. *Archives of General Psychiatry, 24*, 107-118.

Wakefield, J.C. (1992). Disorder as harmful dysfunction: A conceptual critique of DSM-III-R's definition of mental disorder. *Psychological Review, 99*, 232-247.

Wasserman, G.A., Miller, L.S., Pinner, E., & Jaramilo, B. (1996). Parenting predictors of early conduct problems in urban, high-risk boys. *Journal of the American Academy of Child and Adolescent Psychiatry, 35,* 1277-1236.

Watkins, C.E., Campbell, V.L., Nieberding, R., & Hallmark, R. (1995). Contemporary practice of psychological assessment by clinical psychologists. *Professional Psychology: Research and Practice, 26*, 54-60.

Webster-Stratton, C. (1990). *Dina dinosaur's social skills and problem-solving curriculum.* Seattle, WA: Incredible Years.

Webster-Stratton, C., & Reid, M.J. (2004). Strengthening social competence in young children: The foundation for early school readiness and success. *Infants and Young Children, 17*, 96-113.

Weinberger, D.A. (1990). The construct validity of the repressive coping style. In J.L. Singer (Ed.), *Repression and dissociation: Implications for personality theory, psychopathology, and health,* (pp. 337-385). Chicago: University of Chicago

Weinberger, D.A., & Davidson, M.N. (1994). Styles of inhibiting emotional expression: Distinguishing repressing coping from impression management. *Journal of Personality, 62*, 587-613.

Weinberger, D.A., & Gomes. M.E. (1995). Changes in daily mood and self-restraint among undercontrolled preadolescents: A time-series analysis of "acting out". *Journal of the American Academy of Child and Adolescent Psychiatry, 34*, 1473-1482.

Weiner, I.B. (1982). *Child and adolescent psychopathology.* New York: Wiley.

Weiner, I.B. (1996). Some observations on the validity of the Rorschach Inkblot method. *Psychological Assessment, 8*, 206-213.

Weiner, I.B. (2000). Using the Rorschach properly in practice and research. *Journal of Clinical Psychology, 56*, 435-438.

Weiss, B., Suuser, K., & Catron, T. (1998). Common and specific features of child psychopathology. *Journal of Abnormal Psychology, 107*, 118-127.

Widiger, T.A., Frances, A.J., Pincus, H.A., First, M.B., & Davis, W. (Eds.), (1997). *DSM-IV Sourcebook,* (Vol.3). Washington: American Psychiatric Press.

Winnicott, D.W. (1953). Transitional objects and transitional phenomena. *International Journal of Psychoanalysis, 34,* 89-97.

Wood, J.M., Nezworski, T.M., & Garb, H.N. (2001). The misperception of psychopathology: Problems with norms of the Comprehensive System for the Rorschach. *Clinical Psychology: Science & Practice, 8,* 350-373.

World Health Organisation (1992). *The ICD-10 Classification of Mental and Behavioral Disorders: Clinical Description and Diagnostic Guidelines.* Geneva: World Health Organization.

Zajonc, R.B., Pietromonico, P. & Bargh, J. (1982). Independence and interaction of affect and cognition. In M.S. Clark & S.T. Fiske (Eds.), *Affect and cognition* (pp. 211-228). Hillsdale, NJ: Erlbaum.

Zoccolillo, M. (1992). Co-occurrence of conduct disorder and its adult outcomes with depressive and anxiety disorders: A review. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 547-556.

Appendix A: Demographic Questionnaire Mainstream School Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CONTACT SHEET

SUBJECT CODE: (Researchers use only)

Please complete all of the following questions:

1. Name of child's parent/s: (mother)_____
(father)_____

2. Your Child's Name: _____

3. Your Child's School (address)_____
(telephone)_____
(Grade teacher)_____

4. Would you like to meet with the researcher prior to your child completing the Rorschach inkblot test? YES NO

5. Preferred contact telephone number to arrange your child's completion of the Rorschach inkblot test _____

PLEASE COMPLETE THE QUESTIONNAIRE OVERLEAF WHICH WILL BE STORED BY THE RESEARCHERS SEPARATELY FROM YOUR CONTACT DETAILS

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

PARENT QUESTIONNAIRE

SUBJECT CODE: (Researcher use only)

Please complete all of the following questions:

1. Parent/s place of birth (mother)_____
(father)_____

2. Parent/s occupation (mother)_____
(father)_____

3. Your Child's Date of Birth _____

4. Your Child's Place of Birth _____

5. Does the child live with:

mother	o
father	o
mother & father	o
other	o

6. Does your child have a diagnosis of any of the following:

	YES	NO
Conduct Disorder	o	o
Oppositional Defiant Disorder	o	o
Intellectual Disability	o	o
Pervasive Developmental Disorder	o	o
Substance-related Disorder	o	o
Schizophrenia or other Psychotic Pisorder	o	o
Mood- or anxiety disorder	o	o
Eating Disorder	o	o

7. Are you concerned about your child's conduct

Not at all	o
A little	o
Somewhat	o
Extremely	o

Thank-you for your time and interest. Should you have concerns about your child, you can speak to your child's school teacher, principal, or guidance officer. Alternatively, contact the Clinic Coordinator at the Victoria University Psychology Clinic on 9365 2556 to discuss your concerns.

Appendix B: Demographic Questionnaire Ancillary School Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CONTACT SHEET

SUBJECT CODE: (Researchers use only)

Please complete all of the following questions:

1. Name of child's parent/s: (mother) _____
(father)_____

2. Your Child's Name _____

3. Your Child's School (address)_____
(telephone)_____
(Grade teacher)_____

PLEASE COMPLETE THE QUESTIONNAIRE OVERLEAF WHICH WILL BE STORED BY THE RESEARCHERS SEPARATELY FROM YOUR CONTACT DETAILS

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

PARENT QUESTIONNAIRE

SUBJECT CODE: (Researcher use only)

Please complete all of the following questions:

1. Parent/s place of birth(mother)_____
   (father) _____

2. Parent/s occupation other)_____
   (father)_____

3. Your Child's Date of Birth _____

4. Your Child's Place of Birth _____

5. Does the child live with:
   mother o
   father o
   mother & father o
   other o

6. Support service your child attends (if any)
   (name)_____
   (tel.) _____

7. Your child's therapist or support worker (if any):_____

8. Has your child ever experienced a serious head injury? YES
   NO

9. If YES, did this involve:
   o loss of consciousness
   o loss of memory
   o headaches
   o concussion
   o vomitting

Thank-you for your time and interest.

Memorandum

REF:	ETH0228
TO:	Ms Anne Graham Dept of Psychology
FROM	Dr Keis Ohtsuka Acting Chair, Faculty of Arts Human Research Ethics Committee
DATE:	15 August 2000
SUBJECT:	***HRETH.FOA.0020/00 involving human subjects***

The Faculty of Arts Human Research Ethics Committee at its meeting on 11 August 2000 considered application for project:

The Place of Emotion in Conduct and Oppositional Defiant Disorder – A Rorschach Study of 9 to 13 year olds

It was resolved to approve application HRETH.FOA.0020/00 from 30 September 2000 to 1 June 2001, on condition that the following points be addressed:

- Q18 (b) Please omit Registered Probationary Psychologist and Registered Psychologist and insert Masters in Clinical Psychology student
- Appendix 1: Plain Language Statement, please also omit Registered Psychologist and insert Masters in Clinical Psychology student

With regard to the above two points, the researcher should identify himself as a VUT postgraduate student under the guidance of the Principal Supervisor.

The Committee highly recommends where possible the researcher should strive to combine all the consent forms into one or two documents.

Dr Keis Ohtsuka

Department of Education, Employment and Training

Office of Schools

2 Treasury Place
East Melbourne, Victoria 3002
Australia

GPO Box 4367
Melbourne, Victoria 3001
Australia

Telephone +61 3 9637 2000
DX 210083

School Community Support Branch
Level 2, 33 St Andrews Place
Telephone (03) 9637 2349
Facsimile (03) 9637 2180

SOS001645

18 September 2000

Mr Jamie Rundle
C/- Ms Anne Graham
Dept. of Psychology
Victoria University
PO Box 14428
Melbourne City MC 8001

Dear Mr Rundle

Thank you for your application of 30 August 2000 in which you request permission to conduct a research study in government schools titled: *The Place of Emotion in Conduct and Oppositional Defiant Disorder.*

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. Should your institution's ethics committee require changes or you decide to make changes, these changes must be submitted to the Department of Education, Employment and Training for its consideration before you proceed.

2. You obtain approval for the research to be conducted in each school directly from the principal. Details of your research, copies of this letter of approval and the letter of approval from the relevant ethics committee are to be provided to the principal. The final decision as to whether or not your research can proceed in a school rests with the principal.

3. No student is to participate in this research study unless they are willing to do so and parental permission is received. Sufficient information must be provided to enable parents to make an informed decision and their consent must be obtained in writing.

4. As a matter of courtesy, you should advise the relevant Regional Director of the schools you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director.

5. Any extensions or variations to the research proposal, additional research involving use of the data collected, or publication of the data beyond that normally associated with academic studies will require a further research approval submission.

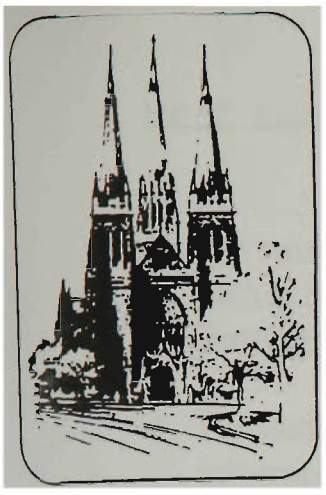
6. At the conclusion of your study, a copy or summary of the research findings should be forwarded to me at the above address.

I wish you well with your research study. Should you have further enquiries on this matter, please contact Louise Dressing, Senior Research Project Officer, School Community Support Branch, on 9637 2349.

Yours sincerely

JOHN ALLMAN
A/Manager
School & Regional Operations

encl.



CATHOLIC EDUCATION OFFICE

JAMES GOOLD HOUSE
228 VICTORIA PARADE
EAST MELBOURNE VIC. 3002

Telephone: (03) 9267 0228
Facsimile: (03) 9415 9325

CORRESPONDENCE TO: P.O. BOX 3, EAST MELBOURNE VIC 3002
Email ADDRESS: director@ceo.melb.catholic.edu.au

IN REPLY PLEASE QUOTE:

GE00/0009

20 September 2000

Mr J Rundle
Psychology (Clinical) Student
C/- Ms A Graham
Department of Psychology
Victoria University
PO Box 14428
Melbourne City MC Vic 8001

Dear Mr Rundle,

I am writing with regard to your letter of 20 September 2000 in which you referred to your forthcoming research project into the place of emotion in conduct and oppositional defiant disorder. I understand that this project is part of your studies for the degree of Master of Psychology (Clinical) at Victoria University. You have asked approval to approach the Larmenier Child and Family Centre and Catholic primary schools in the Archdiocese of Melbourne as you wish to involve students and parents.

I am pleased to advise that your research proposal is approved in principle subject to the following conditions and a copy of the University Ethics Committee's notification of approval being forwarded to the Information Services Unit of this Office. Additionally, the students' viewing of the inkblots will require the presence of one of the school's teachers.

1. The decision as to whether or not research can proceed in a school rests with the School Principal. So you will need to obtain approval directly from the Principal of each school that you wish to involve.

2. You should provide each Principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval, and a copy of notification of approval from the Ethics Committee, should also be included.

...2

3. For research of this kind, a Criminal Record check is necessary. You will need to obtain a certificate from the Victoria Police and show this to the Principal before starting your research with the students.

4. No student is to participate in the research study unless s/he is willing to do so and informed consent is given by a parent/guardian.

5. You should provide a list of schools which agree to participate in the research project to the Information Services Unit of this Office.

6. Any substantive modifications to the research proposal, or additional research involving use of the data collected, will require a further research approval submission to this Office.

7. Data relating to individuals or schools are to remain confidential.

8. Since participating schools have an interest in the research findings, you should discuss with each Principal ways in which the results of the study could be made available for the benefit of the school community.

9. At the conclusion of the study, a copy or summary of the research findings should be forwarded to the Information Services Unit of the Catholic Education Office.

I wish you well with your research study. If you have any queries concerning this matter, please contact Mr Mark McCarthy of this Office.

With every best wish,

Yours sincerely,

(P. Annett)
ACTING DIRECTOR OF CATHOLIC EDUCATION

Appendix D: Sample Consent Form Clinician Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CONSENT BY SENIOR PSYCHOLOGIST FOR SCHOOL PARTICIPATION

I,(name) _____of (school name)_____
(address) _____

certify that this study has been fully explained to me. I understand that the abovementioned school can withdraw from the study at any time, without consequence. I have also been informed that information collected in the study will be kept confidential by the researchers.

I DO/DO NOT (Please circle one) give my consent for the abovementioned school to participate in this study being conducted by Ms. Anne Graham and Mr. Jamie Rundle of Victoria University.

Signed: .....
Date: .....

YES o I would like a brief summary of the study findings when they are available

Any queries about your participation in this project may be directed to Mr. Jamie Rundle, c/-Victoria University Psychology Clinic, McKechnie Street, St. Albans, 3021; tel. 9365 2353. If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001ph. 03-9688 4710.

Appendix D: Sample Consent Form Parent Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CONSENT FOR PARTICIPATION OF PARENTS AND CHILDREN

I,_____(name) of (address)_____
_____

certify that this study has been fully explained to me. I understand that my child and I can withdraw from the study at any time and that this withdrawal will not jeopardise me or my child. I have also been informed that information collected in the study will be kept confidential by the researchers.

I DO/DO NOT (please circle one) give consent for myself, and my child (name) _____ to participate in this study being conducted by the {insert school name}, Ms. Anne Graham and Mr. Jamie Rundle of Victoria University.

I am aware that if I provide consent I will be giving {insert school name} permission to report the results of my child's Rorschach inkblot test protocol and diagnosis for the purpose of the study.

Signed: ..... }
Date: .....

YES o I would like a brief summary of the study findings when they are available

YES o I would like to meet with Mr. Jamie Rundle prior to the collection of any data.

Any queries about your participation in this project may be directed to Mr. Jamie Rundle, c/- Victoria University Psychology Clinic, McKechnie Street, St. Albans, 3021; tel. 9365 2353. If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001ph. 03-9688 4710.

Appendix E: Plain Language Clinical Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR - AN INVITATION TO PARTICIPATE

Dear Parents and Students,

With the continuing aim of providing a high quality program, the {insert school name} is conducting a joint research project concerning children's emotion and behaviour. The project will be coordinated by Mr. Jamie Rundle, Master of Psychology student, Victoria University.

Together with the research supervisor, Ms. Anne Graham, Senior Lecturer, Department of Psychology, Victoria University, we would like to invite you to be involved. The study has ethics approval from Victoria University, as well as from the Catholic Education Office.

About the Study

The aim of the project is to learn whether boys with frequent challenging behaviours also experience persistent troublesome feelings that are not easily recognised.

Since the Rorschach inkblot test offers information about children's feelings and mood, this can be achieved by comparing the responses on the inkblot test of a group of boys who are presenting with challenging behaviours, with those of a group of boys who are not exhibiting such behaviours. It is hoped that findings from this project will help inform treatments for children's behaviour disorders.

How You and Your Child May Assist

In order to complete the study, we are seeking the involvement of a group of boys aged between 9 and 13, who exhibit challenging behaviours, to complete the Rorschach inkblot test.

This test involves viewing a set of ten inkblots. Children are asked what the inkblot looks like, and their responses are recorded. Children typically find the test enjoyable. In some instances, the test may have been administered previously, in the course of your child's enrolment at Larmenier.

Parent's participation involves completing a short questionnaire concerning such information as your child's age and place of birth; your child's therapist will be also requested to provide a diagnosis, for the purpose of the study.

Identifying information, such as your child's name will not be reported under any circumstances.

Are There Any Risks?

Yours and your child's privacy will be protected by the researchers keeping all information obtained in the study confidential. Identifying information, such as your child's name, will be kept separately from all other records. Participation is voluntary, and you and your child will be free to withdraw from the study at any time without consequence.

Information Available Upon Completion of the Study

The study will not produce information about individual children. A report of the full project will be presented in the form of a thesis at the completion of the study. A brief summary of the study findings will also be available to those who request this on the consent form. In these final reports only group information will be mentioned.

To Be Involved

After discussing the information contained in this statement with your child, please indicate whether or not you agree to participate by completing the enclosed Parent Consent Form, and returning it in the envelope provided, along with the questionnaire. We will return a photocopy of the Consent Form to you, for your records.

Upon receiving your consent form and questionnaire, the research coordinator will make the necessary arrangements to obtain a copy of your child's Rorschach inkblot test protocol, and information about his or her diagnosis.

We would like to thank you for your time and interest. If you have any questions concerning this research project, please do not hesitate to contact the research coordinator at the address below.

Sincerely,

Mr. Jamie Rundle
B.A. (Psych.) Grad. Dip. Psych.
Clin. Psych. Trainee
Victoria University

Appendix E: Plain Language Statement Mainstream School Parent Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR - AN INVITATION TO PARTICIPATE

Dear Parents and Students,

My name is Jamie Rundle and I am studying the Master of Psychology (Clinical) at Victoria University.

Together with the research supervisor, Ms. Anne Graham, Senior Lecturer, Department of Psychology, Victoria University, I would like to invite you to be a part of a study concerned with children's emotion and behaviour. The study has ethics approval from Victoria University, as well as from the Catholic Education Office/Department of Employment Education and Training, and your child's school principal.

About the Study

The aim of the project is to learn whether boys with frequent challenging behaviours also experience persistent troublesome feelings that are not easily recognised.

Since the Rorschach inkblot test offers information about children's feelings and mood, this can be achieved by comparing the responses on the inkblot test of a group of boys who are presenting with challenging behaviours, with those of a group of boys who are not exhibiting such behaviours. It is hoped that findings from this project will help inform treatments for children's behaviour disorders.

What Is Involved?

In order to complete the study, we are seeking the involvement of a number of boys aged between 9 and 13, who do not have significant behaviour problems, to complete the Rorschach inkblot test, so that their responses can be compared with the responses of boys who are currently receiving treatment for such difficulties.

How You and Your Child May Assist

Your participation involves completing the enclosed questionnaire concerning such information as your child's age and place of birth.

Your child's participation involves being introduced to me by their teacher, at which time I will repeat an explanation of the procedures involved in the project. For your child, this will involve sitting with myself in a quiet room and viewing a set of ten inkblots. Your child will be asked what the inkblot looks like, and their responses will be recorded. Children typically find the inkblot test an interesting task, which takes under 60 minutes to complete.

I will be available to meet with parents and their child prior to collection of any data, should this be requested.

Are There Any Risks?

Yours and your child's privacy will be protected by the researchers keeping all information obtained in the study confidential. Identifying information, such as your child's name, will be kept separately from all other records. Participation is voluntary, and you and your child will be free to withdraw from the study at any time without consequence.

To be Involved

Parents are asked to first discuss the information contained in this statement with their child. If you and your child agree to participate, please complete the enclosed consent form, contact sheet and questionnaire and return in the envelope provided. We will return a photocopy of the consent form to you.

Upon receiving your consent form, we will contact you and your child's teacher directly, to arrange a suitable time to meet with your child and administer the Rorschach inkblot test at your child's school.

Information Available Upon Completion of the Study

The study will not produce information about individual children. A report of the full project will be presented in the form of a thesis at the completion of the study. A brief summary of the study findings will also be available to those who request this on the consent form. In these final reports only group information will be mentioned. Individual results will not be provided to the child's school or teacher.

We would like to thank you for your time and interest. If you have any questions concerning this research project, please do not hesitate to contact either myself, or Ms. Anne Graham at the address below.

Any queries about your participation in this project may be directed to the researchers c/- Ms. Anne Graham Victoria University Department of Psychology PO Box 14428 Melbourne City MC Victoria 8001 tel. 9365 2159.

Appendix E: Plain Language Statement Mainstream Teacher Version

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR - AN INVITATION TO PARTICIPATE

Dear Teachers,

My name is Jamie Rundle and I am studying the Doctor of Psychology (Clinical) at Victoria University.

Together with the research supervisor, Ms. Anne Graham, Senior Lecturer, Department of Psychology, Victoria University, I would like to invite you to be a part of a study concerned with children's emotion and behaviour. The study is being conducted in collaboration with the Larmenier Child and Family Centre, and has ethics approval from Victoria University, the Department of Education, Employment and Training, and your school principal.

About The Study

The aim of the project is to learn whether boys with frequent challenging behaviours also experience persistent troublesome feelings that are not easily recognised.

Since the Rorschach inkblot test offers information about children's feelings and mood, this can be achieved by comparing the responses on the inkblot test of a group of boys who are presenting with challenging behaviours, with those of a group of boys who are not exhibiting such behaviours. It is hoped that findings from this project will help inform treatments for children's behaviour disorders.

What Is Involved?

You are requested to nominate 10 boys aged 9 to 13, with whom you are familiar, who DO NOT have significant behaviour problems, and to send home with each of these children the enclosed information about the study, for parents to consider.

You may also be requested to introduce the researcher conducting the study to children who have parental permission to participate.

Children's participation involves sitting with myself in a quiet room and viewing a set of ten inkblots. Your student will be asked what the inkblot looks like, and their responses will be recorded. The inkblot test offers information about respondent's mood and feelings, and is typically found to be an interesting task, taking under 60 minutes to complete. I will be available to meet with parents and their child prior to collection of any data, should this be requested.

Are There Any Risks?

Participating children's privacy will be protected by the researchers keeping all information obtained in the study confidential. Identifying information, such as the child's name, will be

kept separately from all other records. Your own participation is voluntary, and you will be free to withdraw your involvement from the study at any time without consequence.

Information Available Upon Completion of the Study

The study will not produce information about individual children. A report of the full project will be presented in the form of a thesis at the completion of the study. A brief summary of the study findings will also be available to those who request this on the consent form. In these final reports only group information will be mentioned. Individual results will not be provided to the child's school or teacher.

We would like to thank you for your time and interest. If you have any questions concerning this research project, please do not hesitate to contact either myself, or Ms. Anne Graham at the address below.

If you agree to participate, please detach and complete the following Teacher Consent Form, and return in the envelope provided. We will return a photocopy of this page to you.

Sincerely,

Mr. Jamie Rundle
B.A. (Psych.) Grad. Dip. Psych.
Clin. Psych. Trainee
Victoria University

Ms. Anne Graham
B.A. (Hons), M.A. (Psych)
Senior Lecturer in Psychology
Victoria University

Appendix F: Diagnostic Questionnaire

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CASE MANAGER CONTACT SHEET

SUBJECT CODE: (Researcher use only)

Re: (name of child):_____

The parents of the abovementioned child have given permission to [insert name of setting] to release to the researchers, information about the child's diagnosis (See attached copy for file purposes).

Please complete all of the questions overleaf, which will be stored separately by the researchers, and return both sheets in the reply paid envelope.

Victoria University
Department of Psychology

A RESEARCH PROJECT ON CHILDREN'S EMOTION AND BEHAVIOUR

CASE MANAGER QUESTIONNAIRE

SUBJECT CODE: (Researcher use only)

1. Child therapist's name: _____

2. Child therapist's professional title: _____

3. Child's Diagnosis:

Conduct Disorder	o
Oppositional Defiant Disorder	o

If this child was NOT diagnosed with Conduct Disorder or Oppositional Defiant Disorder, please stop here.

Intellectual Disability	o
Pervasive Developmental Disorder	o
Substance-related Disorder	o
Schizophrenia or other Psychotic Disorder	o
Mood- or anxiety disorder	o
Eating Disorder	o

If this child was diagnosed with any of the disorders mentioned ABOVE, please stop here.

Learning Disorder	o
Communication Disorder	o
Attention-Deficit Disorder	o
Other DSM IV diagnosis (please specify) _____	

Method/s by which child was diagnosed:

Unstructured interview	o
Structured interview (incl formal m.s.e.)	o
Standardised testing (incl rating scales)	o
Rorschach inkblot test	o
Other projective techniques	o

Thank-you for your time and interest