

DEFINING AND ASSESSING RISK AND ADAPTATION IN THE
CONTEXT OF PARENTAL AFFECTIVE DISORDER: IMPLICATIONS FOR
FUTURE RESEARCH

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By

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ABSTRACT

The present study addresses some conceptual and methodological problems identified in the resilience research. Specifically, it focuses on the development of a rigorous and comprehensive way to measure risk and adjustment in a sample of 21 children (age 7 to 15) who share a common risk factor (i.e., parental affective disorder). A Risk Composite was developed based on a review of the literature. Forty-five potential risk factors in four broad areas (i.e., Socio-economic status, Early Development, Stressful Life Events, and Parental Psychopathology) were included in the Composite. A cumulative risk score was obtained for each child by summing across the individual risk items. Using a median split, a group of “higher” and “lower” risk children was identified. Narrative profiles of children in each group are provided to establish face validity of these risk classifications. A broad-based assessment of child adjustment was also conducted using a standardized measure of child functioning (i.e., BASC) as well as parents’ ratings of the child’s overall level of functioning in various contexts. Successful adaptation was defined as the absence of any “clinically significant” emotional or behavioural problems and average functioning at home, at school and with peers. Using these criteria, children in the sample were classified as “high” or “low” functioning. These classifications were validated using independent ratings of child functioning. Based on scores on the Risk Composite and the classification on the Adaptive Functioning Composite, children were placed into one of four Risk/Functioning groups. A group of “resilient” (i.e., high risk/high functioning)

children were identified along with three other distinct groups who varied on level of overall risk and functioning: low risk/low functioning; low risk/high functioning; and, high risk/low functioning. Due to the sample size, statistical procedures could not be meaningfully used to examine the differences between the four groups. However, a general process for distinguishing between factors that played a *protective* role for children facing high adversity and factors that were *resources* for all children was presented. Descriptive analyses were conducted to illustrate the potential of this approach for enhancing our understanding of resilience and the factors that may contribute to better adjustment in the context of higher and lower risk.

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DEDICATION

This project is dedicated with much love and appreciation to my husband
and best friend, Darcy McDonald.

We are each of us angels with only one wing.
And we can only fly embracing each other.
- Luciano De Crescenzo

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1. INTRODUCTION

An extensive body of literature has examined the association between various risk factors and the development of adjustment problems in children. While there is tremendous theoretical diversity among these high-risk research studies, a consistent finding has been that the experience of stress or adversity is not always followed by the negative consequences we might expect. Rather, some children considered at “high risk” adapt very well, while other children, considered lower risk, develop debilitating psychological disorders. These marked individual variations in response to stress and adversity have been the subject of much inquiry and have led to a large scale search for factors that enable some children to adapt and function effectively under conditions of seeming adversity (e.g., Garmezy, 1985, 1996; Luthar, 2003; Rutter, 1987, 1990; Werner, 1992; Werner & Smith, 1982).

In spite of the multitude of studies into the adjustment of children at risk due to circumstances such as poverty, familial conflict and parental mental illness, the factors associated with risk and resilience remain poorly understood (Cowan, Cowan & Schultz, 1996; Luthar & Bidwell Zelazo, 2003). This is likely the result of several unresolved conceptual and methodological issues. Particularly problematic has been the vague and varied definition and measurement of the concept of resilience and the related constructs of risk and adjustment.

In general, researchers agree that “resilience” is a complex, multi-factored construct that involves an interplay between risk and protective factors within the child

and his or her environment. In spite of this general agreement about the essence of the construct, problems with defining when and how children are “at risk” and variations in how adaptive functioning or adjustment is defined and measured have led to the premature and perhaps inappropriate use of this term (Gore & Eckenrode, 1996; Luthar & Cushing, 1999; Richters & Weintraub, 1990).

This conceptual confusion is particularly evident in the extensive literature which has examined resilience in children thought to be “at risk” because of exposure to parental affective disorder (i.e., unipolar or bipolar depression). Affective disorders are the most prevalent of all major mental disorders, affecting an estimated 20% of women and 10% of men (Blehar & Oren, 1995; Kessler, 2002). It is estimated that several million children currently live with a depressed parent (Institute of Medicine, 1994) and rates of adult depression continue to rise (Kessler, 2002).

Many researchers have studied the functioning of children of depressed parents and have designated those children who do not exhibit difficulties on a particular outcome measure (e.g., diagnostic interview) as “resilient”. However, given the complexity of factors that influence children’s development, it cannot be assumed that a single risk factor, such as parental affective disorder, carries equivalent levels of risk to all children exposed to it. Parental depression is often associated with a wide range of additional stressors (e.g., poverty, family discord and disruption). While it is unlikely that children in these families experience all of these added risks or experience them to the same degree, previous research has not documented the *actual* degree of adversity to which children of depressed parents are exposed. Consequently, many so-called “resilient” children may simply be children who faced fewer adverse events despite

living with a depressed parent. These children may more accurately be considered relatively low risk (Richters & Weintraub, 1990; Luthar, 1993).

The goal of the present study was to identify and address some of the conceptual and methodological problems identified in the resilience research. Specifically, it explored variations in the extent of stress and adversity experienced by a sample of children who were living with a parent with an affective disorder. The sample included 21 depressed parents and one child between the ages of 7 and 15 from each family. A rigorous and comprehensive measure of risk was developed that included a range of developmental, social and environmental factors that previous research has found to be associated with poor child outcomes. In addition, this measure of risk included items that assessed the severity of the parent's illness and its impact on the child. This risk measure was used to assess each child's level of overall risk exposure and to determine if meaningful groups of higher and lower risk children could be identified.

Similarly, an index of adaptive functioning was developed to assess child adjustment across a broad range of domains. Each child's overall level of functioning was assessed based on a consideration of the presence/absence of any emotional and/or behavioural problems and on the child's level of functioning at home, at school and with peers. Children were defined as high functioning if there was no evidence of a "clinically significant" problem in any developmental domain or context.

Next, to demonstrate how these more rigorous definitions of risk and adjustment may further the study of resilience, this study examined whether a group of truly "resilient" children could be identified by examining each child's level of risk exposure and overall adaptive functioning. A group of resilient (i.e., high risk/high functioning)

children were identified along with three other distinct groups who varied on level of overall risk and functioning (i.e., low risk/low functioning; low risk/high functioning; and, high risk/low functioning). Due to the sample size, statistical procedures could not be meaningfully used to examine the differences between the four groups. However, a general process for distinguishing between factors that played a *protective* role for children facing high adversity and factors that were *resources* for all children was presented. Descriptive analyses were conducted to illustrate the potential of this approach for enhancing our understanding of resilience and the factors that may contribute to better adjustment in the context of higher and lower risk.

The following section provides a review of several methodological and conceptual issues that have hampered the study of resilience and highlights the implications for the study of children who share a common risk factor (i.e., parental affective disorder). This literature review is followed by a description of how these issues are addressed in the present study. The methodology and results are then presented. Finally, the results and their implications for theory and research are discussed.

2. LITERATURE REVIEW

2.1 Resilience: Definition and Theoretical Issues

Currently, the research literature offers no single accepted definition of resilience. There are wide variations in how researchers operationalize this construct and discrepancies in how resilience is conceptualized (i.e., as a personality trait or dynamic process). This definitional diversity has led some researchers to critique the rigor of theory and research in this area (e.g., Luthar & Cushing, 1999; Luthar, Cicchetti & Becker, 2000; Masten, 1994; Richters & Weintraub, 1990) and others to question the scientific value of this construct (e.g., Kaplan, 1999, Tarter & Vanyukov, 1999).

Responding to these criticisms, Luthar (2003) and others (e.g., Masten & Coatsworth, 1998) have proposed an operational definition of resilience that refers to a pattern of positive adaptation in the context of risk or adversity. This definition does not conceptualize resilience as a trait or attribute that can be directly measured. Rather, resilience is considered to be a process or phenomenon that is inferred from the measurement of its two component constructs: 1) exposure to significant risk/adversity; and, 2) the achievement of positive adaptation in the face of this risk/adversity. The critical components of risk exposure and positive adaptation differentiate resilience from other more general concepts such as health or coping.

The following section examines the manner in which risk exposure and adaptation have been defined and measured in the literature. It highlights how the limitations in the assessment of these constructs in the past have influenced our ability to identify and understand resilience. In particular, implications for the study of resilience in children who share a common risk factor (i.e., parental depression) are emphasized.

2.2 Assessing Risk Exposure: Identifying "High-Risk" Children

The unique contribution of resilience to our understanding of health and development lies in its application to situations of *unusual* risk and adversity (Luthar, Cicchetti & Becker, 2000; Masten & Coatsworth, 1998; Richters & Weintraub, 1990). Thus, as mentioned in the introduction, a critical methodological issue in the resilience literature concerns the manner in which risk is defined and measured. Many studies of resilience have defined groups of high-risk children based on statistical risk. For example, variables such as child maltreatment (e.g., Cicchetti & Lynch, 1995), poverty (e.g., Brooks-Gunn & Duncan, 1997), community violence, (e.g., Gorman-Smith & Tolan, 2003), parental divorce (e.g., Amato, 2000) and parental psychopathology (e.g., Seifer, 2003; Hammen, 2003) have all been used to define high risk status as they are well-established statistical predictors of child maladjustment.

This method of designating risk status assumes that all individuals in a particular group are exposed to equivalent levels of adversity and experience equal levels of vulnerability. However, as Richters and Weintraub (1990) have discussed, this assumption is likely inaccurate. There is a need in the resilience literature to distinguish between statistical risk and *actual* risk exposure (Mangham, McGrath, Reid & Stewart, 1995; Price & Lento, 2001). This distinction has also been referred to as the difference between distal and proximal risk (e.g., Luthar & Cushing, 1999).

According to Luthar and Cushing (1999), distal risk refers to a potential marker of risk status (e.g., poverty, being the child of a depressed parent). Distal risk variables yield a statistical index of risk, but say nothing about the actual risks faced by an individual child. Proximal risk variables are those directly experienced by a potentially

at-risk child (Luthar, Cicchetti & Becker, 2000; Mangham et al, 1995). Individuals in a distal risk category may or may not experience many of the proximal risks that can be associated with a distal risk factor (Masten, 1994; Richters & Weintraub, 1990; Luthar, 1993).

Children of depressed parents, for example, have been designated “high risk” based on empirical findings that indicate 41 to 77% will develop a psychiatric disorder during childhood or adolescence (Beardslee, Versage & Gladstone, 1998; Gladstone & Beardslee, 2000). However, in addition to parental depression, research shows that these children are often exposed to a wide range of other individual, family and environmental risk factors (see Tables 2.1 and 2.2). Many of these risk factors have also been identified as statistical predictors of child maladjustment in the general resilience literature. For example, premature birth and low birth weight have been identified as general risk factors for behavioral, emotional and learning problems (Institute of Medicine, 1985; McGauhey, Starfield, Alexander & Ensminger, 1991).

Interestingly, recent research has demonstrated that many of these factors are more common in depressed versus nondepressed women (see Goodman & Gotlib, 1999). For example, an increased rate of both premature birth and low birth weight has been found among the neonates of depressed versus well mothers (e.g., Copper, Goldenberg, Das, Elder, Swain, Norman et al., 1996). This higher rate of obstetrical difficulties for depressed mothers may be due to factors such as neuroendocrine abnormalities, reduced blood flow to the fetus, and/or poor health behaviors (e.g., smoking) during pregnancy.

Table 2.1

Individual Risk Factors Associated with Parental Depression

Pregnancy:

- *Maternal emotional problems/stress* (Field 2002; Emory Hutch, Blackmore & Strock, 1993, cited in Goodman & Gotlib, 1999)
- *Maternal health risk behaviors* (e.g., smoking, alcohol consumption) (Milberger, Biederman, Faraone, Chen & Jones, 1996; Steinhauer, 1997)

Birth History:

- *Premature/low birth weight/obstetrical complications* (Copper et al, 1996; Hedegaard, Henriksen, Secher, Hatch & Sabroe, 1996; McGauhey, Starfield, Alexander, & Ensminger, 1991; Steinhauer, 1997)

Early Development:

- *Developmental delay* (Field, 1992; Field, 2002; Murray & Cooper, 1997)
 - *Problems with peers* (Goodman, Brogan, Lynch & Fielding, 1993; Field, Lang, Martinez, Yando, Pickens & Bendall, 1996; Field 1998, cited in Goodman & Gotlib, 1999)
 - *Difficult temperament* (Luthar, 1991; Rutter, 1990; Werner & Smith, 1992; Wyman, Cowen, Work & Parker, 1991; Wyman, Cowen, Work, Hoyt-Meyers, Magnus & Fagen, 1999)
 - *Insecure attachment* (Cicchetti, Rogosch & Toth, 2000; Garber & Flynn, 2001; Teti, Gelfand, Messinger & Isabella, 1995)
-

Further, this increased rate of prenatal and/or neonatal difficulties may contribute to the higher rates of developmental problems noted in the literature for this population (e.g., Ashman & Dawson, 2002; Field, 2002; Lyons-Ruth, Lyubchik, Wolfe & Bronfman, 2002). For example, increased rates of attachment problems (e.g., Teti, Gelfand, Messinger & Isabella, 1995) and general delays in cognitive and emotional

development have been reported in the infants and children of depressed mothers (e.g., Field, 2002). Similarly, a variety of adverse family (e.g., marital difficulties, stressful events) and/or environmental conditions (e.g., poverty) that are generally predictive of child psychopathology have also been found to accompany parental depression (see Table 2.2).

Table 2.2

Family/Environmental Risk Factors Associated with Parental¹ Depression

Family Factors:

- *Family history of psychopathology* (i.e., genetic factors): (Silberg & Rutter, 2002; Tsuang & Faraone, 1990; Winokur, Coryell, Keller, Endicott & Leon, 1995)
- *Parent diagnostic characteristics* (e.g., severity/comorbidity): (Hammen, 2003; Klein, Kupfer & Shea, 1993; Merikangas et al, 1996; Radke-Yarrow, 1998; Silberg & Rutter, 2002)
- *Family/marital conflict* (Downey & Coyne, 1990; Goodman & Gotlib, 1999; Gotlib & Beach, 1995; Hetherington & Elmore, 2003)
- *Parenting difficulties*: (Cummings & Davies, 1994; Goodman & Gotlib, 1999; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Radke-Yarrow, 1998)
- *Violence/abuse*: (Bolger & Patterson, 2003; Eckenrode et al, 2000; Lynch & Cicchetti, 1998)
- *Stressful/negative life experiences*: (Fergusson & Horwood, 2003; Billings & Moos, 1985; Hammen, 1991; Hammen, 2003)

Environmental Factors

- *Poverty/SES (e.g., income, minority status, single-parent)*: (Boyle & Pickles, 1997; Brooks-Gunn & Duncan, 1997; Fendrich, Warner, & Weissman, 1990; Fergusson, Horwood & Lynskey, 1995; Luthar, 1999; Owens & Shaw, 2003; Seifer, et al, 1996; Warner, Mufson, & Weissman, 1995)
-

¹ While the vast majority of studies have focused on maternal depression, fathers' depression status appears to be associated with similar risks (e.g., Weissman, Fendrich, Warner, & Wickramarante, 1992).

While many of these risk factors are more common for the offspring of depressed parents compared to children of nondepressed parents, not all children of depressed parents are exposed to all of these adversities nor do they experience them to the same degree. In fact, many children of depressed parents may **not** be facing any conditions of unusual stress and adversity. The need to explore and assess the actual risks to which children of depressed parents are exposed has been emphasized in the recent literature (Goodman & Gotlib, 1999; Hammen, 2003; Price & Ingram, 2001a).

To gain a more accurate understanding of the nature and extent of the risks facing a particular child, some researchers have argued that we must consider the simultaneous effects of multiple risk factors (i.e., individual, family, environment) (Fergusson & Lynskey, 1996; Masten & Wright, 1998; Sameroff, Morrison Gutman & Peck, 2003; Warner, Mufson & Weissman, 1995). The use of a summative risk index has been one recent approach (Gest, Reed & Masten, 1999; Kilmer, Cowen, Wyman, Work & Magnus, 1998). This approach involves identifying a series of indicators previously established to be high risk in nature (e.g., low birth weight, poverty, minority status). Using counts of one versus zero, those risk factors faced by a particular child are added together to derive an overall risk score for that child. This approach has consistently demonstrated that the accumulation of difficulties and adversities is strongly related to child maladjustment (Garmezy & Masten, 1994; Goodyer, 1994; Sameroff et al, 2003; Seifer et al, 1996; Wyman, Sandler, Wolchik & Nelson, 2000).

Given the variety of individual, family and environmental risk factors potentially facing the children of depressed parents, this additive strategy may be particularly useful for assessing risk in this population. However, Hammen (2003) notes that researchers

have typically not employed this strategy to assess the contextual risks facing the offspring of depressed parents. Those who have utilized a multiple risk index have assessed only some of the potential risks that this group may be facing such as social adversity (Boyle & Pickles, 1997; Fergusson, Horwood & Lynskey, 1995) or negative life events (Billings & Moos, 1985). This is surprising in light of the research reviewed above which indicates that children of depressed parents are in fact more likely than children of non-depressed parents to experience a wide variety of biological, psychological, and environmental risks in addition to parental depression.

In contrast to the typical approach to defining risk status based on a single, broad variable (i.e., parental depression), the summative approach allows for the simultaneous consideration of multiple factors across a variety of contexts (i.e., the individual, family, and environment). Therefore, this method may provide a more comprehensive and accurate estimate of the overall risk a particular child faces.

However, criticisms of this approach have also been raised. For example, within the cumulative risk index, some risk factors (i.e., poverty, minority status) may be highly correlated. Further, summing all factors together to get an overall score gives all factors equal weight when in fact some factors in the index may differ dramatically in terms of their potential negative impact (Luthar & Cushing, 1999; Sameroff et al, 2003).

In response to these criticisms, Luthar and Cushing (1999) noted that difficulties with item overlap and variations in how strongly items are related to a particular outcome are problems inherent in most psychological scales. Still, these criticisms raise some interesting issues. Specifically, there is a need to: 1) explore the impact of specific risk factors on adaptation within higher and lower risk contexts; 2) examine whether

some risk factors tend to occur together; and, 3) determine whether specific combinations of factors have more negative effects than others (Sameroff et al, 2003).

Another problem in defining risk has been the lack of a "quantitative yardstick" by which to judge risk level (Luthar & Cushing, 1999). It is often difficult to interpret what is meant by the classification of "high-risk". Judgements of high or low risk are made relative to others within the sample of interest rather than in comparison to a larger normative sample. Thus, they do not represent the level of risk experienced in any absolute sense. Luthar and Cushing (1999) suggest that ambiguities in the interpretation of risk level can be addressed by providing descriptive profiles of a subset of high and low risk individuals within the group being examined. The use of narrative profiles to reify, or make meaningful to the reader, what precisely is meant by a quantitatively based measurement has been rare in the resilience literature (see Radke-Yarrow & Sherman, 1990; Werner, 1992 for exceptions).

Summary:

The utility of the concept of resilience depends upon our ability to identify children facing conditions of unusual adversity. Thus, the manner in which risk is defined and measured is critical. In the past, research has tended to use single, global risk factors (e.g., poverty, parental psychopathology) to define risk and identify high-risk children. However, this method does not recognize the heterogeneity *within* a potential at-risk group (e.g., children of depressed parents) nor does it acknowledge the tendency for risk factors to co-occur. This failure to define and explore the contextual risks facing at-risk children may result in the premature and perhaps inappropriate application of the term "resilient" to children who are functioning well, but who are not facing unusual

stress or adversity.

The use of a multiple risk index is one approach that has recently been used to obtain a more accurate and comprehensive assessment of risk. This strategy allows for the simultaneous consideration of multiple individual, family and environmental stressors and, thus, may be a particularly promising method for studying the complexity of factors associated with parental depression. Criticisms of the summative approach suggest the need to examine the potential impact of specific risk factors (or sub-sets of factors) within the context of lower and higher adversity and to provide descriptive anchors to characterize high and low risk levels exhibited in the sample of interest.

Multiple risk indices provide an approach to operationalizing risk, which encourages the acknowledgement and assessment of variations in the extent to which children in at-risk groups have actually experienced adversity (Luthar, 1993). Further, this approach is consistent with the growing body of empirical literature which has suggested that it is the interaction and accumulation of factors that put an individual at risk for maladjustment (Fergusson & Lynskey, 1996; Masten & Wright, 1998; Sameroff et al, 2003; Warner, Mufson & Weissman, 1995).

2.3 Assessing Child Functioning: Identifying "Positive" Adaptation

Decisions about how to define positive adaptation are critical as they ultimately determine which children will be identified as manifesting resilience under conditions of risk. There is currently considerable debate in the resilience literature about the best criteria for defining positive adaptation or adjustment (Luthar & Cushing, 1999; Luthar, Cicchetti & Becker, 2000; Masten & Coatsworth, 1998; Masten 2001). Researchers have

used a wide range of variables to operationalize this construct. For example, child adjustment has been defined based on the presence or absence of a mental disorder (e.g., depression, conduct disorder), emotional symptoms (e.g., anxiety), or behavioural problems; competence in developmental tasks (e.g., achievement in school); or, some combination of these criteria. Different studies have measured adjustment from different perspectives (i.e., parents, teachers, peers, child) using a variety of methods (i.e., interviews, questionnaires, peer nominations).

A number of criticisms of the various methods used to assess child adjustment have been noted in the resilience literature. In particular, the tendency to use a single indicator to define child functioning (e.g., behavioral competence at school) has been questioned (Luthar & Cushing, 1999). One difficulty with this approach is the inability to determine if children who demonstrate optimum functioning on a single measure have actually escaped the consequences of adversity or if the chosen measure of functioning has simply not captured the difficulties that the child is experiencing. For example, a number of researchers have found that high-risk children may function very well in one domain (e.g., school competence) yet display significant difficulties in other areas (e.g., emotional competence) (Fergusson & Lynskey, 1996; Luthar, Doernberger & Zigler, 1993; O'Dougherty-Wright, Masten, Northwood & Hubbard, 1997; Radke-Yarrow & Sherman, 1990).

In addition, assessing child functioning based on a single indicator does not recognize the extensive literature that has demonstrated that adversity can affect children in very different ways (Sameroff et al, 2003). For example, research examining the adjustment of the offspring of depressed parents has demonstrated that these children

exhibit a wide range of adverse outcomes. Specifically, emotional problems (e.g., depression, anxiety), disruptive behaviors, and adjustment problems at school and with peers have consistently been reported in this population (e.g., Downey & Coyne, 1990; Cummings & Davies, 1994; Radke-Yarrow, 1998). The diversity of outcomes exhibited by this population suggests that a comprehensive assessment of child functioning should consider children's level of functioning within and across multiple domains (Hammen, 2003).

Another criticism in the resilience literature has been the failure to consider developmental issues in the assessment of child adjustment. For example, during middle childhood and early adolescence, it is widely expected that children will achieve in school, establish and maintain friendships, and follow the rules for pro-social conduct at home, at school, and in the community. A number of researchers have argued that an assessment of these salient developmental tasks is important in gaining an accurate understanding of child competence (Masten et al, 1999; Masten & Powell, 2003; Resnick, 2000).

Developmental issues have tended to be overlooked in the high-risk depression literature. This literature has typically defined outcome based on diagnostic status (i.e., mood disorders) (Hammen, 2003). While many studies in this area have acknowledged the influence of development through the use of standardized measures scored with developmental norms, Hammen (2003) notes that few have assessed functional outcomes in relevant roles for children (e.g., social and academic performance).

Recognizing the need to assess multiple aspects of functioning, some researchers have begun to utilize composites in the assessment of adaptive functioning

(e.g., Cicchetti, Rogosch, Lynch & Holt, 1993; Dutra, Forehand, Armistead, Brody, Morse, Morse & Clark, 2000; Fergusson & Lynskey, 1996; Radke-Yarrow & Brown, 1993). For example, in their study of resilience in maltreated children, Cicchetti et al (1993) assessed various areas of adaptation utilizing multiple raters (i.e., parents, child, counsellors). A composite index of adaptive functioning was developed based on seven indicators of functioning in the following domains: interpersonal behavior; indicators of psychopathology; and, school difficulties.

Importantly, this composite included an assessment of both internalizing and externalizing symptoms as well as an assessment of competence in meeting salient developmental tasks (e.g., academic competence, peer functioning). This cross-domain exploration of potential outcomes, combined with an assessment of children's achievement of relevant developmental tasks addresses an important concern in the literature – namely, that an overly narrow definition of adjustment may convey a misleading picture of success in the face of adversity (Luthar & Bidwell Zelazo, 2003).

Summary:

The identification of resilient children depends on our ability to accurately measure child functioning and define who is adapting well and who is not. The widespread use of single outcome indicators (e.g., diagnostic status) to define “high-functioning” children has been relatively common in the resilience literature and, in particular, the high-risk depression literature. However, this approach has been criticized as it does not recognize the potential variability in children's functioning within and across domains. Researchers have cautioned that an overly narrow definition of adjustment may convey a misleading picture of “positive” child functioning (e.g., Luthar

& Bidwell Zelazo, 2003). The use of a composite index is one approach that has recently been used to obtain a more comprehensive assessment of child functioning. This approach allows for the simultaneous consideration of various aspects of child adjustment and does not narrowly focus on the presence or absence of a single problem.

2.4 Positive Adaptation in the Presence of Risk: Understanding Resilience

The preceding literature review has highlighted some of the difficulties evident in past attempts to operationally define and measure the concepts of risk and adaptive functioning. In spite of these difficulties in the assessment of constructs that are fundamental to the identification of resilience, a large body of research has already proceeded with the next step of examining factors that contribute to resilience. Research has identified an array of individual, family and environmental factors that are associated with adaptive functioning across a range of risk conditions (see Table 2.3). While these factors are typically referred to as "protective", the use of this term may be premature as the manner in which such factors contribute to resilience remains unclear (Fergusson & Horwood, 2003; Luthar & Bidwell Zelazo, 2003).

Table 2.3

Examples of Individual/Family/Environmental Factors Associated with Resilience

<p>Individual Factors:</p> <ul style="list-style-type: none"> • <i>Intelligence/ cognitive ability:</i> (e.g., Baldwin et al, 1993; Beardslee & Podorefsky, 1988; Conrad & Hammen, 1993; Cicchetti et al, 1993; Luthar & Zigler, 1992; Masten et al, 1999). • <i>Self-perceptions of competence/ self-esteem</i> (e.g., Baldwin et al, 1993; Conrad & Hammen, 1993; Cicchetti et al, 1993; Rutter, 1990; Spencer, Cole, DuPree, Glymph & Pierre, 1993; Valentine & Feinauer, 1993; Werner, 1992). • <i>Optimism/belief that life has meaning</i> (e.g., Werner & Smith, 1982; Werner, 1992; Wyman et al, 1991) • <i>Social skills:</i> (e.g., Conrad & Hammen, 1993; Egeland, Carlson & Sroufe, 1995; Luthar, 1991; Parker , Cowen, Work & Wyman, 1990; Rae-Grant, Thomas, Offord & Boyle, 1989; Schissel, 1993) • <i>Temperament & personality (adaptability)</i> (e.g., Rende & Plomin, 1993; Grizenko & Pawliuk, 1994)
<p>Family Factors:</p> <ul style="list-style-type: none"> • <i>Quality of parenting/ household structure:</i> (e.g., Baldwin et al, 1993; Easterbrooks et al, 1993; Egeland et al, 1993; Gest et al, 1993; Masten et al, 1999; Richters & Martinez, 1993; Werner, 1993; Wyman et al, 1991) • <i>Father involvement/ supportive spouse:</i> (e.g., Conrad & Hammen, 1993; Wyman et al 1991; Dishion & McMahon, 1998; Egeland et al, 1993; Quniton, Pickles, Maughan & Rutter, 1993; Rutter, 1987; 1990)
<p>Environment/ System Factors:</p> <ul style="list-style-type: none"> • <i>Positive relationship with adult :</i> (Beardslee & Podorefsky, 1988; Conrad & Hammen, 1993; Jenkins & Smith, 1990; Masten, Best & Garmezy, 1990; Masten & Coatsworth, 1998; Werner, 1995) • <i>Participation in extracurricular activities</i> (e.g., Jenkins & Smith, 1990; Masten, Best & Garmezy, 1990; Rae-Grant et al, 1989; Valentine & Feinauer, 1993; Werner, 1993;1995) • <i>Extra-familial support for mother:</i> (e.g., Compas et al, 1994; Wyman et al, 1991; Werner, 1995)

A "protective" factor is one that moderates against the effects of a stressful or risk situation so that an individual is able to adapt more successfully than they would have had the factor not been present (Rutter, 1990; Fergusson & Horwood, 2003). This definition implies an interaction between the experience of risk and the presence of a factor that promotes adaptation in the face of this risk. Consequently, the identification of protective factors requires clear evidence that: 1) the child has faced significant risk; and, 2) the factor is more beneficial for children at high risk than for those facing less adversity. Unfortunately, because of the methodological issues already discussed, most research into protective factors is suspect. Without a clear indication of the extent of risk exposure, it is difficult to determine what, if anything, the child is being protected from (Richters & Weintraub, 1990).

Furthermore, it is conceptually important that a protective factor only has its effect in combination with the risk variable such that it either has no effect on an individual at low risk, or has some effect on low risk individuals but a much greater effect on individuals in a high risk situation (Rutter, 1990). A variety of researchers have emphasized the need to differentiate "protective" factors from those that contribute to good outcomes regardless of risk status (e.g., Conrad & Hammen, 1993; Fergusson & Horwood, 2003).

Given this important distinction, the study of protective factors requires research designs that include both high and low risk groups. This design would allow for an investigation of whether select variables are more helpful in preventing maladaptation in high risk compared to low risk children. Further, it would ensure that if these same variables are equally effective in both low and high risk groups, they would more

appropriately be termed *resource* factors (Conrad & Hammen, 1993). Such research is important for both theoretical and practical purposes. Specifically, the identification of variables that serve a protective function for high-risk children will be essential for the development of effective prevention and intervention programs. Similarly, variables found to be resource factors will have important implications for the emotional health of all children (Conrad & Hammen, 1993).

Much of the research on protective factors has narrowly focused on only those attributes that differentiate high-risk individuals (typically defined in a broad statistical sense) who exhibit positive adjustment from those who exhibit negative adjustment (e.g., Parker, Cowen, Work & Wyman, 1990). Few studies have implemented a design that identifies high versus low functioning children in the context of high and low adversity (Masten, 2001). For example, in a classic study in the resilience literature (Werner, 1992; Werner & Smith 1982), high-risk children were identified based on the presence of four or more cumulative risk factors (e.g., perinatal problems, low maternal education, poverty).

Within this high-risk group, children exhibiting adaptive and those exhibiting maladaptive outcomes were compared on a number of individual and environmental variables. Resilient children (i.e., high-risk children who exhibited positive adaptation) were found to have better intellectual functioning, more positive self-perceptions, and greater conscientiousness as compared to their lower functioning peers. However, due to the lack of a low-risk comparison group in this study, it is difficult to determine whether these factors are truly protective for children in high risk situations, or whether they are simply characteristic of children who do well regardless of exposure to risk.

One interesting study conducted by Masten and her colleagues (1999) has made this important distinction between low and high-risk children. Specifically, this research group studied risk exposure and competence levels in an urban community sample of 205 children ages 8-12 years. Child functioning was assessed across three domains (i.e., academic achievement, conduct and social competence). Ratings of high competence were defined as falling more than one-half a standard deviation above the sample mean on all three major dimensions. Ratings of high versus low risk exposure were based on clinician assessment of the child's exposure to independent (i.e., uncontrollable) negative life events (e.g., death of a parent). Resilient children (i.e., high competence, high adversity) were compared with similarly competent peers facing low adversity, and with a group of low functioning peers who shared a history of high adversity.

Unfortunately, both risk and functioning were defined relative to others within this sample rather than in comparison to any larger normative group and/or using any descriptive profiles to characterize high and low levels of competence and risk. Thus, the meaning of these risk/functioning groups is unclear. For example, it is impossible to determine whether resilient children in this study were truly "high functioning" or whether they were simply the best of a generally poor functioning group.

In spite of these potential methodological limitations, the results suggested that better parenting quality and more positive self-concept were *resources* for resilient youth and their competent-low adversity peers. Both competent groups differed from their low functioning peers who had few resources and high negative emotionality. Interestingly, a statistically significant interaction was found between risk and intellectual functioning. This interaction suggested that poor cognitive skills appear to increase the risk of

maladjustment (especially conduct problems) in a high-risk environment (Masten et al, 1999). This interesting result highlights the need for more research into how some factors may provide unique aid to children in high-risk conditions (Wyman, 2003).

The study by Masten et al (1999) is important in that it used a more comprehensive definition of resilience based on a broad assessment of individual exposure to risk and adjustment. Further, it implemented a variety of approaches to explore the interaction between risk and protective factors. A criticism of this study is that a group of low risk/low functioning children were identified, but the researchers chose to ignore this group because of the small number of children who were in it ($n=9$). In spite of a small sample size, this apparently "vulnerable" group of children who were functioning poorly, even when faced with little adversity, may provide important clues about factors that compromise children's adjustment. In addition, comparing the characteristics of these children to the children in the high risk/high functioning (i.e., resilient) group would provide further insight into whether certain factors are protective or resources.

Despite the fact that many children of depressed parents do not appear to suffer major negative consequences, surprisingly few studies have attempted to identify and explore resilience in the offspring of depressed parents (Hammen, 2003). Based on general theories of youth resilience and on models of depression, some researchers have speculated that factors such as intelligence, positive self-concept, coping skills, good school functioning, adaptable temperament, positive social relationships or supportive adult relationships may be protective in this population (see Conrad & Hammen, 1993 for a review). However, the empirical examination of if and how these factors influence

child functioning *in the context of lower and higher adversity* has been rare (Hammen, 2003).

Conrad and Hammen (1993) conducted one of the few studies that examined the interaction of risk and protective factors in the depression literature. They compared four risk groups. Specifically, they designated 16 children with mothers with unipolar depression, 14 children with mothers with bipolar disorder, and 14 children with mothers with a chronic medical disorder (e.g., diabetes, arthritis) as “high risk” for the development of adjustment difficulties. These risk groups were considered homogeneous as all mothers were “comparable in having both chronic and acute symptoms and similar rates of hospitalization” (p. 595). Thirty-eight children of parents with no history of psychiatric or physical illness were considered low risk.

Using hierarchical multiple regression, Conrad and Hammen (1993) examined the possible protective power of a number of individual (i.e., self-esteem, academic performance, social competence), family (e.g., positive perceptions of mother, maternal employment, maternal social competence), and environmental variables (e.g., child’s number of friends, child’s frequent contact with adult friend). These potential resource/protective variables were examined separately for each risk group. The child’s diagnostic rating score on the Kiddie – Schedule for Affective Disorders and Schizophrenia (K-SADS; Chambers, Puig-Antich, Hirsch, Paez, Ambrosini, Tabrizi & Davies, 1985) served as the dependent variable.

The results of the study indicated that child, family and external attributes served mainly as resource factors as they were associated with lower diagnostic ratings for children in both high **and** low risk groups. Relatively few of the variables studied

appeared to be protective factors (i.e., providing unique aid to children in high-risk conditions). However, there were some interesting exceptions. For example, children of mothers with unipolar depression benefited more from social competence than children at low risk, and the children at-risk due to their mother's medical illness benefited more by having more friends than did children in the low risk group. In addition, having mothers at home rather than employed outside the home tended to be protective for the offspring of both the unipolar and medically ill mothers compared to children in the low risk group.

Like most research evaluating resilience, Conrad and Hammen (1993) failed to recognize the potential heterogeneity within the designated high-risk groups. In addition, the researchers assumed that children living with mentally and physically healthy parents incurred no other risks. Conrad and Hammen (1993) utilized the concept of protective factors in the absence of knowing the specific stressors to which children were exposed. As mentioned previously, future research must be more rigorous in defining risk and risk status. A necessary condition for invoking protective factors as an explanation for positive outcomes in high risk offspring should be a demonstration of the stressors to which the offspring are being subjected and from which they are being protected.

2.5 Overview and Summary of the Literature Review

A large volume of research has demonstrated that, in the presence of adversity, some individuals are more likely to exhibit maladjustment than others. The concepts of risk, protection and resilience have been used to explain these departures from what is expected. While risk factors are thought to increase the probability of a specific negative outcome, protective factors are thought to decrease an individual's probability of having difficulties. Those individuals who demonstrate an ability to maintain adaptive functioning in spite of significant adversity and risk are considered "resilient".

While the concept of resilience has become central in discussions of health, the preceding review of the literature has identified several unresolved conceptual and methodological issues that suggest this concept may have been applied prematurely or even inappropriately. For resilience to have meaning, it must apply only to individuals who have faced demonstrated conditions of unusual risk and adversity and have still maintained adaptive functioning. Further, any exploration of potential protective factors can occur only when direct evidence of specific risk is present. It is not simply the presence of risk or protective factors, but the interaction and accumulation of these factors that affect child adaptation. This complex interaction between risk and protective factors and the relationship to adaptive functioning in children requires further assessment.

2.6 The Present Study

Our ability to understand resilience and to gain insight into the factors that contribute to this complex process depends on accurately identifying high functioning children who live in situations of significant adversity. The preceding literature review has highlighted some of the difficulties evident in past attempts to operationally define and measure the constructs of risk and adaptive functioning and the implications this has had in the study of factors that may contribute to resilience. It suggests there is a need for research to take a step back and more carefully examine the nature and characteristics of the actual risks children face and the variations in functioning exhibited by potentially at-risk groups (Price & Ingram, 2001a).

The present study was designed to address some of the conceptual and methodological issues identified in the resilience literature. Specifically, it focused on developing more rigorous and comprehensive ways to measure risk and adjustment in a population of children who shared a common risk factor (i.e., parental affective disorder). This will enable future researchers to identify children who are truly resilient and, subsequently, to uncover the individual, family and environmental factors that may promote this process. The current study also stressed the need to distinguish between *protective* factors (i.e., factors that promote healthy adaptation in the context of unusual adversity) and *resource* factors (i.e., factors that promote healthy adaptation in all environments). It presents a template for systematically exploring these issues.

The study focused on a sample of children who were living with a parent with a major affective disorder (i.e., major depressive disorder or bipolar disorder). The sample included 21 depressed parents and one child between the ages of 7 and 15 from each

family. These families were part of a larger study examining the effects of two different family interventions on child outcome. The author was the project co-ordinator for the larger study and was responsible for the project design, selection of assessment instruments, recruitment and assessment of participants, data analysis and preparation of the final report. The current study was conceptualized during the initial planning stages of the larger study and assessment instruments were chosen to meet the needs of both studies.

As stated previously, affective disorders are the most prevalent of all major mental disorders, affecting an estimated 20% of women and 10% of men (Blehar & Oren, 1995; Kessler, 2002). Several million children currently live with a depressed parent (Institute of Medicine, 1994) and rates of adult depression continue to rise (Kessler, 2002). Research also indicates that 41 to 77% of children with a depressed parent will develop a psychiatric disorder during childhood or adolescence (Beardslee, Versage & Gladstone, 1998; Gladstone & Beardslee, 2000). Clearly, living with a depressed parent presents a potential risk.

However, these statistics also reflect the fact that not all children living in this context develop a psychiatric disorder (i.e., 33 to 59% of children appear to function well). This fact raises a number of interesting questions: Is it appropriate to characterize the children who do not develop a psychiatric disorder as resilient? Do these children experience less stress/adversity than peers who do develop psychiatric disorders? Are these children truly well adjusted or do they display difficulties in other areas of functioning that are not being assessed? As indicated in the literature review, before we can characterize a particular child as “resilient” we need to demonstrate that s/he has

encountered significant stress/adversity and yet continues to function well.

Depression is a complex disorder that can manifest in different ways in different individuals (e.g., irritable/agitated vs. quiet/withdrawn) and may be associated with different family (e.g., marital discord) and environmental (e.g., poverty) stressors. Thus, knowing that a child's parent is depressed tells us little about the child's life and the amount or kinds of stress he or she experiences. An accurate and comprehensive assessment of risk and adversity in this population requires specifying the range of unique stresses related to living with a depressed parent as well as more general stresses that may confront any child. Although exposure to a single risk factor may jeopardize child development, a large body of literature has shown that it is the accumulation of multiple risk factors that place children at highest risk for maladjustment (Cicchetti et al, 1993; Sameroff et al 2003; Seifer et al, 1996; Wyman et al 2000).

The current study developed a Risk Composite to assess the wide range of potential risks that the children of depressed parents may experience. Items considered indicative of increased risk were identified based on a review of the literature (see Tables 2.1 and 2.2) across four broad areas: Socio-economic Risk; Early Developmental Risk; Stressful Life Events; and Parental Psychopathology. A cumulative risk score was obtained by summing across the individual risk items.

Exposure to individual risk factors (e.g., death in the family, substance abuse in the home), broad risk categories (e.g., Stressful Life Events, Early Developmental Risk) and Cumulative (i.e., overall) risk were examined for each child. This detailed assessment of risk allowed for an exploration of whether specific items (or sets of items) integrated within the Risk Composite, might differ in their potency as risk factors and

their impact on resilience.

Overall scores on the Risk Composite were used to identify subgroups of "Higher" or "Lower" Risk children in the sample. Two approaches were used to validate these risk classifications. First, where possible, comparisons with national data on the prevalence of various risk factors included in the Risk Composite were made to determine if and how this sample of children differed from a normative population. As mentioned in the literature review, previous studies have typically defined high and low risk relative to the sample under study rather than to the general population. Second, to contextualize the level of risk exposure, descriptive profiles of representative children facing lower and higher risk are presented as per the recommendations of Luthar and Cushing (1999).

Past studies with children of depressed parents have largely relied on single outcome indicators (e.g., diagnostic status) to assess child adjustment (Hammen, 2003). This approach has been criticized, as it does not recognize the potential variability in children's functioning within and across domains. Consequently, this narrow definition of adjustment may convey a misleading picture of "positive" child functioning.

In the current study, a broad-based assessment of child adjustment was conducted based on the literature which has outlined the diversity of outcomes that may be exhibited by this population (e.g., Downey & Coyne, 1990; Cummings & Davies, 1994; Radke-Yarrow, 1998). A standardized and normed measure of emotional and behavioural functioning was used as well as parent ratings of the child's overall level of functioning at home, with peers, and in school. Few previous studies have explored both symptom levels (i.e., internalizing and externalizing problems) and competence in

everyday functioning in this population. Further, the use of a normed measure allowed for an assessment of child functioning relative to the normal population and provided clarity about what was meant by “high functioning” in this study.

Successful adaptation (i.e., High Functioning) was defined as the absence of any clinically significant emotional or behavioural problems and average/above average functioning at home, at school, and with peers. Using this criteria, children in the sample were classified as high or low functioning. These classifications were validated using the total Adaptive Functioning Composite score and independent ratings of child functioning (i.e., spouse, teacher, clinician).

Based on their scores on the Risk Composite and their classification on the Adaptive Functioning Composite, children were placed into one of four Risk/Functioning groups (i.e., Lower Risk/Low Functioning; Lower Risk/High Functioning; Higher Risk/Low Functioning; Higher Risk/High Functioning). Resilient children were identified as those who exhibited high functioning in the context of higher adversity. Importantly, this approach identifies resilient children as well as competent children who faced lower levels of adversity. As mentioned in the literature review, the identification of this low risk comparison group is essential if researchers are interested in distinguishing between factors that characterize resilient children (i.e., protective factors) and factors that characterize children who are doing equally well but do not have high risk profiles (i.e., resource factors) (Masten, 2001).

Given the widespread tendency to assume (rather than demonstrate) that a child is at high risk and facing significant stress and adversity, many published studies claiming to have identified protective factors may have actually identified more general

resource factors. The current study demonstrates the importance of examining adaptation in both higher and lower risk groups to more fully understand the processes that contribute to resilience.

In its initial design, the next step of the study was to explore protective and resource factors within these four Risk/Functioning groups. Unfortunately, less than half of the anticipated 50 children and their families who were expected to participate in the larger study were actually recruited. While this participation rate was lower than expected, it is consistent with the program the larger project was modelled after (i.e., The Preventive Intervention Program, Beardslee et al, 1993; 1997a; 1997b). With well over double the assessment staff, Beardslee and his colleagues reported similar recruitment rates (i.e., approximately 10 to 15 families per year). This relatively low recruitment rate is likely a reflection of the complexity of working with this population including the debilitating impact of depression on the afflicted individual and the family issues that often accompany the disorder.

The small sample size made meaningful analyses of protective/resource factors difficult. However, given the theoretical and practical importance of studying these issues, some illustrative analyses are presented to demonstrate the importance of using these four rigorously defined groups to distinguish between these two types of factors. These illustrative analyses use select individual factors that have been identified as "protective" in previous research (e.g., self esteem, social skills, adaptability, leadership, coping) to demonstrate how researchers may assess the role these variables actually play in resilience. The methodology used in the current study is presented next followed by a description of the results.

3. METHOD

The data used in the current study was collected as part of a larger project conducted from October 1999 to March 2001. The purpose of this larger study was to adapt, implement and evaluate two short-term, psycho-educational intervention programs developed by Beardslee and colleagues (1993) for families with a parent suffering from an affective disorder. As noted earlier, the author was the project co-ordinator for this larger study. A detailed description of this larger project can be found elsewhere (i.e., Safnuk, Jurgens, Clatney, Mourot & Kluger, 2001). Details relevant to the current study are described below.

3.1 Subjects

Twenty-one children and their depressed parents participated as well as 11 spouses and 14 teachers. Children ranged in age from 7 to 15 years ($M = 10.98$) and most (67%) were female. The majority of depressed parents were mothers (81%). All parents had a history of affective illness in the past 18 months. Seventy-six percent met DSM-IV criteria for Major Depression and 24% for Bipolar Disorder. Depressed parents were predominantly married, well educated (i.e., at least some university training) and reported an average annual family income that fell above the 2001 poverty line. Forty-one percent of the families lived in a small urban centre in Saskatchewan; 59% resided in rural areas outside the city. Approximately 29% of the families indicated that at least one parent was of First Nation ancestry. More detailed demographic information is provided in the Results section.

3.2 Procedure

The larger project, from which the current data is taken, employed an extensive recruitment process. Project information was disseminated to both urban and rural mental health professionals and communities (i.e., newspaper/newsletter articles, patient information packages, community posters). Potential participants were screened over the telephone to ensure inclusion criteria were met. Inclusion criteria were having at least one parent with a history of affective illness in the past 18 months and having at least one child between 7 to 15 years of age. Families who did not meet these criteria ($n=7$) were provided with information and/or assistance in accessing appropriate mental health services for themselves and their families.

The author met with each family who met recruitment criteria at a private office in the treatment centre or in the participant's home on two or three occasions to complete the initial assessment package. Data collected during this initial assessment phase of the larger project was used in the current study. The author administered all assessment measures.

During the first meeting, parents and children completed an informed consent form (see Appendix A). As well, a demographic questionnaire, a questionnaire about parent and child health care contacts, and a questionnaire about major life events in the past 18 months were administered to parents during the first session. During the second and third sessions, parents completed a structured diagnostic interview and a package of questionnaires focused on family functioning, parental relationships, and children's emotional and behavioural functioning in various settings. Parents required an average of 3.5 hours to complete the interview and questionnaires. Families received \$25.00 for

their participation in the assessment process.

Children completed a questionnaire package focused on perceptions of family functioning and on their own behaviour. Measures were typically completed during one scheduled visit to the research office. Children required an average of one hour to complete the questionnaire package. Questionnaire items were read aloud to each child. A package of questionnaires to assess the child's overall level of functioning in the school setting was sent to each child's teacher.

Finally, the author used a computerized diagnostic decision making program (i.e., DTREE: The DSM-IV Expert, First, Gibbons, Williams, Spitzer & MHS Staff, 1999a) to finalize each parent's diagnosis. As well, the overall level of functioning of each member of the family was rated using the Global Assessment of Functioning (First & MHS Staff, 1996).

3.3 Measures

Measures were selected for inclusion in the present study based on their potential to assess relevant risk factors, child outcomes and potential protective factors that have previously been identified in both the resilience and high-risk depression literature. A detailed overview of the measures in each of these areas is presented below.

3.3.1 Measures of Risk/Adversity:

Nine measures were used to gather information about four broad areas of risk: Socioeconomic Risk; Early Developmental Risk; Stressful Life Events; and, Parental Psychopathology.

Socioeconomic Risk

This category included five demographic items thought to reflect risk related to socioeconomic status. Specifically, lower maternal education levels, poverty, minority status, single-parent status, and divorce are commonly cited indicators of lower socioeconomic status and are associated with increased risk to child development (see Table 2.2). Information about a variety of factors related to socioeconomic status (e.g., parental occupation/employment, parent education level, family income, marital status, ethnicity) was collected during a semi-structured interview with parents using the Demographic Information Form (W. Beardslee, personal communication, September 1999).

Early Developmental Risk

A substantial body of literature has shown that early developmental difficulties may put children at risk for the later problems (e.g., Institute of Medicine, 1985; Goodman & Gotlib, 1999). Prenatal and perinatal risk, early developmental history and temperament were assessed using the Diagnostic Interview for Children and Adolescents – Parent Version (DICA-IV; Reich, Welner, Herjanic & MHS Staff, 1997). The DICA-IV is a computer-administered interview. This interview begins by gathering a detailed developmental history from parents and then assesses for past and present psychopathology in the child. For the present study, only information related to pregnancy/birth history (e.g., maternal health during pregnancy, birth weight), early development of the child (e.g., achievement of developmental milestones) and child temperament (e.g., difficult to raise, reserved, anxious) was used.

Stressful Life Experiences:

The number of stressful life events that each child/family had experienced was assessed using a brief semi-structured interview adapted from the Major Life Events for Family Survey (W. Beardslee, personal communication, September 1999). This measure assesses stressors that families have experienced over the past 18 months. The areas assessed include: conflict/tension in the home (e.g., stress, arguing, problems with money); family health (e.g., death or illness in immediate or extended family); abuse (e.g., physical/sexual/verbal abuse); and, recent change/disruption (e.g., family move, parental job change).

Nature of Parental Psychopathology:

Depression is a complex disorder that manifests in different ways in different individuals. The nature of parental psychopathology was assessed across four main areas: comorbidity; family history of mental illness; severity of illness; and, impact of illness on parent functioning.

a) Comorbidity

Numerous studies have shown comorbidity between depression and other disorders including anxiety disorders (e.g., Andrews, 1996) and substance abuse (e.g., Merikangas, Angst, Eaton & Canino, 1996). The heterogeneous manifestation of symptoms and comorbid conditions may have different effects on the child (Radke-Yarrow & Klimes-Dougan, 2002).

To verify each parent's diagnosis of an affective disorder and to assess comorbidity with other disorders, the identified parent was assessed using the computer-administered, self-report version of the Structured Clinical Interview for DSM-IV

(SCID-Screen – Patient Questionnaire Extended Version (SSPQ-X); First, Gibbon, Williams, Spitzer & MHS Staff, 1999b). The SSPQ-X screens patients according to six major DSM-IV Axis I categories. These categories include: Mood; Anxiety; Substance Abuse; Somatoform; Eating Disorders; and, Psychotic Disorders. Participants were given the choice of completing this interview independently or having the author read the questions that appeared onscreen and enter the responses on their behalf. The SSPQ-X took an average of 60 minutes to complete.

Detailed reliability and validity on the SSPQ-X is not available. However, research references pertaining to the Structured Clinical Interview for DSM-IV (SCID) on which the SSPQ-X is based, support the reliability of the SCID for assessing most major diagnostic categories (e.g., Williams, Gibbon, First, Spitzer, Davies et al, 1992; Skre, Onstad, Torgersen & Kringlen, 1991). Further, an exploration of the validity of the SCID for current and life-time diagnoses suggested good concurrent, discriminant and predictive validity for substance use disorders, moderate for mood disorders and poor for anxiety disorders (Kranzler, Kadden, Babor, Tennen & Rounsaville, 1996).

Following the completion of the SSPQ-X, the author utilized a computerized diagnostic decision-making tool (i.e., DTREE ; First et al 1999a) to finalize the diagnoses suggested by the SSPQ-X. DTREE uses the output from the SSPQ-X to indicate which of six areas (i.e., trees) should be further explored. These six areas correspond to the six diagnostic categories covered in the SSPQ-X (i.e., Mood, Anxiety, Substance Abuse, Somatoform, Eating Disorders and Psychotic Disorders).

For each area in which a diagnosis appeared likely in the screening questionnaire, DTREE presents a decision tree to explore specific clinical features in

order to rule in or out various diagnoses. The author, who had gained knowledge of each participant's clinical condition during the assessment process, responded to the questions in the decision tree. If necessary, participants were consulted to clarify the type and/or extent of their symptoms. Following an exploration of all relevant diagnostic trees, DTREE generated a final report listing any specific diagnoses confirmed during the assessment.

Preliminary reliability information for DTREE suggests adequate diagnostic agreement for most major diagnostic categories. For example, ratings of schizophrenia (.80) and major depression (.83) were consistent with a consensus case diagnosis in which available data were considered (e.g., First et al, 1997). Currently, validity data has not been reported.

b) Family Psychiatric History:

Depression can have a number of different causes and people can vary in terms of their biological/genetic vulnerability. A number of studies have demonstrated an association between a family psychiatric history and an increased risk for problems in offspring (e.g., Sullivan, Neale & Kendler, 2000). As part of the semi-structured Health Care Contacts interview (adapted from W. Beardslee, personal communication, September 1999), parents were asked about any immediate and/or extended family history of depression or other mental health disorders (e.g., substance abuse, anxiety, psychotic disorders). Responses to these questions were included in the current study.

c) Severity of Psychopathology

Two items were thought to reflect a history of more severe parental depression. These items included a history of inpatient hospitalization and an inability to work

outside the home due to depression. Some previous research has reported an association between rates of offspring problems and the severity of parental depression - with greater severity being linked to greater offspring impairment (Keller, Beardslee, Corer, Lavori, Samuelson & Klerman, 1986).

Information about parent's health including any history of hospitalization due to depression and/or other mental health issues was collected using the semi-structured Health Care Contacts interview (adapted from W. Beardslee, personal communication, September 1999). Information about parental employment history, including any period of being unable to work outside of the home due to depression was collected using the Demographic Information Form (adapted from W. Beardslee, personal communication, September 1999).

d) Impact of Illness on Parent Functioning:

Impaired functioning is one of the diagnostic criteria for an affective disorder in the DSM-IV (American Psychiatric Association, 1994). However, the extent to which depression may influence functioning can vary from person to person (Silberg & Rutter, 2002). For example, while some individuals experience difficulties in multiple areas (i.e., social, occupational, relationships) others may experience difficulties in only one or two areas. The extent to which parent functioning is impaired likely contributes directly and indirectly to child functioning. Clinician and depressed parent ratings provided an objective and subjective assessment of parent functioning.

- Objective Impact of Depression on Parent Functioning:

The GAF (First & MHS Staff, 1996) is a computerized assessment tool that provided a standardized, clinician-rated measurement of overall functioning based on the Global Assessment of Functioning Scale (i.e., Axis V in the DSM-IV). The GAF can be used to assess individuals of all ages in a number of settings. The GAF decision tree was designed to ensure that all aspects of functioning (i.e., psychological, social, occupational) are considered in making an assessment and that both symptom severity and level of functioning are taken into account. On completion of the GAF assessment, a GAF rating (1-100) is automatically calculated. Higher scores indicate higher levels of functioning.

There are currently no reliability and validity data on the GAF. However, it is based on the Global Assessment Scale (GAS). Research references pertaining to the GAS support the overall reliability and validity of this measure for assessing a patient's level of functioning. Reports of inter-rater reliability coefficients range from .61 to .91 (Morrison, 1988), and evidence for the validity of the GAS has been reported in numerous studies. For example, GAS scores are associated with overall severity of illness scores from other assessment measures (Endicott, 1976) and increasing GAS scores have been associated with decreasing readmission rates (Morrison, 1988).

GAF scores were assigned to each participant in the study by the author who had become familiar with all family members during the assessment process. Given that scores were assigned as part of the initial assessment phase of the larger project (prior to any analysis in the current study), scores were considered to be an "objective" indicator of each participant's overall level of functioning. GAF scores for depressed parents were

thought to reflect the impact of depression on parent functioning. Children's ratings on the GAF were used to examine the validity of the high/low functioning classification system developed in the current study. Scores of greater than 64 on the GAF are considered indicative of generally good social and occupational functioning (American Psychiatric Association, 1994).

- Subjective Rating of the Impact of Depression on Parent Functioning:

Depressed parent perceptions about the impact of the depression on their functioning was obtained by asking parents to rate two questions on a likert scale. The questions were "How much has your depression affected your ability to complete household tasks?" and, "How much has your depression affected your ability to complete child-related tasks?". The ratings ranged from 1 (i.e., no impact) to 7 (i.e., significant impact). The seven-point scale was later collapsed into three categories: *little impact* on functioning (i.e., scores of 1 or 2); *moderate impact* (i.e., scores of 3 to 5); or, *significant impact* (i.e., scores of 6 or 7). The reliability of depressed parents' ratings were assessed by comparing depressed parent ratings to available spouse ratings. The level of agreement between depressed parent and spouse raters was 79%.

3.3.2 Measures of Child Adaptation:

Depressed parent ratings on two measures were used to assess children's behavior problems, emotional symptoms and current level of functioning at home, at school and with peers. Ratings on these measures were used to create an Adaptive Functioning Composite (AFC). The original intent was to collect data about child functioning from multiple raters (i.e., depressed parents, spouses, teachers). However, response rates for spouses and teachers were relatively low. Thus, only depressed parent

ratings were used. Available spouse and teacher ratings were used to assess reliability of depressed parent ratings and to explore the validity of the Adaptive Functioning Composite.

Behavioral and Emotional Problems:

The Behavioral Assessment System for Children (BASC: Reynolds & Kamphaus, 1992) was used to assess potential behavioral and emotional problems. The BASC is a widely used, standardized instrument that is scored according to national norms. Both the parent and teacher versions of the BASC are composed of 138 items, each rated on a 4-point likert scale (i.e., 0 = never to 4 = always). The BASC is appropriate for use with children ages 4 to 18 and provides an assessment of the child's emotional and behavioral functioning at home, at school and in the community. As well, the BASC provides an assessment of pro-social behaviors (i.e., Adaptability, Leadership, Social Skills). These scales are discussed in more detail in the section on measures of potential protective factors. The BASC includes various validity indexes to identify forms that may be unusable due to an excessively negative or positive response set or to detect random or patterned responding.

Depressed parents' ratings on the BASC were examined across the eight clinical areas including Depression, Anxiety, Withdrawal, Somatization, Aggression, Hyperactivity, Conduct Problems and Attention Problems. Children's functioning in each clinical area was classified as *average* (i.e., scores of $T < 60$), *at-risk* (i.e., scores of $T = 60$ to 69), or *clinically significant* (i.e., $T = 70+$) in accordance with scoring and interpretation guidelines provided by Reynolds and Kamphaus (1992). Available spouse and teacher ratings in these areas were also examined and used to assess the reliability of

depressed parent ratings.

In addition to the eight individual clinical areas listed above, the BASC includes four composite scores: Externalizing Problems; Internalizing Problems; Adaptive Skills (e.g., pro-social, organization skills); and a Behavioral Symptoms Index (i.e., overall level of problem behavior). The Teacher Form also includes a School Problems Composite, which reflects academic difficulties including problems of motivation, attention, learning and cognition. Depressed parent, spouse and teacher ratings on the Behavioral Symptoms Index (BSI) were used to assess the validity of the classification of children as low or high functioning.

Internal consistency reliabilities for the clinical scales on the Parent Version of the BASC range from the mid .70's to mid .80's. Internal consistency reliability for composite scores range from the high .80's to low .90's. Similarly, alpha coefficients for the Teacher Version are equally impressive with the clinical scales ranging from the high .70's to low .90's and the composite scores falling in the low to mid .90's. Test-retest reliabilities for both versions range from the high .70's to low .90's (Reynolds & Kamphaus, 1992).

Reynolds and Kamphaus (1992) report evidence of content, concurrent, and criterion-related validity. For example, research indicates that groups of children with pre-existing clinical conditions tend to show distinct BASC profiles and that Parent and Teacher ratings on the BASC correlate highly with corresponding scales on the Child Behavior Checklist (Achenbach, 1991).

Parent Ratings of Overall Child Functioning at Home, School and with Peers

Depressed parents were asked to rate their child's functioning at home, at school

and with peers on seven-point likert scales. For example, parents were asked “Overall, how do you feel your child is doing at home?”. The ratings ranged from 1 (i.e., not at all functioning well) to 7 (i.e., functioning extremely well). This seven-point scale was collapsed into three categories of functioning: *below average* (i.e., scores of 1 or 2); *average* (i.e., scores of 3 to 5); and, *above average* (i.e., scores of 6 or 7).

The reliability of depressed parents’ ratings was assessed by examining the rate of agreement between depressed parent and spouses in each of the three areas (i.e., at home, at school and with peers). The level of agreement was high, ranging from 91% on the school and peer functioning items to 100% agreement on the rating of child functioning in the home environment. In addition, depressed parent ratings on the school functioning question were compared to available teacher ratings of school functioning on the BASC (i.e., School Problems Composite). The congruence between depressed parent ratings and teacher ratings was 93%.

3.3.3 Measures of Potential Protective/Resource Factors

Three measures were used to gather information about individual/child factors that have typically been identified as "protective" in the research literature. The factors assessed were self-esteem, optimism, leadership, social skills and adaptability. They have previously been linked with competence in the offspring of depressed parents and with better outcomes in children facing other adversities (see Table 2.3).

Self-Esteem

Self-esteem was assessed using the Self-Perception Profile for Children (SPPC; Harter, 1985) or the Self-Perception Profile for Adolescents (SPPA; Harter, 1988). The SPPC is a 36-item self-report measure appropriate for use with children aged 8 to 12

years. The SPPA is composed of 45 items and is used with youth 13 years and older. The SPPA is an upward extension of the SPPC. Both measures assess a youth's sense of personal competence in various domain areas (i.e., scholastic competence; social acceptance; athletic acceptance; physical appearance; behavioural conduct) as well as global self-worth. The SPPA includes three additional domains (i.e., job competence, close friendship and romantic appeal), however, these additional domains were not examined in this study.

On both the SPPC and the SPPA, youth were read a brief statement about two different types of children (i.e., “Some kids/teens find it hard to make friends” but “Other kids/teens find it’s pretty easy to make friends”). They then chose which child was more like them and decided if that child was “sort of” like them, or “really like” them. Each item was scored on a likert scale that ranges from 1 to 4, where a score of one is indicative of low perceived competence and a score of four suggests high perceived competence. Children’s scores on the various sub-scales of the SPPC or SPPA were examined to determine if perceived self-competence differentiates high and low functioning children at various levels of risk/adversity.

Internal consistency reliabilities for all five domain specific scales of the SPPC and the SPPA exceed .70, while internal consistency coefficients for the global self-worth scale range from .78 to .89 (Bracken & Mills, 1994; Harter, 1985; 1988). Three-year test-retest reliabilities indicate that scores on the global self-worth sub-scale are relatively stable ($r=.61$) although domain-specific measures of competence did not show the same level of stability (Granleese & Joseph, 1995). In addition, research by Harter (1985; 1988) has demonstrated evidence of construct validity.

Optimistic Coping Style

Children's coping style was assessed using the Children's Sense of Coherence Scale (CSOC, Margalit, 1995). The CSOC is a 16-item self-report measure. This measure assesses a child's feeling of confidence in their world across three key areas: comprehensibility (e.g., "I am bored with the things I do everyday"); manageability (e.g., "When I need help, there is someone around to help me"); and, meaningfulness ("I feel confused and mixed up"). Items are scored on a 4-point likert scale and total scores range from 16 to 64. A high score indicates a strong sense of coherence.

People with a high sense of coherence believe their world is understandable and manageable, and perceive themselves as able to cope. Antonovsky (1987) suggests this personal disposition may account for differences in the capability of the individual to cope effectively with a stressful experience, disability or illness. Children's total score on the CSOC was examined to determine if sense of coherence differentiated high and low functioning children at various levels of risk/adversity.

Internal consistency reliabilities for the overall measure is reported to be .72 (Margalit & Efrati, 1996). Validity information has not yet been established. Conceptually, the items for the CSOC were derived from the adult version of the Sense of Coherence Questionnaire (SOC; Antonovsky, 1987). Evidence of the reliability and validity of the SOC has been reported for variety of populations, in different languages and cultures (Antonovsky, 1993).

Adaptive and Social Skills

As previously mentioned, adaptive and social skills were assessed using the Behavioral Assessment System for Children (BASC; Reynolds & Kamphaus, 1992). As described above, the BASC is a widely used, standardized instrument that is scored according to national norms (see *Measures of Child Adjustment*). Depressed parents rated child functioning on the three adaptive scales of the BASC (i.e., Adaptability, Leadership and Social Skills). Consistent with the criteria outlined in the BASC Technical Manual, children's functioning in each area was classified as *average* (i.e., scores of $T = 40+$), *at-risk* (i.e., scores of $T = 31$ to 39), or *clinically significant* (i.e., $T < 31$). Reliability and validity data for the BASC was presented in Section 3.3.2.

3.4 Organization of Analysis

To begin, variability in risk and functioning within this sample of children of depressed parents was explored. Specifically, mean scores and group frequency data on various indicators of risk exposure and child functioning were examined and comparisons to national data were made. Given that group data may not be sensitive to the diversity of potential outcomes and risk contexts that this population may face, the distribution of scores on these indicators was also examined.

Next, a Risk Composite was created to reflect each individual child's overall level of risk exposure. Total scores on the Risk Composite were used to classify children into "Higher" or "Lower" Risk groups. Higher Risk was defined as scoring above the median on the Risk Composite. Narrative descriptions of children in each group are provided to establish the face validity of these classifications.

An Adaptive Functioning Composite was created to measure children's overall level of functioning across a range of domains. Children were classified as high functioning based on the absence of any clinically significant behavior/emotional problems and average (or better) functioning at home, at school and with peers. This classification of child functioning was based on a comparison with a normative group and was validated using independent ratings of functioning.

Third, a process for identifying resilience was examined by classifying children according to their overall level of risk and adaptive functioning. Specifically, based on each child's risk and functioning classification, they were placed into one of four Risk/Functioning groups (i.e., Lower Risk/Low Functioning; Lower Risk/High Functioning; Higher Risk/Low Functioning; Higher Risk/High Functioning). Resilient children were those who exhibited high functioning in the context of higher adversity.

To ensure that the classifications of Risk/Functioning were meaningful (i.e., that children in the Lower Risk groups were not experiencing fewer but more severe risk factors than children in the Higher Risk groups) specific risks experienced within each of the four groups were examined.

Finally, a process for distinguishing between protective and resource factors was proposed. Select individual factors previously identified as "protective" in the literature (e.g., self-esteem, social skills, adaptability, leadership, coping) were used to illustrate this process. While the sample size limits any specific conclusions that can be made, the process outlined demonstrates how rigorously defined Risk/Functioning groups can contribute to research in resilience and to our understanding of factors that promote it.

4. RESULTS

4.1 Assessing Risk Exposure: Identifying “High Risk” Children

Based on an extensive review of the literature, 45 items thought to be indicative of increased risk were identified (see Tables 2.1 and 2.2). Individual risk items were combined to form four broad Risk Sub-Scales (i.e., Socioeconomic Risk; Early Developmental Risk; Stressful Life Events; and, Parental Psychopathology) as well as a total Risk Composite score.

This section begins with an examination of the extent to which children in the study experienced risk within each of these four areas. Where possible, comparisons with national data are made to determine if and how this sample of children differs from the general population. Next, a Risk Composite was created which provided an index of the overall number of risk factors each child experienced. Total scores on the Risk Composite are presented and a process for classifying children into “Higher” or “Lower” Risk groups is discussed and validated.

4.1.1 Socioeconomic Risk:

Social and economic indicators have been demonstrated to have a significant impact on individual well-being (e.g., Fergusson, Horwood & Lynskey, 1995; Luthar, 1999; Owens & Shaw, 2003). Five socioeconomic variables considered to be indicative of increased risk were examined and the percentage of participants who exhibited each risk factor are presented in Table 4.1. Participants were assigned a score of one for each specific risk factor they reported. The total possible score on this sub-scale was five. Higher scores indicate greater socioeconomic risk.

Table 4.1

Number and Percentage of Participants Scoring in the Criterion Range on Five Variables Related to Socioeconomic Risk (N = 21)

	n (% scoring in criterion range)	National Data ¹
<i><u>Socioeconomic Status:</u></i>		
Mother's Education Level:		
• Partial high school	1 (4.8%)	34.8%
Annual Family Income		
• Below the 2001 poverty line	6 (28.6%)	25%
Parental Ethnic Background		
• First Nation	7 (33.3%)	30%
Family Composition		
• Single-parent family	5 (23.8%)	15%
Family Disruption		
• Parent divorced/separated	5 (23.8%)	25%

¹ 1996 Census, Statistics Canada (1998)

Comparisons with the 1996 Census data (Statistics Canada, 1998) suggest that the socioeconomic status of the current sample is similar to that of the general Canadian population (see Table 4.1). For example, the 1996 Census data indicated that 25% of all children under age 15 in Canada lived in low-income families (compared to 28.6% of children in the current sample) and that approximately 15% of all families were lone-parent families (compared to 23.8% in the current sample).

Approximately one-third of the sample (33.3%) reported that at least one parent was of Aboriginal ancestry (i.e., Indian, Metis). Less than one-third of families (23.8%) experienced parental separation or divorce. Again, these statistics are comparable to

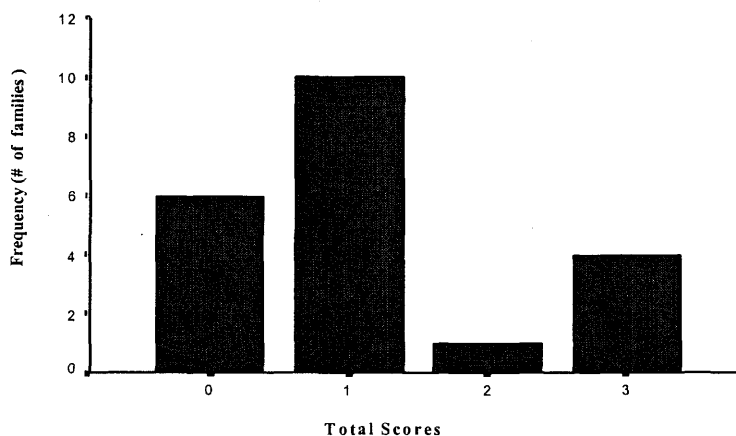
national demographic data. Interestingly, parents in this sample were relatively well-educated compared to national data with the majority of mothers reporting that they had completed high school (47.6%) or achieved a non-university certificate/ diploma (42.9%). Only one mother (4.8%) had not completed high school in this sample compared to 34.8% of women in the general population.

Overall Scores: Socioeconomic Risk

The mean score on the Socioeconomic Risk Sub-Scale was 1.14 ($SD = 1.06$). Scores ranged from 0 to 3 (out of a possible 5 points). These low scores suggest that overall this sample appears to be at low risk with respect to socioeconomic factors (see Figure 4.1).

Figure 4.1.

Distribution of Scores on the Socioeconomic Risk Sub-Scale



4.1.2 Early Developmental Risk:

The second area of risk explored was the early developmental experiences of the children in the study. The effects of prenatal experiences on fetal and infant development have been well established (e.g., Canadian Perinatal Health Report (Health Canada, 2000)). Recent research suggests that abnormal prenatal environments and obstetrical difficulties may be more common for women who are depressed during pregnancy compared to non-depressed mothers (see Goodman & Gotlib, 1999). Eighteen indicators related to pregnancy/childbirth as well as parental recollections about the child's development and temperament during the preschool years were examined. Each area is discussed separately below and then combined to form an overall risk score related to early developmental risk. Participants received a score of one for each of the 18 risk factors that fell in the criterion range. Total scores could range from 0 to 18. Higher scores indicate greater exposure to early developmental risk.

Pregnancy/Childbirth

Seven variables considered to be indicative of increased prenatal risk were examined including exposure to maternal emotional stress, teratogens (e.g., virus, cigarette smoke, alcohol) and/or obstetrical complications (e.g., c-section, low birth weight). As indicated in Table 4.2, less than one-third of mothers reported suffering from a virus or significant physical illness (i.e., gestational diabetes) during pregnancy. Slightly more women (38.1%) recalled experiencing "emotional" problems (i.e., feeling *much more* depressed or anxious than usual) while pregnant.

Table 4.2

Number and Percentage of Participants Scoring in the Criterion Range on Seven Risk Variables Related to Prenatal Risk (N = 21)

	n (% scoring in criterion range) (N=21)	National Data ^{1,2}
<u>Pregnancy</u>		
• Major illness	5 (23.8%)	18% ¹
• Emotional problems	8 (38.1%)	n/a
• Smoked	12 (57.1%)	19% ²
• Drank alcohol	5 (23.8%)	15% ²
<u>Birth History</u>		
• Problems with delivery	10 (47.6%)	35% ¹
• Low birth weight (<5.5lbs)	2 (9.5%)	6% ¹
• Caesarian-section	5 (23.8%)	19% ¹

¹ Canadian Perinatal Health Report (Health Canada, 2000)

² National Longitudinal Survey of Children and Youth (NLSCY, 1998)

The majority of women in the study (57.1%) reported that they smoked throughout their pregnancy while approximately 25% of mothers indicated that they drank alcoholic beverages. The amount of alcohol consumption varied but these mothers all reported drinking during the first trimester and consuming between 2 to 5 drinks at least once per month throughout their pregnancy. The rate of smoking and drinking alcohol during pregnancy in the current study is higher than reported national rates. Despite many years of research, it is not known how much alcohol a pregnant woman can safely drink. However, it is known that the abuse of alcohol, particularly around the time of conception and the first trimester can lead to birth defects, learning problems and

other developmental delays (Health Canada, 2000). In general, women may tend to underreport this behavior because it is socially undesirable and known to incur risk to the fetus. It is unknown whether the way in which information about alcohol consumption was collected in the present study (i.e., computer-administered interview completed in private) influenced women's responses.

Approximately half (47.6%) of the mothers in the study noted that they experienced "problems" during childbirth (e.g., induced labor, use of forceps). In spite of these difficulties, the vast majority (76.2%) reported that their child was delivered naturally. A small percentage of children (9.5%) were low birth weight. Consistent with the criteria used by the NLSCY (1998), babies weighing less than 5.5 pounds were considered low birth weight. The rate of obstetrical complications (e.g., labor induction), caesarian-sections, and low birth weight babies in this study is slightly higher than national rates reported in the Canadian Perinatal Health Report (Health Canada, 2000).

Developmental Delay

During the preschool years (18 months to 5 years), the majority of children (90.5%) were reported to have reached developmental milestones (e.g., learning to sit/crawl/walk, use words/sentences) within normal limits. However, approximately one-third of children later evidenced some speech and language deficits and required speech therapy as preschoolers. Most children (90.5%) were reported to get along well with peers during this period.

Data collected in the National Longitudinal Survey of Children and Youth (NLSCY, 1998) indicated that 11% of children 0 to 3 years of age displayed delayed levels of motor and social development (e.g., crawling/walking, clearly communicating

wants/desires). Approximately 16% of this national sample displayed delayed verbal development. Less than 10% were noted to have impaired social relationships (see Table 4.3).

Table 4.3

Number and Percentage of Participants Scoring in the Criterion Range on Three Risk Variables Related to Developmental Delay (N=21)

	n (% scoring in the criterion range)	National Data ¹
<u>Developmental Processes:</u>		
• Developmental delay	2 (9.5%)	11%
• Problems with speech/language	8 (38.1%)	16% ²
• Problems with peers	2 (9.5%)	10%

¹ National Longitudinal Survey of Children and Youth (NLSCY, 1998)

² Refers to delays in language development/comprehension

Temperament and Attachment

As indicated in Table 4.4, one-third of mothers (33.3%) reported that their child did not show affection as an infant/preschooler and 19% noted that their child did not seem to be interested in others and preferred to play alone. These items were considered to reflect a “reserved” temperament (Prior, 1992). Approximately, one-quarter of mothers reported that their child had a tendency to be exceptionally excitable (23.8%), demanding (23.8%) and generally difficult to raise (19%). A higher percentage of mothers (47.6%) described their children as “unusually active/always on the go”. These four items were thought to reflect a “difficult” temperament (Prior, 1992). Currently there is no universal agreement concerning the specific content or structure of difficult temperament (Goodyer et al, 1993).

Table 4.4

Number and Percentage of Participants Scoring in the Criterion Range on Eight Risk Variables Related to Temperament (N=21)

	n (% scoring in the criterion range)	National Data ¹
<u>Temperament:</u>		
“Reserved”		n/a
• Not affectionate	7 (33.3%)	-
• No interest in others	4 (19.0%)	-
“Difficult”		5.9%
• Unusually difficulty to raise	4 (19.0%)	-
• Unusually active	10 (47.6%)	-
• Very excitable	5 (23.8%)	-
• Very Demanding	5 (23.8%)	-
<u>Attachment/ Separation Anxiety:</u>		6%
• Problems being away from caregiver	4 (19.0%)	-
• Very whiny/ clingy	5 (23.8%)	-

¹ National Longitudinal Survey of Children and Youth (NLSCY, 1998)

In addition, children whose parents are depressed are at particular risk for difficulties in establishing a secure attachment in the first 18 months of life (see Table 2.1). While no formal assessment of attachment was conducted, two items from the developmental history interview with parents on the DICA-IV were thought to be indicative of early attachment difficulties or separation anxiety in children. These items were “difficulties being away form caregiver as a preschooler” and “tendency to be exceptionally whiny/clingy”. According to parental reports, about one quarter of the

children may have experienced early attachment issues as evidenced by difficulties being away from caregivers as a preschooler (19%) and/or a tendency to be exceptionally whiny/clingy (23.8%).

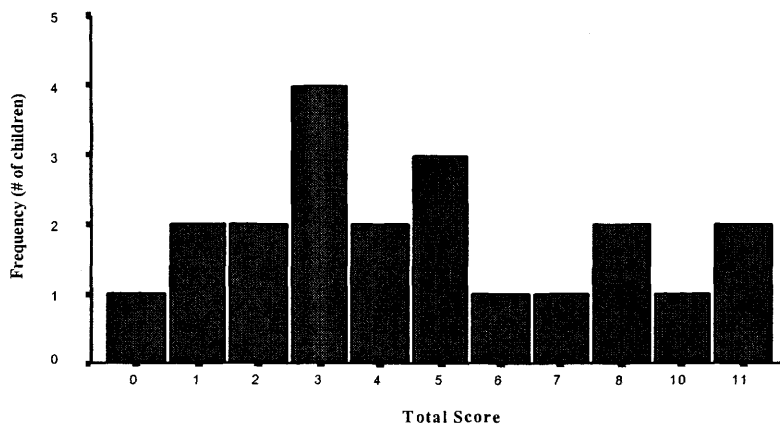
As indicated in Table 4.4, the rate of children considered to be temperamentally “difficult” or have problems with separation anxiety appears to be quite high in the current study. For example, only 6% of children in the NLSCY were reported to be “very anxious” on a measure of separation anxiety (e.g., child clung to adult/showed signs of dependence). Further, only 5.9% of children in the NLSCY (1998) were considered to be “difficult” (e.g., difficult to raise, soothe, calm) on a measure of temperament. It is important to note that, in contrast to the data collected in the NLSCY (1998), the current study did not use a standardized measure to assess temperament. Rather, individual items considered indicative of a particular type of temperament (i.e., “reserved”, difficult”) or attachment problem were chosen from a developmental history interview conducted with parents. This difference in the manner in which temperament and attachment was assessed in the two studies may account for some of the differences in the rates of problems observed. Nonetheless, the rates of difficulties reported in the current study in these areas seem substantially higher than rates reported in the general population.

Overall Scores: Early Developmental Risk Sub-Scale

The mean score on the Early Developmental Risk Sub-Scale was 4.26 ($SD=3.26$). Scores ranged from 0 to 11 (out of a possible 18 points). Figure 4.2 illustrates the resulting distribution of the scores and shows that, while most children scored relatively low on indicators of developmental risk, almost one quarter of the

children ($n = 5$) experienced 8 or more risk factors.

Figure 4.2. Distribution of Scores on the Early Development Risk Sub-Scale



4.1.3 Stressful Life Events:

The third area of risk explored was the number and type of stressful life events that had occurred in each child's life. Empirical research has demonstrated a strong link between chronic stress and child maladjustment (e.g., Compas, Grant & Ey, 1994; Fergusson & Horwood, 2003). Further, stressful conditions have been found to commonly accompany parental depression (Hammen, 2002). Thirteen life events ranging from the experience of "stress" in the home to experiencing sexual/physical/emotional abuse were included in this sub-scale (see Table 4.5). Again, participants received a score of one for each specific risk factor reported. The total possible score on this sub-scale was 13. Higher scores indicate greater exposure to stressful life events.

Table 4.5

Stressful Life Events Sub-Scale: Number and Percentage of Participants Scoring in the Criterion Range on Thirteen Stressful Life Events (N=21)

	<i>n</i> (% scoring in the criterion range)	National Data ¹
<u>Conflict/Tension</u>		
• Experiencing stress	12 (57.1%)	33% ²
• Adults/children fight/argue	11 (52.4%)	6%
• Problems with money	7 (33.3%)	n/a
• Trouble making friends	8 (38.1%)	10%
<u>Family Health</u>		
• Family substance abuse	8 (38.1%)	2%
• Serious family illness (not due to depression)	13 (61.9%)	8%
• Death in family (not parent)	7 (33.3%)	27%
<u>Abuse:</u>	-	4%
• Physical abuse	1 (4.8%)	-
• Witnessed violence at home	3 (14.3%)	-
• Sexual abuse	2 (9.5%)	-
• Verbal/ emotional abuse	12 (57.1%)	-
<u>Recent Change (last 18 months):</u>		
• Parent changed job	13 (61.9%)	n/a
• Family move	9 (42.9%)	8%

¹ National Longitudinal Survey of Children and Youth (NLSCY, 1998)

² Roughly 33% of children under age 12 had experienced some stress or unhappiness

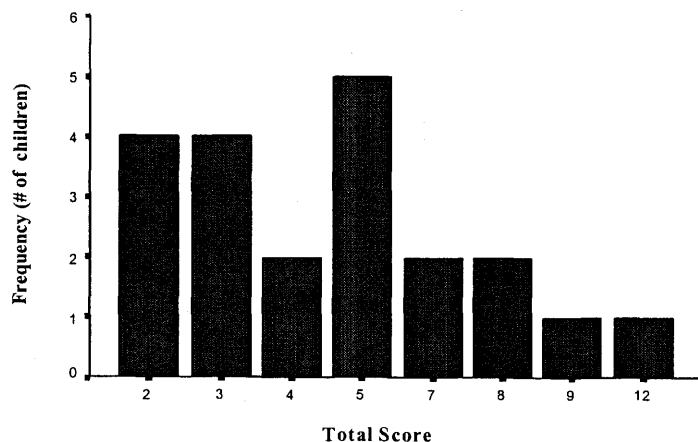
All of the children in the study were reported to experience at least two significant stressors in their lives. The most commonly reported stressful events were: experiencing general stress (57.1%); fighting/arguing in the home (52.4%); being verbally/emotionally abused (57.1%); and, having a parent who changed jobs over the past 18 months (61.9%). Having a seriously ill family member (61.9%) was also commonly reported (e.g., physical/mental disorder for non-depressed parent; a serious illness in the extended family).

Approximately one-third of parents indicated that: they had significant problems managing money (i.e., not having enough money for food/rent); there was a family member with a drinking/drug problem; there had been a recent death in the extended family; and/or, that the family had moved on at least one occasion. As indicated in Table 4.5, a small proportion of families indicated that their child had witnessed violence in the home (14.3%) and/or had experienced physical (4.8%) and/or sexual abuse (9.5%). Compared to national data, the children in the current study were consistently reported to have experienced higher rates of stress, conflict, abuse and disruption in the home environment.

Overall Scores: Stressful Life Events Sub-Scale

The mean score on the Stressful Life Events Sub-Scale was 4.95 ($SD=2.69$) and scores ranged from 2 to 12 (out of a possible 13 points). Figure 4.3 illustrates the resulting distribution of the scores and shows that most children (71.3%) reported experiencing five or fewer stressful life events. However, each of these events are likely a source of significant stress for the child and it is likely that the experience of more than one or two events is quite significant for an individual child.

Figure 4.3. Distribution of Scores on the Stressful Life Events Sub-Scale



4.1.4 Nature of Parental Psychopathology

The final area explored was risk related to parental psychopathology. Empirical research has suggested that a family history of psychopathology and the nature of parental symptoms (e.g., comorbidity, impact on functioning) may increase a child's risk of maladjustment (e.g., Silberg & Rutter, 2002). Key indicators related to potential genetic risk (as assessed by family history of mental illness), severity of parental depression and the subjective/objective impact of the parental depression at home and at work were examined. Nine variables considered to be indicative of increased risk/adversity and the percentage of subjects who exhibited each risk factor are presented in Table 4.6. For each risk factor reported, participants received a score of one. The total possible score on this sub-scale was nine. Higher scores indicate exposure to greater risk.

Table 4.6

Number and Percentage of Participants Scoring in the Criterion Range on Nine Risk Variables Related to Parental Depression (N = 21)

	<i>n</i> (% scoring in the criterion range)
<u>Comorbidity:</u>	
• 2 or more DSM-IV diagnoses	10(47.6%)
<u>Family History:</u>	
• Depression	11(52.4%)
• Other mental illness	8(38.1%)
<u>Severity</u>	
• High self-rating of feeling depressed	10(47.6%)
• One or more inpatient hospitalizations	6(28.6%)
• Inability to work (past/current) due to depression	6(28.6%)
<u>Impact of depression on parental functioning:</u>	
<u>Clinician rating::</u>	
• GAF Score less than 64 ¹	12(57.1%)
<u>Subjective rating</u>	
• Child- related tasks	13(61.9%)
• Household tasks	17(81.0%)

¹ GAF scores of less than 64 indicate that the individual is experiencing at least moderate impairment in social or occupational functioning (American Psychiatric Association, 1994)

Table 4.6 indicates that the children in the sample were exposed to considerable levels of parental psychopathology. All parents in the study met criteria for a major affective disorder (i.e., major depressive disorder or bipolar disorder) at some point in the past 18 months. Approximately 50% of participants indicated that they were

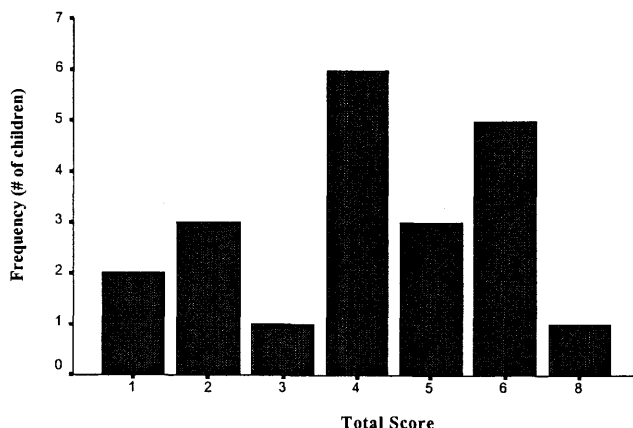
currently feeling moderately to extremely depressed. However, less than one third of the sample reported ever being hospitalized due to their depression. Half of the subjects (52.4%) reported an immediate and/or extended family history of depression. In addition to an affective disorder (i.e., unipolar or bipolar depression), close to half of the sample (47.6%) met criteria for at least one additional DSM-IV diagnosis (e.g., generalized anxiety disorder, specific phobia, eating disorder, brief psychotic disorder).

Thirty-eight percent of parents reported an immediate and/or extended family history of mental illness other than depression (e.g., alcoholism, schizophrenia, obsessive compulsive disorder). Clinician ratings on the Global Assessment of Functioning (GAF) Scale suggested impairments in social and/or occupational functioning for over 50% of participants. Similarly, subjective ratings of the impact of depression on parental functioning at home indicated that the majority of individuals in the study (61.9 to 81%) experienced significant impairment. In spite of this difficulty functioning at home, a smaller percentage of parents (28.6%) reported that their depression prevented them from working outside the home.

Overall Score: Nature of Parental Psychopathology Sub-Scale

The mean score on the Nature of Parental Psychopathology Sub-Scale was 4.19 ($SD=1.86$). Scores ranged from 1 to 8 (out of a possible 9 points). As indicated in Figure 4.4, the distribution of scores on this sub-scale are skewed to the right suggesting that the majority of children in the study had a parent who suffered from relatively severe depression marked by an inability to function in various settings.

Figure 4.4 *Distribution of Scores on the Nature of Parental Psychopathology Sub-Scale*



4.1.5 Total Risk Composite:

Total scores on the Risk Composite ranged from 6 to 33 (out of a possible 45 points). The mean score on the composite was 15.19 ($SD = 7.01$). The median was 14.0. As indicated in Table 4.7, scores on the Risk Composite were relatively evenly distributed. Eleven children scored at or above the median and were considered to be at higher risk. Ten children scored below the median and were considered to be at lower risk. The terms “Higher” and “Lower” risk were used in recognition of the fact that all children in this sample experienced some level of risk.

This classification of risk is based on the overall number of risk factors each child experienced. It does not take into account the potential significance of one particular factor relative to another (e.g., the experience of abuse vs. a family move). While there is a large body of research supporting the deleterious impact of cumulative risk on children (Garmezy & Masten 1994; Goodyer, 1994; Wyman, 2003), the relative import of various risk factors will be explored in more detail in a subsequent section.

Table 4.7

Distribution of Scores on the Risk Composite

Total Score	n (%)
<i>Lower Risk</i>	
6-7	3 (14.3)
8-9	1 (4.8)
10-11	5 (23.8)
12	1 (4.8)
<i>Higher Risk</i>	
14-15	1 (4.8)
16-17	2 (9.5)
18-19	2 (9.5)
20-21	1 (4.8)
22-23	4 (19.0)
33	1 (4.8)

The difference between the overall mean scores on the Risk Composite in the Higher ($M = 20.6$, $SD = 5.0$) and Lower ($M = 9.2$, $SD = 2.3$) Risk groups was significant ($t(19) = -6.61$, $p < .001$). While these results support this classification of children into distinct Higher and Lower Risk groups there was variability, particularly within the Higher Risk group. For example, one child (Connie, age 12) obtained a Risk Composite score of 33 while a second child (Ben, age 14) obtained a score of 14. Although Connie's total score was over twice as high as Ben's, both children were considered higher risk. Narrative descriptions are presented below and illustrate this point.

Narrative Description of Children Classified as “Higher Risk”

Ben¹

Ben is 14 years old. He was residing with his mother and her boyfriend. His biological parents divorced three years ago. His mother suffers from Major Depressive Disorder and she was recently hospitalized following a suicide attempt. There have been periods of time (ranging from two days to almost one month) during which she has been unable to work outside of the home due to her depression. Further, she reported that her illness has had a significant impact on her ability to complete household and child-related tasks. Ben has an extensive family history of psychiatric problems. His biological father reportedly suffers from Major Depression and his older sister (age 18) was recently hospitalized with Schizoaffective Disorder.

In addition to significant environmental stress and genetic risk, there was some evidence that Ben may have had some biological vulnerabilities. Although his mother reported a healthy pregnancy, she noted that Ben was an unusually active and excitable child who was difficult to raise. Currently, his mother has a new relationship with a supportive partner and the family is living well above the poverty line. However, Ben’s family has experienced considerable stress and disruption over the past year related to his mother’s illness and suicide attempt, his sister’s illness and hospitalization and the reorganization of the family unit.

Connie¹

Connie is 12 years old. She was residing in an emergency shelter with her mother and younger sister (age 8). The family recently moved to the community after leaving an abusive relationship. They reported significant financial problems and no social support in the community. Connie’s mother has made five attempts to leave the abusive relationship over the past two years. Connie and her sister have moved 16 times during this time. They have been in two temporary foster care placements. Connie has witnessed domestic violence and was reported to have been physically abused by her step-father (between the ages of 3 and 11 years), sexually abused by her biological father (at age 3 years of age) and verbally abused by her mother (ongoing).

Connie's mother has a long history of Major Depression and was hospitalized within the past 18 months. There have been extended periods of time (i.e., 6-8 months) during which she has been unable to work outside of the home due to her depression. Further, she reported that her illness has had a significant impact on her ability to complete household and child-related tasks. A family history of depression and alcoholism was reported. Connie's mother described a difficult pregnancy/delivery and noted that Connie was an unusually active child who was demanding, excitable and whiny/clingy. Her mother found her difficult to raise.

¹ Names have been changed and specific details have been altered to protect confidentiality

As indicated in these brief case examples, both Ben and Connie have experienced significant parental psychopathology, increased genetic risk, marital conflict/divorce and family stress. Further, both children were reported to be temperamentally difficult as infants/preschooler. However, Connie appears to have experienced more upheaval and an abusive and violent family environment. Still, both children have experienced significantly more risk/adversity than the children in the Lower Risk group as illustrated in the following description of Kayla (Risk Composite Score = 6). A second example of a Lower Risk child can be found in Appendix C (see case description of Amy).

Narrative Description of a Child Classified as "Lower Risk"

Kayla

Kayla is 9 years old. She was residing with her biological parents and three siblings (ages 5, 11 and 17 years). Her parents have been married for eight years. Both parents had previous relationships prior to her birth. Her oldest sister (age 17 years) is from her father's first marriage, while her oldest brother (age 11) is from her mother's prior relationship. The family income is below the 2001 poverty line. However, the family did not report any problems with

money (i.e., being unable to make payments, buy groceries).

Kayla's father suffers from Bipolar Disorder. He has never been hospitalized and has held a steady job over the past several years. He reported that his depression has a moderate impact on his ability to complete household/child-related tasks. There is an extended family history of bipolar disorder and alcoholism. However, Kayla's mother did not meet criteria for any DSM-IV diagnosis. Other than living below the poverty line, this family reported no major stressors. Specifically, there were no reports of stress or fighting at home, financial problems, drinking/drug problems, abuse, death in the family, change in residence or change in parent employment status.

There was no evidence that Kayla had any biological vulnerabilities. Her mother did not report any prenatal or perinatal difficulties. Kayla achieved all developmental milestones within normal limits and was described as an easygoing and affectionate child who was very interested in others.

Summary:

In general, the results suggest that all children in the study experienced some level of risk in addition to parental affective disorder. However, how much risk and the type of risks experienced varied substantially. Few children were reported to experience risk related to socioeconomic status. A comparison with the 1996 Census data suggested that the families in the study were similar to the general Canadian population in the areas of family income, family composition and level of maternal education.

With the exception of maternal smoking during pregnancy and select stressful life events (i.e., stress at home, verbal/emotional abuse, serious family illness, parental job change), most risk factors were reported by less than half of the sample. While all parents met criteria for an affective disorder, the nature of their symptoms (e.g.,

comorbidity) and the impact on parental functioning in and outside of the home varied. For example, while few parents were unable to work outside of the home due to their depression, many depressed parents indicated that their symptoms had a significant impact on their ability to complete household and child-related tasks.

A group of Lower ($n=10$) and Higher ($n=11$) Risk children were identified using a median split based on the total number of risk factors experienced. While children in the Higher Risk group were reported to experience significantly more risk factors than children in the Lower Risk group, there was variation within each group.

4.2 Assessing Child Functioning: Identifying “Positive” Adaptation

This section presents the results obtained from depressed parent ratings of child functioning at home, at school and with peers and on the Behavior Assessment System for Children (BASC). The variability evidenced by the children on each indicator of adaptive functioning was explored and the process for coding and combining this data to form an Adaptive Functioning Composite is described. Total scores on the Adaptive Functioning Composite (AFC) are presented and the classification of children into “High” or “Low” functioning groups is discussed and validated.

As mentioned previously, although child functioning was assessed from multiple perspectives (i.e., depressed parent, spouse, teacher) only the depressed parent ratings were used in the development of the Adaptive Functioning Composite. Available spouse and teacher ratings were used to assess the reliability of depressed parent ratings. These results are presented next.

4.2.1 Examining the Reliability of Depressed Parent Ratings of Child Functioning

Comparison of Depressed Parent and Spouse Ratings of Overall Child Functioning at Home, at School and with Peers

Twenty-one depressed parents and 11 spouses rated their child's overall level of functioning in three settings on a seven-point likert scale. Details about the scoring of these ratings and the results are presented in the next section. For the purpose of assessing reliability, depressed parents and spouses were considered to be in agreement if both ratings fell in the *below average* range (i.e., a score of less than three on the likert scale) or if both ratings fell in the *average/above average* range (i.e., a score of three or greater on the likert scale). Using this criteria, the percent agreement between depressed parent and spouse ratings of child functioning was high, ranging from 91% for school and peer functioning to 100% agreement on ratings of child functioning in the home.

Comparison of Depressed Parent and Teacher Ratings of Overall Child Functioning at School:

Depressed parent ratings of overall school functioning were compared to available teacher ratings of school functioning on the BASC. This comparison provided additional insight into how accurate depressed parents in this study were in rating their children. As indicated in the methodology section, 14 teachers completed the BASC, which included a School Problems Composite. This composite rates the extent to which children are experiencing academic difficulties in the areas of motivation, attention, learning and cognition. High scores (i.e., $T > 70$) indicate that teachers observe behaviors that are likely to interfere with the child's achievement in school.

Parents and teachers were considered to be in agreement if both ratings fell in the *below average* range (i.e., a parent rating of less than three on the school functioning question *and* a T score of 70+ on the BASC), or if both ratings fell in the *average/above average* range (i.e., a parent rating of three or greater on the school functioning item *and* a T score of < 70 on the BASC). Using this criteria, depressed parent and teacher ratings of school functioning were in agreement in 13 of the 14 cases (i.e., 93%).

Comparison of Multiple Raters on the Behavior Assessment System for Children (BASC)

The BASC was used to assess the presence/absence of clinically significant emotional and/or behavioral problems. Twenty-one depressed parents, 11 spouses and 14 teachers completed the BASC. Details about the scoring of the BASC and the specific results obtained on this measure are discussed in the following section.

The BASC includes three validity indices to help identify questionnaires that may be invalid due to an excessively negative response set (i.e., F Index) or due to random, patterned or inconsistent responding (i.e., Response Pattern and Consistency Index). All raters scored in the *Acceptable* range on both the Response Pattern and Consistency Indexes. On the F Index, three depressed parents (14%) scored in the *Extreme Caution* range suggesting that these raters may have been excessively negative in describing their child's behavior. None of the spouse or teacher raters fell in this range.

These three questionnaires were further explored by comparing depressed parent ratings to the results obtained by other raters (i.e., spouses and/or teachers) on the BASC. In all three cases, spouses and/or teachers also identified at least two clinically significant behavior/emotional problems on the BASC. The fact that all three children

were exhibiting at least two areas of significant symptomatology according to an alternate rater supported the accuracy of the depressed parent rating.

To assess reliability, depressed parent ratings were compared to spouse and teacher ratings on the BASC. Raters were considered to be in agreement if both ratings fell in the *clinical* range (i.e., T score 70+) or if both ratings fell in the *non-clinical* range (i.e., T score < 70) on the BASC. Table 4.8 indicates the extent to which spouse and teacher ratings were in agreement with depressed parent ratings on the four internalizing scales (i.e., anxiety, depression, somatization, withdrawal) and the four externalizing scales (i.e., hyperactivity, conduct problems, attention problems, aggression) of the BASC.

Agreement rates between depressed parent and spouse ratings on the BASC were generally high and ranged from 73 to 91% on the Externalizing Problem scales and from 45 to 91% on the Internalizing Problem scales (see Table 4.8). Agreement rates were highest for conduct problems and withdrawal (i.e., 91%) and lowest for depression (i.e., 45%). Depressed parents were more likely than spouses to rate children high in depression on the BASC. This finding may reflect a tendency to view the child's "normal" emotional reactions in a more negative manner or an increased sensitivity to and awareness of symptoms actually indicative of depression.

Table 4.8

Agreement Rates Between Depressed Parents, Spouses and Teachers on the BASC Externalizing and Internalizing Scales

	Spouse and Depressed Parent Ratings (BASC) (n=11)	Teacher and Depressed Parent Ratings (BASC) (n=14)
<u>Externalizing Problems</u>		
Hyperactivity:	82%	93%
Aggression:	73%	79%
Conduct Problems:	91%	79%
Attention Problems:	73%	100%
<u>Internalizing Problems</u>		
Anxiety:	73%	86%
Depression:	45%	64%
Somatization:	82%	86%
Withdrawal:	91%	64%

Depressed parent ratings were also consistent with teacher ratings of emotional and disruptive behavior problems on the BASC. Agreement rates ranged from 79 to 100% on the Externalizing Problems scales and from 64 to 86% on the Internalizing Problems scales (see Table 4.8). The percent agreement was highest for hyperactivity (93%) and attention problems (100%) and lowest for depression (64%). Depressed parents were more likely than teachers to report that children were exhibiting clinically significant symptoms indicative of depression on the BASC. In contrast, the percent

agreement between spouse and teacher raters on the BASC Depression scale was higher (89%).

While not directly comparable, the patterns noted above are generally consistent with the inter-rater reliability data presented in the BASC Technical Manual (Reynolds & Kamphaus, 1992). In the BASC Technical Manual, correlations between mothers' and fathers' ratings on corresponding scales were relatively high and ranged from .56 to .70 on the Externalizing Problems scales and from .46 to .67 on the Internalizing Problems scales. Overall, agreement rates were higher for externalizing problems and lower for internalizing problems.

A similar pattern is reported for parent and teacher ratings although the overall correlations were lower. For example, the BASC Technical Manual indicates that correlations between corresponding scales on the Externalizing Problems scales ranged from .38 to .62 and from .12 to .37 on the Internalizing Problems scales.

In general, the comparison of multiple raters on the BASC presented above supports the reliability of the depressed parent ratings of child functioning across most domains. However, the relatively low level of agreement between depressed parents and other raters (i.e., spouse, teacher) on the depression sub-scale of the BASC suggests the need for caution when interpreting results related to this scale.

4.2.2 Exploring Variability in Child Adaptive Functioning:

This section presents the results of depressed parent ratings of child behavior and/or emotional problems on the BASC. Comparisons with epidemiological data are made to determine if and how this sample of children differs from a normative sample in these areas. As well, depressed parent ratings of overall child functioning in various

contexts (i.e., at home, at school and with peers) are also presented.

Behavior Assessment System for Children (BASC)

Depressed parent ratings on the four internalizing (i.e., Anxiety, Depression, Somatization, Withdrawal) and the four externalizing (i.e., Hyperactivity, Conduct Problems, Attention Problems, Aggression) scales of the BASC were examined. As mentioned in the methodology section, ratings on each of these eight clinical scales were classified as *average* (i.e., scores of $T < 60$), *at-risk* (i.e., scores of $T = 60$ to 69) or *clinically significant* (i.e., $T = 70+$) as per Reynolds and Kamphaus (1992).

Externalizing Problems:

The means and the distribution of scores on the four externalizing scales of the BASC are presented in Table 4.9. Overall, most children in the study were not rated as exhibiting clinically significant externalizing problems. For the sample as a whole, mean scores on the Hyperactivity (57.86), Aggression (57.71) and Conduct Problems (59.52) scales all fell in the *average* range. The overall mean score on the Attention Problems scale was slightly higher (60.86) and fell in the *at-risk* range.

Similarly, an examination of the distribution of individual scores suggested that the majority of children were functioning in the *average* range in these four areas. One-third of the sample ($n = 7$) fell in the *clinically significant* range on the Attention Problems scale. A smaller number of children were rated as having clinically significant problems with hyperactivity ($n = 3$), aggression ($n = 4$) or conduct problems ($n = 4$). However, a higher percentage of children were rated at-risk for the development of difficulties in these areas. For example, while only 19% of children scored in the *clinical* range with respect to conduct problems, 33% of children scored in the *at-risk* range. A

similar pattern was evident on the Hyperactivity and Aggression scales (see Table 4.9).

Table 4.9

Depressed Parent Ratings of Externalizing Problems on the BASC: Means and Distribution of Scale Scores (N=21)

		<i>n</i> (%) Average range	<i>n</i> (%) At Risk range	<i>n</i> (%) Clinical range
	<i>M</i> (<i>SD</i>)	(<i>T</i> < 60)	(<i>T</i> =60 to 69)	(<i>T</i> > 69)
Hyperactivity	57.86 (18.20)	14 (67%)	4 (19%)	3 (14%)
Aggression	57.71 (11.87)	12 (57%)	5 (24%)	4 (19%)
Conduct problems	59.52 (17.93)	10 (48%)	7 (33%)	4 (19%)
Attention Problems	60.86 (14.42)	11 (52%)	3 (14%)	7 (33%)

The majority of children (62%) did not exhibit any clinically significant externalizing problems on the BASC. However, only six children (29%) were completely symptom free (i.e., were not rated as *at-risk* or exhibiting any clinically significant problems). Three children (14%) were reported to fall in the *clinically significant* range in only one problem area, while five children (24%) were reported to have multiple externalizing problems. Appendix B presents a detailed overview of the at-risk and clinically significant scores obtained by each child in the sample across the various areas of functioning assessed.

Internalizing Problems:

Table 4.10 details the range and extent of internalizing problems as rated by depressed parents. Similar to the results in the externalizing problem domain, the majority of children were not rated as having clinically significant internalizing

problems. Overall mean scores on the Anxiety (58.05), Somatization (55.76) and Withdrawal (58.29) scales all fell in the *average* range. Relatively few children (i.e., 14-19%) were reported to be functioning in the *clinical* range on these scales (see Table 4.10). Approximately one-quarter of depressed parents rated their children in the *at-risk* range for problems with anxiety (29%) and withdrawal (24%).

The overall mean score on the Depression scale of the BASC was higher (65.05) and fell in the *at-risk* range. Almost half (i.e., 43%) of depressed parents rated their children in the *clinical* range on the Depression scale. As mentioned in the previous section, these ratings should be interpreted with caution given the relatively low level of agreement found between depressed parents and other (i.e., spouse, teacher) raters of child depression on the BASC.

Table 4.10

Depressed Parent Ratings of Internalizing Problems on the BASC: Means and Distribution of Scale Scores (N=21)

		<i>n</i> (%) Average range	<i>n</i> (%) At-Risk range	<i>n</i> (%) Clinical range
	<i>M</i> (<i>SD</i>)	(<i>T</i> < 60)	(<i>T</i> = 60 to 69)	(<i>T</i> > 69)
Anxiety	58.05 (14.02)	11 (52%)	6 (29%)	4 (19%)
Depression	65.05 (16.22)	9 (43%)	3 (14%)	9 (43%)
Somatization	55.76 (14.76)	15 (71%)	3 (14%)	3 (14%)
Withdrawal	58.29 (12.90)	13 (62%)	5 (24%)	3 (14%)

Similar to the results on the externalizing scales, most children (57%) did not exhibit any clinically significant internalizing problems on the BASC. Five children

(22%) were completely symptom free (i.e., were not at risk or exhibiting any clinically significant problems). Three children (14%) received clinically significant ratings in one area, while five children (24%) were reported to have multiple internalizing problems.

See Appendix B for more details.

Comparison with Epidemiological Data:

A recent article in the *Canadian Journal of Psychiatry* reviewed six large-scale, rigorously designed studies to determine the prevalence rates of child psychiatric disorders (Waddell, Offord, Shep, Hua & McEwan, 2002). All studies in this review included a representative community sample of at least 1000 children. In addition, each study employed standardized assessment procedures for evaluating clinically important symptoms based on the DSM (e.g., Child Behavior Checklist, Diagnostic Interview Schedule for Children) and incorporated reports from multiple informants.

Table 4.11 outlines the estimated disorder-specific prevalence rates compiled from all six studies. The estimated prevalence rate for all disorders was approximately 14% (compared to 52% in the current sample). The overall comorbidity rate in the current study (i.e., 64%) was consistent with the rates reported by Waddell and colleagues (2002).

As indicated in Table 4.11, the rate of clinically significant symptoms in the current sample is consistently higher than the prevalence rates reported across these six epidemiological studies. Rates of clinically significant depressive symptoms were particularly high in the current study. However, as noted previously, these ratings should be interpreted with caution given the relatively low level of agreement found between depressed parents and other (i.e., spouse, teacher) raters for depression.

Table 4.11

Rates of Clinically Significant Symptoms on the BASC: A Comparison to National Data

	(%) Clinical range (N = 21)	National Data*
<u>Externalizing Problems</u>		
Hyperactivity	14%	4.8% ¹
Aggression	19%	n/a
Conduct problems	19%	4.2%
Attention Problems	33%	4.8% ¹
<u>Internalizing Problems:</u>		
Anxiety	19%	6.4%
Depression	43%	3.5%
Somatization	14%	n/a
Withdrawal	14%	n/a
<u>Any Problem:</u>	52.4%	14.3%
Comorbidity Rate	64%	47-68%

*Waddell, Offord, Shep, Hua & McEwan (2002)

¹ Estimated prevalence rate for Attention Deficit/ Hyperactivity Disorder (ADHD). Not broken down.

Parent Ratings of Child Functioning at Home, School and with Peers

As discussed earlier, depressed parents rated their child's functioning in each of three areas on a seven point likert scale, which ranged from one (i.e., not at all functioning well) to seven (i.e., functioning extremely well). The scale was collapsed into three categories of functioning: *below average* (i.e., scores of 1 or 2); *average* (i.e., scores of 3 to 5); and, *above average* (i.e., scores of 6 or 7).

As indicated in Table 4.12, depressed parent ratings suggested that the children were functioning moderately to extremely well at home, at school and with peers. At home, the majority of children (61.9%) were rated as functioning in the *average* range. In the school setting, approximately 43% of children were reported to be functioning in the *average* range and almost 48% were in the *above average* range. The majority of children (90.4%) were reported to be functioning in the *average* or *above average* range ($M = 4.81$; $SD=1.33$) with peers.

Table 4.12

Depressed Parent Ratings of Overall Home, Peer and School Functioning: Means and Distribution of Scores (N=21)

Domain:	<i>M</i>	<i>SD</i>	<i>n</i> (%) Below Average range	<i>n</i> (%) Average range	<i>n</i> (%) Above Average range
Home	4.33	1.59	3 (14.3%)	13 (61.9%)	5 (23.8%)
Peers	4.81	1.33	2 (9.5%)	12 (57.1%)	7 (33.4%)
School	4.95	1.88	2 (9.6%)	9 (42.8)	10(47.6%)

The majority of children (76%) were reported to be functioning in the *average* or *above average* range across all three domains. Three children (14%) scored in the *below average* range in one domain, while two children (10%) scored in the *below average* range in two of the three domains. The specific scores obtained by each child are presented in Appendix B.

Summary:

As a group, the children in the current study obtained average scores on the BASC and on parent ratings of overall functioning at home, school and with peers. However, an examination of the distribution of scores within each of these areas highlights the substantial variability in behavior problems, emotional symptoms and level of functioning evidenced by individual children. While some children appear to be functioning exceptionally well in all areas, others were reported to be struggling in a number of domains. Indeed, the rate of clinically significant problems in this sample of children was higher than the community prevalence rates of similar clinical symptoms.

The next section outlines the process for coding and combining these various indicators of child functioning to form an Adaptive Functioning Composite and for identifying high and low functioning children.

4.2.3 Development of an Adaptive Functioning Composite (AFC):

The AFC was developed by coding depressed parent ratings of child functioning on each of the eight clinical scales of the BASC and on their ratings of overall functioning at home, at school and with peers. Each parent rating of child functioning was scored on a scale from zero to two. On parent ratings of overall child functioning at home, school and with peers, a score of zero was assigned to parent ratings of *below*

average functioning (i.e., a score of two or less). A score of one was assigned when parent ratings fell in the *average* range (i.e., a score between 3 to 5). A score of two was assigned when ratings fell in the *above average* range (i.e., a score of six or greater). This three-point rating scale distinguished children who were rated by their parents as functioning in the exceptional, average or below average range at home, school and with peers.

Similarly, on the BASC scales, a score of zero was assigned when depressed parent ratings fell in the *clinically-significant* range (i.e., T score = 70 +). A score of one was assigned when ratings fell in the *at-risk* range (i.e., T score = 60 to 69). A score of two was assigned when parent ratings fell in the *average* range (i.e., T < 60). Again, rating children in this manner allowed for distinctions between children who were showing clinically significant symptoms, milder symptoms (i.e., at-risk) or no symptoms on the BASC. Total scores on the AFC ranged from 4 to 22, out of a possible 22 points. Higher scores indicate higher levels of overall functioning. The mean score for the sample was 14.5 ($SD = 5.8$) and the median was 15.0.

Identifying High Functioning Children:

Two methods of classifying children as either “High” or “Low” functioning were considered. One method involved assigning children to a group based on the total score they obtained on the AFC (i.e., using a median split). The other method considered was to classify children as high or low functioning based on the absence/presence of any *clinically significant* ratings on the BASC and/or any *below average* ratings of overall functioning at home, school or with peers. The absence of clinically significant emotional, behavioral and scholastic problems was thought to be essential in the

operational definition of high functioning. Thus, it was decided to classify children based on an examination of the scores they obtained in each of the problem areas assessed on the AFC.

Children were assigned to the High Functioning group if they did not receive a rating of 0 in any of the eleven areas assessed (i.e., did not exhibit any *clinically-significant* or *below-average* ratings in the areas assessed). Based on this criterion, 10 children were considered High Functioning. Eleven children were reported to be in the *clinical* range in at least one of the eleven problem areas assessed and were classified as Low Functioning.

To validate the overall classification of children into High and Low Functioning groups, the total score each group obtained on the AFC was compared. Further, the groups were compared on other independent measures of functioning (i.e., Global Assessment of Functioning, spousal and teacher ratings on the BASC). The results are presented in Table 4.13. As would be expected, the overall mean score obtained by the Low Functioning group on the AFC ($M = 10.1$; $SD = 4.2$) was significantly lower than the mean score obtained by the High Functioning group ($M = 19.3$; $SD = 2.2$), $t(19) = -6.18, p = .001$.

Mean scores on the clinician-rated Global Assessment of Functioning (GAF) were also examined. The GAF provides a standardized assessment of overall functioning and ranges from 0 to 100. Higher scores indicate higher levels of functioning. Scores of less than 64 are considered indicative of at least moderate impairment in functioning in social and/or occupational settings (American Psychiatric Association, 1994). The mean clinician-rated GAF score was significantly higher in the

High Functioning group than in the Low Functioning group, $t(19) = -4.52, p = .001$ (see Table 4.13).

Table 4.13

Multi-Measure and Multi-Rater Comparison of “High” and “Low” Functioning Groups: Means and Standard Deviations

Level of Functioning	Adaptive Functioning ^a	GAF ^a	Behavioral Symptom Index (BASC) ^b	
	AFC Total Score (N=21)	Clinician Rating (N=21)	Spouse Rating ^c (n=11)	Teacher Rating ^c (n=14)
Low (n=11)	10.1 (4.2)	55.0 (10.9)	68.1 (5.6)	57.4 (10.4)
High (n=10)	19.3 (2.2)**	77.0 (11.4)**	54.0 (9.5)*	45.3 (4.5)*

^a Higher scores indicate higher levels of functioning.

^b Higher scores indicate lower levels of functioning.

^c Mean scores tested using the Mann-Whitney *U*-test due to reduced sample size.

* $p < .05$. ** $p < .001$

Finally, the mean scores reported by spouse and teacher raters on the Behavioral Symptom Index (BSI) of the BASC were examined. As indicated in the Methodology section, the BSI is a combination of scales from the clinical composites on the BASC that reflects the child’s overall level of problem behavior. Higher scores indicate more problem behaviors. Mean BSI scores on the BASC were found to be significantly lower (i.e., better) in the High Functioning group for spouse ($U = 1.00, p = .03$) and teacher raters ($U = 5.50, p = .02$) as compared to the scores in the Low Functioning group.

Overall, these results support the categorization of High and Low Functioning

children in the study and lend further support to the reliability of depressed parent ratings of child functioning. Although this classification system appears to be valid, there was significant variability within the High and Low Functioning groups, both with respect to the type and extent of difficulties exhibited. For example, within the High Functioning group, two children (20%) received a perfect score of 22 on the AFC. This score indicated that they were rated in the *average* range on all eight clinical sub-scales of the BASC and were also rated as functioning in the *above average* range at home, with peers and at school. The remaining eight children (80%) in the High Functioning group did not receive any clinically significant or below average ratings. However, they had at least one rating in the *at-risk* range on the BASC. Four of these children were reported to be at risk for a single internalizing or externalizing problem, while the other four children obtained at risk scores in two or more problem areas (see Appendix B).

Within the Low Functioning group, six children (55%) were rated as having both clinically significant internalizing and externalizing problems on the BASC. Specifically, they were reported to exhibit clinically significant depression, as well as significant problems in at least three other areas (most commonly aggression, attention problems and conduct problems). The remaining five children (45%) were rated as having fewer difficulties on the BASC. Two (9%) scored in the clinical range on a single externalizing scale (i.e. Attention Problems), while three children (27%) reported a clinically significant internalizing problem (i.e., two children scored high on depression and one child scored high on both depression and anxiety) (see Appendix B).

Given the relatively low level of agreement found between depressed parents and other raters on the Depression sub-scale of the BASC, the two children who only

obtained an elevated depression score were examined in more detail. Depressed parent ratings on the BASC were compared with available spouse ($n=1$) and teacher ($n=2$) ratings to determine if these children were viewed as depressed and/or as having other behavior or emotional problems by other raters. In both cases, spouse and/or teacher ratings concurred with depressed parent ratings. This suggests that these children were appropriately classified as Low Functioning.

Summary:

A group of High ($n = 10$) and Low ($n = 11$) Functioning children were identified based on the presence/absence of any clinically significant problems on the BASC and/or below average parental ratings of functioning at home, at school or with peers. Children in the High Functioning group functioned significantly better on a variety of measures (i.e., AFC, GAF, BSI) across multiple raters (i.e., clinician, spouse, teacher), supporting the validity of the classification process.

4.3 Positive Adaptation in the Presence of Risk: Identifying Resilience

Based on the child's level of risk on the Risk Composite (i.e., Higher vs. Lower) and their overall level of functioning on the AFC (i.e., High vs. Low), children were placed into one of four Risk/Functioning groups (see Table 4.14).

As indicated previously, 11 children (52%) were classified as Low Functioning based on depressed parent ratings of behavior problems. Most of these children ($n=8$) were also facing higher levels of overall risk as assessed by the Risk Composite. In contrast, ten children (47.6%) were classified as High Functioning on the Adaptive Functioning Composite and the majority of these children ($n=7$) obtained a total score on the Risk Composite which fell in the Lower Risk category.

Table 4.14

Distribution of Children Across Four Risk/Functioning Groups (N=21)

<i>Overall Level of Risk</i>	<i>Level of Adaptive Functioning</i>	
	<i>Low Functioning</i>	<i>High Functioning</i>
	<i>n (%)</i>	<i>n (%)</i>
Lower Risk	3 (14.3%)	7 (33.3%)
Higher Risk	8 (38.1%)	3 (14.3%)
TOTAL	11 (52.4%)	10 (47.6%)

As would be expected, children who were doing well (as assessed by the Adaptive Functioning Composite) also generally faced fewer risk factors. Children who were doing poorly faced significant adversity as assessed on the Risk Composite. However, as illustrated in Table 4.14, three Low Functioning children experienced relatively few risk factors while three High Functioning children faced significant adversity. Children in this latter group appear to be “resilient” whereas children in the former group might be considered “vulnerable”.

To assist the reader in getting a better sense of who the children in these four groups are and to provide further support for the validity of these classifications, a narrative description of one child from each group is presented in Appendix C. The individual cases presented were selected based on a consideration of their age, gender and the availability of a complete data set. All names have been change and any identifying information altered to protect confidentiality.

4.4 Exploring the Risk Functioning Groups: Examining Variations in the Types of Risk Experienced

One important criticism of the cumulative assessment of risk has been that summing all factors together does not consider whether specific factors or combinations of factors have more negative effects than others (Sameroff et al, 2003). For example, children in the HR/HF group appear to be doing well in spite of exposure to a large number of risks, while children in the LR/LF group seem to be functioning poorly in spite of lower overall risk exposure. However, we do not know anything about which *specific* risks the children in these groups actually faced. It may be that children in the HR/HF group experienced a greater number of risks, but the risks were of a less serious nature than those in the LR/LF group (e.g., family move, change in parental employment). Similarly, children in the LR/LF group may have been exposed to fewer risks, but of a much more serious nature (i.e., physical or sexual abuse). To ensure that we truly understand the children who we are identifying as resilient or vulnerable, it is necessary to explore the types of risks faced by these groups.

Table 4.15 provides an overview of the proportion of children in the four Risk/Functioning groups who exhibited particular risk factors (or sets of factors). Due to the small number of children in each group, group differences could not be tested statistically. However, factors that characterized the majority (i.e., at least 60%) of children in a particular group are highlighted and discussed. Table 4.15 also presents select demographic information (i.e., gender of child and depressed parent, mean age of children) that may assist in understanding differences between groups.

For ease of presentation, items endorsed by less than 20% of the sample are not discussed. Further, some individual risk factors were combined to reflect broader constructs. These combinations are noted in Table 4.15. For example, each of the seven items in the Pregnancy/Birth History section of the Early Development sub-scale were scored according to the Pregnancy Risk Assessment outlined in the Gynecology and Obstetrics section of the Merck Manual of Diagnosis and Therapy (2000). As indicated in the Manual, individuals obtaining a score of ten or more were considered to have had a high risk pregnancy. Rather than examining the scores obtained on each of the seven pregnancy/birth history risk factors that were included in the Risk Composite, the proportion of high risk pregnancies across the four Risk/Functioning groups was examined.

Table 4.15

Comparison of Risk/Functioning Groups on Select Risk Factors

	Risk/Functioning Group			
	LR/LF (n=3)	LR/HF (n=7)	HR/LF (n=8)	HR/HF (n=3)
<u>Select Demographics</u>				
Child's Gender: n (%) Male	3 (100%)	0 (0%)	3 (38%)	1 (33%)
Child's Age: Mean (SD):	11.8 (1.8)	10.4 (2.4)	11.2 (1.9)	11.0 (1.1)
Range:	10.7 – 13.8	7.8 – 13.9	8.5 – 14.9	10.1 – 12.3
Gender of Depressed Parent:				
n (%) Mother	2 (67%)	5 (71%)	8 (100%)	2 (67%)
Type of Affective Disorder:				
n (%) MDD	2 (67%)	6 (86%)	6 (75%)	2 (67%)
<u>Socioeconomic Status:</u>				
- Below 2001 poverty line	0	2 (29%)	4 (50%)	0
- First Nation	1 (33%)	1 (14%)	4 (50%)	1 (33%)
- Single-parent	0	1 (14%)	3 (38%)	1 (33%)
- Divorce/ Separation	0	0	4 (50%)	2 (67%)
<u>Early Developmental History</u>				
- High Risk Pregnancy ¹	0	2 (29%)	5 (63%)	0
- Below Avg. Development ²	3(100%)	0	5 (63%)	1 (33%)
- Reserved Temperament ³	2 (67%)	0	4 (50%)	1 (33%)
- Difficult Temperament ⁴	0	0	4(50%)	1 (33%)
- Anxious ⁵	0	2 (28%)	2 (25%)	1 (33%)

¹ Compares 7 Pregnancy/ Birth items (Risk Composite) with "high risk" criteria in Merck Manual (2000)² Includes delay in developmental milestones and/or speech and language;³ Child did not show affection and/or interest in others as a child;⁴ Child reported to be unusually excitable, demanding and difficult to raise as a child;⁵ Child reported to be whiny/ clingy and/or to have problems being away from caregiver

Table 4.15 (continued)

	Risk/Functioning Group			
	LR/LF (n=3)	LR/HF (n=7)	HR/LF (n=8)	HR/HF (n=3)
<u>Stressful Life Events:</u>				
- General Stress/Conflict ⁶	2 (67%)	3 (43%)	6 (75%)	3(100%)
- Problems with money	0	0	5 (63%)	2 (67%)
- Substance abuse in home	0	2 (28%)	2 (25%)	2 (67%)
- Family member seriously ill	1 (33%)	4 (57%)	7 (88%)	1 (33%)
- Death in family	1 (33%)	1 (14%)	4 (50%)	1 (33%)
- Verbal/emotional abuse	2 (67%)	0	7 (88%)	3 (100%)
- Disruption/Change ⁷	1 (33%)	5 (71%)	5 (63%)	2 (67%)
<u>Parental Psychopathology:</u>				
- Family Psychiatric History	1 (33%)	5 (71%)	7 (88%)	2 (67%)
<u>Severity of Depression:</u>				
- 2+ DSM-IV Diagnoses	1 (33%)	3 (43%)	3 (38%)	3 (100%)
- GAF <65	1 (33%)	4(57%)	5 (56%)	2 (67%)
- High self-rating of depression	0	4 (57%)	4 (50%)	2 (67%)
- Psychiatric hospitalization	0	0	3 (38%)	3 (100%)
- Impact household tasks	2 (67%)	5 (71%)	8 (100%)	2 (67%)
- Impact child-related tasks	1 (33%)	5 (71%)	5 (56%)	2 (67%)
- Impact work outside home	0	1 (14%)	2 (25%)	3 (100%)
<u>Total Risk Composite Score:</u>				
Mean (SD)	8.7 (2.1)	9.4 (2.4)	20.8 (5.8)	20.3 (2.9)
Range (0-45):	7 – 11	6 – 12	14 – 33	17 – 22

⁶ Includes reports of "stress" and/or fighting/arguing in the home;⁷ Includes parental job change and/or family move

4.4.1 Group 1 – Lower Risk/Low Functioning (LR/LF)

The LR/LF group includes three males ranging in age from 10.7 to 13.8 years. As indicated in Table 4.15, this group obtained the lowest cumulative risk score in the study. Interestingly, they also obtained the lowest overall score on the Adaptive Functioning Composite ($M=9.3$; $SD=4.0$). All three children were reported to be exhibiting clinically significant internalizing and externalizing problems as well as general difficulties at home, at school and with peers.

As indicated in Table 4.15, children in the LR/LF group appear to have had a relatively good start in life. None of the mothers were considered to have had a high-risk pregnancy (e.g., exposure to teratogens, obstetrical complications). However, all three children were reported to have experienced some delays during early development, typically in speech and language development. As well, two children were reported to have been somewhat “reserved” during the early years (i.e., did not show affection or interest in others). Interestingly, none of the high functioning children in the Lower Risk group (i.e., LR/HF) experienced these risks.

The home environment for the LR/LF children was typically described as stressful and conflictual and parental reports of verbal/emotional abuse towards the children were common. However, none of the children had ever experienced parental separation or divorce and all resided with both biological parents.

Two parents in the LR/LF met DSM-IV criteria for Major Depressive Disorder while one met criteria for Bipolar Disorder. Two of the depressed parents were mothers. Overall, parental depression appeared to be less severe in this group as compared to the other three Risk/Functioning groups. Two of the three parents in the LR/LF group

functioned quite well according to a clinician assessment of global functioning (i.e., GAF). None had ever been hospitalized for psychiatric reasons nor had they been unable to work outside of the home due to their depression. Two of the three parents reported that their depression impacted their ability to complete household tasks, but only one reported difficulty with child-related tasks.

Summary:

The LR/LF group included three children who are exhibiting significant difficulties in spite of exposure to relatively low levels of stress and less severe levels of parental depression. Interestingly, this apparently vulnerable group was composed of all males who were pre-adolescents. All three children had a history of developmental delay and most had been described as temperamentally “reserved” as a young child. These children typically experienced some stress and conflict in their home environment and most parents acknowledged that they had been verbally cruel/abusive during interactions with their child. These factors were not characteristic of any of the higher functioning children in the Lower Risk Group (i.e., LR/HF group). A detailed description of one child in this group is presented in Appendix C.

4.4.2 Group 2 - Lower Risk /High Functioning (LR/HF)

The LR/HF group consists of seven females ranging in age from 7.8 to 13.9 years. Like their LR/LF counterparts, this group obtained a relatively low score on the Risk Composite. As might be expected, they obtained the highest overall score on the Adaptive Functioning Composite compared to all other groups. None of these children were reported to be exhibiting any clinically significant internalizing or externalizing problems, nor were they noted to be having difficulties at home, at school or with peers.

Two children in this group obtained a perfect score on the Adaptive Functioning Composite. However, the remainder were reported to be at-risk for the development of at least one behavioral and/or emotional problem.

Similar to their lower functioning counterparts, most children (71%) were reported to have experienced a healthy prenatal environment (see Table 4.15). In contrast to the LR/LF group, these children achieved developmental milestones within normal limits and were described as affectionate and easygoing during the preschool years.

The home environment for these children was generally not described as stressful or conflictual and there were no reports of divorce/separation or verbal abuse toward the children. Over half of the children (57%) experienced a “serious” family illness (e.g., grandparent in the hospital due to cardiac problems). The majority (71%) had experienced some disruption related to a family move or parental change in employment. None of the families reported problems with money.

Similar to other groups, most parents of children in the LR/HF group (86%) met DSM-IV criteria for Major Depressive Disorder. One parent (14%) met criteria for Bipolar Disorder. Most depressed parents were mothers (71%). However, two were fathers. Almost three-quarters of parents (71%) reported a family psychiatric history including depression (28%) and alcoholism (43%). In contrast to parents in the LR/LF group, most parents (57%) were having some difficulties in day-to day functioning (i.e., lower GAF), and/or were struggling to complete household and child-related tasks. None had ever been hospitalized for psychiatric reasons and only one parent (14%) had been unable to work outside of the home due to her depression.

Summary:

The LR/HF group contains seven children who have experienced moderate levels of parental depression but relatively few additional stressors. As would be expected, these relatively low risk children are exhibiting the highest levels of overall functioning in the study. The group was composed of all females and included some of the youngest children in the sample. Compared to the LR/LF group, parental depression appeared to be somewhat more severe in this group. However, the other risk factors experienced by this group (i.e., family illness, disruption/change) seemed less significant than the risks encountered by the LR/LF group (i.e., developmental delay, reserved temperament, family stress/conflict, verbal abuse). For example, although many LR/HF children were reported to have experienced a serious family illness, an examination of individual responses suggested that this typically involved an extended family member (i.e., grandparent). This type of illness would likely not have the same impact on the child as having a serious family illness within the immediate family (i.e., parent, sibling), which was more common in the Higher Risk group.

Further, most children (71%) in the LR/HF group had experienced some disruption related to a family move or parental job change. It is difficult to know the impact of such events on these children, but it is possible that these changes actually resulted in improved living conditions. A detailed description of one child in this group is presented in Appendix C.

4.4.3 Group 3 – Higher Risk/Low Functioning (HR/LF)

The HR/LF group consists of eight children ranging in age from 8.5 to 14.9 years. The majority of children in this group (62%) were female. The HR/LF group

obtained the highest cumulative risk score in the study. They also obtained relatively low scores on the Adaptive Functioning Composite ($M=10.4$; $SD=4.5$). All eight children in the HR/LF group were reported to be exhibiting clinically significant internalizing and externalizing problems as well as difficulties at home, at school and with peers.

As indicated in Table 4.15, children in the HR/LF group experienced risk in almost every area. A majority of the mothers were considered to have had a high-risk pregnancy characterized by exposure to maternal stress and teratogens (e.g., cigarettes) as well as obstetrical complications (e.g., C-section) and poor neonatal health (i.e., low birth weight). Many of the children (63%) were reported to have experienced some delay during early development, typically in the area of speech and language development. As well, half of the children (50%) were described as temperamentally “reserved” (e.g., not affectionate) and/or “difficult” (e.g., demanding) during the early years. In contrast, only a very small proportion of high functioning children in the Higher Risk group (i.e., HR/HF) were described as reserved or difficult.

The home environment for these children was typically described as stressful and conflictual and half of these children (50%) had experienced parental separation or divorce. Half of these families reported an annual income that fell below the poverty line and 63% indicated that they had problems with money. Parental reports of verbal/emotional abuse towards the children were very common (88%).

In addition to a conflicted family life, many of these children experienced other stressors such as a death or illness in the family. Specifically, four children (50%) had lost a grandparent over the past 18 months and seven (88%) had experienced a serious

family illness, often within the immediate family. For example, a physical/mental illness in the child's other parent and/or sibling was reported by five families in this group. The majority (63%) reported some disruption due to a family move or parental job change.

Similar to the other groups, most parents of children in the HR/LF met DSM-IV criteria for Major Depressive Disorder (75%) and all depressed parents were mothers. Over three-quarters of parents (88%) reported a family psychiatric history including depression (50%), schizophrenia (12.5%) and alcoholism (50%). Most parents (56%) were having some difficulties in day-to day functioning (i.e., lower GAF scores), and were struggling to complete child-related tasks. All depressed parents noted significant impairment in their ability to complete household tasks but only a minority had been hospitalized for psychiatric reasons (38%) or had been unable to work outside of the home due to depression (25%).

Summary

The HR/LF group contains eight children who have been exposed to significant levels of stress and parental psychopathology. As might be expected, these children are exhibiting a range of clinically significant emotional and behavioral problems. This group contains a mix of males and females from a wide age range. Many were exposed to a high-risk prenatal environment and had a history of developmental delay. Most were described as temperamentally "reserved" and/or "difficult". Interestingly, these factors were not characteristic of the high functioning children in the Higher Risk Group. Children in the HR/LF group were generally raised in stressful home environments characterized by marital tension, financial problems, family health problems and verbal

abuse. A detailed description of one child in this group is presented in Appendix C.

4.4.4 Group 4 – Higher Risk/ High Functioning (HR/HF)

The HR/HF group consists of three children ranging in age from 10.1 to 12.3 years. Two of the three children in this group are female. They had high scores on the Risk Composite, but none were reported to be exhibiting any clinically significant internalizing or externalizing problems, nor were they having difficulties at home, at school or with peers. However, all of the children were rated at-risk for the development of at least one behavior and/or emotional problem.

In contrast to the HR/LF group, none of the mothers in this group met criteria for a high-risk pregnancy and only one child was reported to be slow in achieving developmental milestones. This child was the only child to be described as temperamentally “reserved”, “difficult” and anxious during the early years.

The home environment for children in the HR/HF group was described as stressful and over half of these children (67%) had experienced parental separation or divorce. None of these families reported an annual income that fell below the poverty line but most (67%) indicated that they had problems with money. Verbal/emotional abuse towards the children was reported in all three families. The majority (67%) reported some disruption due to a family move or parental job change.

Similar to the other groups, most parents of children in the HR/HF group met DSM-IV criteria for Major Depressive Disorder (67%) and most depressed parents were mothers (67%). The majority of parents (67%) reported an extended family history of depression. Parental depression appeared to be the most severe in this group. All parents met criteria for at least one other DSM-IV diagnosis (e.g., anxiety disorder, substance

abuse) and most (67%) were having some difficulties in day-to day functioning (i.e., lower GAF scores). Most parents noted that their depression impacted their ability to complete household and child-related tasks. All depressed parents in the HR/HF group had been hospitalized for psychiatric reasons in the past 18 months and all had been unable to work outside the home due to their depression.

Summary:

The HR/HF group includes three children who have been exposed to significant levels of stress and severe parental psychopathology. In spite of this, these children are not currently exhibiting any clinically significant emotional or behavioral problems. This group contains one male and two females. None of the children in the HR/HF group were exposed to a high-risk prenatal environment and few were noted to have a history of developmental delay. Most were described as affectionate and easygoing. This relatively risk free early developmental history was not characteristic of the low functioning children in the Higher Risk Group (i.e., HR/LF group). However, similar to their lower functioning counterparts, the HR/HF children were also generally raised in stressful home environments characterized by marital tension, financial problems, and verbal abuse. A detailed description of a child in this group is presented in Appendix C.

4.4.5 Overall Summary:

The identification of four Risk/Functioning groups (i.e., LR/LF; LR/HF; HR/LF; HR/HF) suggests that cumulative risk/adversity does not inevitably lead to poor child functioning, nor does low overall risk ensure high functioning. One possibility that may account for differences in child functioning within risk groups is the types of risk children are exposed to. To explore this possibility, the particular risk factors

experienced within each of the four Risk/Functioning groups were examined.

Interestingly, there were some commonalties in the type of risk factors reported by both low functioning groups who faced lower and higher levels of cumulative risk.

For example, when compared to their higher functioning counterparts, the parents of low functioning children in both risk groups were more likely to report developmental delay during early childhood; reserved or difficult child temperament; family conflict; and, higher rates of verbal/emotional abuse in the home. While limited by the small sample size, this finding may suggest that, independent of cumulative risk, specific factors may have an especially damaging effect on child functioning.

More importantly this analysis demonstrated that children in the LR/LF group were not children who were subjected to a small number of very severe risks, nor were the children in the HR/HF group children who experienced a large number of relatively minor stressors. This analysis provides further confidence that four meaningful groups of children have been identified.

4.5 Exploring A Process for Distinguishing Between Protective and Resource Factors

The first step in understanding the factors that contribute to resilience involves the accurate definition and measurement of risk and functioning. The preceding sections have demonstrated how these constructs can be comprehensively assessed and how meaningful Risk/Functioning groups can be identified. With the identification of these groups and truly resilient children, it is now possible to explore potential protective and resource factors. While resource factors are those associated with better child functioning regardless of level of risk exposure, protective factors are especially helpful for children facing high adversity.

In this section, a process for distinguishing between resource and protective factors is presented. Within each of the four Risk/Functioning groups, an expected pattern of scores was identified that would distinguish whether specific variables function as protective factors or resources for children. The expected patterns of scores thought to differentiate resource and protective factors are presented in Table 4.16. To illustrate how this template might be used in future research, five child attributes that have been previously identified as "protective" factors in the resilience literature were examined. These were: self-esteem; optimistic coping style; social skills; leadership skills; and, adaptability. For each attribute the pattern of scores obtained across these four Risk/Functioning groups was compared to the expected patterns outlined in Table 4.16.

Table 4.16

Pattern of Expected Scores to Identify Potential Protective and Resource Factors

Pattern of Expected Scores for Potential **Protective** Factors:

In the Higher Risk group only:

- a) there is a positive correlation ($p < .05$) between the factor being assessed and overall scores on the Adaptive Functioning Composite. No significant correlation is found in the Lower Risk group.
 - b) the High Functioning children obtain a higher (i.e., better) overall mean score on the factor being assessed than the Low Functioning children (i.e., $HR/HF > LR/LF$). No difference between mean scores is observed in the Lower Risk group (i.e., $LR/HF = LR/LF$).
 - c) the minority of High Functioning children (i.e., $<40\%$) and the majority of Low Functioning children (i.e., $>60\%$) score in the 'below average' range. This pattern is not observed in the Lower Risk group.
-

Pattern of Expected Scores for Potential **Resource** Factors:

In both the Higher and Lower Risk groups:

- a) there is positive correlation ($p < .05$) between the factor being assessed and overall scores on the Adaptive Functioning Composite.
 - b) the High Functioning children obtain a higher (i.e., better) overall mean score on the factor being assessed than the Low Functioning children (i.e., $HR/HF > LR/LF$ **and** $LR/HF > LR/LF$).
 - c) the minority of High Functioning children (i.e., $<40\%$) and the majority of Low Functioning children (i.e., $>60\%$) score in the 'below average' range in both risk groups.
-

As outlined in Table 4.16, to identify the expected patterns in the current study, three descriptive approaches were used. The approaches used in this study were chosen due to the characteristics of the sample. Other researchers may use different statistical approaches depending upon the characteristics of their sample. An overview of the approaches used and the limitations are presented first, followed by the results related to self-esteem, optimistic coping, social skills, leadership and adaptability.

The Correlational Approach:

The first step in this process was to examine the strength and direction of the correlation between each variable assessed and child functioning, under lower and higher risk conditions. As indicated in Table 4.16, factors that play a protective role are expected to have a positive correlation with child functioning only in the Higher Risk group. No significant correlation between the child attribute and adaptive functioning is expected under lower risk conditions. In contrast, for factors more appropriately considered resources, a positive correlation would be expected between the child attribute and adaptive functioning in both the higher and lower risk group.

In the current study, the correlation between each child attribute and the total score on the Adaptive Functioning Composite (AFC) was calculated within the Lower ($n = 10$) and Higher ($n = 11$) Risk groups. Unfortunately, because of the sample size these correlations may not be reliable due to increased Type II error rates, decreased power, etc. They are reported to illustrate the process rather than to draw conclusions that can be generalized to a larger population.

Comparison of Group Means within Each Risk/Functioning Groups

The mean scores and the overall score category (i.e., *average* vs. *below average*) obtained by the High and Low Functioning groups were compared within each risk condition (i.e., LR/LF vs. LR/HF and HR/LF vs. HR/HF). For example, if a factor played a potentially protective role, it was expected that, in the Higher Risk group, High Functioning children would score better than their lower functioning counterparts. If a factor was a potential resource for children, it was expected that High Functioning children in both risk groups would score higher than their lower functioning counterparts (see Table 4.16). Due to the low numbers within the Risk/Functioning groups, the differences between mean scores could not be tested statistically. Again, this analysis is only illustrative.

Examination of Within Group Variability:

Finally, the variability within the Higher and Lower Risk group was explored by examining the proportion of Low and High Functioning children who scored in the *below average* range on each factor. As outlined in Table 4.16, if a factor plays a potentially protective role, a minority of individual children in the High Risk/High Functioning group should receive below average scores. For the purposes of this demonstration, a “minority” was operationally defined as less than 40%. In contrast, the majority (i.e., greater than 60%) of children in the Low Functioning group would be expected to score in the *below average* range. For a potential resource factor, the minority of High Functioning children in both risk groups would be expected to score in the *below average* range, while the majority of Low Functioning children in both risk groups would be expected to receive below average scores.

4.5.1 Overview of Child Attributes

The measures used to assess various child attributes that may relate to adaptive functioning are listed in Table 4.17. Content descriptions and criteria for scoring in the *below average* range on each measure are also listed. The results for the Self-Perception Profile for Children (SPPC)/Self-Perception Profile for Adolescents (SPPA) are discussed first followed by the results related to children's coping style, social skills, leaderships skills, and adaptability.

Table 4.17

Measurement and Classification of Child Factors: SPPC/SPPA; CSOC; BASC

Measure	Scales (Score Range)	Description/ Sample Items	Below Average Criteria
Self Perception Profile for Children (SPPC)/ Self Perception Profile for Adolescents (SPPA)	Competence Domains: Range = 0 to 4	Examples include:	
	a. Scholastic	a. "Some kids do very well at their class work BUT other kids don't do as well"	x < 1SD below the gender and age-based mean scores provided by Harter (1985; 1988)
	b. Social	b. "Some kids find it hard to make friends BUT other kids find it's pretty easy."	
	c. Athletic	c. "In games and sports, some kids usually watch instead of play BUT other kids usually play rather than watch"	
	d. Physical Appearance	d. "Some kids are happy with the way they look BUT other kids are not happy with the way they look"	
	e. Behavior	e. "Some kids usually do the right thing BUT other kids often don't do the right thing"	
	f. Global Self-Worth	f. "Some kids are very happy with the way that they are BUT other kids wish they were different"	

Table 4.17 (Continued)

Measure	Scales (Score Range)	Description/ Sample Items	Below Average Criteria
Children's Sense of Coherence Scale (CSOC)	a. Total Score (range = 16 to 64)	a. child's belief that world is comprehensible, manageable, and meaningful (e.g., "I am bored with the things I do everyday"; When I need help there is someone around to help me")	$x < 44$ (1SD below mean score reported in preliminary normative data provided by Margalit 1995)
Behavioral Assessment System for Children (BASC)	a. Social Skills (range = 0 to 100)	Examples include: a. admitting mistakes, complimenting others, offering assistance, encouraging others, manners	T < 30 (as per BASC scoring manual; Reynolds & Kamphaus, 1992)
	b. Leadership (range = 0 to 100)	b. joining clubs, participating in extracurricular activities, making decisions easily, giving good suggestions	
	c. Adaptability (ages 5-12 only) (range = 0 to 100)	c. ability to adjust to changes in routine, shift from one task to another, share toys/ possessions.	

Note. On all measures, higher scores are indicative of higher levels of functioning

4.5.2 Self Esteem

Child self-esteem was measured using the Self-Perception Profile for Children (SPPC) or the Self-Perception Profile for Adolescents (SPPA). The correlations between scores on the six scales of the SPPC/SPPA and the Adaptive Functioning Composite were calculated for the Higher and Lower Risk groups separately. In the Lower Risk group, correlations ranged from +.04 (Physical Appearance) to +.72 (Scholastic Competence). Only the correlation between Scholastic Competence and child functioning was significant, $r(8) = .67, p < .05$. Within the Higher Risk group, the correlations ranged from -.29 (Scholastic Competence) to +.29 (Social Acceptance).

None of the correlation coefficients were statistically significant.

Mean scores obtained across the four Risk/Functioning groups on the SPPC/SPPA are presented in Table 4.18. On the Scholastic Competence scale, both Higher Risk groups obtained a similar mean score, regardless of level of functioning. However, in the Lower Risk group, High Functioning children obtained a higher (i.e., better) mean score ($M = 3.2$; $SD = .51$) compared to their lower functioning counterparts ($M = 2.2$; $SD = 1.5$) and were found to be much less likely to score in the problematic range on this scale (i.e., 0% in LR/HF group vs. 66% in the LR/LF group).

One child in the LR/LF group did not meet this pattern and reported a “perfect” score on the Scholastic scale. Previous research has suggested that “perfect” scores on the SPPC may be associated with defensive responding and reflect low self-esteem (e.g., Hay, 1989; Cassidy, 1988). However, this child was rated as functioning in the *average* to *above-average* range at school by both parents, thus, the rating may be valid. A number of other children also reported a “perfect” score on at least one SPPC/SPPA scale, including four children (57%) in the LR/HF group and two children (25%) in the HR/LF group.

Similar to the results of the correlational analysis, the scores obtained by children on the other five sub-scales on the SPPC/SPPA did not fit with the expected pattern of scores outlined in Table 4.16. However, an interesting trend on the Global Self-Worth scale of the SPPC/SPPA is noted. On this scale, the HR/LF group reported a lower (i.e., worse) mean score and they were more likely to score in the below average range (i.e., 50% in the HR/LF group vs. 0% in the HR/HF group).

Table 4.18

Scale Scores on the SPPC/SPPA by Risk/Functioning Group: Means and Variability

	<u>LOWER RISK (n=9)</u>		<u>HIGHER RISK (n=11)</u>	
	Low Functioning (n=3)	High Functioning ¹ (n=6)	Low Functioning (n=8)	High Functioning (n=3)
<u>SPPC Scales:</u>				
<u>Scholastic</u>				
Mean (SD)	2.2 (1.5)	3.2 (.51)	2.5 (.63)	2.4 (.34)
Category	Below Average	Average	Average	Average
Range	1.2 - 4.0	2.5 - 3.8	1.3 - 3.3	2.2 - 2.8
n (% below average)	2 (66%)	0 (0)	1 (13%)	1 (33%)
<u>Social Competence</u>				
Mean (SD)	3.3 (.68)	3.4 (.69)	2.4 (.97)	2.3 (.48)
Category	Average	Average	Average	Average
Range	2.5 - 3.8	2.2 - 4.0	1.3 - 4.0	2.0 - 2.8
n (% below average)	0 (0%)	0 (0)	3 (38%)	1 (33%)
<u>Athletic Competence</u>				
Mean (SD)	2.9 (1.3)	3.2 (.57)	2.8 (.98)	2.7 (1.3)
Category	Average	Average	Average	Average
Range	1.4 - 3.8	2.6 - 3.8	1.2 - 4.0	1.2 - 3.5
n (% below average)	1 (33%)	0 (0)	1 (14%)	1 (33%)
<u>Appearance</u>				
Mean (SD)	3.2 (.25)	3.4 (.66)	3.0 (.52)	2.8 (.67)
Category	Average	Average	Average	Average
Range	3.0 - 3.5	2.4 - 4.0	2.2 - 3.8	2.2 - 3.5
n (% below average)	0 (0)	0 (0)	0 (0)	0 (0)

¹ One participant was eliminated due to incomplete data

Table 4.18 (Continued)

SPPC/SPPA Scales:	<u>LOWER RISK (n=9)</u>		<u>HIGHER RISK (n=11)</u>	
	Low Functioning (n=3)	High Functioning (n=6)	Low Functioning (n=8)	High Functioning (n=3)
<u>Behavior</u>				
Mean (SD)	3.0 (.89)	3.5 (.40)	2.5 (.78)	3.0 (.72)
Category	Average	Average	Average	Average
Range	2.0 – 3.7	3.0 – 4.0	1.5 – 3.5	2.5 – 3.8
n (% below average)	1 (33%)	0 (0)	3 (38%)	0 (0)
<u>Global Self- Worth</u>				
Mean (SD)	3.5 (.64)	3.5 (.51)	2.8 (.71)	3.2 (.50)
Category	Average	Average	Average	Average
Range	2.8 – 4.0	2.8 – 4.0	1.8 – 3.8	2.7 – 3.7
n (% below average)	0 (0)	0 (0)	4 (50%)	0 (0)

¹ One participant was eliminated due to incomplete data

Summary:

Scores on the SPPC/SPPA do not meet the criteria used to identify potential protective factors or resource factors (see Table 4.16). However, an interesting *protective* trend is noted in the Higher Risk group on the Global Self-Worth scale. Specifically, children in the HR/HF group were more likely to report that they liked the way they behaved and that they liked themselves as a person overall. This result may suggest that perceived global self-worth is associated with parent ratings of more adaptive child functioning under conditions of higher (but not lower) risk.

Interestingly, results on the Scholastic Competence scale of the SPPC/SPPA

suggest that higher levels of perceived scholastic competence may be associated with more adaptive child functioning under conditions of lower (but not higher) risk. That is, children in the Lower Risk group who perceive themselves as doing better academically are also reported by their depressed parent to be higher functioning. In contrast, in conditions of higher overall risk, self-perceptions of academic competence do not seem to distinguish high and low functioning children. While this finding does not fit the criteria outlined for a protective or resource factor per se, it raises the interesting possibility that some factors may have a particularly important impact on child functioning under conditions of low (but not high) adversity.

4.5.3 Optimistic Coping Style

The Children's Sense of Coherence Scale (CSOC; Margalit, 1995) was used to assess each child's perception of their ability to cope effectively with their world and the challenges presented to them. The correlations between scores on the CSOC and the Adaptive Functioning Composite were similar in both the Higher Risk ($r(9) = +.40$) and Lower Risk ($r(8) = +.52$) group. Neither correlation was statistically significant.

The mean scores obtained across the four Risk/Functioning groups on the CSOC scale did not fit with the expected pattern outlined in Table 4.16. The mean scores obtained by children in all four groups were comparable and fell in the *average* range overall (see Table 4.19). A small percentage of children in each group (i.e., 29% to 33%) scored *below average*. This result suggests that children's sense of coherence is not associated with adaptive functioning in either risk condition.

Table 4.19

Scores on the CSOC by Risk/Functioning Group: Means and Variability

CSOC	<u>LOWER RISK (n=10)</u>		<u>HIGHER RISK (n=11)</u>	
	Low Functioning (n=3)	High Functioning (n=7)	Low Functioning (n=8)	High Functioning (n=3)
Mean (SD)	44.7 (1.5)	48.3 (5.5)	47.8 (7.1)	45.7 (6.4)
Category	Average	Average	Average	Average
Range	43 – 46	42 – 55	39 – 58	41 – 53
n (% below average)	1 (33%)	2 (29%)	3 (38%)	1 (33%)

Summary:

The results obtained on the CSOC did not meet the criteria outlined in Table 4.16. Most children scored in the *average* range on this measure. Approximately one-third of children in each of the four groups scored in the *below average* range. This result suggests that children's general belief that their world is understandable, manageable and meaningful (as measured by the CSOC) may not be associated with adaptive child functioning under conditions of high or low risk.

4.5.4 Adaptive Skills (Social Skills, Leadership, Adaptability)

Depressed parent ratings on three scales of the Behavior Assessment System for Children (BASC) were used to assess each child's level of social skills, leadership skills and overall adaptability.

Social Skills:

Scores on the Social Skills scale were significantly correlated with child functioning in both the Higher Risk ($r(9) = +.68, p < .01$) and Lower Risk ($r(8) = +.67, p < .05$.) groups. Further, regardless of risk level, children with higher scores on the Social Skills scale were more likely to be rated as high functioning on the Adaptive Functioning Composite. Specifically, high functioning children in both risk groups scored at least 10 points higher (i.e., better) than their lower functioning counterparts. None of these children scored in the problematic range on the Social Skills scale. In contrast, low functioning children in both risk groups scored in the *below average* range overall with the majority (i.e., 63-66%) of low functioning individuals in both groups scoring in the problematic range on this scale (see Table 4.20).

Leadership Skills:

The correlation for Leadership skills suggested that Leadership skills may be associated with adaptive functioning under conditions of Lower risk ($r(8) = +.69, p < .05$) but not Higher Risk ($r(9) = +.38, p = .25$). The LR/HF children obtained a higher (i.e., better) mean score ($M=51.3; SD=12.1$) than their lower functioning counterparts ($M=31.3; SD=4.7$). The LR/LF group was also more likely to score in the problematic range (i.e., 33% in LR/HF group vs. 100% in the LR/LF group). The pattern was similar but less clear for the HR/LF group. Half (50%) of the HR/LF group scored in the *below average* range on this scale (compared to none of the children in the HR/HF group) (see Table 4.20).

Adaptability:

Adaptability was significantly correlated with child functioning in the Higher Risk condition ($r(6) = +.75, p < .05$) but not the Lower Risk condition ($r(6) = +.25, p = .55$). On this scale, the HR/HF group reported a mean score approximately 17 points better than the HR/LF group and they scored in the *average* range overall. No children in the HR/HF group scored in the *below average* range. In contrast, the mean for the children in the HR/LF group was in the *below average* range. Over three-quarters (i.e., 83%) of the children in this group were reported in the *below average* range on this scale (see Table 4.20). This pattern was not noted in the Lower Risk group.

Table 4.20

Scale Scores on the Social Skills, Leadership and Adaptability Scales of the BASC by Risk/Functioning Group: Means and Variability

	<u>LOWER RISK (n=10)</u>		<u>HIGHER RISK (n=11)</u>	
	Low Functioning	High Functioning	Low Functioning	High Functioning
	(n=3)	(n=7)	(n=8)	(n=3)
<u><i>Social Skills:</i></u>				
Mean (SD)	36.7 (15.0)	54.6 (9.4)	35.8 (10.9)	45.3 (3.1)
Category	Below Average	Average	Below Average	Average
Range	21 – 51	44 – 69	21 – 54	42 – 48
n (% below average)	2 (66%)	0 (0)	5 (63%)	0 (0)
<u><i>Leadership:</i></u>				
Mean (SD)	31.3 (4.7)	52.4 (11.2)	42.5 (8.4)	47.3 (1.2)
Category	Below Average	Average	Average	Average
Range	26 – 35	37 – 69	31 – 55	46 – 48
n (% below average)	3 (100%)	2 (29%)	4 (50%)	0 (0)
<u><i>Adaptability[†]</i></u>				
	<u>(n=2)</u>	<u>(n=6)</u>	<u>(n=6)</u>	<u>(n=2)</u>
Mean (SD)	44.0 (.00)	49.7 (6.8)	30.0 (9.4)	47.0 (4.2)
Category	Average	Average	Below Average	Average
Range	44	39 – 55	16 – 44	44 – 50
n (% below average)	0 (0)	1 (17%)	5 (83%)	0 (0)

[†] Adaptability scores were only available for children aged 12 years and under

Summary:

Results on the Social Skills scale of the BASC are consistent with the pattern of scores suggestive of a *resource* factor (see Table 4.16). Specifically, the ability to interact appropriately with peers and adults (e.g., manners, admitting mistakes, complimenting/encouraging others) may be associated with more adaptive child functioning independent of level of risk.

On the Leadership scale, results are also generally consistent with the pattern of scores suggestive of a *resource* factor. Leadership skills were significantly correlated with adaptive functioning in the Lower Risk group only. However, the distribution of scores in the Higher Risk group suggested that leadership skills might also play an important role for children facing higher adversity. Thus, leadership skills (e.g., joining clubs/extracurricular activities) may promote adaptive child functioning under both high and low risk conditions.

On the Adaptability scale, results are consistent with the pattern of scores suggestive of a *protective* factor (Table 4.16). A more adaptable temperament (e.g., ability to adjust to changes in routine, shift from one task to another) may be associated with higher levels of child functioning under conditions of high risk, but not low risk.

4.5.5 Overall Summary:

This section outlined an approach for identifying factors that might be associated with adaptive child functioning under conditions of lower and/or higher risk. This was thought to be important as it allows for the distinction between factors that play a protective role for children facing significant risk and those that are resources, promoting functioning for all children. While the purpose of this analysis was only

illustrative, the results suggested that two of the five child attributes analyzed might be considered “true” protective factors. In higher risk situations, a child’s ability to adjust and adapt to changes in their environment (i.e., adaptability) and higher levels of global self-esteem may be particularly important in promoting child functioning.

In addition, two factors might be considered *resource* factors given that they tended to be related to higher levels of child functioning under both high and low risk conditions. Regardless of risk status, children’s ability to interact appropriately with adults and peers (i.e., social skills) and their ability and willingness to become involved in extracurricular activities (i.e., leadership skills) appeared to be associated with better child functioning.

Interestingly, perceived competence in a scholastic setting appeared to be associated with higher levels of child functioning under conditions of lower risk. In contrast, under higher levels of risk this factor did not appear to distinguish high and low functioning children. This finding does not fit the pattern of scores expected for a protective or resource factor per se. However, it raises the interesting possibility that some factors may have a particularly important impact on child functioning under conditions of low (but not high) adversity. Finally, in the current analysis, children’s general belief that their world is understandable, manageable and meaningful (as measured by the CSOC) did not appear to be associated with adaptive child functioning under conditions of high or low risk.

5. DISCUSSION

This study examined a number of conceptual and methodological issues related to the identification and understanding of resilience. In particular, it focused on the definition and measurement of risk exposure and functioning in children who share a common risk factor. The common risk shared by children in this study was parental affective disorder. This section begins with a discussion of the results pertaining to the development of a Risk Composite and Adaptive Functioning Composite and their potential usefulness in future research. Next, a process for identifying resilience and for exploring the factors that may contribute to child functioning under conditions of lower or higher risk exposure is discussed. Implications for future research are highlighted.

5.1 Assessing Risk Exposure: Identifying “High-Risk” Children

In the past, research has tended to use single, global risk factors (e.g., poverty, parental psychopathology) to define risk and identify “high-risk” children. However, this method does not recognize the heterogeneity within potential at-risk groups nor does it acknowledge the tendency for risk factors to co-occur. This failure to define and explore the contextual risks facing at-risk children may result in the premature and perhaps inappropriate application of the term “resilient” to children who are functioning well, but who are not facing unusual stress or adversity.

The current study sought to develop a comprehensive measure of risk that could assess both the overall level of risk exposure and the specific types of risks experienced by individual children. This allowed for an exploration of the variations in the extent of stress and adversity experienced by children in this sample. Risk factors associated with

parental depression and negative child outcome were identified from the literature and were combined to create four broad risk scales (i.e., SES, Early Development, Stressful Life Events, Nature of Parental Psychopathology) and a total Risk Composite.

Using this comprehensive measure of risk, the results revealed that the children in the current study were not a homogeneous group. There was wide variability in the number and types of stressors that children were exposed to. At least one participant reported each of the 45 individual risk factors assessed. None of the risk items were endorsed by all of the families in the sample. Low maternal education (i.e., partial high school) and physical abuse were the least frequently reported stressors while various stressful life events (e.g., family stress/conflict, financial problems, family health problems, verbal abuse) were reported by approximately half of the sample. Overall, this sample was comparable to the general Canadian population in a number of areas (e.g., socioeconomic factors, and rates of obstetrical/neonatal difficulties). However, rates of exposure to prenatal teratogens (cigarettes/alcohol), developmental risk factors (i.e., difficult temperament, developmental delay) and stressful life events (family stress/conflict, financial problems, family health problems, verbal abuse) were higher than community prevalence rates.

The range of risks reported in this sample is consistent with the depression literature which has established that the risks to children of depressed parents stem from a variety of genetic, prenatal, developmental and environmental factors (e.g., Goodman & Gotlib, 2002). However, previous studies have typically examined only one or two risks and have not assessed the range of potential factors or the co-occurrence of multiple stressors.

While all children in the study experienced some level of risk in addition to parental depression, how much risk and the specific type of risks experienced varied substantially. An examination of the distribution of scores obtained on the various risk scales highlighted this heterogeneity. Some children experienced very few risks on a particular risk scale while others experienced multiple prenatal, developmental and/or environmental risks. Such contextual differences likely have important implications for children's subsequent adaptation.

The current results highlight the need to explore the actual stressors children are exposed to rather than simply assuming that they face significant adversity. The assumption that parental affective disorder presents similar levels of risk to all children appears to be inaccurate. Although all children in the current study had at least one parent diagnosed with an affective disorder, the nature of parental symptoms (e.g., the presence of comorbid disorders) and the subjective and objective ratings of the impact of depression on parent functioning varied.

While some parents reported that their depression had little impact on their ability to carry out household and child-related tasks, others reported significant dysfunction in these areas and/or an inability to maintain employment outside the home. Variations in parent functioning in and outside the home are likely to have a direct influence on child functioning. For instance, a parent's inability to complete basic household tasks (e.g., groceries, cleaning) may be particularly detrimental, resulting in greater levels of stress/disorganization in the home. Further, this may increase the probability that the child will assume the burden of caretaking in the home, a behavior pattern associated with negative outcomes over the long term (Hammen, 2003).

While this study began the process of exploring the nature of parental psychopathology and highlighting variations that may influence patterns of child adjustment, there is a need to go further and to evaluate the full range of characteristics which define parental depression. Characteristics such as the age of onset, chronicity, and specific symptoms associated with the heterogeneous manifestations of the depression syndrome should be included in future risk measures. The current sample included a mix of parents with unipolar and bipolar depression. Given the very different symptom profiles associated with Unipolar and Bipolar Disorder (e.g., sad/withdrawn vs. irritable/agitated), the impact of these affective disorders should be examined separately in future research.

Interestingly, a fifth of the depressed parents in the current sample were men. Future research needs to consider the gender of the depressed parent and examine if maternal and paternal depression confers similar risks to children. For example, given that women may be more likely to serve as the primary caregiver in the home, the impact of maternal depression on a child may be quite different from the impact of having a depressed father. Moreover, measures used in future research should be gender sensitive.

Consideration of how the heterogeneous manifestations of parental depression are perceived by children of different ages is also needed. Specifically, studies that evaluate how children of different ages react to or make sense of parental symptoms and that examine if and how these perceptions are related to subsequent adaptation may be particularly interesting (Hammen, 2003). More broadly, examining the individual child's subjective experience of and involvement in all of the potential risks/stressors

will be important for future research. An exploration of the cognitive appraisal process (i.e., how children derive meaning from the specific stressors in their lives) may provide important insight into potential protective processes that promote functioning under different conditions of risk.

In addition to more comprehensive descriptions about the nature of parental psychopathology, there is a need to assess other broad risk indicators included in the current study in more detail and to explore potential individual differences within these categories. For example, "family conflict" was a risk factor included in the Risk Composite. However, it is unclear what this broad construct actually reflects (e.g., general stress in the home, overt hostility (i.e., yelling, threatening, abuse) or more subtle anger (i.e., silence, indifference)). Similarly, there was ambiguity in the meaning of items like "family move" on the Stressful Life Events scale - this may have had a negative or a positive impact on the family. More clarity and specificity of risk items is needed.

While the Risk Composite developed in this study is a more comprehensive assessment strategy than has been used in previous research, there are some other issues that may be important for consideration in the continued development and refinement of risk assessment tools. First, some potentially important risk factors were not included. For example, factors such as inadequate parenting (e.g., Ashman & Dawson, 2001; Radke-Yarrow & Klimes-Dougan, 2001) and disrupted biological systems related to emotional expression/regulation (Field, 2002) were not assessed. As mentioned above, it will be important to carefully operationalize these terms.

Second it will be important to consider child gender in more detail. While limited

by the small sample size, the results of the current study suggest that boys may be more vulnerable to the effects of parental depression (and/or other stressors) than girls are. Further research examining if and how boys and girls are impacted differently by unusual adversity is needed (Goodman & Gotlib, 1999; Sheeby et al., 2001). If differences exist, it will be important to understand whether these are related to biological differences or differences in the social constructions of gender.

Third, Masten and her colleagues (1994) have demonstrated that the effects associated with chronic stress can differ from those associated with discrete stressors. Further, Masten et al (1999) have argued that it is important to differentiate between risks people can control (e.g., family conflict, problems with peers) and those they cannot (e.g., death in the family, parental hospitalization). The Risk Composite developed in the current study did not distinguish between these different types of stressors.

Finally, there is a need to look at risk/stress from the child's perspective (Hammen, 2001). In the current study, parents reported the stressful events and adversity that the family was coping with. However, children may report different stressors that impact them both within and outside the family. It would be interesting to compare risk levels and the types of risk reported by parents and children and to determine how different reporters might influence who is identified as "resilient".

Despite the improvements that could be made to the current measure of risk, this general approach to risk assessment has several advantages. First, it is more comprehensive than previous approaches and thus more accurately reflects children's experiences. Second, it allows researchers to assess the level of overall risk and also to

study the impact of individual risk factors or subsets of co-occurring risk factors. This will allow for the identification of individual factors or combinations of factors that may interact to affect child behavior and development. Finally, it also allows for the quantification of "high" risk/adversity.

In this study, children were classified into Higher and Lower Risk groups based on the total number of risks experienced. Using a median split, approximately half (52%) of the children in the sample were classified as Higher Risk. These children experienced between 14 and 33 risk factors ($M=20.6$). Children in the Lower Risk category experienced between six and twelve risks ($M=9.2$). While children in the Lower Risk group were not risk-free, narrative descriptions and an analysis of the specific risks they experienced indicated that they were not facing the significant challenges experienced by their higher risk counterparts.

As Luthar and Cushing (1999) recommended, the use of descriptive profiles were valuable in reifying and understanding what was meant by "Lower" and "Higher" risk. The question of whether children in the Lower Risk group experienced "unusual" adversity compared to the general population still exists. However, there is no question that the children in the Higher Risk group in this sample were facing significant risk/adversity. Ensuring exposure to high risk is the first step in the identification of resilient children. This was accomplished in the present study.

As noted above, a median split was used to define higher and lower risk groups and narrative case descriptions were used to validate the groups. While some might criticize the use of a median split, it is difficult to know what procedure might have been preferable due to the lack of criteria for defining "high" risk. The use of a median split

with clear descriptors of actual risks experienced provided a meaningful way of identifying children who encountered unusual adversity relative to other children.

5.2 Assessing Child Functioning: Identifying “Positive” Adaptation

The literature review established that the manner in which we assess and define positive adaptation is also a critical issue in resilience research. Overly narrow assessments of child functioning, which do not address the diversity of outcomes exhibited by at-risk children, are especially likely to mislead our attempts to identify and understand resilience. Without a comprehensive assessment of functioning it is impossible to determine whether children have truly adjusted well despite adversity or if the chosen measures of functioning have simply not captured the difficulties they are experiencing.

This study explored children’s level of adaptation in each of several psychological and behavioral domains. As a group, this sample appeared to be functioning quite well. On average, they were not exhibiting any clinically significant internalizing or externalizing problems on the BASC nor did they seem to have any difficulties functioning in a variety of developmentally relevant contexts. However, the overall mean scores did not reflect the substantial variability in functioning evidenced by individual children in the study.

An examination of the distribution of individual scores within each domain revealed a wide range of possible outcomes. Some children were functioning in the average range compared to a normative cohort, while others were at-risk for, or already exhibiting, clinically significant problems. Interestingly, a proportion of children scored

in the clinically significant range on every internalizing, externalizing and adjustment problem assessed in this study at a rate that was consistently higher than community prevalence rates for similar clinical symptoms. This finding highlights the range of potential outcomes that may be exhibited by this group.

Further, it is important to note that no two children in this study exhibited the same profile of clinically significant problems. This highlights the importance of exploring a range of relevant outcomes when operationalizing positive adaptation (Hammen, 2003). Less comprehensive assessments of functioning may convey a misleading picture of who is actually exhibiting positive adjustment and may inadvertently result in the misidentification of "resilient" children.

Consistent with previous research (e.g., Beardslee et al, 1998; Wickamarante & Weissman, 1998), depression was the most frequently noted difficulty. Clinically significant depressive symptoms were reported for almost half of the children in the sample (43%). However, a comparison across multiple raters suggested that *who* is rating the child's level of functioning may influence this finding. Specifically, depressed parents consistently rated their child higher on depression than either spouses or teachers did. It is unclear whether depressed parents over-report depressive symptoms due to a tendency to perceive their child's normal emotional reactions in a more negative light or are more accurate due to their greater sensitivity to and awareness of the symptoms of depression. Further research with this population is needed to examine the prevalence of depression and potential differences between raters.

While there was limited inter-rater reliability on ratings of depression, depressed parent ratings were generally consistent with spouse and teacher ratings of child

functioning in all other areas. The level of agreement between depressed parent and alternate raters in this study was encouraging. This result suggests that time consuming strategies for identifying high functioning children that involve the combination of information across multiple raters (e.g., parents, spouses, clinicians, teachers) may not be necessary.

In addition to a comprehensive assessment of risk, the current study also used a comprehensive approach to assess child functioning and stringent criteria for identifying children who were functioning well. Children were classified as High Functioning based on the absence of any clinically significant behavioral or emotional problems or below average parent ratings of functioning at home, at school or with peers. Other methods of classifying children (i.e., using a median split of total scores on the AFC) were considered. However, the absence of clinically significant symptoms was thought to be essential in identifying high functioning children.

Using this criteria, approximately half (48%) of the children in the sample were classified as High Functioning. These children functioned significantly better than children classified as Low Functioning on a variety of measures (i.e., AFC, GAF, BSI) as assessed by multiple raters (i.e., clinician, spouse, teacher), supporting the validity of the classification process.

The classification of high functioning in this study did not require "outstanding" functioning in all areas, but referred to a pattern of behavior that was generally within or above the expected range for a normative cohort. However, it is important to note that although none of the High Functioning children had any clinically significant problems at the time of the study, most were not problem-free. Only two children exhibited

average/above average functioning across all domains. The remaining eight High Functioning children were at-risk for the development of potential problems in one or more areas.

This finding highlights the vulnerability of this sample overall and raises the possibility that some of these apparently high functioning children may exhibit serious clinical symptoms down the road. Unfortunately, this study does not provide insight into the stability of these classifications over time. Longitudinal studies are essential for providing insight into the stability of apparent adjustment and for determining if and how the functioning of offspring of depressed parents varies with time, development and circumstances (Hammen, 2003).

Further, a more detailed exploration of apparently high functioning children over time can provide insight into behaviors that may initially appear adaptive but have negative outcomes in the longer term. For example, some investigators speculate that the adoption of the caretaker role by the child may result in a kind of false maturity or enmeshment that could result in later adjustment difficulties (e.g., Radke-Yarrow et al, 1994).

This study identified an important sub-group of children who are currently functioning well, but who may be at-risk for the development of serious problems later on. While the current sample size was too small for a separate exploration of this at-risk group, future research should include "at-risk" groups as well as high and low functioning groups and should follow these children over time. It may be particularly informative to follow this group of children as they enter adolescence, a time of increased risk for the development of emotional, behavioral and adjustment problems.

Further, designing intervention studies with appropriate control groups that involve children who are “at-risk” may provide important information about the factors that prevent the development of clinically significant problems and enhance our understanding of critical protective factors and resilience.

Finally, it is important to recognize that there is frequently a divide between views of child competence in mainstream child development (based largely on work with white, middle class youth) and views of wellness that predominate in other cultures (e.g., First Nations) or contexts (e.g., rural settings, poverty). Therefore, conventional benchmarks of adaptive functioning (e.g., academic achievement, rule-abiding behavior, absence of aggression) may be inappropriate outside mainstream, middle class society. For example, in some contexts, patterns of behavior that may earn labels of “conduct problems” (i.e., verbal and physical aggression) may be entirely normative and can be important for survival in some contexts (Luthar & Burack, 2000).

Interestingly, some important contextual differences related to ethnicity and social class were noted in this study. Specifically, the current sample was more educated than the general Canadian population and included a higher proportion of First Nation and rural families. These cultural and contextual factors may raise questions about the appropriateness of the particular measures chosen to assess adaptation (i.e., the BASC; parent ratings of overall functioning) and/or the process used to identify “High Functioning” children in this study. While the purpose of this study was only to illustrate a general process for assessing and identifying resilience and not to generalize specific findings to the population, these demographic differences raise an important issue for future research. In particular, there is a need for greater contextual sensitivity

in the study of resilience including a more careful consideration of the content and standardization of available measures of child functioning as well as risk.

5.3 Positive Adaptation in the Presence of Risk: Identifying Resilience

In this study, resilience was considered to be a process or phenomenon that can be inferred from the measurement of its two component constructs - exposure to significant adversity and achievement of positive adaptation. If we are to identify truly resilient children, these essential constructs must be accurately and comprehensively assessed. The current study achieved this objective by establishing a comprehensive and theoretically based measure of both risk exposure and conducting a broad-based assessment of child functioning.

Using this rigorous assessment process, a group of children who could confidently be considered resilient was identified. In addition, three other meaningful groups of children who varied on overall level of risk and functioning were identified. The importance of identifying these other groups for understanding resilience cannot be over emphasized. For example, a second group of high functioning children was identified. While these children had also experienced parental depression, their scores on the Risk Composite revealed that they had actually experienced comparatively lower levels of overall risk. Without a comprehensive assessment of risk exposure, these high functioning children may have inadvertently been classified as resilient when they are actually not facing conditions of unusual adversity – a necessary component of resilience.

Similarly, a group of low functioning children who faced lower and higher levels

of adversity was also identified. The identification of a group of low functioning children who faced higher levels of stress and adversity was expected. However, the finding that some low functioning children had faced relatively few stressors was more surprising. This small group of apparently vulnerable children who were doing poorly in the context of low stress would likely be overlooked without a careful assessment of risk and functioning.

The development and implementation of a cumulative risk index was invaluable in the current study for identifying children who had faced different risk contexts. The results clearly demonstrate that children in this sample could indeed be distinguished based on their overall level of risk exposure. However, one important criticism of the cumulative assessment of risk has been that summing across multiple risk factors does not consider whether specific factors or combinations of factors have more negative effects than others (Sameroff et al, 2003). To address this criticism and to establish the validity of the identified Risk/Functioning groups, the study examined the specific types of risk faced by each group. Of particular interest was ensuring that the resilient children did not simply experience a large number of relatively minor risks, while the vulnerable children experienced a few, very serious risks.

The results of this analysis confirmed that the resilient children were clearly facing significant adversity. Specifically, compared to the other Risk/Functioning groups, they had experienced the highest rate of divorce as well as the highest rate of stress/conflict, substance abuse, and verbal/emotional abuse in the home. These families were also the most likely to report having problems with money. Parents of these children exhibited the most severe levels of psychopathology characterized by a greater

number of comorbid conditions, the highest rate of inpatient hospitalization and an inability to work outside the home.

Further, the children who were classified as facing relatively low levels of overall risk did indeed appear to be facing fewer stressors and none seemed to be of a particularly potent nature (i.e., death of a parent, divorce, “severe” parental psychopathology). For example, compared to the other Risk/Functioning groups, the parents of children in this group reported less severe levels of parental psychopathology (i.e., no inpatient hospitalizations or inability to work outside the home) and they were the least likely to report a family psychiatric history. These children also faced the fewest number of stressful life events.

This process of examining the individual factors that comprised the Risk Composite provided evidence of the validity of these important Risk/Functioning groups. Interestingly, this process also revealed some similarities between low functioning children who faced both lower and higher overall risk context. While the intent of this analysis was not to generalize or draw conclusions about the role of specific risk factors in this population, these observations may be important areas for future research.

First, regardless of the overall risk context, higher functioning children in this sample seemed to be more temperamentally easygoing as infants and less likely to have a history of developmental delay during the preschool years. These findings are consistent with previous research (e.g., Werner & Smith, 1992; Radke-Yarrow & Sherman, 1990) and suggest that a child’s early developmental history may have a powerful and enduring influence on subsequent adaptation. Specifically, consistent with

an organizational perspective of child development, these findings support the notion that competence in one developmental period provides the child with a foundation that enables successful encounters with subsequent stage salient issues (e.g., Cicchetti & Schneider-Rosen, 1986).

Few studies have explored the contribution of developmental history to later child development (Yates, Egeland & Sroufe, 2003). The use of retrospective reports in the current study to assess various aspects of children's developmental history is important as it provides an expanded, more comprehensive assessment of risk. However, retrospective reports are limited and subject to recall bias. Prospective investigations are needed to explore if and how early developmental factors may influence child functioning in the context of adversity and how these influences may change over time.

Surprisingly, one area of risk seemed to characterize resilient children in this sample. As noted above, parents of children in the resilient group appeared to have the most severe levels of parental psychopathology in the study (e.g., highest rates of psychiatric hospitalization, greater impact on functioning outside of the home). While this finding seems contrary to expectations, other studies have found only a low to moderate association between severity of parental depression and child outcome (Hammen et al, 1987; Radke-Yarrow, 1998).

One speculation for why children of parents with the most objectively severe depression seemed to function better than children whose parents reported less severe depression is the possibility that some factors (i.e., ongoing treatment, hospitalization, inability to work) might make it easier for children to identify their parent as ill. Thus,

children may be more likely to understand their parent's behavior (e.g., irritability, tearfulness, mood swings) and perhaps their chaotic living environment as due to the illness rather than attributing it to something about themselves.

Consistent with these speculations, Beardslee and colleagues (1993; 1997a; 1997b) have demonstrated that children's cognitive understanding of parental depression is an essential component in their subsequent adjustment. This suggests that cognitive uncertainty, confusion and/or a sense of pressure to rectify the problem may jointly contribute to high vulnerability in some children of depressed parents. This may be an interesting question for future research and further highlights the need to explore the impact of symptom profiles, subjective and objective impact of the depression, and children's perception of parental symptoms relative to child outcome.

5.4 Understanding the Factors that Contribute to Resilience: Differentiating Between Resource and Protective Factors

As discussed above, this study identified a group of resilient children along with three other groups of children who varied on level of overall risk and functioning. The identification of four distinct Risk/Functioning groups allows researchers to study factors that may contribute to better child functioning under higher versus lower risk conditions. Specifically, it enables researchers to distinguish between factors that characterize resilient children and factors that characterize children who are doing equally well, but who do not have high risk profiles.

The current study outlined how one would expect different patterns of scores in different Risk/Functioning groups depending on whether a specific characteristic or variable functioned as a resource or protective factor. To illustrate how this process

might be used in future research, five child attributes that have been previously identified as "protective" factors in the resilience literature were examined. These were self-esteem; optimistic coping style; social skills; leadership skills and, adaptability. For each attribute the pattern of scores obtained across the Risk/Functioning groups was compared to the expected patterns. Due to the limitations related to sample size, this analysis was intended to be illustrative of a general process and the specific results cannot be generalized to the larger population. However, some of the results were consistent with previous research and are theoretically interpretable, while others contradict previous research and may suggest interesting directions for future research.

When compared with the expected pattern of scores, two child attributes appeared to play a protective role for this sample, two attributes seemed to be resources and one factor did not seem to be associated with child functioning under either risk condition. For example, in this sample when stress/risk levels are high, children's ability to adjust and adapt to changes in their environment (i.e., adaptability) and higher levels of global self-esteem seemed to be particularly important in promoting adaptive functioning. This finding is consistent with previous literature that has emphasized the protective role of a child's core feeling of self-worth and an adaptable temperament (see Table 2.3). Given that higher risk children in this study faced a significant level of chaos, conflict, and disruption in their environment, it makes conceptual sense that an ability to adjust to change and a core feeling of competence would be helpful.

In contrast, perceived competence in a scholastic setting appeared to be associated with higher levels of child functioning under conditions of lower risk, but not in a higher risk context. This finding did not fit the pattern of scores expected for a

protective or resource factor. Interestingly, lower risk/low functioning (i.e., LR/LF) children in this study reported very low perceived competence in the school setting. As noted in the previous section, these children also exhibited delays in early development. Their teachers also reported generally lower cognitive skills, suggesting that these developmental delays may have continued. The children's self-reports of low perceived academic competence might have been an accurate reflection of their abilities. It may be that their lower functioning has more to do with continuing developmental and/or intellectual delays than environmental risks.

In contrast to factors that appeared to have their impact under specific conditions of higher or lower overall risk, for this sample, social skills and leadership appeared to promote children's competence in both risk conditions. Regardless of risk status, children's ability to interact appropriately with adults and peers (i.e., social skills) and their ability and willingness to become involved in extracurricular activities (i.e., leadership skills) appeared to be associated with better child functioning. In past research, these factors have been termed "protective". The current study suggests that they may be "resources" and not "protective". While caution is required in interpreting the current findings, they do highlight the need for more careful and thoughtful analysis and the need to study the role of various factors under different risk conditions if we are to truly understand what promotes resilience. There is a need to re-examine the various factors identified as "protective" in the literature (see table 2.3) to verify that they do indeed play a protective role or to specify exactly what role they do play.

In addition, just as risks co-occur within a particular population, protective/resource factors also co-occur (Gore & Eckenrode, 1996). Future studies

need to examine not only the independent contributions of potential protective/resource factors such as self-esteem and social skills, but they also need to study the cumulative or interactive effects of co-occurring factors. Furthermore, there is a need for research that provides insight into whether certain factors are functionally equivalent and, as a result, could be substituted for one another. Specifically, can high levels of one factor (i.e., self-esteem) make up for a deficit in another (i.e., social support)? Or, can the stress buffering process occur as long as there is at least one protective factor available - regardless of which one it is? Currently, we know little about how the co-occurrence of protective factors within a particular population may influence risk and resilience.

Summary:

The concept of resilience holds great promise for providing insight into the maintenance of health in childhood and adolescence. A clearer understanding of the factors related to healthy adaptation in the face of unusual adversity will be critical for developing effective intervention and prevention programs. However, the fundamental failure to clearly define and measure essential concepts such as risk status and adjustment have resulted in a simplistic and perhaps inaccurate understanding of resilience and the factors that promote it.

To address these conceptual and methodological issues, the current study developed a comprehensive and theoretically based measure of risk exposure and conducted a rigorous assessment of child functioning within a sample of children who share a common risk factor (i.e., parental affective disorder). This process demonstrated that a careful and thorough assessment of these constructs is essential if we hope to accurately identify and understand resilience.

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APPENDIX A

Informed Consent Forms

PREVENTIVE INTERVENTION PROGRAM

INFORMED CONSENT FORM: Parent Form

We are asking you to participate in a research project aimed at helping families in which parents have experienced a recent depression or manic-depression. This project is based on the work of Dr. William Beardslee and his colleagues at the Judge Baker Children's Centre in Boston. Dr. Beardslee's research has produced important information about how parents can help themselves and their children to cope better with depression in families. In particular, a goal of this research has been to reduce the chances that children in families in which a parent suffers from depression will also develop depression and/or other difficulties down the road. The results of Dr. Beardslee's work have been very promising and we are now interested in evaluating the effectiveness of interventions for families with depression in the Prince Albert Health District and in understanding more about how this intervention works and for which families it is most effective. Before you agree to participate, we would like to provide you with information about the procedures involved in the study so that you can make an informed decision.

The study will involve 50 families in which one or both parents have experienced an episode of affective disorder (i.e., unipolar/bipolar depression) in the past 12-18 months. In addition families will have at least one child between the ages of 7-15 years of age who has not been treated for depression prior to enrollment in the study.

1. *Each family member will be asked to read and complete this informed consent form and participate in the assessment process.*

ASSESSMENT PROCESS:

- a) **Initial Family Meeting:**
 - review informed consent form
 - complete forms about basic family information (30 min)
- b) **Interview:**
 - 1hr meeting with each parent about themselves
 - 1hr meeting with one parent about each child
- c) **Questionnaire Packages:**
 - Parent package #1 (family-focused questionnaires): 2-3 hrs
 - Parent package #2 (child-focused questionnaires): 1-2 hrs
 - Child package #1 (family-focused questionnaires): 1-2 hrs
 - Child package #2 (child-focused questionnaires): 1-2 hrs
 - Teacher package (child-focused questionnaires): 30 mins – 1 hr

Assessment times may vary, but the above schedule shows an average assessment.

- Family members will complete all or most of this assessment process on several occasions:
 - i) Before the intervention
 - ii) 1 month after the intervention is complete
 - iii) 4-6 months after the intervention is complete
 - Families will be paid \$25.00 at each of these assessments, beginning at the initial assessment before the intervention.
2. *Some or all family members will be invited to participate in an intervention.*

INTERVENTIONS:

Your family will be **randomly** assigned to an intervention group (This means that you can not choose the group you would like to participate in and that you have an equal chance of being assigned to either group).

The intervention is free to families.

- a) **Lecture/Discussion Intervention:**
 - series of 2 lectures
 - attended by parents only
 - presents new information about depression and risks to children
- b) **Clinician-Facilitated Intervention:**
 - series of 6-8 sessions
 - meetings are held with parents, some with children, and one with entire family
 - needs of the children are the central focus

CONFIDENTIALITY:

The information gathered in this study is of a personal nature. It is important to note that the information you provide is strictly confidential and will be used for research purposes only by the Prince Albert Health District and the University of Saskatchewan. Families will be assigned a participant number immediately upon enrolling in the study and this number will be used to identify families in all future paperwork. Clinician-facilitated intervention sessions will be audiotaped and all audiotapes (as well as all other information collected during the project) will be kept in a secure, locked cabinet until the end of the project, at which time audiotapes will be erased. Finally, referring mental health practitioners will not receive any information about an individual family, however, they will receive updates based on group findings regarding the effectiveness of the proposed interventions for families with depression. The only exception to this will be in the event that a clinician needs to be made aware that their client is in danger of harming themselves or someone else.

In the event that the project assessment process results in information that suggests a family member is experiencing significant difficulties and they are not currently receiving the appropriate treatment, arrangements will be made to ensure that the individual(s) are receiving the appropriate psychiatric and/or psychological services in addition to the proposed intervention. Participation in the project is in no way impacted by a referral for or involvement in additional psychiatric and/ or psychological services.

VOLUNTARY PARTICIPATION:

Your participation in this project is always voluntary. At any time, even after you sign the consent form, you may refuse to answer any questions, you may withdraw from the study at any time and/or you may request that the information collected not be used.

I have read the above information and understand the procedures involved in this study.
I give my consent to participate in this study.

(signature)

(date)

I give my consent for the principal investigator, Tania Safnuk, to contact my child's teacher as part of the assessment process.

(signature)

(date)

PREVENTIVE INTERVENTION PROGRAM

INFORMED CONSENT FORM: Children's Form

We are asking you to participate in a research project which is looking at how to best help parents and children cope with family stress and difficult times. Before you agree to participate, we would like to give you some information about what's involved in this study.

1. *You and your parents will be asked to read and sign an informed consent form and you will be asked to participate in an assessment process which helps us learn about you and your family..*

- In order to get to know you better, we will ask you questions about things like:
 - a) your relationships with your family, friends, teachers
 - b) your likes and dislikes
 - c) how you are feeling
 - d) how you deal with stress and hard times
- We will want to ask you about these things now and also at different times in the future.

2. *You and your parents will be asked to take part in one of two different kinds of groups to help us understand how we can help families when they are having hard times.*

Some families will be in Group A and some families will be in Group B. I will be choosing **randomly** which group your family will be in. This means that you can't pick which group you want to be in and I don't even know which group your family will be in.

- If you and your family are in **Group A:**
 - your parents will be asked to meet with a project staff member to talk about difficulties over the past year and also to talk about the positive things about your family.
- If you and your family are in **Group B:**
 - you and your parents will be invited to meet with a project staff member to talk about difficulties over the past year and also to talk about the positive things about your family. You will be asked to meet with the staff member to talk by yourself one time and also in a family group.

CONFIDENTIALITY:

The information that we collect in this study is very personal. It is about you and your family so it is important to understand that the things you tell us are strictly confidential which means we will not talk to anyone else about what you tell us. When we are finished the study we will destroy all of the information that we have collected. When you fill in papers or when we write some things that you tell us down on paper, we don't put your name on the paper. When you join the study we give you a number and that is how we keep track of the information that we collect.

Sometimes, kids might tell us about really serious problems that their parents might not know about. Sometimes, if the problem is so serious that someone might get hurt, we need to talk to children's parents or somebody else about the problem. If there is a need to talk to somebody else, the staff will talk to you about it first and explain that they need to share this information with someone else. This doesn't happen very often but it is a responsibility of the staff to be sure that kids are safe and taken care of at all times.

VOLUNTARY PARTICIPATION:

Your participation in this project is always your choice. At any time, even after you sign the consent form, you may refuse to answer any questions, you may decide not to participate in the study, and/or you may ask that the information we collected not be used.

This study has been explained to me. I have been given the opportunity to ask questions and have asked questions about it as much as I want to. I have been told about the assessment and the different intervention groups. I know that I may decide not to participate in this study at any time.

(signature)

(date)

I give my consent for the principal investigator, Tania Safnuk, to contact my teacher as part of the assessment process.

(signature)

(date)

APPENDIX B

Table B1.

Comparison of "Low Functioning" Children on Various Domains of Functioning^a

	Externalizing				Internalizing				Overall Functioning		
	HYP	AGG	CON	ATT	ANX	DEP	SOM	WTD	Home	Peers	School
1. Female 10.4 yrs			*	*	*	**		*			
2. Female 11.3 yrs	*	*	*		***	**		*			
3. Female 11.6 yrs		**	**	**		**			**		**
4. Male 12.0 yrs			*	*		**			**		
5. Female 10.9 yrs		*		***							
6. Male 14.9 yrs	**	**	**	**	**	**		**		**	
7. Female 8.5 yrs	*	**	*		**	**	**				
8. Male 10.0 yrs	**	**	**	**	**	**	**		**	**	
9. Male 13.8 yrs	**	*	**	**		**		**			**
10. Male 10.7 yrs		*	**	**	*	**	**	**			
11. Male 10.8 yrs				***	*	*	*	*			

Table B1 (Continued).

Comparison of "High Functioning" Children on Various Domains of Functioning^a

	Externalizing				Internalizing				Overall Functioning		
	HYP	AGG	CON	ATT	ANX	DEP	SOM	WTD	Home	Peer	School
12. Male											
10.7 yrs					*		*				
13. Female											
10.1 yrs		*		*		*					
14. Female											
12.3 yrs						*					
15. Female											
7.8 yrs					*						
16. Female											
10.2 yrs					*						
17. Female											
13.1 yrs											
18. Female											
13.9 yrs			*								
19. Female											
8.9 yrs											
20. Female											
8.0 yrs	*										
21. Female											
10.7 yrs	*		*				*	*			

^a * = Child scored in "At-risk" range; ** (with shading) = child scored in "Clinically significant" range;

Blank = Child scored in "Average" range

HYP = hyperactivity; AGG = aggression; CON = conduct problems; ATT = attention problems;

ANX = anxiety; DEP = depression; SOM = somatization; WTD = withdrawal

APPENDIX C

Case Narrative #1: Lower Risk/Low Functioning (LR/LF) Sub-Group

Justin

AFC Score: 7

Risk Composite: 8

Description of Risk Context:

Socioeconomic Risk

Justin is a 10-year old boy in Grade 4. He resides with his biological parents (both age 29) and his two younger brothers (ages 6 and 8) in a small community in rural Saskatchewan. Justin's parents have been married for seven years and lived together for three years prior to getting married. Both parents have completed Grade 12 and both are employed full time. The reported family income is above the poverty line and no financial difficulties were noted.

Early Development

Justin's mother did not report any physical or emotional difficulties during her pregnancy. She did not smoke or consume any alcohol. Justin was born on time and weighed 6lbs, 6ozs. In spite of an uneventful pregnancy, Justin was noted to have some health problems during infancy and early childhood. Specifically, he was hospitalized on four occasions during this time due to complications related to allergies and asthma.

Justin was slow to achieve developmental milestones. His mother described him as a "different" child who was not very affectionate nor was he

especially interested in others. However, Justin's mother did not perceive him as difficult to manage. She reported that he generally preferred to play alone. He had some difficulties getting along with peers during the preschool period.

Stressful Life Events

Aside from the impact of maternal depression, this family reported very few stressors in the home. Marital conflict was not noted nor had there been any significant family illnesses or disruptions in the past 18 months. According to his parents and his teacher, Justin was having some difficulties getting along at home and at school. Justin's mother noted that, at times, she could be verbally cruel towards her son.

Parental Psychopathology

Justin's mother met DSM-IV criteria for Depressive Disorder, NOS. Over the past year, she has been seeing a psychiatrist on a monthly basis and has been taking mood stabilizers. She also sees a social worker on a regular basis. She had not been hospitalized for psychiatric reasons and had never been unable to work outside of the home because of her illness. Justin and his parents all reported that her symptoms have a moderate impact on her ability to carry out child-related tasks but have no impact on her ability to complete household tasks.

Justin's mother reported a significant family history of mental illness. Specifically, she reported that her brother, mother and grandfather have all been diagnosed with Bipolar Disorder. Justin's maternal grandmother was recently hospitalized due to repeated suicide attempts. Justin's maternal grandfather was described as "probably mentally ill" and was noted to have been sexually,

physically and emotionally abusive in the past. Justin's paternal grandmother suffered from post-partum depression. Justin's father did not meet DSM-IV criteria for any disorder.

Description of Child Functioning

Justin's mother worried about his performance at school and his ability to make and maintain friendships. Both parents reported that he was exhibiting clinically significant behavior (i.e., attention and conduct problems) and emotional (i.e., withdrawal) problems at home. In contrast, Justin's teacher reported no clinically significant problems in the school setting, but did note that he was "at risk" for the development of conduct problems, somatization, and attention problems.

Case Narrative #2: Lower Risk/High Functioning (LR/HF) Sub-Group

Amy

AFC Score: 22

Risk Composite: 10

Description of Risk Context:

Socioeconomic Risk

Amy is a 9-year old female in Grade 4. She resides with her biological parents (ages 46 & 47 years) and her older sibling (age 13 years) in a small urban centre in Saskatchewan. Amy's parents have been married for 16 years. Both of her parents have completed a university degree and are employed full-time. The reported family income is well above the poverty line and no financial difficulties were noted.

Early Development

Amy's mother did not report any physical or emotional difficulties during her pregnancy. She did not smoke or consume any alcohol. Her pregnancy was considered higher risk due to maternal age (i.e., 35 years) and the need for a planned caesarian section. In spite of these risk factors, Amy weighed 9lbs, 4ozs at birth and was described as a healthy and easygoing infant who achieved all developmental milestones within normal limits. No problems were noted during the preschool years. Amy was reported to get along very well at home and with other children her age.

Stressful Life Events

Aside from the impact of maternal depression, this family reported very few stressors in the home. No marital conflict was noted nor was there any stress, conflict or abuse in the home. No family health problems or disruptions/changes had occurred in the past 18 months.

Parental Psychopathology

Amy's mother met DSM-IV criteria for Major Depressive Disorder as well as for Panic Disorder with Agoraphobia, Social Phobia and Generalized Anxiety Disorder. She saw a psychiatrist for the first time nine months ago and is currently taking antidepressant medication and attending counselling on a weekly basis. She has never been hospitalized for psychiatric reasons but has been off work on unpaid sick leave for the past nine weeks due to depression. Although Amy's mother perceived that her depression has had an "extreme" impact on her ability to carry out household and child-related tasks, Amy and her father reported a more moderate impact. Amy's mother reported that both of her sisters and her father have also been diagnosed with Major Depressive Disorder and that her father committed suicide several years ago. No paternal family psychiatric history was reported. Amy's father did not meet DSM-IV criteria for any disorder.

Description of Child Functioning

Amy is currently functioning very well. She obtained a perfect score on the Adaptive Functioning Composite, which indicates that she is not exhibiting any clinically significant behavior or emotional problems and is functioning in

the above average range at home, at school and with peers. In addition, she was not noted to be “at risk” for the development of any problems at home or at school. She appears to be meeting the developmental tasks of establishing peer relations and achieving in a scholastic setting with ease.

Case Narrative #3: Higher Risk/Low Functioning (HR/LF) Sub-Group

David

AFC Score: 14

Risk Composite: 20

Description of Risk Context:

Socioeconomic Risk

David is a 12-year-old boy in Grade 7. He resides with his mother (age 32 years) and younger half-brother (age 7 years) in a small community in rural Saskatchewan. David's biological parents divorced when David was 5-years old. David's mother has been involved in a number of subsequent relationships and she was engaged to her boyfriend (of eight months) during this assessment process. David's mother has completed Grade 12 and works full-time at a small business that she recently purchased with a friend. The annual family income is below the poverty line.

Early Developmental Risk

David's mother recalled some difficulties during her pregnancy. She reported that she experienced "emotional problems" (i.e., she was much more depressed or anxious than usual). She smoked cigarettes and drank alcohol several times per months (maximum of 5 drinks at a time) throughout the pregnancy, including during the first trimester. She noted that her labor was induced and she experienced a difficult delivery during which vacuum extraction and forceps were used. David's lungs filled with fluid during the birth process and he spent two days in an incubator. David weighed 8lbs, 11 oz at birth.

David achieved developmental milestones within normal limits although his progress when using words and sentences was slow. David's speech continued to be behind during the preschool years and he was involved in speech therapy until the age of 4 years. David's mother found him difficult to manage during the preschool years as he was unusually active (i.e., always on the go) and very demanding. He experienced a range of sleep problems (i.e., trouble falling asleep/ night terrors/ nightmares) and had problems getting along with other children. He stayed in the hospital on one occasion as a toddler but was otherwise noted to be healthy during early childhood.

Parental Psychopathology

David's mother met DSM-IV criteria for Bipolar I Disorder (with Rapid Cycling). She was hospitalized on one occasion in the past (14 years ago) following a suicide attempt. She has never been off work for any extended period due to her depression but noted that she has been sent home from work on several occasions due to "irritable mood". Both she and David reported that her depression has had an impact on her ability to do child-related and household tasks. One year ago, she saw a psychiatrist and was diagnosed with Bipolar Disorder. She is currently taking a mood stabilizer and seeing a social worker on a monthly basis. Her grandmother, mother and sister were all reported to suffer from "extreme mood swings" and they have taken psychotropic medication to control these symptoms.

Stressful Life Events

David's mother described a stressful family environment and a history of relationship conflict and instability. David's biological parents divorced when David was 5 years old. David has no contact with his biological father whose whereabouts is unknown. David's mother reported being physically abused in this relationship but she denied that David experienced any physical violence. His mother immediately remarried and had a second child. This relationship was also conflictual (i.e., verbal fighting and arguing) and ended in divorce approximately 18 months ago. David's mother has been involved in a number of subsequent relationships and she was engaged to her boyfriend of eight months during this assessment process.

Currently, there is stress in the home due to problems with money, recent parental job change and parent-child conflict. She reported that she finds David's behavior difficult to deal with and noted that she often becomes irritable when she is depressed and has said cruel/hurtful things to her children.

Description of Child Functioning

David does not appear to be functioning very well. Specifically, some interpersonal difficulties were noted and he does not seem to be achieving up to his potential in the school setting. He was reported to be exhibiting clinically significant depression by both his teacher and his mother. His teacher also noted clinically significant anxiety and somatization problems at school. Both raters indicated that he was at risk for attention problems. He was also "at risk" for the development of conduct problems at home and withdrawal at school.

Case Study #4: Higher Risk/High Functioning (HR/HF) Sub-Group

Curtis

AFC Score: 18

Risk Composite: 25

Curtis is a 10-year-old boy in Grade 6. He resides with his mother and 17-year-old brother in a small community in rural Saskatchewan. Curtis' parents separated when he was 12-months old. His mother has never remarried, nor has she been involved in any significant long-term relationships over the last nine years. Curtis has sporadic telephone contact with his biological father but rarely sees him (i.e., once every few years). Curtis' mother completed Grade 12 and obtained additional educational training from a local technical school. She has been employed full-time in the health care field for over 15 years. The reported family income is above the poverty line.

Early Developmental Risk

Curtis' mother recalled a number of difficulties during her pregnancy with Curtis. Specifically, she indicated that she was nauseous throughout the pregnancy and she gained over 35 pounds. In addition, she was sick with viral bronchitis and described experiencing "emotional problems" (i.e., she was much more depressed or anxious than usual) during her pregnancy. His mother also noted that she smoked cigarettes and drank alcohol approximately once per month (maximum of 2 drinks at a time) throughout her pregnancy, including during the first trimester. While her reported intake of alcohol during the prenatal period is minimal, it is noted that she indicated that she did struggle with alcohol

abuse problems both before and after her pregnancy. She reported no problems with the delivery and Curtis was born on time and weighed 5lbs, 11ozs.

Despite these early difficulties, Curtis was described as an easygoing and healthy infant who achieved developmental milestones within normal limits.

Although his speech and language development appeared to be initially on track, he began having speech difficulties around age four and subsequently required several years of speech therapy, (until age nine). He was noted to be unusually active (i.e., always on the go) during the preschool years but his mother did not find his behavior difficult to manage and reported no problems except occasional sleep difficulties (i.e., trouble falling asleep, nightmares). As a preschooler, Curtis got along well at home and with other children his age.

Stressful Life Events

Curtis' mother noted her oldest son's behavior (i.e., school problems, substance abuse, legal problems) was a source of significant stress and the cause of frequent and intense conflict in the home. Although the family income is above the poverty line, Curtis' mother described significant financial pressure and noted times when there was not enough money for rent and/or paying the utility bills. Curtis' mother also reported a tendency to become irritable when feeling depressed and noted that she often became verbally abusive (i.e., said cruel things/ hurtful things) during these times. This family has recently moved and there was one death in the family (i.e., Curtis' maternal grandfather) over the past 18 months.

Parental Psychopathology

Curtis' mother met DSM-IV criteria for Major Depressive Disorder as well as for Brief Psychotic Disorder and Panic Disorder with Agoraphobia. She also reported significant problems with alcohol abuse in the past although she has been sober for the past two years. She has been hospitalized twice for psychiatric reasons with the most recent hospitalization occurring approximately six months ago for a period of six days. Over the past five years, she has been off work on medical leave four times (ranging from 2 weeks to 4.5 months) due to her depression. In addition, both she and Curtis reported that her depression has had an impact on her ability to carry out child-related and household tasks. She has a 12-year history of involvement with mental health services and regularly sees a psychiatrist, social worker and addictions counselor. She denied any family psychiatric or substance abuse history.

Description of Child Functioning

Curtis appears to be functioning quite well overall. He appears to be meeting the developmental tasks of establishing peer relations and achieving in scholastic setting. He did not exhibit any clinically significant internalizing or externalizing problems at home or at school. His mother did indicate that he was "at risk" for anxiety problems and somatization problems. Specifically she reported that he often worried about his schoolwork and what his parents and teachers thought of him and he sometimes complained of headaches, stomachaches and dizziness.