THE POWER OF CONNECTION: THE RELATION BETWEEN ATTACHMENT AND RESILIENCY IN A SAMPLE OF HIGH RISK ADOLESCENTS

by

DENISE BUOTE

B.A., The University of British Columbia, 1990
B.Ed., The University of British Columbia, 1992
M.A., The University of Chicago, 1998

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENT FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE STUDIES

(Human Learning, Development, and Instruction)

THE UNIVERSITY OF BRITISH COLUMBIA

September 2006

Abstract

The present study provided a unique window into the relation of attachment avoidance (preference for emotional distance) and attachment anxiety (desire for relationships but fear of rejection) as measured by The Comprehensive Adolescent-Parent Attachment Inventory (CAPAI; Moretti, McKay, & Holland, 2000) to dimensions of resiliency among 94 adolescents living in the inner city. Specifically, attachment avoidance and attachment anxiety were examined in relation to the following dimensions of resiliency: optimism, self-efficacy, relationships with peers, relationships with adults as measured by the Resiliency Inventory (RI; Noam & Goldstein, 1998; Song, 2003) number of adults deemed very important to the adolescent (Antonucci, 1986), self-reported school grades, and externalizing problems (YSR; Achenbach, 1991). These dimensions were assessed via a self-report survey which students completed during one class period. Through a series of multiple regressions, results revealed that attachment has compensatory but not protective effects on the outcomes of optimism, self-efficacy, relationships with adults, peer relationships, externalizing problems, and number of adults identified as being very important in the adolescent's life. Further to this, following research conducted by Cowen et al. (1997), those participants who had experienced four or more uncontrollable adverse life events (stress) were divided into two groups: stress-affected, those who had high levels of self-reported externalizing problems ($n = 26$), and stress-resilient, those who had low levels of self-reported externalizing problems ($n = 19$). Findings revealed significant differences between the two groups. Specifically, adolescents in the stress-resilient group scored significantly higher on dimensions of relationships with adults, peer relationships, optimism and number of adults identified as being important in

comparison to those in the stress-affected group. Additionally, stress-resilient adolescents scored significantly lower on the attachment avoidance dimension of The Comprehensive Adolescent-Parent Attachment Inventory (CAPAI; Moretti, McKay, & Holland, 2000). Collectively, these findings have implications for the understanding the role attachment may play in pathways to positive adaptation among at-risk adolescents. Throughout all analyses, attachment avoidance emerged as having deleterious effects on the social and emotional functioning of high risk adolescents.

Table of Contents

List of Tables

List of Figures

Acknowledgement

This journey has been a long one and certainly there have been times in which it was a bit of an uphill one but I have been very fortunate to have people in my life who were willing to come up that hill with me.

Sandra, my mentor, confidante and tireless cheerleader – from the beginning to the end you were right there. Those times in which I felt like the "ABD" seemed a viable option, you listened, encouraged and then reminded me of my original goal. I have learned so much from you. For all that you have given me, I am so grateful.

Carolyn, editor, reality checker and great friend – thank you for your support over the past years. It was a long haul, I know. I promise to try to reduce the number of times I use the word "however" in a written document, however it may be a challenge as I love the word "however." However, I do promise not to ask you to read anymore literature reviews!

Dr. Shelley Hymel – thank you so much for reading and thinking about my work and giving me such detailed feedback. I learned so much from this process. Your input truly made this dissertation so much better.

My committee, Dr. Kimberly Schonert-Reichl, my supervisor, thank you for the opportunities that you've given me over the past five years in your research lab. This experience has allowed me to gain the research experience I needed so that I could carry out this interesting project. Thank you as well for your guidance in developing the methodology for this study and helping with seeing the process through to its' conclusion. Dr. Bruno Zumbo, thank you for your guidance in shaping some of the

statistical components of the study. Dr. Cay Holbrook, thank you for being on the committee and providing feedback.

Sonia, long time friend – it's so great having you so close after all these years and getting a chance to spend time together. This has made the last few months of this journey so much more enjoyable. You have such a good heart and great ears that always seem to perk up when I need to talk. Thank you for all of your support in seeing this dissertation through to the end.

Anne, your ongoing assistance with the ins and outs of statistics was invaluable. Your patience and knowledge was critical in allowing me to take my time so that I could come to understand the material. I really appreciate all of your help over the past year. You are a wonderful teacher and friend.

Angela, from delivering me food to helping me prepare for the presentation, you have been so generous and kind. It has been so nice working in the lab with you and developing a wonderful friendship with you over the past four years. This is not the end, my friend, just a turn in the road.

Anat, having a friend going through the process at the same time has made the journey easier. We've had some great chats and sharing the experience has helped so much. Thank you for your help in getting ready for the defense. I look forward to your day.

Thank you to Alasdair, a great friend – even though you are across the seas, I really enjoy the times that we do get to talk and laugh. For my other friends who offered that needed break from the process - Celia, Dennis, Wendy, Julie, Michele, and Suzanne, I thank you.

Val, your constant reassurance that all this time in front of the computer doesn't have to result in a permanent kink in my back, have been hopeful words.

Pat, thank you for working with me for that week in Michigan. I learned a great deal from your comments about social science research and expertise in statistics.

My appreciation to Martin, Brenda, Jay, Ivan, Marie-Claude, Angela "The Glue" and Michaela for the chance to run through the presentation and hear your thoughts, questions and suggestions. This was great preparation.

Birdie, thank you for your APA magic and going through the details of the reference list. This was so helpful in the time crunch.

Sparker – you got me out there to the puppy park at just the right times! You are quite the little fluff ball.

Finally, my late father who valued education and learning and who was always so supportive of my pursuits. I am grateful to have his curiosity about world and the people living in it. It was a true gift to have the time together that we did.

This dissertation is dedicated to two incredible forces in my life: my late father, Lloyd Buote, an incredible man who loved learning and Sandra Parker, a phenomenal mentor and woman.

Introduction

There is no shortage of literature in the mental health field that highlights the increased difficulties that children have when they have multiple risk factors in their lives (e.g., poverty, mental health problems). One need only turn on the television or read the paper to see stories of the harsh consequences of a rocky childhood. Nevertheless, despite the struggles that many children and adolescents confront, there are a substantial number of children who survive and thrive despite adverse circumstances. This phenomenon, that is, successful adaptation in the face of risk, has been identified by researchers as "*resiliency*." Numerous studies conducted over the past three decades have been consistent in finding that individuals can maintain competence in the face of exposure to risk factors (Garmezy, 1985) and develop into healthy adults who function well in society (Werner, 1995).

The deeper question here is what is there in the life of children or adolescents who are "at risk" that enables them to persevere rather than to become overwhelmed by the cards that life has dealt them? Why is it that we can look at two people who appear, on the surface, to have very similar life circumstances, yet one has been overcome by adversity and one has overcome adversity? Researchers have been working on answering this question for many years. We now have literature that reveals differences in personality, home environment, and external supports that can assist us in differentiating children who overcome the odds and children weighed down by the odds (e.g., Garmezy, 1983; Garmezy, Masten, & Tellegen, 1984; Masten, 1999; Werner & Smith, 1992). The challenging aspect of this area is that there is no one profile of a resilient person and

indeed researchers and people on the street would no doubt argue about what goes into this label of "resilient"? One of the original thoughts was that resilience is rare and a resilient person is invulnerable to any outside adversity (Anthony & Cohler, 1987). A more contemporary view is that resilience comes in all forms and is not hard to find when one looks around. In fact, resilience is not an all or nothing phenomena. Being resilient in one area of ones' life does not mean that all areas are going well. Each person has to be considered within the context of their environment (Masten, 2001).

We know a great deal about the tremendous variations in how a resilient person may exist in the world even if there is disagreement about the criteria. This disagreement will always exist because as individuals, we value different things. What the leaders in the field of resiliency have been able to agree on is that after years of delineating various profiles of resilient children, adolescents and adults, is that it is time to move forward, dig deeper and uncover mechanisms that are operating to foster resilient behavior. One common finding, in many of the studies that addresses this phenomena, is that children and youth who are identified as resilient can identify at least one adult who they "feel believes in them" (Masten, 2001; Masten & Coatsworth, 1998; Werner, 1989, 1990, 1992). This adult may take various forms in that it may be someone from the past or presnet, someone related, or someone unrelated. On this point, there seems to be no disagreement among researchers.

The question then arises for a child in the Western world who goes through several environments filled with adults as she/he grows up, how could the situation ever arise in which a child could not identify someone who she/he believes is important in her/his life? Is it that the adults are not able to engage adequately with the child? Is the

child not able to engage with adults in the environment? Here we venture into the role of attachment in the lives of all people. For this study, however, we look specifically at adolescents who are considered "at-risk".

Attachment is an agreed upon universal phenomenon that is a biological system shaped by the environment early in life (Ainsworth, 1989) but subject to change throughout the lifespan under certain conditions (Ammaniti, van Ijzendoorn, Speranza, & Tambelli, 2000; Zimmerman & Becker-Stoll , 2002). People have varying ways of relating to others in the world based on an internal template that is developed in a dyadic relationship with a caregiver. Adolescents who later in life are not able to reach out to adults and utilize potential support have often had experiences of numerous relational failures early in life (Bowlby, 1988; Kobak & Sceery, 1988). Thus relying on adults to assist in times of turmoil becomes a gamble, both in terms of actual concrete assistance and emotional support. This biological system of attachment has tremendous implications for adolescents who are "at –risk". Being able to reach out and receive support and understanding from others can mean the difference between rising above adversity or drowning under the waves of adversity. It is the role of attachment in resiliency that is the focus of this study.

Definition of Terms

The following are common terms are ones that the reader will encounter throughout this study.

Resilience. "Resilience" is defined by Rutter (1987) as the positive end of developmental outcomes among individuals who are considered to be at high risk. According to Luther, Cicchetti, and Becker (2000), it is "a dynamic process

encompassing positive adaptation within the context of significant adversity" (p.543). According to Henderson and Milstein (1996), resilience is defined as "the capacity to spring back, rebound, successfully adapt in the face of adversity, and develop social, academic, and vocational competence despite exposure to severe stress or simply to the stress that is inherent in today's world" (p.7).

Risk factor. A risk factor is defined as an individual attribute or characteristic, situational condition or environmental factor that increases the likelihood of negative outcomes for a given individual (Coie et al., 1993; Masten & Garmezy, 1985; Werner, 1990).

Protective factor. A protective factor is defined as a mechanism which results in the "amelioration (protection) of the reaction to a factor that in ordinary circumstances leads to a maladaptive outcome" (Rutter, 1987, p.317).

Models of Resiliency

There are two models of resiliency that are examined in this study. These models seek to explain how it is that a person can overcome adversity in life via the presence of protective factors.

Compensatory model. In the compensatory model of resiliency, risk factors and protective factors combine additively to predict outcomes. Each variable is considered individually and has a direct impact on the outcome (Sugland, Zaslow, & Winquist-Nord, 1993). In other words, the positive factors in ones' life may counteract or neutralize the impact of the risk factors (Zimmerman, Bingenheimer, & Notaro 2002).

Protective model. There are two models that can be considered protective models: the risk-protective model and the protective-protective model. In this study, the focus of

attention is the risk-protective model which is an interactive model in which the outcomes are dependent on the interaction between the protective factors and the risk factors. Werner and Smith (1992) suggest that risk and protective factors can be seen as a balancing act. That is, if the necessary protective factors are present, the risk factors may not have a negative impact on the person or the negative impact may be ameliorated.

Attachment. Ainsworth (1972) defines attachment as "a mode of relating to a specific figure" and the difference between individuals are viewed in terms of "qualitative differences in the way attachment behaviors are organized, rather than differences in the strength of some generalized drive or trait." (p. 124). Attachment is therefore an affective bond, as opposed to a relationship which is not necessarily characterized by attachment. There are four main attachment styles that have been delineated in the literature: secure, avoidant/dismissive, anxious/preoccupied, and disorganized/disoriented (Ainsworth, 1969, Bowlby, 1969, 1982). These four styles will be discussed in greater detail. The avoidant/dismissive and anxious/preoccupied attachment styles are the foci in this study and can be defined as follows:

Attachment avoidance. An interpersonal relationship style characterized by preference for emotional distance (Mikulincer & Florian, 2000).

Attachment anxiety. An interpersonal relationship style characterized by a desire for enmeshed relationships (i.e., lack of boundaries and separate identity) and fear of rejection (Mikulincer & Florian, 2000).

Significance of the Study

The goal of this study is to examine the relation between attachment and resiliency in adolescence. Specifically, the purpose is to investigate the role that

attachment may play in promoting resiliency in the face of risk. Furthermore, differences between those adolescents deemed at risk and those deemed resilient are examined. Adolescence was chosen as the focus of this study because it is a critical turning point in the life cycle. Seven resiliency outcomes are considered: school grades, optimism, self-efficacy, relationships with peers, relationships with adults, number of important adults in the life of the adolescent and externalizing problems. This study of inner city adolescents, in grades ten to twelve, has the potential to provide new theoretical insights to the processes underlying the reasons why some adolescents identified as being "at-risk" are able to seek out adults to assist them in order to overcome adversity and why others remain disconnected from adults who cross their paths. It is hoped that the findings from this study will inform interventions with children and youth by providing a framework for understanding the relational needs of adolescents with various attachment styles. In this way, those adults who work with adolescents can improve the chances of promoting success through the support of responsive relationships.

Literature Review

Risk and Resilience: The Historical Context

The concept of risk factors increasing the likelihood of adverse outcomes is not entirely new. Indeed, over 200 years ago, the French psychiatrist, Philippe Pinel (1745 – 1826) wrote about psychiatric risks in patients who suffered from adverse circumstances. It is said that upon meeting a patient for the first time, he would ask, "Have you suffered grief or reverse of fortune?" Even during this historical period, there was an understanding that grief or reverse of fortune, now known as risk factors, could compromise overall functioning. Since the publication of Bowlby's World Health Organization monograph in 1951, which referenced the development of psychiatric problems in children who had bad experiences, there has been an acceptance that adverse circumstances can impact individuals in negative ways.

Norman Garmezy and his colleagues, in the 1970s, led the current wave of interest in the area of risk and resiliency by his studies of adjustment among children later diagnosed with schizophrenia (Garmezy, 1970; Garmezy & Nuechterlein, 1972). Among his sample of adults, there existed a group of individuals who showed quite good adjustment despite their illness. Although well understood by people in the field of mental health today, at that time this was a new and interesting finding – individuals who had a premorbid history characterized by competent social relationships, work history, marriage and ability to take on roles of responsibilities fared far better than those who did not have this positive premorbid functioning. After studying adults diagnosed with schizophrenia and examining premorbid functioning, these researchers then began a second study looking at children being raised by a parent with schizophrenia. In this

second study, the question at hand was how it was, that certain children, despite being raised by a parent who suffered from schizophrenia, grew up to be adequately functioning adults whereas others had significant problems both in childhood and adulthood (Garmezy, 1971). The puzzle of why some individuals could rise above adversity spurred the subsequent focus of research in the area of risk and resilience.

Originally, the terms "invulnerable" and "invincible" were used to describe these well-adjusted children (Anthony, 1974; Garmezy & Nuechterlein, 1972). However, these terms were subsequently changed over time with increased understanding that the child must be understood in a developmental context and that adjustment falls on a continuum (Baldwin, Baldwin, Kasser, Zax, Sameroff, & Seifer, 1993). It became the understanding that individuals do not exist in a static state (i.e., forever invulnerable no matter what factors impact them throughout their development). There are always certain influences or factors present in ones' life that support the manifestation of resilience, such as the ability to form connections with others.

Resilience

The concept of resilience "implies a qualitative evaluation of functioning based substantially on normative expectations for adaptation" (Masten, 1994, p.19). It is the ability to face adversity in ones' life and utilize available internal and external resources to cope in a competent manner. Masten and her colleagues (Masten, 1994; Masten, Morison, Pelligrini, & Tellegen, 1990) have examined resilient individuals and delineated three different resiliency patterns into which resilient individuals can be classified 1) individuals who are at risk but show better than expected outcomes. 2) individuals who continue to adapt in positive ways in the face of stressful events. 3) individuals who

recover from a traumatic event (e.g., death of a parent, divorce). In short, the construct of resilience can be seen as an individual who is developing successfully despite life conditions or events that pose significant risk (Garmezy, Masten, & Tellegen, 1984; Rutter, 1983).

These normative expectations, however, are not objective but rather reflect the functioning of each individual. According to Masten and Coatsworth (1998), two criteria must be met in order for a child or adolescent to be considered resilient. First, there must be a significant threat to the individual resulting in the individual being considered high-risk. Second, despite the threats, adaptation and development must be of good quality. Of course there are individuals who have not experienced significant adversity yet are doing very well in life. So what is the difference between someone who is competent and someone who is resilient? On the surface the two manifest themselves in similar ways. Someone who is resilient must overcome adversity, whereas a competent individual does not have adversity with which he/she must deal. (Buckner, Mezzacappa, & Beardslee, 2003). It is not to say, however, that this competent person would not be able to function in a resilient manner if put in the situation of having to deal with significant adversity in his/her life. It must also be noted that resilience is not a static state. Once resilient does not necessarily mean always resilient. Depending on the factors in ones' life, functioning may be compromised. Luthar (1991, 1993) highlights this notion of compromised functioning in both her original and follow up study on inner-city youth, wherein she notes that resilience can not be viewed as a unidimensional construct. It is not an either-or-situation. In fact, resilient individuals can be doing exceptionally well in one or two domains of competence, but struggle in other areas of adjustment.

How are individuals able to successfully bounce back? The literature points to the presence of protective factors, defined here as a factor that buffers individuals from adverse outcomes by providing a moderating effect on the risk factor (Rutter, 1985, 1987). It is when the threat of risk is present that the protective factors are more readily seen, as this is the time in which these ever present strengths must be utilized in order to deal with the threat at hand (Brown & Harris, 1978). Several protective factors have been found to make a difference in the manner in which an at-risk child handles stress. These protective factors fall into three areas, according the Garmezy (1985): 1) the individual's personality and behavior, 2) family attributes, and 3) the social environment. Like Garmezy's domains, Werner (1989) also clustered protective factors into three major categories that align with Garmezy's categories: 1) personal attributes of the individual; 2) affectional ties within the family; and 3) the existence of external support systems in the school and community (See Figures 1 and 2 for outline of protective factors found in the literature). To date, individual factors and family factors have received the most attention in the literature. Although the support of other competent adults outside the family has been cited, it is an area that has received relatively little in-depth attention.

Figure 1: Individual Protective Factors

- Self reflection/understanding (Beardslee, 1989)
- Works well, plays well, loves well (Garmezy, 1983 & Werner, 1990)
- Absence of organic defects (Werner, 1989)
- Easy temperament (Garmezy, 1983; Werner & Smith, 1982)
- Good executive functioning (Buckner et al., 2003)
- Increased responsiveness, flexibility, and adaptability relative to peers (Werner & Smith, 1982)
- Good social skills (Luthar, 1999; Parker et al., 1990)
- Religious faith (Masten, 1986)
- Optimism (Rutter, 1985; Seligman, 1990)
- Strong sense of purpose and future (Rutter, 1985; Seligman, 1990; Wyman et al., 1992)
- Good problem solving skills (Anthony & Cohler, 1987; Kumpfer, 1999; Rutter, 1985; Seligman, 1990)
- Higher IQ (Garmezy et al., 1984; Masten et al., 1988; 1990; 1999, Werner & Smith, 1982;)
- Active, affectionate and good natured (Egeland et al., 1988; Werner, 1993)
- Positive social orientation (Garmezy, 1985)
- High self-esteem/self efficacy (Bandura, 1989; Garmezy, 1983, Rutter, 1979, Werner & Smith, 1992)
- Higher educational aspirations (Tiet et al., 1998)
- Perceived competence and positive self-image (Jessor et al., 1998; Magnus, et al., 1999; Masten , et al., 1999; Werner, 1986)
- Internal locus of control (Garmezy, 1987; Luthar, 1991; Magnus et al., 1999; Parker et al., 1990; Werner, 1986; Werner & Smith, 1992)
- Sense of humor (Masten, 1986; Vance et al, 1998)
- Good coping strategies (Kumpfer, 1999; Parker et al., 1990)
- Emotional regulation (Buckner et al., 2003; Cicchetti et al., 1995; 1991; 1993)
- Commitment and bonding to school (Najaka et al., 2001)
- Empathy for others (Jessor et al., 1998; Magnus et al., 1999; Masten et al., 1999; Werner, 1986)

Figure 2: Family and External Protective Factors

FAMILY

Quality of attachment and caregiving in the first year of life (Werner & Smith, 1982)

Quality of parenting (Masten et al., 1988, Wyman et al., 1991)

Having a good relationship with a parent (high warm, low criticism) (Rutter, 1979).

Support and affection form one or more adults (Masten, 1994)

In disadvantaged environment, strict and highly directive parenting with high levels of warmth provided academic resilience (McLloyd, 1998; Rutter, 1987)

Warm cohesive families (Garmezy, 1985)

Better family functioning (Tiet et al., 1998)

Parental mental health (Wyman et al., 1991, 1999)

Absence of marital discord (Garmezy, 1987; Rutter, 1987)

Family cohesion (Felner et al., 1985)

Good relationship with at least one parent (Campbell, 1987; Kwakman et. al., 1988; Rutter, 1979, 1990; Werner, 1989)

Cohesion and communication with mother (Grossman et al., 1992)

Maternal competence (Masten et al., 1988)

Higher levels of parental monitoring (Buckner et al., 2003; Tiet et al., 1998)

High parental expectations in regards to school achievement and completion of high school expectation (Blum & Rinehart, 1997)

EXTERNAL SUPPORTS

Having the support of a nonrelated significant adult (Cowen & Work, 1988; Garmezy, 1985; Gamezy et al., 1984; Werner, 1990)

Caring schools (Rutter, 1985)

Active participation in school activities (Schorr & Schorr, 1988)

Opportunity to demonstrate responsibility (Schorr & Schorr, 1988)

Supportive neighbours; community organizations (Rutter, 1987; Werner, 1990, 1993)

Schools that foster connectedness, fairness (Battistich et al., 1996, 1997; Blum & Rinehart, 1997)

Perceived caring from teachers and high expectations for student achievement (Resnick et al., 1997)

Having at least one close friend (Werner, 1989).

Involvement in at least one extra-curricular activity in which positive recognition is given (Jenkins & Smith, 1990)

Risk

A risk factor is defined as an individual attribute or characteristic, situational condition or environmental factor that increases the likelihood of negative outcomes for a given individual (Coie et al., 1993; Masten & Garmezy, 1985, Werner, 1990). Horowitz (1989) has outlined five types of risk research: 1) high-risk infant literature, which addresses the outcomes for infants born prematurely or with prenatal complications; 2) the conduct disorder literature, which examines pathways to developing this externalizing disorder; 3) studies looking at the impact of toxins, such as lead or alcohol on infants; 4) studies of sensitive periods of development, in which animals are used as the subjects; 5) and developmental psychopathology, in which social/emotional adjustment is studied in the context of risk and protective factors. It is primarily this last area that is the focus of risk and resilience in children and adolescence. When studying vulnerable youth, it can not be overlooked that some factors, such as Fetal Alcohol Spectrum Disorders (FASD), have an impact on later functioning in life, thus there is some overlap in the fields, depending on the population of study. Over the past several years there has been a great deal learned as to what factors increase the risk of maladjustment for children and adolescents. In essence, risk can be considered to be the flip side of protective factors.

It must also be noted that having a risk factor in one's life does not necessarily place one on a road to developmental failure. Risk factors interact with all other aspects of the environment, as well as personal characteristics of the individual. However, when risk factors accumulate, the chance of favorable outcomes is considerably reduced (Schorr & Schorr, 1988). For example, if a child has one risk factor, such as living in poverty, but this child experiences a supportive environment, such as having strong

parenting, the risk factor of poverty is no more likely to cause poor developmental outcomes than the child living in a risk-free environment (Garbarino, Dubrow, Kostelny, & Pardo 1991). Of note, Cicchetti and Garmezy (1993) caution researchers against assuming that there is no variation in experiences among individuals and outcomes. One must consider that individual experiences and outcomes are related to several factors in ones' life. For example, there is great variation among children who experience parental divorce depending on a complex set of factors (Grych & Fincham, 1997) or parental depression (Beardslee, Versage, & Galdstone, 1998). See Figure 3 for risk factors commonly found in the risk and resilience literature.

Figure 3: Risk Factors in Three Domains

INDIVIDUAL RISK FACTORS

Poor self-concept and low self-esteem (Brook, Whiteman, Balka, & Cohen, 1997; Lerner & Galambos, 1998; Werner, 1993)

Interpersonal inadequacy (Brook et al., 1997)

Troublesome attitude (Corbett & Petersilia, 1994)

Drug use (Brook et al., 1997; Lerner & Galambos, 1998)

Poor academic performance, poor school attendance, and continued involvement in risk behavior (Lerner & Galambos, 1998)

Inability to engage in socially competent behavior (Dodge et al., 1990; Walker & Steiber, 1998)

Depression or other psychiatric illnesses (Garmezy & et al., 1984)

FAMILY AND INTERPERSONAL RISK FACTORS

Negative life events, parental depression, parental physical symptoms and mother's avoidance coping strategies (Holahan & Moos; 1987)

Stressful life conditions (e.g., poverty), family conflict and instability, traumatic experience, insecure attachment and losses (Bowlby, 1988; Johnson, 1986; Rutter, 1985).

Poor expectations for education (Brook et al., 1997; Lerner & Galambos, 1998)

Poor parenting styles (Lerner & Galambos, 1998)

Low family cohesion (Blaske et al., 1989; Corbett & Petersilia, 1994; Davidson et al., 1987)

Relationships with peers who engage in risk behaviors (Blaske et al., 1989; Lerner & Galambos, 1998

Delinquency (Lipton & Werner, 1983).

Large number of siblings in the household (Corbett & Petersilia, 1994).

SCHOOL RISK FACTORS

Poor academic performance (Jessor, 1976; Sullivan & Farrell, 1999)

Drop out (Bachmann et al., 1971)

Poor school bonding (Thornberry et al., 1991).

Foundational Works

There are three key studies which essentially form the foundation of the present work that is conducted in the area of risk and resilience. These three longitudinal studies have provided us with empirical evidence of the phenomena of resilience: The Children of Kauai, Project Competence, and The Isle of Wight. All three of these longitudinal studies have demonstrated that, despite adverse circumstances, some individuals continued to demonstrate resilience.

The Children of Kauai. Coinciding with Garmezy and Neuchterlein's (1972) groundbreaking study examining resiliency in individuals who were later diagnosed with schizophrenia, a second key piece of work in this area was emerging in a study conducted by Emmy Werner beginning in 1955 in which 698 infants born in that year on the island of Kauai were assessed in multiple domains of functioning at ages 1, 2, 19, 18 and between 30-32 (for full description of the study see Werner 1989, 1990, 1993: Werner & Smith, 1982, 1992). One third of the sample was deemed to be at risk due to complications at birth, growing up in poverty, growing up with marital discord, family mental health issues and low levels of parental education. Within this "at-risk" group, 72 of them were deemed to be resilient at age 18. In conducting this longitudinal research, Werner noted that as the number of risk factors increased in the life of an individual, the more protective factors were needed both within the child themselves (e.g., easy going temperament, high self-esteem) and their environment to counterbalance the negative factors in order to remain on a path of healthy development. In addition, there were shifts over the course of development in that some individuals, when assessed, were resilient at one time point but later this same individual was not demonstrating resilience. Finally,

the most striking finding was that all adults deemed resilient cited the presence of at least one important adult who helped guide them along the developmental pathway.

Project Competence. Beginning in 1984, 205 children, from grades three to six, and their families were followed in order to understand the cumulative impact of stressors on various aspects of children's lives (Garmezy, Masten, & Tellegen,1984). Competence in children was assessed by teacher ratings, peer assessments, and school record data. Parents were interviewed at length about their family interactions and perspectives about their children. Findings from this study indicated that disadvantaged children with lower IQ, social economic status (SES) and less positive family qualities were overall less likely to demonstrate competence and more likely to exhibit disruptive behaviors in contrast to children who grew up in a more supportive environment. Despite this general finding, the striking aspect of this study was the finding that some of these children, despite being at a disadvantage, were demonstrating competence and not displaying behavior problems. Again, as in the "The Children in Kauai" study, a commonality among these children was the finding that they had adults in their lives to whom they felt connected and who supported them in their development.

Isle of Wight studies. In this longitudinal study, conducted by Michael Rutter and his colleagues, 125 children who lived on the Isle of Wight or in inner-city London were followed over a ten-year period (Rutter, Maughan, Mortimore, & Ouston, 1979). These children all had parents who were diagnosed with a mental illness. Using an interview approach, findings from this study indicated that, despite being raised by a parent with a mental illness, some of these children were able to develop in a relatively healthy manner. Rutter and his colleagues were struck by how these children managed to do well,

not develop mental illness themselves or exhibit acting out behavior. Rutter (1985, 1987), in an attempt to explain this phenomena, turned to the concept of resilience and suggested that resiliency can come about when an individual has a belief in his/her own self-efficacy, that is, the ability to deal with change and possesses a repertoire of social problem solving strategies. Rutter made a point to correct earlier misconceptions that resilience is synonomous with invulnerability but rather acknowledged that individuals who are resilient can be hurt however, these "resilient" individuals have an ability to bounce back from this hurt. Conversely, the term "invulnerability" implies that they are free from the possibility of being hurt or wounded. This is not the case. Furthermore, Rutter (1985) suggested that the ability to deal with stress in an effective manner and not allowing stress to impact so negatively on ones' life is relative and not an all or nothing experience. It is a result of both individual and environmental factors, not fixed in quantity, and is dependent on the context (e.g., school drop out, substance abuse).

The Legacy from Longitudinal Studies

Garmezy (1990) points out that the longitudinal studies on resilience allow us to have critical opportunities to see how resilience manifests itself over the lifespan, both in terms of the emergence of new vulnerabilities and strengths. Much can be learned from longitudinal work in the area of risk and resiliency that cannot otherwise be examined by taking a cross-sectional analysis, or a snapshot in time, of a given age group. Indeed, it will only be through longitudinal work that we may be able to eventually look at causal relationships between risk factors, protective factors and outcomes. In their longitudinal work, Werner (1989) and Werner and Smith (1982) were able to see that resilience manifests itself differently throughout development, with certain developmental periods

being more sensitive than others. For example, boys were more vulnerable in the first decade of life than girls, but this reversed itself in the second decade of life. However, in the third decade of life the pendulum swung back to boys being more vulnerable (Werner & Smith, 1982). This finding of the importance of considering resilience in a developmental context is supported by Masten and her colleagues (1990) who also noted the developmental differences in the children followed in Project Competence.

Hence, during the past three decades we have made great gains in untangling the factors that propel children toward or away from positive mental health. The knowledge of these factors is critical in order that the next step can be taken which is shifting from merely identifying protective factors to a more in depth understanding to examining the *processes* underlying these protective factors (Luthar, Cicchetti, & Becker, 2000). That is, to discover the processes that allow an individual who faces adversity ("at risk") to overcome the hardships and demonstrate good functioning ("resilience"). How do risk factors interact with protective factors to influence development? This is where the role of attachment has the potential to inform our understanding of risk and resiliency.

Attachment

Connection between human beings is paramount to our existence, is biologically rooted and crosses all cultures, genetic constitutions and individual experiences (Ainsworth, 1989). In infancy, human connection or attachments allow us to survive. Ainsworth (1972) defines attachment as "a mode of relating to a specific figure" and the difference between individuals are viewed in terms of " qualitative differences in the way attachment behaviors are organized, rather than differences in the strength of some generalized drive or trait" (p. 124). Attachment is therefore an affective bond, as opposed

to a relationship which is not necessarily characterized by attachment. Attachment is rooted in neurophysiological processes that occur between two individuals and is subject to developmental change due to genetic influence as well as sensitivity to the environment (Ainsworth, 1989). There are three behavioral/affective features that are believed to reflect attachment: proximity seeking, secure base effect, and separation protest. Proximity seeking is the degree to which the individual seeks out the attachment figure for emotional support and how able the attachment figure is able to understand the emotional needs of the other. Secure base is the knowledge that the attachment figure is available during exploration should he/she need the person. Finally, the third feature, separation protest, is the degree to which separation from the attachment figure produces anxiety and protest (Bowlby, 1969, 1982; Cassidy, 1999).

The Development of An Attachment

In early life, when an infant is distressed, attachment behaviors become activated and, in a secure attachment relationship, the distressed infant seeks out his/her attachment figure. This physical proximity is enough to end the attachment behaviors which were activated during a stressful situation, such as separation. A competent infant-mother pair can be characterized by the infant being able to secure that which he or she needs by influencing a responsive mother (Ainsworth & Bell, 1974). In a meta-analysis of 66 studies with more than 4000 families (De Wolff & van Ijzendoorn, 1997) it was found that what was critical in the establishment of secure attachment was not just the promptness of the caregiver in responding to her infant's distress but that this responsiveness was sensitive and met the infant's needs in that moment. The mother not only meets the physical needs of the baby but in doing so the infant/toddler is assisted in

developing emotional regulation skills. The caregiver stimulates emotions but also soothes the baby while he/she is experiencing these emotions of varying intensity. Over time, the child develops the ability to self-soothe, knowing that the caregiver is there as a secure base when he/she needs her/him (Sroufe, 1996). As we develop, these experiences of secure attachments allow us to grow and take risks with the knowledge that in the face of adversity, we have individuals to whom we can turn to should we need help managing the distress. This support is extremely powerful. For example, in severe trauma related to war or natural disasters, a child's response is heavily predicted by the child's proximity to the caregiver (Garmezy & Masten, 1994; Wright, Masten, Northwood, & Hubbard, 1997).

First attachments generally happen by the age of seven months and are with caregivers who have been the most involved with the infant (Watson, 1972). Although an infant generally forms attachments to more than one person, there is a hierarchy in that the infant prefers one primary attachment figure and this is to whom it will direct its' attachment behavior (Ainsworth, 1969; Bowlby, 1969, 1982). It is during this time that the infant begins to develop a sense of himself in connection with his caregiver(s). Based on the daily interactions, the infant forms the way in which he relates to others in the world, otherwise known as an internal working model. Verschueren, Marcoen, and Schoefs (1996) define the internal working model of the self as "a dynamic structure containing affectively charged cognitions about one's lovableness and worthiness" (p. 2493). The working model involves beliefs about the following: the degree to which the self is worthy of care and is competent in eliciting responsive care from others; the degree

to which significant others are able to meet security needs and expectations as to the emotional responses to attachment interactions.

An internal working model serves as a template for future relationships. This model allows the infant to feel a sense of continuity in terms how he is experienced in the world. For example, if an infant is, for the most part, consistently met with warmth and care, he/she comes to see himself/herself as loveable, worthy of care and that the adults around him will be there to provide that care. However, if an infant experiences his/her mother harboring suppressed anger, lacking tenderness in physical contact with the child and rejecting child-initiated attempts for interaction and closeness, the result will be the infant avoiding contact in times of stress in favor of suppressing feelings of distress so that the caregiver is not further alienated (Main & Weston, 1981). These internal working models operate, for the most part, at a preconscious level (Bowlby, 1980; Kobak & Sceery, 1988; Main, Kaplan, & Cassidy, 1985).

Continuity of Attachment Style

Based on early experiences of care, individuals develop an attachment style, either secure or insecure, that guides the interactions in other relationships through the lifespan. This attachment behavior continues throughout the whole lifespan moving from parents to friends and then romantic partners in adulthood (Furman & Buhrmeister, 1992; Shaver & Hazan, 1994) and has powerful implications for how a person functions in their day-to-day life. Attachment is correlated with social competence and interpersonal functioning (Allen & Ladd, 1999; Black & McCartney, 1997; Rice, 1990). In their work with adolescents, Zimmerman and Becker-Stoll (2002) and Ammaniti, van Ijzendoorn, Speranza, and Tambelli (2000) found that there is moderate stability in attachment style

over time. Indeed, unless there are changes in the environment in which an individual lives, attachment style appears to remain quite stable. More research is needed to ascertain whether and at what stage that attachment style becomes a stable trait versus a reflection of the dynamics in a given ongoing relationship (Allen & Land, 1999). However, Allen et al. (2004) suggest that attachment is somewhat stabilized by middle adolescence, even in at-risk individuals. Hamilton (1994), in a follow-up study of thirty seventeen-year-olds assessed as infants on the Strange Situation [1] found that 77% had the same classification at seventeen years of age as they did in infancy. Waters, Merrick, Albersheim, and Treboux, (1995) found a similar finding in their follow-up study of 50 Minnesota families in which 78% of young adults had the same classification as they had in infancy. Finally in a study conducted in Canada (Benoit & Parker, 1994), 75% had a match of attachment classification between infancy and early adulthood.

Attachment in Adolescence

In adolescence, the quality of attachment to caregivers can assist in healthy adjustment as adolescents navigate their way toward adulthood. Although the form of interactions and amount of time with caregivers is less than one would experience in infancy and childhood, this period of autonomy seeking (Erikson, 1968) is much smoother if the adolescent has a secure attachment with a caregiver (Bowlby, 1969, 1973,1980; Larsen, Richards, Moneta, & Holmbeck, 1996). One might then assume that a natural consequence of this search for identity is the decrease in attachment security felt by adolescents as they now try to find their own place in the world. This self-reported decrease in attachment security has been documented in the literature (Papini, Roggman, & Anderson, 1991). However, in contrast, later research (Lieberman, Doyle, &

Markiewicz, 1999) has found that only certain aspects of the attachment relationship change as an individual moves into adolescence, especially, the degree of physical proximity seeking. Due to emotional and cognitive development during this period, securely attached adolescents are better able to utilize their internal resources and their internal working model that have developed as a result of positive early attachment experiences rather than needing the physical presence of the parent in order to feel reassured and seen. Given a consistent environment, the quality of attachment that has been developed between the caregiver and the adolescent throughout infancy and childhood remains stable (Bowlby, 1980). Indeed, it is this attachment security that assists the adolescent in managing the emotions involved in balancing their desire to maintain a connection with the caregiver and the need for autonomy, particularly in times of conflict with the parent. When the adolescent feels that she/he has a caregiver who is emotionally available and supportive of the developmentally changing expectations that come with adolescence, greater autonomous self-regulation will be achieved (Grolnick & Ryan, 1989). This balancing act between autonomy and connection may be a stage-specific manifestation of the attachment relationship (Allen, Moore, & Kupermine, 1997).

By age 12-13, adolescents shift to spending more of their time with peers in contrast to parents (Fraley & Davis, 1997) and then at around age 14, there is a shift to spending more time with opposite-sex peers and the beginning of the formation of romantic relationships (Laursen & Williams, 1997). By age 17, the majority of securely attached adolescents tend to have a peer at the top of the attachment hierarchy rather than a parent (Bowlby, 1969, 1982; Weiss, 1991). Although parents continue to remain

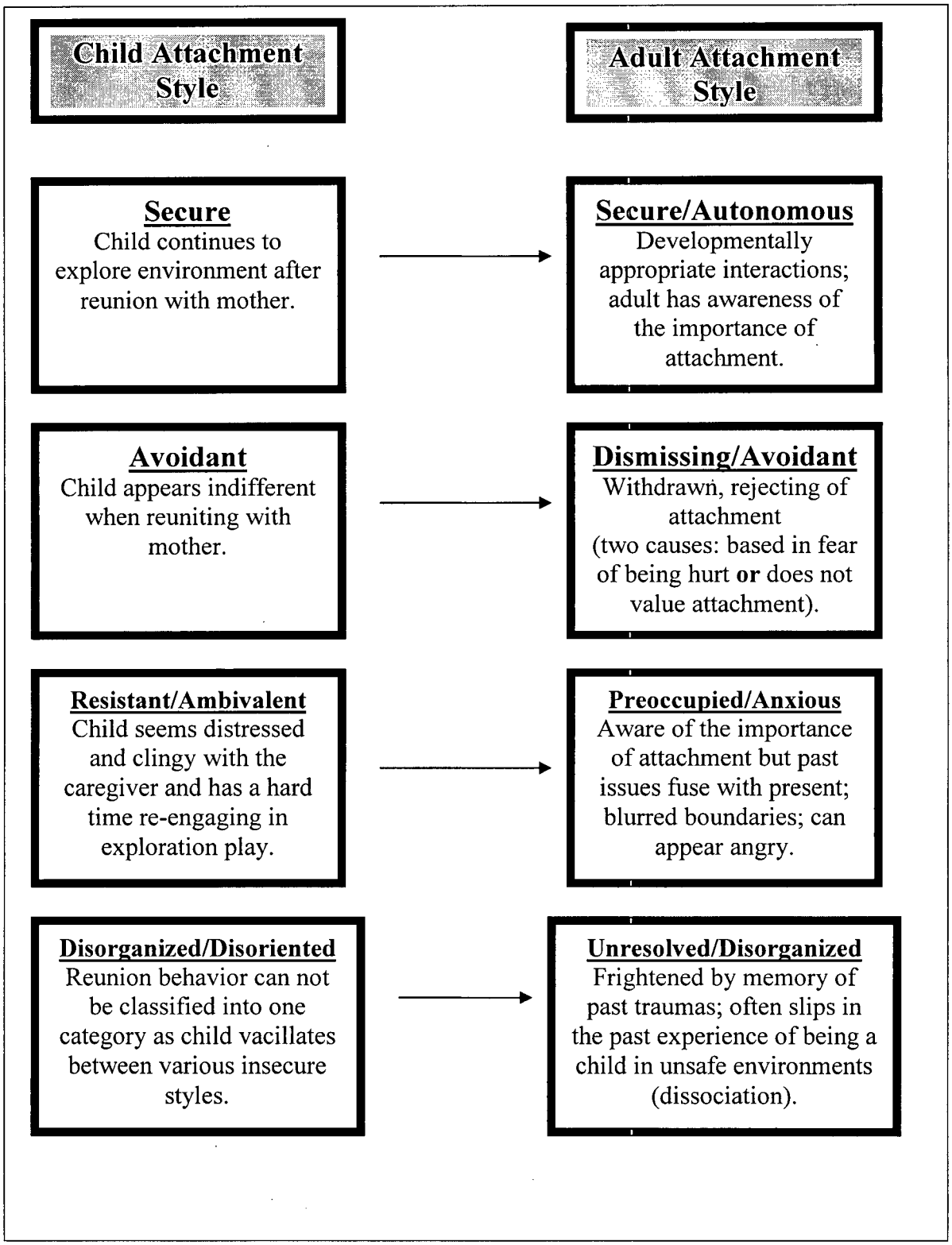
important as attachment figures, particularly mothers, the attachment with romantic partners during late adolescence and adulthood become the primary attachment figure in lieu of the primary caregiver. Buhrmeister (1996) found that by 12th grade, romantic partners were nominated as the most important in terms of attachment, followed by best friends, mothers, and fathers. However, in times of distress brought on by situations outside the day-to-day activities in which peers are turned to for support, older adolescents will still turn to parents (Savin-Williams & Berndt, 1990) and some researchers argue that there is no significant change from early to late adolescence as to how parents are utilized as attachment figures if the attachment is secure (Greenberg, Seigal, & Leitch, 1989; Ryan & Lynch, 1989). This supports the notion that peers and parents are complementary rather than in competition for securely attached adolescents.

Attachment Style Terms

There are two broad categories of attachment style: secure and insecure (Ainsworth, 1969; Bowlby, 1969, 1982). Secure attachment is a category within itself and is used for children, youth and adults. Within the category of insecure attachment, there are three categories: individuals who are avoidant or dismissive of attachment; individuals who are anxious or resistant/ambivalent about attachment and individuals who have a disorganized or disoriented attachment style in that they vacillate between different dimensions of insecure attachment. Figure 4 presents an overview of attachment styles and terms. Note that there are the child attachment style terms and the terms for adult attachment styles. The child attachment style descriptions describe the child's reaction after being reunited with the caregiver after a brief absence (Ainsworth & Bell, 1974). It is from these reactions in the reunion phase that attachment style can be

assessed. The adult attachment style terms are from the work of various researchers (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; George, Kaplan, & Main, 1985; 1996; Hazan & Shaver, 1987; Main & Goldwyn, 1994). In describing attachment during adolescence, researchers borrow terminology from the child and adult attachment literature. At the present time, there is no agreed upon set of terms for describing attachment style in adolescence in the literature. In many ways, this is not problematic in that from a developmental perspective, due to the variation in maturation rate of adolescents, two adolescents of the same age may be at very different stages of development (i.e., one who is more mature and beginning to seek out romantic partners and another who may be still more parent oriented or peer oriented). This wide variation is certainly highlighted in adolescents for whom atypical development is an issue. However, complications may arise in the use of adult measures to assess these styles in adolescents. This issue will receive further attention in an upcoming section of this dissertation. For the remaining sections of this paper, the terms anxious, avoidant and disorganized will be used to facilitate clarity in the review of the literature. Anxious and avoidant attachment are terms used by Moretti, McKay, and Holland (2000) in their measure of child and parent attachment which is the measure utilized in this study. The term "disorganized" is one of the child attachment style terms developed by Ainsworth, Blehar, Waters, and Wall (1977) and is used predominantly in the small body literature exploring this attachment style in adolescents.

Figure 4: Attachment Styles



Adolescents with a secure attachment have received minimal attention in the literature. What is found is that, late adolescents who are securely attached to parents and other significant individuals, are rated by their peers as less anxious, less hostile, and better able to regulate their feelings (Kobak & Sceery, 1988). These individuals are able to appreciate the positive and negatives attributes about themselves and have an organized self-structure (Mikulincer, 1995). In general, adolescents who report great attachment security with parents have better overall psychological adjustment (Cooper, Shaver, & Collins, 1998). This attachment security provides adolescents with the ability to cope better in times of stress and transitions.

In contrast, individuals who have one (in some cases two) of the insecure attachment styles have received more attention in the adolescent literature. At the present point in research, there is no firm model of developmental trajectories related to each insecure attachment style. However, there is evidence that failure to develop secure attachment in the early years can lead to various psychological difficulties over time (Bowlby, 1988; Kobak & Sceery, 1988). Many researchers (Fagot & Kavanagh, 1990; Goldberg, Perrotta, Minde, & Corter, 1986) have found that there is a greater likelihood of a child who is insecurely attached to develop mental health problems when that child lives in a high-risk context (e.g., poverty, minimal social support, parental psychopathology). Greenberg, Speltz, and DeKlyen (1993), in their work examining the onset of conduct problems, emphasize the need to consider attachment as one dimension that contributes to the later development of a disorder, with the other dimensions being high family adversity, ineffective parenting and atypical child characteristics. Such complexity of the child's life needs to be factored in for the development of trajectories.

There are also gender differences found among the insecure attachment styles, with males being classified as having higher rates of avoidant attachment and females having higher rates of anxious attachment (Rosenstein & Horowitz, 1996). Overall, adolescents classified as insecure are more likely than securely attached adolescents to engage in drug abuse (Allen & Hauser, 1996). In addition, insecure attachment (in particular to mothers) and attachment characterized by affectionless control and lack of care, is related to suicidality in adolescence and higher levels of psychopathology when compared to a general community sample (Violato & Arato, 2004).

Assessment and Classification of Attachment Styles

Researchers are becoming cognizant of the importance of distinguishing the developmental needs of adolescents as compared to children and adults. The area of attachment assessment for the period of middle childhood to mid-adolescence has seen the least amount of progress in the field (Greenberg, 1999). One need only to compare the number of measures designed for assessing attachment in young children and adults to the measures available for the middle childhood to mid-adolescent periods of development. Essentially, there are three kinds of assessment tools used in the assessment of attachment: interviews, parent/caregiver reports and self-reports. Most of these tools, with the exception of parent-reports, were designed for adult assessment but they are also used with older adolescents, for example, Hazan and Shaver's Romantic Attachment Scale; (Hazen & Shaver, 1987), Bartholomew's Attachment Interview and Self-Report Measure (Bartholomew & Horowitz, 1991) and the Adult Attachment Interview (George, Kaplan, & Main, 1985, 1996).

The potential problem for the use of measures designed for adults is that they are not developmentally calibrated to match the needs of adolescents. For example, a common assessment method for adults is having the individual report on their romantic relationships with their significant other with the understanding that how we relate to our significant other in a romantic relationship is deemed to be comparable to how we relate/related to parents (Hazan & Shaver, 1987). Because some adolescents are just beginning to have experiences in romantic relationships, the intimacy is not at a level that offers a true assessment of attachment style. Furman (1999) found that representations with mothers and fathers were inconsistently related to representations of romantic partners among adolescents. In addition, Griffin and Bartholomew (1994) noted that with the use of both their Attachment Interview and Self-Report Measure among adolescents, there was low internal consistency among adolescents. They suggested that their measures should be used in conjunction with other measures of attachment. The Adult Attachment Interview (George, Kaplan, & Main, 1985; 1996) has been modified for use among 16-25 year olds which speaks to the need to be developmentally sensitive during this period of later adolescence and emerging adulthood.

Currently there are two measures specifically designed for adolescents ages 12-18: The Inventory of Parent and Peer Attachment (IPPA) and the Comprehensive Adolescent-Parent Attachment Inventory (CAPAI). The Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) is a 75 item self-report measure that assesses degree of trust, quality of communication, degree or anger and alienation in relation to mother, father and peers. This measure has relatively high reliability and predictive validity. A more recently developed measure is the Comprehensive Adolescent-Parent

Attachment Inventory (CAPAI; Moretti, McKay, & Holland, 2000). This measure is based on an adaptation of an adult measure of attachment in adult romantic relationships (Brennan, Clark, & Shaver, 1996). The CAPAI is a 56 item measure which is comprised of two higher order subscales: attachment anxiety and attachment avoidance. The measure is completed in relation to the primary caregiver. There are 12 additional subscales: insecure attachment to attachment figure, separation anxiety, self-reliance, discomfort with closeness, anger at attachment figure, uncertainty about feelings for attachment figure, discomfort with dependence, lack of trust in attachment figure, low lovability/relational self-esteem, repellent desire to merge with attachment figure, tough independence and fear of abandonment. Attachment anxiety relates to the feelings of insecurity about not feeling close to parents accompanied by a low level of self-sufficiency and attachment avoidance refers to the devaluing and dismissing need for a close relationship with a parent (McKay & Moretti, 2001). The two higher order scales have been found to have good internal reliability and a factor structure that is consistent with Brennan, Clark and Shaver's (1996; 1998) original measure. There are two versions of this measure: one for adolescent self-report and the other for parental report. For the purposes of this study, the CAPAI was chosen because 1) it is the only measure designed to assess attachment style (avoidant and anxious) in an adolescent sample and 2) it has evidence supporting its' reliability and validity.

The following section outlines the literature related to the three different subtypes of insecure attachment and our current understanding of the implications that each attachment style has for psychological well- being.

Avoidant attachment. Adolescents who have an avoidant attachment style are characterized by poor communication and trust. They feel disconnected from others, particularly their primary attachment figure (Doyle & Moretti, 2000). As a result, they use distancing strategies as a way to minimize emotional stress (Dozier, Lomax, Tyrrell, & Lee, 2001), in particular the avoidance of emotional awareness (Voss, 2000). The cost of these strategies is the absence of close relationships in their lives. They do manage to buffer themselves from feelings of rejection by creating a self-structure that only acknowledges positive self-attributes (Mikulincer, 1995). As a result of downplaying the importance of relationships and avoiding the experiencing of emotions, Adam et al. (1996) found that among adolescents who are avoidant of attachment, suicidal ideation was minimal. This was particularly true for boys. Individuals who utilize an avoidant attachment style have significant problems interacting with others and the use of aggression has been found to be higher among these children and adolescents as compared to other attachment styles. The most researched developmental trajectory has been the link between an avoidant attachment style and the development of antisocial/ disruptive behavior disorders (Renken, Egeland, Marvinney, Mangeldorf, & Sroufe, 1989; Speltz, Greenberg, & DeKlyen, 1991). Main and Weston (1981) found that avoidant attachment in infancy predicts negativity, noncompliance and hyperactivity at 3.5 years of age in addition to higher ratings of overall problem behavior in grade three. These children were found to be more hostile and confrontational with their mothers compared to children with other attachment styles.

Overall, individuals with avoidant attachment have been shown to have higher rates of antisocial, narcissistic, paranoid personality disorders (Rosenstein & Horowitz,

1996) as well as greater criminal behavior and drug use (Allen et. al., 1996) when compared to anxiously attached individuals. Rosenstein and Horowitz (1996) found that, an association between disorders in which affect is contained and symptomatic expression is manifested by negative acts towards others, is often associated with avoidant attachment. For example, in the case of children and adolescents diagnosed with conduct disorder or narcissistic personality disorder. Even when rated by their peers, adolescents with avoidant attachment are seen as more hostile (Bartholomew & Horowitz, 1991) particularly in regard to the use of instrumental aggression (McElwain, Cox, Burchinal, & MacFie, 2003). Finally, Finzi, Ram, Har-Even, Shnit, and Wiezman (2001) found in a small study, examining attachment style among physically abused and neglected children, that children who were physically abused were significantly more likely to be characterized by an avoidant attachment style as compared to other attachment styles.

Although links between avoidant attachment and subsequent outcomes has been a primary focus in the research, there is some evidence that these children also display internalizing problems. For individuals with avoidant attachment, their attachment strategy which carries over from infancy, is to downplay the importance of relationships by minimizing distressing thoughts and feelings associated with their attachment figure who has been rejecting toward them. Rather than acting out against others, they can act out towards themselves. For example, there is an association between avoidant attachment and eating disorders, an internalizing disorder (Cole-Detke & Kobak, 1996).

Recently, Griffin and Bartholemew (1994), in their work with older adolescents and young adults, have suggested that there may be two distinct categories of the

avoidant attachment. One subcategory reflects avoidant attachment that stems from not valuing relationships with others (avoidant-dismissing). The second subcategory (fearful-avoidant) are those individuals who avoid attachment, not because they do not want connection and dismiss the importance of it, but rather they are fearful of being hurt in relationships and it is this fear of being hurt that underlies the avoidance. Individuals who are fearful-avoidant of attachment often feel a great deal of anxiety and personal inadequacy (Griffin & Bartholomew, 1994). There is a struggle in coping with stress as result of the excessive use of self-criticism and withdrawl from others (Voss, 2001). In adulthood, individuals who have a fearful-avoidant attachment style are socially inhibited, lack assertiveness skills and are easily exploited by others (Bartholomew & Horowitz, 1991). These two subtypes of avoidant attachment will require greater study in order to fully understand the differences in developmental trajectories.

Anxious attachment. Compared to individuals who are avoidant of attachment, anxiously attached adolescents and adults are thought to be at greater risk for maladjustment (Cooper et al., 1998). The work looking at the psychological implications among individuals who have this attachment style is beginning to emerge and to date the work that has been done shows that there an association among anxious attachment, loneliness (Berlin, Cassidy, & Belsky, 1995) and peer victimization due to withdrawal behavior (Renken et al., 1989). They demonstrate less attention and pretend play during exploration as toddlers (McElwain et al., 2003). These children also demonstrate less competence, poorer emotional health, less self-confidence, and poorer social skills when compared to securely attached children (Elicker, Englund, & Sroufe, 1992). In short, they have positive views of others and negative views of themselves. Specifically, they rate

themselves as less competent and are seen by peers as more anxious (Kobak & Sceery, 1988). Despite a desire to have peer relationships, children and adolescents who have been classified as having an anxious attachment style are less peer-oriented and are lower in status among their peers as they struggle with self-worth.

As a result of the inconsistency of the attachment figure meeting their emotional needs, children with an anxious attachment style will often maximize the attachment system by expressing distress in pronounced ways in the hope to get their needs met (Rosenstein & Horowitz, 1996). In general, they are much more adult-oriented and emotionally dependent on the adults around them (Erikson, Sroufe, & Egeland, 1985; Renken et al., 1989). When attempts at getting their emotional needs met are unsuccessful, these individuals become more distressed. The inability to tolerate this distress leads them toward the use of emotional avoidance. Repeated experiences of failures to have needs met can strengthen the use of emotion avoidance as this serves as a way of managing their 'hyperactivated" attachment system (Voss, 2000). These repeated failures to have emotional needs met has been examined in a small study of physically abused and neglected children. It was found that children who were neglected (as opposed to physically abused or both) were more likely to be characterized by an anxious attachment style (Finzi, Ram, Har-Even, Shnit, & Wiezman, 2001).

Individuals with an anxious attachment style who attempt to address experienced distress (i.e., by feeling their feelings rather than avoiding) have difficulty regulating their affect, and direct symptomatic behavior toward the self can result, as is the case in depression or anxiety disorders (Patrick, Hobson, Castle, Howard, & Maughan, 1994). Consistent with this notion, there is evidence that individuals with anxious attachment are

at increased risk for dysthymia and anxiety along with fear of rejection from others (Allen et al., 2003; Rosenstein & Horowitz, 1996) as well as suicidal ideation (Lessard & Moretti, 1998). Females classified as anxiously attached have been found to be at increased risk for depression (Cole-Detke & Kobak, 1996) as well as borderline personality disorder (Patrick, Hobson, Castle, Howard, & Maughan, 1994). As adults, individuals with a preoccupied attachment style continue to have poor self-structure with little differentiation and continue to experience significant difficulties regulating distress (Mikulincer, 1995).

Disorganized attachment. Infants, children, and adolescents who are identified as possessing a disorganized attachment style have experienced inconsistent care such that their emotional needs were not met. These children often experienced rejection and may have experienced abuse (van Ijzendoorn, Schuengel, & Bakermaus, 1999). They are thought to be at greatest risk for mental health difficulties when compared to the other two insecure attachment styles: anxious and avoidant. The first longitudinal study of disorganized attachment style children conducted by Ward and Carlson (1995), using Egeland and Sroufe's 1975 Minnesota poverty sample, highlights this risk. In this study, infants who were classified as disorganized, when followed up at 17 years of age, displayed higher levels of disruptive-aggressive school behavior as compared to adolescents with other insecure attachment styles. Indeed, 71% – 87 % (depending on the study) of students with disruptive behavior problems had a history of disorganized attachment (Lyons-Ruth, Alpern, & Repacholi, 1993). These individuals showed more coercive and controlling behavior as they developed during the period of toddlerhood to

early childhood (Lyons-Ruth et al., 1991). Estimates of disorganized-disoriented attachment may be as high as 77% among maltreated children (van Ijzendoorn, 1999).

Further to this, Liotti (1992) and Carlson (1995) found that these infants with disorganized attachment were at increased risk for dissociative disorders as they developed. Under stress, individuals with disorganized attachment saw others as potential threats and shifted between social withdrawal and defensively aggressive behavior, making it very difficult to respond appropriately to others (Jacobite & Hazen, 1999). Attachment disorganization in infancy has been shown to predict controlling attachment strategies through age six even in low risk samples (Main, Kaplan, & Cassidy, 1985; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994). Over time, using such controlling attachment strategies can lead to development of Borderline personality disorder (Rosenstein & Horowitz, 1996).

This lack of consistency of attachment behavior as a result of inconsistent early caregiving often spurs the development of a secondary attachment style. For example, for a child who grows up in a home in which the main caregiver struggles with alcohol dependence, the parent might relate very differently to the child when drinking as opposed to being sober. Hence, the child may develop different ways of being with that parent depending on whether the parent has been drinking. It is this secondary attachment style that often differentiates the form of psychopathology that the individual suffers from in order to cope with stress. This combination of attachment styles paints a more complex picture in terms of potential maladjustment.

Adam, Sheldon-Keller, and West (1996) found that many adolescents who had a disorganized attachment style also displayed an anxious attachment style. This was true

for both males and females. Moreover, those individuals who displayed both a disorganized and anxious attachment style, especially females, were at a much greater risk for suicidal ideation. Indeed, 79% of participants classified as having an anxious and disorganized attachment style had unresolved issues around traumatic attachment experiences. Thus, there may be a strong link between anxious attachment and disorganized attachment. These individuals would be best described as anxiously attached; continually worried about their close relationships, and responding quickly to relational threat with anger, anxiety and/or care-eliciting behavior (Bowlby, 1973).

In summary, the attachment process begins in infancy with primary caregivers and has been found to be the key to our existence. The infant's experience of caregiving in an emotionally connected way or, conversely, of not being taken care of, shapes the attachment style of the infant. Attachment has been found to be quite stable throughout the life span but can be influenced by other experiences in the course of development. Although the manifestation of attachment behaviors changes form in adolescence, attachment is equally influential for healthy development during adolescence as it is for early childhood.

There are two broad categories of attachment: secure and insecure. Among the three subcategories in the insecure category (avoidant, anxious and disorganized) disorganized attachment has been found to have the most negative impact on psychological well-being although each of these forms of insecure attachment styles have been linked to various mental health problems.

Parent Versus Peer Attachment

Greenberg, Siegel, and Leitch (1983) found that both parental and peer attachment were significant predictors of self-esteem and life satisfaction in adolescents aged 12-19, however, parental attachment was found to be significantly more important than peer attachment in predicting well-being. Other research has found that adolescents who did not have a secure attachment to their parents were more likely to try to use their peers to fulfill their attachment needs to whatever degree possible (Nickerson & Nagle, 2005). Freeman and Brown (2001) found that insecure adolescents are more likely to nominate a best friend or boyfriend/girlfriend as their primary attachment or in the case of one third, they nominated themselves as their attachment figure whereas securely attached adolescents nominated a parent, most often the mother.

Recent interesting work examining the influence of both parental and peer attachment sheds some light on the importance of both influences in an adolescent's life. Although this is an emerging area of research with some conflicting findings, it points to a direction worthy of further exploration in the future given what we know about the importance of peer relationships. In developing the Inventory of Parental and Peer Attachment (IPPA), Armsden and Greenberg (1987) found that both self-esteem and life satisfaction were equally related to parental attachment and peer attachment was more highly related to self-esteem. Conversely, Noom, Dekovic, and Meeus (1999) found in a study of 400 adolescents that maternal and paternal attachments were more strongly correlated with self-esteem than was peer attachment and although the authors did not find that self-esteem could be predicted by peer attachment, depression could be predicted. In a study involving 935 adolescents Shyamala, McGee, and Stanton (1992)

found that self-reports of perceived parental attachment was a more important predictor than perceived peer attachment when considering overall psychological health in that those adolescents who reported more secure attachment to parents had overall better mental health than those who reported less secure attachment to parents. Shyamala et al. (1992) also found that adolescents who reported high levels of secure attachment to peers and low levels of secure attachment to parents had poorer overall well-being. Thus, high levels of peer attachment did not compensate for low levels of attachment to parents. However, there was some evidence that positive attachment to both parents and peers is necessary for the development of positive self-esteem in adolescence. Finally, in a series of three studies examining the role of parental and peer attachment on self-esteem (Wilkinson, 2004; Wilkinson & Walford, 2001), parental and peer attachment were found to be not in direct competition but rather both work together to influence psychological health through self-esteem, which acted as a mediator and is directly influenced by both parent and peer attachment. Thus, the optimal situation is having a secure attachment to a caregiver in order that secure attachments can be made with peers which, affects overall well-being.

In short, studies have demonstrated that parental attachment is a key force in an adolescent's well-being. Hence, the attachment that an adolescent has with a primary caregiver becomes a template for other relationships. However, attachments to peers also matter and are influenced by prior attachments to parents. Adolescents who do not feel that they have a safe haven to go back to in times of crisis and who feel that connections with others are rife with anguish, will be less likely to have satisfying peer relationships during adolescence. In addition, given the number of hours that adolescents spend in

school and away from parents, those peer relationships have the power to assist in building up the positive experiences in youth or, conversely of adding to the other disappointing experiences that a particular youth may have in relationships with others.

What about those adolescents who show a discontinuity in attachment over the course of their development? With this developmental period comes opportunity to revaluate past attachment experiences as adolescents gain in autonomy, perspective-taking skills and have new relationships experiences (Allen & Land, 1999; Bowlby, 1988). When there are stressors around specific developmental tasks that tax the affect regulation system, such as threats to autonomy seeking, relatedness and competence (Allen & Hauser; 1996; Bowlby, 1973, 1980; Ryan & Deci, 2000) attachment security can decline in adolescence when support is not readily available from caregivers.

Allen, McElhaney, Kuperminc, and Jodi (2004) examined adolescent attachment security over a two-year period, from ages 16 to 18. Their findings indicate that that although substantial stability was found among these adolescents, declines in attachment security could be predicted by adolescents' enmeshed, overpersonalizing behavior with their mothers, depressive symptoms, and poverty status. These stressors all have the capacity for overwhelming affect regulation and coupled with the inability of parents to soothe the adolescent, a decline in security can be predicted over time. On the flipside, an increase in security can be experienced if parents are able to soothe and support their adolescent (Allen et al., 2004). A cross –sectional study found that if adolescents are able to use the parent as a secure base as they go through the interactions with others in their day, attachment security can be enhanced (Allen et al., 2003).

From the vast amount of research that has been conducted in the area of attachment, it can clearly be seen that the ability to form meaningful, emotionally responsive relationships based on mutual respect is key to the overall well-being of individuals. Although there is a tendency to focus on the early years as the basis for attachment style, there is some evidence to suggest that attachment style may be malleable under certain circumstances. An attachment style that allows youth to utilize relationships in a growth promoting way has a tremendous impact on their everyday present experience as well as later experiences. It is this possibility that opens the doors for hope for children and youth who have considerable risk factors in their lives but are able to draw from the experiences of secure attachment in the past or risk trusting competent adults in the present in order to shift their attachment style. For youth who are already at risk, the question becomes, does attachment play a role in fostering resiliency? Can the ability to form relationships with others assist in mitigating the impact of a life of considerable adversity?

Adolescents and Significant Relationships with Adults

"The best documented fact in the extensive U.S. literature on youth is the importance of social bonding between a young person and an adult. . . Consistency, caring, encouragement, and maintenance of contact through childhood and adolescence are all important factors." (Dryfoos, p. 39, 1998). In the study of childhood risk and resiliency, the critical importance of a "significant adult" in the lives of at risk children in staving off the deleterious effects of poverty and other individual and environmental risk factors, was first brought to the forefront in Werner's longitudinal research (Werner & Smith, 1992). Since that time, the importance of having at least one significant adult as a

means for fostering resiliency among children and youth identified as "at risk" has become a well documented phenomenon (Garmezy & Masten, 1986; Luthar, 2003; Noam & Herrman, 2002; Werner, 1995). As can be surmised from the literature reviewed, earlier research findings are in accord in suggesting that this "significant" adult need not be a parent or relative. We know that the parent-child relationship is paramount in the development of a child. However, among those children for whom family experiences are inadequate (e.g., parental psychopathology, insecure attachment, mental health issues) there is a need to draw support from other "non-related" adults across several contexts, including school and community.

Resilient youth are particularly adept at being able to choose and identify with resilient models and adults who can offer support (Murphy & Moriarty, 1976; Pines, 1984). Werner and Smith (1982) found that resilient youth tend to use the support of informal social networks (e.g., peers, older friends, church related adults, adults in youth organizations and sometimes teachers) rather than professional help. The majority of early adolescents, when asked via an open-ended questionnaire to list people who are important to them, listed a non-related adult. It was found that these non-related adults who were named were seen or spoken to frequently in several contexts in the adolescent's daily lives (Blyth, Hill, & Smith Thiel, 1982). In addition, there have been a small number of studies in which children have been asked to identify sources of support, inspiration and positive influences. In these studies, resilient individuals identified teacher, clergy, grandparents, older siblings, aunts, uncles, coaches, youth group leaders, school counselors, babysitters, and neighbours (Beardslee & Podorefsky, 1988; Garmezy, 1985; Losel, 1994; Werner & Smith, 1982, 1992).

Grossman and Tierney (1998) found that children who were victims of childhood adversity and were able to identify at least one caring adult from their past demonstrated higher academic achievement, less substance abuse, less violent behavior, better relationships with peers and parents and better school attendance as compared to those children who could not identify a caring adult in their life. Other studies have added to the positive outcomes of having at least one caring adult. Among these outcomes are: higher levels of self-understanding (Beardslee et al., 1988); better psychological adjustment (Rhodes, Ebert, & Fisher, 1992); fewer conduct disorders, better coping skills (Rutter, 1972); more positive self-image and heightened interpersonal skills (Sarason, Pierce, & Sarason, 1990), better adjustment and coping with ADHD (Hechtman, 1991) and overall improvement in psychological well-being, level of functioning and quality of life when compared to their counterparts (Werner & Smith, 1992).

Ryan and Stiller (1991) argue that the degree to which the internalization of practices and values occur is highly influenced by the quality of the relationship that the child or adolescent has with the adult. If the relationship is of high quality characterized by warmth and care, the child is more likely to see the values and practices as his/her own volition. Ryan (1993) suggested that secure relatedness to adults is associated with a higher degree of self-confidence.

Finally, in the largest, most comprehensive survey of 90,118 adolescents conducted by researchers at the University of Minnesota, Resnick and colleagues (1997) found evidence that perceived caring and connectedness to others had an impact on adolescent health. Specifically, adolescents who felt connected to their parents were better protected against adverse emotional health, violence, substance abuse and risky

sexual behaviors than those adolescents who report feeling less connected to their parents. Of particular note, there was only one school variable that protected adolescents from adverse health outcomes and that was a feeling of connectedness to school, in particular schools that fostered a climate in which students felt that they are fairly treated, felt close to others and part of the school (Blum & Rinehart, 1997).

Adolescence: A Key Turning Point

The entry to adolescence begins with the onset of physiologically normal puberty and comes to an end when adult identity and behavior are accepted. In broad terms, this period is from ages 10 to 19 years of age (Canadian Paediatric Society, 2003). Adolescence is a distinct period in which individuals who are at risk either follow an adaptive or maladaptive path (Holmbeck & Kendall, 2002). Although the systematic study of pathways that includes examining the dynamic processes between the environment and the person are just at the beginning point of being studied, anecdotal evidence suggests that important decisions are made at turning points in people's lives (e.g., Werner & Smith, 1982). For example, an individual may find a mentor or an adolescent may leave a deviant peer group. Scarr and McCartney (1983) found that youth may put themselves in a healthier context, therefore increasing the likelihood of better opportunities, such as the opportunity to find a mentor. They term this change as "niche seeking."

Besides infancy, adolescence is the only other period where the greatest amount of physical, cognitive and emotional growth occurs. It is a transitional time or a "turning point" in development, and provides a window for potential positive growth. Neurologically, turning points are representations of inner disorganization, incohesion

and discontinuity of brain activity. The task of critical turning points is to achieve reintegration, which will influence the healthy development of the adolescent (Siegel, 1999). Indeed, most adolescents do not experience major turmoil but rather proceed through this stage in a reasonable way and confront the inevitable stress that results with the new challenges that must be faced (Czikszentimihalyi & Larson, 1984; Offer, 1987). However, it is the group of youth who experience turmoil who are most worrisome. If the distress is high in adolescence, there will likely be further difficulties as they develop (e.g., Hamburg & Takanishi, 1989).

If one has positive forces in life that can assist in confronting the developmental tasks of adolescence, this period can be much smoother. Rutter (1987) states " many vulnerability and protective processes concern key turning points in people's lives, and rather than long-standing attributes or experiences as such" (p. 318). In early adolescence, development of personality and individuation is more optimal when significant adults maintain a connection rather than detach during this period (Blatt & Blass, 1990; Ryan & Lynch, 1989). This requires both the adolescent and the adult to revisit their relationship in light of the shifting needs of the adolescent. In addition, the transition to high school offers the challenge of adjusting to a setting in which an adolescent must interact with several teachers, face increased academic demands, along with increased social pressure. It is under this pressure that the vulnerabilities of youth come to the forefront.

Beardslee, Bemporad, Keller, and Klerman (1983) conducted a literature review on children who are at risk for compromised development as a result of major affective disorders of their parents. They found that early infancy and adolescence were the periods

of greatest vulnerability for these children. If adequate supports were not in place, dropping out of high school became a real possibility. Rumberger (1987) from a study of over 20,000 students, found that students who dropped out of school were more likely to not like school, not get along with teachers and be failing academic subjects. One fourth of all female dropouts cited becoming pregnant or giving birth as a reason for dropping out of school. Approximately ten percent of students were expelled. Just under twenty percent cited getting a job as the reason for dropping out. The underlying theme in all these findings was that students left school as a result of feeling alienated, unsuccessful and unsupported in schools. This need for support to adapt to life's challenges brings to light the importance of adolescents having access to and support from caring adults. The presence of caring adults is only part of the equation. The adolescent's willingness to form relationships with the adults is the other necessary part to the equation. The role of attachment is key in this process of being able to form meaningful relationships with others.

Models of Risk and Resiliency

There are four current models of resiliency: the compensatory model (Sugland, Zaslow, & Winquist-Nord, 1993), two forms of protective models: the risk-protective model (Brook, Brook, Gordon, & Whiteman, & Cohen, 1990) and the protective-protective model (Brook et al., 1990) and the challenge model (Garmezy, Masten, & Tellegen, 1984; Masten et al., 1988, & Rutter, 1985). The challenge and protective-protective models are described briefly below. Following is a more detailed discussion of the compensatory and protective-protective model. These models are discussed more

fully because they are the models addressed in the present study, following the work of Zimmerman, Bingenheimer and Notaro (2002).

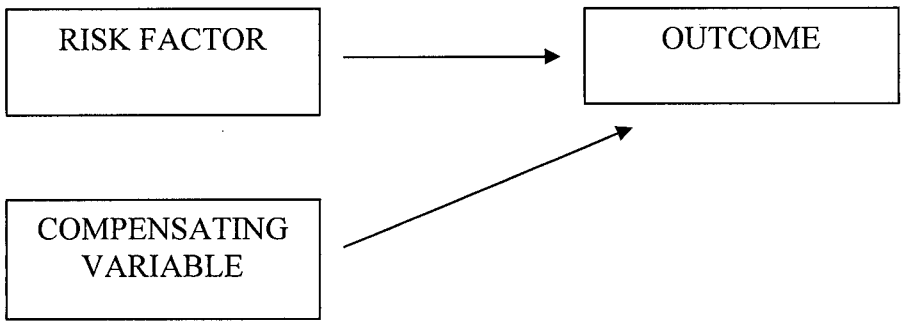
Challenge model. This model proposes a curvilinear relationship between risk and outcome. The theory underlying this model is that, by dealing with small amounts of risk, one develops the capacity to cope more effectively with life's challenges (Rutter, 1987). Alternatively, if one experiences no challenges in the course of development to adulthood, but finally confronts a negative situation, the internal resources to cope may not be present as there existed no opportunities to develop these important skills. Hence, some risk or stress is optimal for development. Conversely, too much risk can exceed an individual's capacity to develop effective coping skills (Werner, 1989).

Protective-protective model. The protective-protective model differs by emphasizing the additive effect of the protective factors. For example, the child with depression will be more likely to have good outcomes if he/she has a caring relationship with an adult and does well in school. Not all of the protective factors operate directly on the risk factors but many will have an indirect effect which can add to the strength of a positive outcome. For example, in study of 121 Native American youth, Zimmerman, Ramirez, Washienko, Walker, and Dyer (1994) found that youth who reported higher levels of cultural identity and self-esteem reported lower levels of alcohol consumption compared to youth who reported only having higher levels of cultural identity.

Compensatory model. In this model, risk factors and protective factors combine additively to predict outcomes. Each variable is considered individually and has a direct impact on the outcome (Sugland, Zaslow, & Winquist-Nord, 1993) but not the risk factor per se. In other words, the positive factors in ones' life may counteract or neutralize the

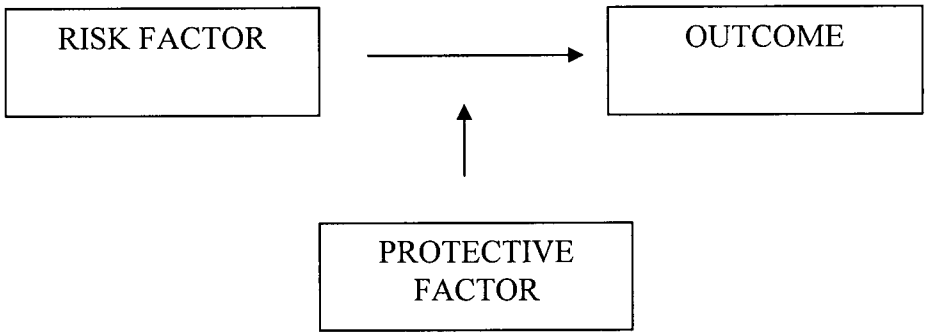
impact of risk factors (Zimmerman, Bingenheimer, & Notaro, 2002). For example, if an adolescent does not have a parent who is able to provide emotional support (perhaps insecure attachment) but this adolescent is involved in sports and has a warm relationship with a coach, the caring that the coach gives to the adolescent may *compensate* for lack of support from the parent.

Figure 5: Compensatory Model of Resiliency (Zimmerman & Arunkumar, 1994)



Risk-protective model. This is an interactive model in which the outcomes are dependent on the interaction between the protective factors and the risk factors. (The protective does not act as a mediator or moderator). Werner and Smith (1992) suggest that the risk and protective factors can be seen as a balancing act. If the necessary protective factors are present, the risk factors may not have a negative impact on the person or the negative impact may be ameliorated. For example, if an adolescent is at risk for the dropping out of school, this risk (dropping out of school) may be reduced by having a caring relationship with a teacher who engages the adolescent in learning (protective factor) so that dropping out (outcome) does not occur.

Figure 6: Risk-Protective Model of Resiliency (Zimmerman & Arunkumar, 1994)



Operationalizing Risk

Defining risk is a complex task and as a result there have been several different approaches to defining this term such as the use of socio-economic measures, the number of life events, community trauma, low birth weight, divorce, and cumulative risk calculations that combine these various indices (Masten, 2001). Risk for developmental challenges at one point in life often set the stage for later problems in a wider variety of areas. For example, poverty can have long reaching negative effects in several areas of development. This concept is reflected in the idea of a "risk gradient" (Masten, 2001). The processes involved in risk gradients are not completely understood due to the complexity of studying processes in human development and the practical reality that in order to do this, one needs to take a longitudinal approach which is quite costly and time-consuming.

One must grapple with the dominant approach of equating risk with membership in a specific group (e.g., low socioeconomic status, maternal psychopathology). Although this approach is common in the medical field, one can argue that membership in a group can not necessarily by itself be equated with an adolescent being at risk for poor

developmental outcomes. This tendency to label individuals as "at-risk" as a result of group membership constitutes "guilt by association" and does not take into account differences that exist within all groups (Catterall, 1998). Researchers have used various methods and appear to continually struggle with the issue of operationalizing what it means to be "at risk." For example, in Smokowski et al. (1998), living in a single parent household with an unemployed parent, eligible for free lunch subsidy; and the presence of an average of five family-structure risk factors in childhood and four during adolescence were the criteria for designating an adolescent as "at risk."

Many key researchers in this area have advocated for the use of Uncontrollable Life Events Checklist as a way to operationalize risk because this method reduces the confounds with other outcome variables (Garmezy et al., 1984; Gersten, Langner, Eisenberg, & Simcha-Fagen, 1977; Masten et at., 1988; Masten, Garmezy, Tellegen, Pellegrini, Larkin, & Larsen, 1988). For example, parental divorce is an adverse life event whereas poor family functioning is an ongoing risk factor that can also be seen as an outcome variable. Furthermore, it is important not to confound some events that are controllable by the child with the functioning of the child (e.g., school failure). Tiet et al. (1998) used a score of two or more events on the adverse life events checklist as an indication of risk status. In research conducted by Cowen et al. (1997) and Wyman et al. (1999) the endorsement of four or more chronic and uncontrollable life events was the criteria for being at risk as well as the scores on screening measures examining behavioral competence. Luthar (1991) in her research on risk and resiliency has used both controllable and uncontrollable events as indicators of risk. However, she differentiates between the two groups of events and acknowledges that uncontrollable events are less

likely to be confounded with outcome measures of adjustment. Seifer and Sameroff (1987) have noted that, in reality, there is no set criterion by which one chooses a variable to be a risk, protective or outcome variable.

Given the challenges outlined above in being able to effectively categorize individuals into "resilient" and "at-risk" and the complexity of human nature and development, the proposed study will draw heavily upon criteria used by prominent researchers in the field and attempt to consider the most salient variables in specifying risk studies.

For this study, an adverse life events checklist was used to categorize "risk" status given strong evidence that life stress plays a key role in the adjustment of children and adolescents (Monroe & Peterman, 1988). This method has been utilized in many studies as there has been a strong link found between stressful life events and increased risk to healthy development (Buckner, Mezzacappa, & Beardslee, 2003; Gest, Reed, & Masten, 1999; Holahan & Moos, 1987; Masten et al., 1988, 1994; Pryor-Brown & Cowen, 1989; Steinhausen & Winkler Metzke, 2001; Tiet et al, 1998). Stress was operationalized using a count of only uncontrollable events. Following notable experts in the field (i.e., Luthar, 1993; Masten et al., 1988, and Tiet et al., 1998) participants were considered to be "at risk" if they endorsed four or more events on a list of 38 uncontrollable life events. An uncontrollable event was defined as an event that is "virtually beyond the control of the average young adolescent, whereas controllable events were defined as at least somewhat controllable" (Swearingen & Cohen, p. 1050, 1985). This can be seen as a conservative approach as the range in the literature in the use of adverse events checklist is the

endorsement of two to four events (Magnus, Cowen, Wyman, Fagen, & Work, 1999; Tiet et al., 1998).

Operationalizing Resilience

Just as there are challenges with defining risk, so too are there challenges with defining resilience. Many developmental researchers have used the criteria of classifying someone as resilient when that person has met and succeeded in key developmental milestones, or salient developmental tasks, met competence criteria or cultural age expectations in developmental and life-span theory (Elder, 1998; Masten & Coatsworth, 1995, 1998; Waters & Sroufe, 1983). Others, particularly in the world of prevention science, have defined resiliency as the absence or low level of psychopathology rather that the presence of certain protective or resource factors (Conrad & Hamman, 1993; Tiet et al., 1998). Finally, others opt for the use of both of the above methods in combination (Felner, Brand, DuBois, Adan, & Mulhall, 1995; Greenberg, Lengua, Coie, & Pinderhughes, 1999). Further to this is the question of whether to use measures that only assess external functioning or whether to include measure of psychological well being Luthar, 1999; Luthar et al., 2000; Masten, 1999). Researchers have used both approaches depending on their criteria for their study.

As Luthar et al. (2000) points out, there is no distinct method in terms of cut off scores at present for determining resilience. The use of the top tertile or quartile can be and has been used. However one must consider the nature of the stressor. For example, if the stressor is severe or catastrophic (e.g., Gest, Reed, & Masten, 1999; Masten et al., 1999) exhibiting near average functioning would suffice for a person to be considered resilient, whereas if the stressor is in the moderate range, one could be more stringent in

terms of the criteria needed to be considered resilient (Luthar et al., 2000). Decisions about where the cut off should be is determined by what the researcher wants to focus on: evasion of problems or clear cut competence (Robinson, 2000). However, some definitions are very narrow and fail to take into account variable outcomes. Rutter (1993) gives the example of some studies that have emotional well-being as an indicator of resiliency yet other studies have stated that development of depression is the price of resiliency (Luthar, 1991).

Many studies have based criteria for labeling a child as resilient solely on the basis of school-based competence (Smokowski et al., 1999) whereas others have included it with other outcome measures (Garmezy, Masten, & Tellegen, 1984; Luthar, 1993; Masten et al., 1990). Using school based competence as the only measure to operationalize resilience has had substantial problems as many youth who were demonstrating competence at school have found to have other negative outcomes such as emotional problems (Luthar, 1993; Luthar, Doernberger, & Zigler, 1993). Researchers must make it clear that competence in one area does not mean that an individual has competence in all areas (Cicchetti & Garmezy, 1993; Luthar, 1993). This recommendation has led some researchers to distinguish the area of resilience, such as, educational resilience, social resilience (Wang et al., 1994).

Many researchers have argued that a solid assessment of overall functioning is social competence, which taps into several aspects of ones' functioning (Masterpasqua, 1989; Waters & Sroufe, 1983). Cowen et al. (1997) criteria's for a child classified as "stress- resilient" was being in the top tertile of the sample on self-rated adjustment; perceived competence; realistic control; empathy; social problem solving and IQ as

compared to "stress-affected" children who were in the bottom tertile. These components, although central to personal well-being, are key in being socially competent. In a longitudinal study by Masten et al. (1999) scores on academic achievement, rule abiding (conduct) behavior and social competence served as the outcome measures. What Masten and her colleagues have found is that although the measures were different given the developmental age of the children, the construct of conduct yielded high continuity over time and that academic and social competence yielded moderate coherence over time.

Purpose of the Study

The purpose of this study was 1) to examine whether attachment fit the compensatory and/or risk- protective model of resiliency. Specifically, to examine the relation of attachment style (i.e., attachment avoidant, attachment anxiety) to dimensions of resiliency (i.e., self-efficacy, optimism, relationships with peers, relationships with adults, low levels of externalizing behavior problems, number of very important adults in an adolescents life and self-reported grades). In this vein, both the compensatory and the risk-protective models of resiliency were tested. 2) to examine the differences between stress-affected adolescents and stress-resilient adolescents on the following resiliency dimensions: optimism, self-efficacy, relationships with peers, relationships with adults, number of important relationships with adults, self-reported grades, attachment anxiety and attachment avoidance.

Research Design

In order to address the overall purpose of the study, surveys were administered to adolescents attending an inner city school. Following the work of Zimmerman, Bingenheimer, and Notaro (2002), analyses were conducted to assess whether attachment

fit the compensatory and/or risk-protective model. Specifically, the question posed was: Are those adolescents with lower levels of attachment avoidance or attachment anxiety able to have better functioning on the examined dimensions of resiliency? There were two stages of data analysis. In the first stage, a series of hierarchical linear regressions were conducted. In each of these regressions, one of the resiliency dimensions was used as an outcome variable for a total of seven hierarchical linear regressions. In each regression, age and gender were controlled (held constant) by entering them both in the first step. In the second step, stress (uncontrollable life events) was entered. In the third step attachment avoidance and attachment anxiety were entered. If in this third step, the R^2 change was significant (i.e., if the additional amount of variance explained by adding attachment avoidance and attachment anxiety to the model is significant) then attachment was deemed to fit the compensatory model of resiliency (i.e., in terms of that particular outcome variable, and in the face of stress, lower levels of attachment avoidance and/or attachment anxiety played a significant role in fostering resiliency). Finally, in the fourth step, a cross-product interaction term between stress and attachment avoidance and also stress and attachment anxiety was entered. In this step, if the R^2 change was significant, then attachment met the risk-protective model of resiliency. In this case, attachment protected one from stress as opposed to the compensatory model in which attachment could compensate for high levels of stress. Furthermore, by use of the Pratt index, it was possible to examine whether attachment avoidance or attachment anxiety had a greater influence on the outcome variable or if both played an equal role.

Next, in order to examine differences between stress-resilient and stress-affected adolescents, the original sample of 94 was screened. All adolescents who had four or

more life events were considered "at-risk." There were 75 students who met the criteria of having four of more uncontrollable negative life events. From this group of 75, those who were half a standard deviation above the mean on the Achenbach externalizing behavior measures were considered "stress-affected" and those who were half a standard deviation below the mean were considered "stress-resilient." There were 19 students who were considered "stress-resilient" and 26 students who were considered "stress-affected." These two groups were then compared on the following dimensions: optimism, self-efficacy, relationships with peers, relationships with adults, number of important relationships with adults, self-reported grades, attachment anxiety and attachment avoidance. In the first analysis, the two groups were compared on the combined subscales (MANOVA) of a Resiliency Inventory (optimism, self-efficacy, relationships with adults and relationships with peers). Then each of the aforementioned variables was examined separately, through an ANOVA, in order to detect differences between the two groups for each separate dimension of the Resiliency Inventory. Next, the two groups were compared for the differences on the combined scales of attachment avoidance and attachment anxiety, via a MANOVA, followed by a comparison between groups of each subscale, via an ANOVA.

Hypotheses

In order to meet the purposes of this study based on the previous literature in the area (Werner & Smith, 1992; Masten, 1999; Zimmerman, Bingenheimer, & Notaro, 2002) the following hypotheses were proposed:

1) No specific hypotheses were proposed concerning whether attachment has a compensatory or protective role in fostering the examined dimensions of

resiliency. However, it is hypothesized that lower levels of attachment avoidance or attachment anxiety (hence more secure attachment) will serve at least one of the functions (either compensatory or protective).

2) Avoidant attachment will have a greater negative impact on dimensions of resiliency as compared to attachment anxiety, in particular those dimensions of connectedness with others and externalizing behavior problems.

3) There will be significant differences between stress-affected and stress-resilient adolescents on dimensions for resiliency, with stress-resilient adolescents demonstrating higher levels of positive functioning when compared to stress-affected adolescents.

Methodology

Participants

Ninety-four adolescents (n = 43 boys, n = 51 girls) from one urban inner city high school located in a large Western Canadian city, participated in this study. Ages of participants ranged from 15.02 to 19.03 years (M = 16.33 years, SD = .814 months). Participants were drawn from a mandatory course required for graduation that focused on career and personal planning.[2] Given that the focus of this study was on discerning resiliency in the face of adversity, the school in which participants were recruited was chosen because it was located in one of the lowest SES areas with the highest levels of developmental vulnerability [3] in the province. Demographic information for participants is presented in Table 1. As can be seen in Table 1, the majority of participants in the study described their race/ethnicity as Asian, came from two parent families, and had mothers who had completed high school. All students in this sample had a sufficient level of English in order to complete the battery of measures. Active parental consent was obtained for all participants. In addition all participants provided student assent. Participants in this study were representative of the area from which the sample was drawn. Permission slips were given to 254 students. Ninety-five of those students who received the slips received parental consent to participate and gave their own assent to participate thereby resulting in a participation rate of 37% . This participation rate is in accord to rates found with other studies of high risk adolescents. For instance, in a study of risk and protective factors among ninth graders in a lower middle class population, Grossman et al. (1992) found that out of the eligible participants (N = 643), 32% received parental consent, 19% were refused parental consent, 32% had parental consent but

themselves declined to participate and 17% did not return the consent form. Similarly, in a study of inner city children, Magnus et al. (1999) had a consent rate of 31.7%.

Measures

Demographic information (Appendix A). In order to obtain demographic information about the participants, students completed a demographics questionnaire asking them about their age, race/ethnicity, housing situation, parental level of education, family composition, and first language learned in the home (See Table 1).

Table 1

Demographic Characteristics of Participants

Demographic	Percent	*n*
Racial Background		
White (Anglo, Caucasian, European descent, etc.)	9.6	(*n* = 9)
Latin (Spanish, Mexican, South American, Portuguese, etc.)	1.1	(*n* = 1)
Black (African, Haitian, Jamaican, Caribbean, etc.)	2.1	(*n* = 2)
Aboriginal/Native People (Metis, Inuit, etc.)	5.3	(*n* = 5)
Asian (Chinese, Japanese, Korean, Vietnamese, Taiwanese, etc.)	64.9	(*n* =61)
South Asian (Indian, Indonesian, Pakistani, etc.)	2.1	(*n*=2)
Middle Eastern (Arabic, Iranian, Kuwaiti, Persian, etc.)	4.3	(*n* = 4)
Mixed (more than one racial or ethnic background)	10.6	(*n* = 10)
Family Parental Composition		
Mother and father	62	(*n* = 58)
Mother only	27	(*n* = 25)
Half time with mom and half time with dad	2	(*n* = 2)
Mother and grandmother	2	(*n* = 2)
Father only	2	(*n* = 2)
One biological parent and one stepparent	2	(*n* = 2)
Other (e.g., foster home, sibling)	3	(*n* = 3)
Mother's Level of Education		
Some high school	23.4	(*n* = 22)
High school completion	29.8	(*n* = 28)
College	17	(*n* = 16)
University	6.4	(*n* = 6)
Don't know	23.4	(*n* = 22)
Father's Level of Education		
Some high school	19.1	(*n* = 18)
High school completion	21.3	(*n* = 20)
College	21.3	(*n* = 20)
University	8.5	(*n* = 8)
Don't know	29.8	(*n* = 28)
Housing Situation		
House	50	(*n* = 47)
Apartment	33	(*n* = 31)
Basement Suite	6.4	(*n* = 6)
Other (townhouse, duplex, co-op)	10.6	(*n* = 10)
First language learned at home		
English	29.8	(*n* = 28)
Chinese	47.9	(*n* = 45)
Vietnamese	5.3	(*n* = 5)
Other	17	(*n* = 16)

Adapted adverse events checklist (Appendix B). To assess stressful life events, students completed a modified version of a measure developed by Tiet and others (1998). Other authors have similarly adapted two or more checklist to best tap various stressors. Munsch and Wampler (1993) adapted four checklists in order to evaluate stressful life events their study, asking students about eleven school events (10 negative and one positive). The measure used in this study was comprised of a list of 25 uncontrollable adverse life events (e.g., death of a family member, parents divorced, parent jailed). Tiet et al. (1998) found that there existed a negative relationship between adverse life events and psychological well-being at any level of adversity, thus providing support for the validity of this scale.

There has been much empirical support for the use of life events checklists as a means to measure stress in adolescents. The greater the number of events endorsed by the adolescent, the higher the correlations with various negative outcomes (Gad & Johnson, 1980; Johnson & McCutcheon 1980; Tiet et al., 1998) See Appendix B for a complete overview of the present measure items and their origin.

In the current study, the Tiet et al. (1998) measure was modified by adding eight uncontrollable life event items from the Junior High Life Experiences Survey (JHLES; Swearingen & Cohen, 1985b) and five uncontrollable life event items developed by the author. The five items added by this author addressed losses of adult relationships that would be considered important to the adolescent and address social support by adults, such as "a close adult friend died." The eight items selected from the JHLES included stressful life events not included on Tiet et al.'s measure that were considered to be

particularly important for individuals during adolescence, such as "your boyfriend/girlfriend broke up with you."

The final measure was comprised of 38 items for which participants were asked to endorse if the event had happened to them in the last year and/or in their lifetime. Student responses were then summed to create a total count of all endorsed events (events that occurred in the past year and events that occurred in their lifetime). The total possible scores ranged from 0 to 76, with higher scores indicating more uncontrollable life events having occurred to the adolescent thus higher levels of life stresses. In the current sample, the scores ranged from 0 to 23. Participants were also provided with additional space on the questionnaire to include any stressful life events that they had experienced that were not included in the list of stressful life events. None of the participants added additional items. In the present sample, the four most frequently endorsed items were: "someone in the family dies (other than a parent)" (n = 55), "you started a new school" (n = 40), "your family moved" (n = 38), and "parents worried about having enough money" (n = 33).

Resiliency inventory (Appendix C). To assess various dimensions of resiliency, the Resiliency Inventory (RI: Noam & Goldstein, 1998; Song, 2003) was utilized. For the present study, the short form of the original 75-item measure was utilized. The original measure was developed by Noam and Goldstein (1998) in collaboration with the members of the Laboratory of Developmental Psychology and Psychopathology at McLean Hospital, Harvard Medical School, and Harvard Graduate School of Education. Song (2003) created the shorter version of 44 items from the longer form for her doctoral dissertation at Harvard University under the direction of Dr. Gil Noam. This 44-item

version was tested on a Korean population with the goal of having a measure that would tap into areas of resilience that cut across cultures.

The RI was designed to assess six dimensions of resilience: *optimism* (e.g., "I think that life will get worse in the future," reverse scored), *self-efficacy* (e.g., "There are lots of things that I am good at"), *relationships with adults* (e.g., "I discuss problems I have with adults."), *relationships with peers* ("I get along well with my friends"), *interpersonal sensitivity* ("People say that understand them very well."), and *emotional control* (e.g., "Even little things make me upset.") Students were asked to rate each item on a five point Likert-type scale (1 = "not at all like me," 2 = "a little bit like me," 3 = "kind of like me," 4 = "a lot like me," 5 = "always like me"). Scores could range from 1 to 5, with higher scores reflecting higher levels of resiliency. In her 2003 thesis, Song reported Cronbach's alphas as follows: optimism, α = .81, self-efficacy, α = .77, relationships with adults, α = .74, peer relationships, α = .81, interpersonal sensitivity, α = .65, emotional control, α = .61 and the total score, α = .89. In test-retest reliability that was conducted over a three week interval, the correlations were as follows: optimism, .81, self-efficacy, .59, relationships with adults, .74, relationships with peers, .69, interpersonal sensitivity, .57 emotional control, .65 and total score, .81.

In terms of validity, RI scores had statistically significant positive correlations with scores on measures of psychological health (Rosenberg Self-esteem Scale, Locus of Control Scale) as well as social support measures (parental support, teacher support and friend support) and as expected scores on the RI had statistically significant negative correlations with scores on the Beck Hopelessness Scale (Song, 2003).

For criterion validity, three areas of teacher reports were examined: academic achievement, emotional stability, and sociability. In addition four areas using a self report measure were also examined: depression, social withdrawal, deviance, and aggression. Again as expected, correlations were in the expected direction reflecting good criterion validity (Song, 2003).

In the present sample, reliability, as assessed via Cronbach's alpha, was adequate for four of the six subscales: optimism, α = .73, self-efficacy, α = .73, relationships with adults, α = .76, peer relationships, α = .81, interpersonal sensitivity, α = .64, and emotional control, α = .39. Following the recommendation put forth by Steiner and Norman (1989) the use of measurement scales with alphas lower than α = .7 should be avoided and in line with this recommendation the subscales of interpersonal sensitivity and emotional control were not used in further analyzes. In the present sample the range of scores for the four subscales that were used in the analysis are as follows: optimism, 2.11 to 4.78 (M = 3.59, SD = .58); self-efficacy, 2.5 to 4.75 (M = 3.51, SD = .54); relationships with adults, 1.88 to 4.88 (M = 3.24, SD = .70) and relationships with peers, 2.29 to 5.00 (M = 4.06, SD = .61).

Circle of support (Appendix D). Adults perceived as being important to the adolescent was assessed via the *Circle of Support measure* (Antonucci, 1986). Based on an adult convoy mapping procedure, youth were asked to write in the inner circle of a concentric circle diagram "people who are the most close and important to you." The middle circle included, "people who are not quite as close but who are still important." The outer circle included, "people who are not as close as the others, but who are still

important." In addition to writing in the names of the individuals, students were asked to write in the relationship that person has to them (e.g., parent, teacher, mentor).

A total count of all adults listed in each circle was calculated for statistical analysis purposes and in this study, the total number count of adults listed in the first circle was used, that is "people who are the most important and close to you." The number of people in the first circle of support, in the present sample, ranged from 0 adults to 12 adults.

In studies conducted by Rowe and Carnelly (2005), it was found that this measure was very sensitive to measurement of important relationships and that it was highly correlated with attachment style as measured by the Close Relationships Questionnaire (Brennan, Clark, & Shaver, 1998). Securely attached individuals were able to list more people and the placement of these people was closer to the centre, adults with an avoidant attachment style listed fewer individuals and placed them further away from the centre and anxiously attached individuals were between the secure and avoidant groups in their reports. These two studies replicated earlier findings (Chappell & Davis, 1998; Pietromonaco & Carnelley, 1994).

Relational and attachment quality (Appendix E). Attachment anxiety and attachment avoidance were assessed by two higher order subscales of the The Comprehensive Adolescent-Parent Attachment Inventory (CAPAI; Moretti, McKay & Holland, 2000). This scale contains a total of 56 items, 36 of which address Attachment Anxiety and Attachment Avoidance (18 items in each scale)[4]. Students were asked to rate each item on a seven point Likert-type scale (1 = "disagree a lot"; 2 = "disagree somewhat"; 3 = "disagree a little"; 4 = "neutral"; 5 = "agree a little"; 6 = "agree

somewhat"; 7 = "strongly agree"). Scores can range from 1 to 7 with higher scores on the subscale indicating higher levels of attachment avoidance or attachment anxiety. In the current sample, the scores on the subscale of attachment avoidance ranged from 1.17 to 6.41 ($M = 3.64$, $SD = 1.19$). On the subscales of attachment anxiety, scores ranged from 1.33 to 5.00 ($M = 2.90$, $SD = .81$). A preliminary validation (McKay et al., 2001) of this measure, on the two higher order subscales, demonstrated support for the validity of the CAPAI in discriminating between clinical and non-clinical samples. In addition the authors reported good internal reliability and factor structure. The Cronbach's alpha for the avoidance dimension was .94 for both clinical and non-clinical samples and the Alpha coefficient for the anxiety dimension was $\alpha = .92$ and $\alpha = .83$ for the clinical and non-clinical samples respectively. Non-clinical youth reported significantly lower levels of avoidance and anxiety than clinical samples. As well, there was a significant positive relationship between youth and parent reported anxiety scores and internalizing symptoms and between youths' anxiety scores and externalizing symptoms (McKay et al., 2001).

Externalizing behavior problems (Appendix F). Externalizing behavior problems were assessed using three subscales with a total of 37 questions from the Achenbach Youth Self Report (YSR; Achenbach, 1991). The YSR is a standardized instrument designed to assess behavioral competencies and problems in youth who are 11 to 18 years of age. The problem scale of the YSR includes items that tap into eight problem areas (withdrawal, somatic, anxious/depressed, rule breaking behavior, aggressive behavior, social problems, thought problems and attention problems). For this study, three subscales were utilized: 17 items that assess aggressive behavior (e.g., "I destroy my own

things."), 9 items that assess attention problems (e.g., "I daydream a lot.") and 11 items that assess rule-breaking behavior (e.g., "I lie or cheat."). Adolescents were asked to respond to each item using a 0 to 2 scoring choice (0 = not true, 1 = somewhat true or sometimes true, 2= very true or often true). Higher scores reflect more difficulties with externalizing behavior problems. These three subscales were combined to yield a total problem scale score, reflecting a level of externalizing behavior problems. In the present sample, scores on the total problem scale ranged from .02 to 1.14 (M =.5, SD = .23).

The YSR has been used extensively in research and clinical settings and documentation is provided in the manual (see Achenbach & Dumenci, 2001). Regarding reliability, Cronbach's alphas for clinically referred and normative samples were both α = .95 for the overall measure score. Test-retest reliabilities over a 7-day period were α = .70 in a sample of 11-to-14 year olds and α = .91 for 15-to-18 year olds. In terms of concurrent validity, when compared with pre-1991 counterpart YSR scales, correlations ranged from .80 to .90. In the present sample internal consistency was assessed via Cronbach's alpha and is as follows: attention problems α = .70, rule breaking behavior α = .71 and aggressive behavior α = .76 and the overall total problem scale (three subscales together) α = .84.

Academic achievement. Overall grades were obtained from student self-reports on the demographics questionnaire. Students were asked to report the grades that they usually receive in school. Seven options were provided: mostly A's, A's and B's, mostly B's, Bs and Cs, mostly Cs, Cs and lower, and less than Cs. Each letter corresponded with a numeric value with "less than C's" given the value of 1 and "A's" given the value of 7. Higher scores indicated higher self-reported grades. In this sample, the self reported

grades ranged from 1 to 7 (M =5.0, SD = 1.32) The method of self reported grades is argued as being close enough for research and practical purposes (Cassady, 2001).

Procedures

Prior to commencing data collection, approval was obtained from both the University Behavioral Research Ethics Board as well as from the school district in which the study took place. The principal of the school where the data was collected was approached regarding whether or not he would be willing to ask teachers to allow their classes to participate. All contacts were made by this investigator. Initially, a letter was given to teachers (see Appendix G) of a specific subject area which the principal felt may be able to accommodate the time to participate in the research. One of the vice principals became the main contact and arranged times for this investigator to come in and explain the study to each of the nine classrooms in which the teachers agreed to participate. This investigator visited each classroom, explained the study, answered any questions that arose and gave each student a parental consent (see Appendix H) form to take home as well as a student recruitment letter (see Appendix I). As an incentive, students who returned signed consent forms (regardless of willingness to participate or not) were eligible to be entered into a draw for a chance to win one of ten - $25 gift certificates for a local music store. Surveys were administered over a three-week period to coincide with the class schedule. Students who did not have consent to participate or who did not return a permission slip worked on ongoing class assignments or did another quiet activity of their choosing.

At the beginning of the survey session, this investigator explained the consent process once again and students were asked to sign an assent form (see Appendix J)

indicating that they were comfortable proceeding with the survey. Students were then given a survey package with a cover sheet that was read to them (see Appendix K). Students completed the demographics section under the guidance of this investigator who read all items out loud and answered any questions from the students as they arose. In addition, one other trained graduate student was always present to circulate and assist with any questions and ensure completeness of surveys.

After completing the demographics page, this investigator gave an overview of the survey, pointing out the different rating scales. Students were told that they could work at their own pace while this investigator and another graduate student circulated to answer any questions students had throughout the course of completing the survey. Students took from 30 to 50 minutes to complete the survey.

As students completed their survey, they alerted one of the researchers in order that the survey could be checked for completeness. Students then worked on classwork until the end of the period. In the survey package, there was a form that students could fill out should they wish to see a counselor at the school (see Appendix L) with the knowledge that this investigator would pass on any names of students to the counselor who requested this service.

Figure 7: Overview of Measures Used in the Study

Background: Demographics Questionnaire

Attachment: The Comprehensive Adolescent-Parent Attachment Inventory (CAPAI; Moretti, McKay, & Holland, 2000)

Stressful Life Events: Adapted Adverse Events checklist (Junior High Life Experiences Survey (JHLES; Swearingen & Cohen, 1985; Tiet et al. 1998)

Resiliency Dimensions

Resiliency Inventory (RI: Noam & Goldstein, 1998; Song, 2003)
- Optimism
- Self-efficacy
- Relationships with peers
- Relationships with adults

Achenbach Youth Self Report (YSR; Achenbach, 1991)
- rule-breaking,
- aggression
- inattention

The Circle of Support measure (Antonucci, 1986)
- number of very important adults in adolescent's life

Self Reported Grades

Results

The results of this study are presented in four sections. The first section describes the preliminary analyses used to screen the data prior to conducting the main statistical analyses. The second section presents the results of the correlational analyses examining relations between dimensions of resiliency, anxiety of attachment, avoidance of attachment, number of identified supportive adults in the first circle, externalizing behavior problems (Achenbach subscales for rule breaking behavior, aggression and attention problems), number of uncontrollable life events, grades, and gender. The third section presents the results of regression analyses testing for compensatory versus protective effects of attachment on several dimensions of resiliency, namely grades, externalizing behaviors, optimism, relationships with adults, relationships with peers, self-efficacy and the number of adults identified as being very important to the adolescent. Specifically, are those adolescents with lower levels of attachment avoidance or attachment anxiety able to have better functioning on the examined dimensions of resiliency? Finally, the fourth section compares two groups of adolescents, those who are demonstrating at-risk behavior and those who are demonstrating resilient behavior.

Section One: Preliminary Analyses

Prior to statistical analysis, the data were examined using the procedure outlined by Tabachnick and Fidell (2001) for screening data. Using SPSS, frequencies were utilized in order to look at accuracy of data entry and missing values. In cases in which there was missing data, subscales were calculated based on the average of the remaining endorsed items. In the entire data set, there were less than ten missing responses and at no time were there more than two missing answers in a subscale measure.

Using SPSS graphs, the distribution of the data for each variable was examined as were the minimum and maximum values and the means and standard deviations to ensure that the data presented a realistic picture. Skewness and kurtosis were examined to identify any abnormalities (Tabachnick & Fidell, 2001). All variables were found to be acceptable with skewness and kurtosis indices with acceptable parameters as outlines by Miles and Shevlin (2001). Table 2 includes the means, standard deviations, skewness, and kurtosis for all measures used in the study survey instrument.

Table 2

Means, Standard Deviations, Skewness and Kurtosis for All Measured Variables

Variable	*M*	*SD*	Skewness*	Kurtosis**
Resiliency Inventory Subscales				
Interpersonal sensitivity	3.60	.55	.18	.03
Optimism	3.59	.58	-.29	-.50
Self-efficacy	3.49	.54	.01	-.43
Relationships with adults	3.24	.70	.09	-.53
Relationships with peers	4.06	.61	-.62	.12
Total Achenbach score	.50	.23	.38	.02
Rule breaking behavior	.40	.28	.68	-.20
Aggression	.434	.26	.77	.40
Attention problems	.65	.35	.45	.37
Anxiety of Attachment	2.90	.81	.10	-.53
Avoidance of Attachment	3.64	1.19	.01	-.64
Adults in first circle	3.12	2.10	1.54	3.34
Uncontrollable life events	8.67	4.93	.45	-.05
Self-reported grades	3.04	1.32	.41	-.32

Note. * Standard error of Skewness on all measures = .25
** Standard error of Kurtosis on all measures = .49

The data were also examined for univariate outliers, using boxplots and histograms. Minimal numbers of outliers were found and were kept in the data set as they were marginally outliers and posed no overall threat to the integrity of the data set. Using Mahalanobis Distance, data was screened for multivariate outliers (Tabachnick & Fidell, 2001). In SPSS regression, the Mahalanobis Distance was calculated by using the case identification number as the dummy dependant variable, with age, gender, number of uncontrollable life events, anxiety of attachment, and avoidance of attachment as the independent variables. Outliers were indicated by a Mahalanobis Distance that was significant at $p < .001$ level. The Mahalanobis distance (distance of an individual case from the centroid based on the sample at hand) was calculated as chi-square with degrees of freedom equal to the number of observed variables in the hypothesized model (Tabachnick & Fidell, 2001). In this study, there were five independent variables for the regression analysis, and thus the chi-square critical value at $p < .001$ was 20.52. Therefore, if a D2 for a single case exceeded the value of 20.52 it was considered a multivariate outlier. In this data set, there were no cases that were considered outliers, as the minimum value was 1.196 and the maximum value was 18.91.

Leverage values were examined in SPSS using the following as independent variables: age, gender, total number of uncontrollable life events, anxiety of attachment, and avoidance of attachment. Dependent variables included: grades, Achenbach externalizing score, optimism, relationships with adults, relationships with peers, self-efficacy and the number of identified supportive adults in the first circle. Huber (1981) outlines the following criteria when considering the appropriateness of leverage values: less than .20 is considered safe; between .20 and .50 is considered risky and values above

.50 should be avoided. With the five independent variables, the minimum leverage value was .013 and the maximum value was .20, thereby considered in the safe range. Assessment of leverage values is important because leverage values identifies any variables that are extreme outliers. These extreme outliers may exert undue influence on the data set thus yielding results that are not necessarily truly reflective of the sample.

Data were screened graphically in order to examine the degree to which the data met the assumptions of linearity and equality of variances (homoscedasticity). Scatterplots were created from SPSS graphs in which the standardized residuals were plotted against the standardized predicted values (Tabachnick & Fidell, 2001). All scatterplots were examined and appeared acceptable in that there were no disturbing fan or curved shape patterns. Thus, assumptions for linearity and homoscedasticity of residuals had been satisfied.

Finally, multicollinearity was examined by using SPSS and obtaining the Tolerance and variance inflation factor (VIF) values for the five independent variables in the model. Miles and Shevlin (2001) recommend that VIF scores under 4 are sufficient and in this data set, all values were all around 1, and therefore multicollinearity was not a concern. Table 8 presents the VIF and Tolerance values for all the dependent variables.

Initial analyses were conducted to determine if there was a significant difference between boys and girls on the dependent variables: grades, YSR externalizing score, optimism, relationships with adults, relationships with peers, self-efficacy and number of adults in the first circle. The only significant difference for gender was found on the Achenbach externalizing score, $F(1,92) = 7.54$, $p = .007$, with girls indicating higher levels of externalizing behavior problems ($M = .56$, $SD = .21$) as compared to boys (M

=.43, *SD* = .23). Next, differences between grade ten and eleven students were examined. There were two grade twelve students in the sample but these two students were taken out of the between groups analyses due to such a small number. There were significant differences between grade ten and eleven students on self reported academic grades, $F(1, 90) = 6.78$, $p = .011$, with grade ten students reporting higher grades ($M = 5.3$, $SD = 1.13$) as compared to grade eleven students ($M = 4.7$, $SD = 1.35$).

Table 3

Multicollinearity Diagnostics for all Measured Variables

Variable	Tolerance	VIF
Attachment avoidance	.91	1.10
Attachment anxiety	.93	1.08
Uncontrollable life events	.87	1.16
Age	.89	1.12
Gender	.89	1.13

Section Two: Correlational Analyses

The purpose of this section is to present the results of correlational analyses among the following variables used in the study: age, YSR externalizing subscale, number of uncontrollable life events, number of identified important adults in the first circle, attachment avoidance, attachment anxiety, optimism, relationships with adults, relationships with peers, and self-efficacy. Pearson product-moment correlations were calculated in order to examine the relations among the various measures utilized (see Table 4).

Table 4

Intercorrelations Among All Measures Used in the Study

	1	2	3	4	5	6	7	8	9	10	11
1 age											
2 number of adverse life events	.18										
3 attachment avoidance	.18	.11									
4 attachment anxiety	-.07	.10	.23*								
5 self-reported grades	- .26*	- .22*	.11	- .07							
6 externalizing behavior issues	.15	.37**	.33**	.21*	-.29**						
7 optimism	-.08	-.07	-.36**	-.36**	.12	-.35**					
8 relationships with adults	-.22*	.06	-.56**	-.09	.16	-.28**	.30**				
9 relationships with peers	-.06	.17	-.09	-.27**	- .02	.06	.41**	.16			
10 self – efficacy	.07	.05	-.24*	-.34**	.24*	-.20	.56**	.42**	.37**		
11 number of close adults in life	-.14	.05	-.31**	-.19	.10	-.18	.14	.46*	.05	.15	

$p < .05$. $^{**}p < .01$

Several significant correlations emerged among the variables. Optimism was positively correlated to positive peer and adult relationships, and feelings of self-efficacy. Optimism was also found to be negatively correlated with attachment anxiety, attachment avoidance, and externalizing behavior problems. There was only a -.07 correlation between number of uncontrollable adverse life events (stress) and optimism.

Self-efficacy was positively correlated with relationships with peers and relationships with adults. Self-efficacy was negatively correlated with anxious attachment (i.e., the higher the anxiety levels in regards to attachment, the lower the feelings of self-efficacy). Furthermore self-efficacy was negatively correlated with avoidant attachment and self-reported grades.

Externalizing behavior problems was positively correlated to stressful life events and avoidant attachment. Externalizing behavior was negatively correlated with grades and relationships with adults meaning the greater the problems with externalizing behavior problems the lower the grades and poorer the relationships with adults.

In addition to above findings, attachment avoidance was negatively correlated with relationships with adults, and number of adults nominated as being important to the adolescent. Attachment avoidance was positively correlated with higher levels of stress (greater number of life events). Attachment anxiety was negatively with relationships with peers. In short, many significant correlations were in the expected direction given what we know about adolescent attachment and resiliency from previous findings in the literature.

Table 5

Intercorrelations Among Subscales of the Achenbach Youth Self Report

	Total Score	Rule Breaking	Aggression
Rule Breaking	.68**		
Aggression	.85**	.52**	
Attention Problems	.77**	.14	.49**

**$p < .01$.

Section Three: Compensatory and Protective Effects of Attachment

In order to determine whether attachment fits the compensatory or risk-protective model of resiliency as set out by Zimmerman, Bingenheimer and Notaro (2002), a series of hierarchical linear regressions were conducted. In the first step, age and gender were entered together. Putting both of these background variables in the same step is a commonly utilized approach in the area of resiliency (for examples, see Luthar, 1991; Zimmerman, Bingenheimer, & Notaro, 2002) because dimensions of resiliency can be found in both genders and across the lifespan. In the second step, total number of uncontrollable adverse life events (stress) was entered. In the third step, avoidance of attachment and anxiety of attachment were entered. If, by the addition of the two dimensions of attachment, the variance in the model is significant, support for the *compensatory model* of resiliency was achieved. In the final step, cross product interaction terms between total number of uncontrollable adverse life events (stress) and attachment avoidance and attachment anxiety were entered into the regression model. If the interaction term explains a significant amount of the variance, then support for the

protective model of resiliency was achieved. For the interaction terms, centered variables were chosen for total number of uncontrollable adverse life events (stress), attachment avoidance and attachment anxiety

In total, seven sets of regression analyses were conducted to test the compensatory and protective effects of attachment. These seven regression analyses examined the compensatory and protective effects of attachment on each of the seven different dimensions of resiliency: grades, externalizing problems (YSR externalizing subscales), optimism, relationships with adults, relationships with peers, self-efficacy, and number of adults identified in the first circle. Table 11 presents the results from these regression analyses including: R^2 Change, F Change, and Final Model Correlation, Beta and the Pratt Index. The Pratt Index (Thomas, Hughes, & Zumbo, 1998; Thomas & Zumbo, 1996) is a method to determine the relative importance of the explanatory variables in predicting the dependent variable in a regression analysis. This method is becoming increasingly used in social science research (Thomas & Zumbo, 1996). Essentially this method informs us which how much of the overall variance in the model can be attributed to a given variable.

Table 6

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Optimism

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 1: Predicting Optimism					
Step 1: Gender			.03	.05	.01
Age	.01	.33	-.08	-.07	.03
Step 2. Stress	.01	.40	-.07	-.02	.01
Step 3. Attachment Avoidance			-.36***	-.26*	.39
Attachment Anxiety	.21***	11.69***	-.37***	-.31***	.48
Step 4. Interaction (stress x avoidance)			-.14	-.15	.01
Interaction (stress x anxiety)	.02	1.12	.03	.09	.09

Final model $R^2 = .24$; $F(7, 86) = 3.86$, $p = .001$

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

There were main effects for attachment avoidance and anxiety over and above the variable entered in step two (stress), $F(2, 88) = 11.69, p = .001$ for predicting optimism. The interaction term did not add any further power to the model predicting optimism, $F(2, 86) = 1.12, p = .33$. For predicting optimism, attachment appeared to fit the compensatory model of resiliency but not the protective model, that is lower levels of attachment avoidance and attachment anxiety resulted in higher levels of optimism. Therefore, having lower levels of attachment avoidance and attachment anxiety, compensated for stress.

Looking at the Pratt Index, of the final R^2 of .24, .39 of this variance was attributed to attachment avoidance and .48 was attributed to attachment anxiety. Thus, in this model, although both attachment avoidance and attachment anxiety had a significant negative impact on feelings of optimism, attachment anxiety accounted for more of the change in the final model.

Table 7

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Self-Efficacy

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 2: Predicting Self-efficacy					
Step 1: Gender			-.02	-.02	.01
Age	.01	.20	.07	.01	.01
Step 2. Stress	.01	.19	.05	.12	.03
Step 3. Attachment Avoidance			-.24**	-.17	.22
Attachment Anxiety	.15***	7.98***	-.34***	-.31***	.59
Step 4. Interaction (stress x avoidance)			-.12	-.11	.07
Interaction (stress x anxiety)	.02	1.23	.09	.15	.08
Final model R^2 = .18; $F(7, 86) = 2.74$, $p = .013$					

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

In the regression model predicting self-efficacy, there were once again main effects for attachment avoidance and anxiety over and above the variable entered in step two (stress), $F(2, 88) = 7.98$, $p = .001$. The interaction term did not add any further power to the model in predicting self-efficacy, $F(2, 86) = 1.12$, $p = .30$. For predicting self-efficacy, attachment fit the compensatory model of resiliency but not the protective model. Higher levels of attachment avoidance and attachment anxiety resulted in decreased feelings of self-efficacy, thus if one had lower levels of attachment avoidance and attachment anxiety, this appeared to compensate for stress in order to assist the adolescent in feeling greater levels of self-efficacy.

Looking at the Pratt Index, of the final R^2 of .18, .22 of this variance can be attributed to attachment avoidance and .59 can be attributed to attachment anxiety. Therefore, in this model, although both attachment avoidance and attachment anxiety had a significant negative impact on feelings of self-efficacy, attachment anxiety accounted for the greatest portion of the variance in the final model.

Table 8

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Relationships With Adults

Predictor	Change in R^2	F Change	Final Model		
			Zero-order Correlation	Standardized Beta	Pratt
Regression 3: Predicting relationships with adults					
Step 1: Gender			:16	.09	.04
Age	.06**	3.02**	-.22**	-.16*	.10
Step 2. Stress	.01	.37	.06	.14	.02
Step 3. Attachment avoidance			-.56***	-.54***	.81
Attachment anxiety	.29***	19.57***	-.09	.01	-.01
Step 4. Interaction (stress x avoidance)			-.12	-.08	.03
Interaction (stress x anxiety)	.02	1.28	.05	.15	.02
Final model $R^2 = .37$; $F(7, 86) = 7.29$, $p = .001$					

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

For the regression model predicting relationships with adults, there were main effects again for attachment avoidance and anxiety over and above the variable entered in step two (stress), $F(2, 88) = 19.57, p = .001$. The interaction term did not add any further power to the model predicting relationships with adults, $F(2, 86) = 1.28, p = .28$. For predicting relationships with adults, attachment fit the compensatory model of resiliency but not the protective model. The greater the degree of attachment avoidance, the poorer relationships that one has with adults thus having low levels of attachment avoidance can compensate for stress and assist the adolescent in having better relationships with adults. Attachment anxiety did not play a role, (i.e., anxious attachment does not get in the way of forming relationships with adults).

Looking at the Pratt Index, of the final R^2 which was .37, .81 of the variance was attributed to attachment avoidance and almost none of the variance was attributed to attachment anxiety. Thus, in this model, attachment avoidance had a significant negative impact on relationships with adults.

Table 9

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Relationships With Peers

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 4: Predicting relationships with peers					
Step 1: Gender			-.04	-.11	.03
Age	.01	.28	-.06	-.18*	.07
Step 2. Stress	.04**	4.18**	.17	.27**	.29
Step 3. Attachment avoidance			-.09	-.01	.01
Attachment anxiety	.09***	4.70***	-.27***	-.31***	.51
Step 4. Interaction (stress x avoidance)			.02	-.11	-.01
Interaction (stress x anxiety)	.02	1.08	-.13	.14	.11
Final model R^2 = .16; $F(7, 86) = 2.39$, $p = .028$					

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

For the regression model predicting peer relationships, there were main effects for attachment avoidance and anxiety over and above the variable entered in step two (stress), $F(2, 88) = 4.50$, $p = .01$. The interaction term did not add any further power to the model predicting peer relationships, $F(2, 86) = 1.08$, $p = .35$. For predicting peer relationships, attachment fit the compensatory model of resiliency but not the protective model. In this model, having lower levels of attachment avoidance and attachment anxiety compensated for stress in relation to the outcome variable of relationships with peers. Specifically, having lower levels of attachment anxiety had the greatest compensatory effect.

The final R^2 is .16 according to the Pratt Index. Almost none of the variance in the model was attributed to attachment avoidance but .51 was attributed to attachment anxiety. In addition, .29 of the variance was attributed to stress. Thus, in this model, attachment anxiety had a significant negative impact on relationships with peers and stress had a negative impact as well.

Table 10

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Externalizing Behavior Problems (Achenbach YSR)

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 5: Predicting externalizing behavior problems					
Step 1: Gender			.28***	.22**	.22
Age	.11***	5.75***	.15	.11	.06
Step 2. Stress	.08***	8.25***	.37***	.25**	.32
Step 3. Attachment avoidance			.33***	.26***	.31
Attachment anxiety	.09***	5.73***	.21**	.12	.09
Step 4. Interaction (stress x avoidance)			.02	.02	.01
Interaction (stress x anxiety)	.01	.10	.09	-.04	.01

Final model $R^2 = .28$; $F(7, 86) = 4.83$, $p = .001$

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

For the regression model predicting the score on the Achenbach YSR (externalizing behavior problems), there were main effects for number of uncontrollable adverse life events, $F(1, 90) = 8.25, p = .005$ as well as attachment avoidance and anxiety, $F(2, 88) = 5.73, p = .005$. The interaction term did not add any further power to the model for predicting the Achenbach externalizing score, $F(2, 86) = .10, p = .90$. For predicting the Achenbach score, attachment fit the compensatory model of resiliency but not the protective model. Thus, the greater the attachment avoidance and the attachment anxiety, the higher the degree of externalizing behavior problems so by having lower levels of attachment avoidance and attachment anxiety, this compensated for stress with the outcome of fewer externalizing behavior problems.

The final R^2 was .28 and looking at the Pratt Index, .31 was attributed to attachment avoidance and only .09 was attributed to attachment anxiety. In addition, .32 of the variance was attributed to stress. Thus, in this model, high levels of attachment avoidance had a significant positive impact on higher levels of externalizing behavior problems. Stress also was significantly related to externalizing behavior problems in a positive direction (i.e., the more stress, the more externalizing behavior problems).

Table 11

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Number of Adults Listed in the First Circle of Support

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 6: Predicting number of adults listed in the first circle of support					
Step 1: Gender			.10	.07	.05
Age	.03	1.18	-.14	-.09	.08
Step 2. Stress	.01	.25	.05	.05	.02
Step 3. Attachment avoidance			-.31***	-.26**	.54
Attachment anxiety	.11***	5.50***	-.19	-.14	.18
Step 4. Interaction (stress x avoidance)			-.12	-.06	.05
Interaction (stress x anxiety)	.01	.62	-.14	-.09	.08
Final model $R^2 = .15$; $F(7, 86) = 2.14$, $p = .05$					

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

For the regression model predicting number of adults in the first circle, there were main effects for attachment avoidance and anxiety over and above the variable entered in step two (stress), $F(2, 88) = 5.50$, $p = .006$. The interaction term did not add any further power to the model, $F(2, 86) = .62$, $p = .54$. For predicting the number of adults in the first circle, attachment fit the compensatory model of resiliency but not the protective model. Higher levels of attachment anxiety and attachment avoidance resulted in adolescents naming fewer adults who were very important to them. Therefore, having lower levels of attachment avoidance and attachment anxiety compensated for stress by adolescents having more adults in their life who are very important to them.

Looking at the Pratt Index, it can be seen that of the final R^2 which is .15, .54 of the variance was attributed to attachment avoidance and .18 was attributed to attachment anxiety. Thus, in this model, attachment avoidance had the greatest significant negative impact on number of adults who adolescents listed in the first circle of support ("adults who are very important") when compared to the other variables in the model.

Table 12

R^2 Change, F Change and Final Model Correlation, Beta and Pratt Regression Analyses, Adjusted for Gender and Age for Dependent Variable Self Reported Grades

			Final Model		
Predictor	Change in R^2	F Change	Zero-order Correlation	Standardized Beta	Pratt
Regression 7: Predicting self-reported grades					
Step 1: Gender			.18	-.16	.18
Age	.07**	3.58**	- .26**	.24**	.39
Step 2. Stress	.04**	4.48**	- .22**	.23**	.32
Step 3. Attachment avoidance			.11	-.21**	.15
Attachment anxiety	.04	2.30	- .07	.12	.05
Step 4. Interaction (stress x avoidance)			.09	.03	.01
Interaction (stress x anxiety)	.01	.029	.01	-.01	-.01
Final model $R^2 = .16$; $F(7, 86) = 2.36$, $p = .03$					

Note. For these analyses, boys were represented by scores of 1 and girls were represented by scores of 2.
*$p < .1$. **$p < .05$. ***$p < .01$.

For the regression model predicting grades, there were main effects for number of uncontrollable adverse life events, $F(1, 90) = 4.48$, $p = .04$ however there was no support for the compensatory model, $F(2, 88) = 2.30$, $p = .11$ or the protective model, $F(2, 86) = .03$, $p = .97$. Although having higher levels of attachment avoidance resulted in lower self-reported grades whereas attachment anxiety was positively correlated (at a non-significant level), having lower levels of attachment avoidance and attachment anxiety did not compensate or protect one from stress where self-reported grades were concerned.

Looking at the Pratt Index, it can be seen that of the final R^2 which is .16, age and then stress accounted for much of the variance at .39 and .32 respectively. Attachment avoidance accounted for .15 of the variance after gender, age and stress.

Table 13

Summary of the Results of Regression Analyses Testing for the Protective or Compensatory Model of Resiliency

Predictor	Compensatory Model	Protective Model	attachment anxiety or avoidance influence
Optimism	√	×	anxiety
Self-Efficacy	√	×	anxiety
Relationships with adults	√	×	avoidance
Relationships with peers	√	×	anxiety
Externalizing behavior problems	√	×	avoidance
Number of important adults	√	×	avoidance
Self-reported grades	×	×	avoidance

√ fits the model × does not fit the model

In summary, there was support for the compensatory model of resiliency for: optimism, self-efficacy, relationships with adults, peer relationships, YSR externalizing behavior problems and number of adults in the first circle of support. There was no support for a protective model of resiliency. In terms of grades, there was no support for either model.

Stress-Affected and Stress-Resilient Group Comparisons

To understand further the relation among risk, resiliency, and competence, further analyses, in accord with other researchers in the field or resilience (see Cowen et al., 1988; Tiet et al., 1998) were conducted. The sample of 94 adolescents was examined for number of uncontrollable adverse life events. Those individuals with four or more life events were deemed "at-risk". Of the 94 adolescents in the original sample, 75 participants had four or more uncontrollable adverse life events as assessed by the modified negative adverse life events checklist (Tiet et al., 1998). This sample of 75 was then divided into three groups based on the standardized YSR Achenbach (externalizing behavior) score. Those who were half a standard deviation above the sample mean on the Achenbach were considered part of the stress-affected group ($n = 26$). Those who were half a standard deviation below the sample mean were considered stress-resilient ($n = 19$). The terms stress-affected and stress-resilient are taken from previous research conducted by Cowen et al. (1997) to describe the two ends of the spectrum – those individuals who demonstrate good functioning despite significant stressors in their lives (stress-resilient) and those individuals who struggle in their functioning and also have significant stressors in their lives (stress-affected). For the purposes of these analyses only the two extreme groups: stress-affected and the stress-resistant group were compared in order to examine differences between these two extreme groups. The description of the two groups is presented in Table 14.

Table 14

Description of the Stress-Affected and Stress-Resilient Groups

	Groups	
Variable	Stress-resilient (n = 19)	Stress-affected (n = 26)
Gender	boys (n = 8) girls (n = 11)	boys (n = 7) girls (n = 19)
Age range	15.02-17.3	15.11-19.3
Race	Aboriginal = 2 (11%) Asian = 15 (79%) Middle Eastern = 1 (5%) Mixed race = 1 (5%)	White= 6 (23%) Black = 1 (4%) Aboriginal = 1 (4%) Asian = 12 (46%) South Asian = 1 (4%) Mixed race = 5 (19%)

Group means for the stress-resilient and stress-affected groups for the four resiliency outcome measures and the measures of Attachment Anxiety and Attachment Avoidance are presented in Table 15.

First, two-one way between-groups Multivariate Analyses of Variance (MANOVAs) were performed to investigate group differences between the stress-affected group and the stress-resilient group on the combined subscales of the RI: optimism, self-efficacy, relationships with adults, and relationships with peers. There was a statistically significant difference between the stress-affected and the stress-resilient

group on the combined dependent variables: $F(4, 40) = 8.11, p = .001$; Wilks' Lambda =.55; partial eta squared =.49.

This overall significant multivariate effect was then followed up through a series of univariate ANOVAs examining each of the subscales of the RI. As can be seen in Table 15, results revealed three significant mean differences between the two groups on three dimensions of resiliency. First, there was a significant difference on the dimension of relationships with adults, $F(1,43) = 8.34, p = .006$, partial eta squared = .16, with stress-resilient adolescents reporting better relationships with adults as compared to stress-affected adolescents. Second, optimism, $F(1, 43) = 3.11, p = .09$, partial eta squared = .07, was higher for stress-resilient adolescents as compared to stress-affected adolescents. Third, peer relationships, $F(1, 43) = 5.56, p = .02$, partial eta squared = .12 was higher for stress-affected adolescents as compared to stress-resilient adolescents. There were no significant differences between the groups on self-efficacy, $F(1, 43) = .53$, $p = .47$, partial eta squared = .012 . When gender was examined within each group, no significant differences emerged. According to Cohen (1988), .01 is a small effect size, .06 is a medium effect size and .14 is a large effect size. In keeping with Cohen's guidelines, relationships with peers and optimism had a medium effect size while relationships with adults had a large effect size.

In the second MANOVA, variations in attachment anxiety and attachment avoidance between the stress-affected and the stress-resilient groups were examined. In this MANOVA there was again a statistically significant difference and large effect size between the two groups on the combined variable: $F(2, 42) = 3.75, p = .03$; Wilks' Lambda =.85; partial eta squared =.15. Gender differences were examined within each

group and no significant differences were found in the stress-affected or stress-resilient group.

When follow-up, univariate ANOVAs were conducted on the these two Attachment subscales, results revealed significant differences between the groups on avoidance of attachment, $F(1, 43) = 7.68, p = .01$, partial eta squared = .15, with stress-resilient adolescent reporting significantly lower levels of attachment avoidance as compared to stress-affected adolescents. There were no significant differences on attachment anxiety, $F(1, 43) = .06, p = .82$, partial eta squared =.001.

For group differences on the remaining variables, both grades and adults in the first circle of support were significant. Results were as follows: grades, $F(1, 43) = 11.03$, $p = .002$, partial eta squared= .20, with stress-resilient adolescents reporting higher grades as compared to stress-affected adolescents. Stress-resilient adolescents reported a greater number of adults in the first circle of support who were important to them as compared to stress-affected adolescents, $F(1, 43) = 6.07, p = .02$, partial eta squared =.12.

In summary, there were significant differences between the stress-resilient and the stress-affected groups on the combined measures of the RI and the two higher order subscales of the CAPAI. Upon closer inspection of the subscales of the RI, significant differences between the two groups emerged in terms of relationships with adults and optimism but not on self-efficacy, with stress-resilient adolescents showing higher levels of functioning relative to stress-affected adolescents. However stress-affected adolescents reported higher scores of relationships with peers as compared to stress-resilient adolescents. Finally, there were significant differences on attachment avoidance, with stress-affected adolescents reporting higher levels of attachment avoidance but not there

were no differences on attachment anxiety. Finally stress-resilient adolescents reported significantly higher grades and more adults who were considered very important to them.

Table 15

Group Means and Standard Deviations for Resiliency Outcomes

	Groups				
	Stress-affected (n= 26)		Stress-resilient (n = 19)		
Variable	*M*	*SD*	*M*	*SD*	*F*
Resiliency Inventory subscales					
Optimism	3.39	.60	3.70	.53	3.11*
Self efficacy	3.38	.54	3.50	.56	.53
Relationships with adults	3.09	.65	3.65	.64	8.39***
Relationships with peers	4.18	.52	3.78	.63	5.56**
Attachment subscales					
Attachment avoidance	4.05	1.27	3.10	.94	7.68***
Attachment anxiety	3.11	.74	3.07	.72	.06
Other individual scales					
Grades	4.39	1.47	5.68	1.00	11.03***
Number of adults in circle	2.58	1.88	4.21	2.57	6.07**

*$p < .1$. **$p < .05$. ***$p < .01$

Discussion

This study sought to examine whether attachment, in the presence of stress, fit the compensatory or the protective model of resiliency. Furthermore, differences in resiliency dimensions between stress-resilient and stress-affected adolescents were explored. The current findings from this study support previous research and add to our knowledge by considering the relation of attachment to resiliency.

Although much has been written about both attachment and resiliency over several decades, there have not been great efforts to meld the two areas in order that one can inform the other. To this author's knowledge, there is limited work in the field of risk and resilience that makes reference to attachment (see Garmezy & Masten, 1994; Masten & Coatworth, 1998; Wright, Masten, Northwood, & Hubbard, 1997). Masten and Coatsworth (1998) note that the adaptational system of attachment is strongly linked to competence (recall that competence is not the same as resilience). At the same time, the finding that resilient children and adolescents consistently report having at least one supportive adult in their life is widely reported in the literature (for examples, see Cowen & Work, 1988; Garmezy et al., 1984; Garmezy, 1985; Werner, 1990). By incorporating attachment theory, the presence of at least one supportive adult can be taken a step further in that we can begin to understand the processes that set the stage for an adolescent to be able to reach out for adult support or move away from adult support.

In this study, there was empirical support that having an avoidant or anxious attachment style in the presence of uncontrollable and adverse life stress increases the likelihood of having negative outcomes on various dimensions of resiliency. Attachment was found to have the power to compensate for high levels of stress in several areas and

this is supported by previous research in the area of examining attachment in times of war and natural disasters (Garmezy & Masten, 1994; Wright, Masten, Northwood, & Hubbard, 1997). This finding is exciting in that it offers a richer understanding as to the underlying mechanism involved in assisting resilient adolescents to reach out and form relationships with supportive adults in their environment.

First, the findings from this study are discussed in relation to the each of dimensions of resiliency examined in this study. Recall that all examined variables in this study, with the exception of self-reported grades, worked as compensatory factors in the resiliency model. Discussion of the differences between stress-affected and stress-resilient adolescents follows. Finally, implications, study strengths and limitations and future directions are outlined.

Optimism

Adolescents who had higher levels of attachment avoidance and anxiety were found to have to have lower levels of optimism, and in particular, adolescents with attachment anxiety had lower levels of optimism than adolescents who had attachment avoidance. These findings are supported in previous research showing that individuals with attachment anxiety suffer from poorer emotional health (Elicker, Englund & Sroufe, 1992). They also have a harder time regulating emotions which can result in the development of anxiety and depression disorders (Patrick, Hobson, Castel, Howard & Maughan, 1994). It is well documented that one of the features of depression is hopelessness (DSM-IV-TR, American Psychiatric Association, 2000). When life feels overwhelming and difficult to manage, it is hard to feel optimistic. Research also suggests that having social support during times of stress, coping with depression or anxiety, can

assist can be helpful for individuals. However, for those who have an anxious attachment style, feeling safe in seeking support from others is difficult. There is the fear of rejection from others (Allen et al., 1998) so the feeling that there is someone who will be there when times are difficult is absent.

To further elaborate on the difficulties one must consider the emotional regulation difficulties inherent in having an avoidant attachment style. The type and level of support that an individual with anxious attachment requires is quite complex. In order not to feel overwhelmed by their emotions and, as a result, sink into feelings of hopelessness, they essentially need someone who can assist in co-regulating their emotions until they are able to regulate these emotions on their own. With the ability to regulate emotions comes the feeling of competence as one feels more in control. The challenge here is for an adolescent to find an adult who is competent in dealing with emotions which involves, being able to feel emotions and deal with emotions in an effective and growth promoting manner (Fosha, 2000).

Adolescents who are avoidant of attachment also struggle with low levels of optimism however to a lesser degree than anxiously attached individuals. Adolescents who are attachment avoidant buffer themselves from emotional distress by developing a self-structure in which they only acknowledge positive self-attributes (Mikulincer, 1995). However, there is increasing evidence that within the category of avoidant attachment, there may be two distinct categories (Griffin & Bartholomew, 1994): those who do not value relationships with others and those who want relationships but there is such intense fear of being hurt that they avoid relationships. One would speculate by looking at past literature, that those who do not value relationships and have developed a self-structure

that only acknowledges positive attributes would suffer less from feelings of low optimism as they have distanced themselves from their emotional world. Conversely, those whose fear of relationships is so great that they use the strategy of attachment avoidance may have more ability to experience deeper emotions and with that may come more distress and as a result less optimism.

Thus, having lower levels of insecure attachment (avoidant or anxious) can compensate for higher levels of life stress. By being able to reach out to others and feel safe in those relationships, life stress can feel more manageable as there is a sense that one is not alone. There have been numerous global examples of natural disasters in which families and community members have come together and in this joint effort have demonstrated resilience and have been able to move on in life. There is hope in relationships, despair in aloneness.

Self-Efficacy

Lower levels of attachment avoidance and attachment anxiety were found to compensate for stress with the result of higher levels of self-reported self-efficacy. As in the outcome of optimism, those with higher levels of attachment anxiety fared worse than those with attachment avoidance, however both groups were impacted. As discussed above, individuals with attachment anxiety have poorer emotional health. In addition, they have lower levels of self-confidence as compared to securely attached individuals (Elicker, Englund, & Sroufe, 1992). Thus, the findings from this study are supported by past research. For those with attachment avoidance, self-efficacy was still affected. Given that individuals with avoidant attachment have this self-structure that only acknowledges positive attributes, one might almost expect that higher levels of attachment avoidance

may not at all decrease feelings of self-efficacy in the face of stress, although this is an area for further exploration.

It could be that, once again, these two different groups of attachment avoidant individuals proposed by Griffin and Bartholomew (1994) may offer an explanation of the different ways that avoidant attachment manifests itself. Feelings of self-efficacy are grounded in feelings of self-confidence and a sense of control of one's life. It makes sense then, that those individuals who are internally distressed (anxious attachment) would have a much harder time experiencing feelings of self-efficacy as their internal world is chaotic. Avoidantly attached individuals, according to past research, may be able to distance enough from emotional arousal so that they still experience a greater degree of self-efficacy as compared to individuals with anxious attachment. However, what remains to be examined are those individuals who are attachment avoidant but also suffer from internalizing disorders, an association that has been noted by Cole-Detke, and Kobak (1996). Are these the attachment avoidant individuals who want relationships but are so fearful that they avoid relationships at all costs, a very different group than those who are dismissive of relationships?

Relationships With Adults

Less difficult to appreciate is the finding in this research that has been found repeatedly in past research that individuals with attachment avoidance avoid relationships. This is true for all people, including adolescents, however, their avoidance of relationships is with adults. Peer relationships will be discussed shortly. In the face of stress, the higher levels of attachment avoidance, the less positive relationships one has with adults.

One must remember that attachment avoidant adolescents tend to have externalizing behavior problems (Renken et al., 1989; Speltz et al., 1991) so these are typically the adolescents who will have more negative interactions with adults as compared to other individuals. In some ways, it is a bit of a vicious circle; externalizing behavior problems leads to negative interactions with adults which leads to adolescents seeing adults as unapproachable and controlling which leads to avoiding relationships with adults. What needs to be examined in greater detail is this cycle and how adults and adolescents make sense of the cycle. By changing this cycle, we may be able to impact how some adolescents with attachment avoidance relate to adults over time and potentially shift their internal working model of relationships.

Attachment anxiety did not have an impact on relationships with adults. This finding is in line with previous research indicating that, although anxiously attached individuals are anxious about relationships, they want relationships and will at times attempt to engage people in distressed way to get their needs met (Rosenstein & Horowitz, 1996). They are more adult-oriented than peer-oriented (Erikson, Sroufe, & Egeland, 1985; Renken et al., 1989).

Relationships With Peers

With regard to peer relationships, the findings in this study are the mirror opposite of adult relationships. That is, adolescents with avoidant attachment, in the face of stress, do not suffer from lower levels of peer attachment whereas adolescents with attachment anxiety have poorer relationships with peers in the face of stress. The current findings for individuals who are anxious of attachment, are supported by previous research which indicates that anxiously attached individuals are more adult oriented and have poorer peer

relations due to poorer social skills and negative self-concept (Elicker, Englund, & Sroufe, 1992; Kobak & Sceery, 1988).

Once again, the findings for adolescents who are attachment avoidant, are more murky in that they are seen by peers as more hostile (Bartholomew & Horowitz, 1991) and they tend to use instrumental aggression to get what they want (McElwain et al., 2003). One line of thought that is worthy of exploration is that these adolescents find other adolescents with avoidant attachment. They are able to be together as a group and at the extreme end, possibly engage in deviant activities, such as gang activity. Thus, the quality of their peer relationships would most likely be quite different than securely attached individuals but on the surface, they report having friends. Moretti & Holland (2003) speculate that adolescents who have attachment avoidance seek out peers and romantic partners earlier than other adolescents in an attempt to get their attachment needs met, needs that were not met in the parent-child relationship. Peers then have a great deal of potential for shaping negative behavior.

Externalizing Behavior Problems

Lower levels of attachment avoidance can compensate for stress in order to reduce externalizing behavior problems. As would be expected, individuals with attachment avoidance had more difficulties with externalizing behavior problems which is supported in past literature (Renken et al., 1989; Speltz et al., 1991). Anxiously attached individuals were not nearly as impacted with externalizing behavior problems in the face of stress. This can be seen in light of previous findings that indicate that anxiously attached individuals cope with stress by internalizing distress whereas attachment avoidant individuals have externalizing behavior problems.

Number of Very Important Adults

Lower levels of attachment avoidance and attachment anxiety can compensate for stress with the outcome being a greater number of adults who are considered important in the life of the adolescent. In this study, individuals who were avoidant of attachment avoidance were more negatively impacted as compared to anxiously attached individuals. As discussed above, both groups have specific needs that need to be addressed by the adults in their lives. Whereas attachment avoidant individuals need assistance in developing emotional awareness (Voss, 2000), anxiously attached individuals require assistance in emotional regulation (Rosenstein & Horowitz, 1996). Thus, matching adults with adolescents for intervention and support is very important. In both cases, the adults need to be able to have an adequate level of emotional maturity. By giving adolescents what they need from adults, we will no doubt not only improve their overall well-being and as a result assist them in moving toward relationships that will increase their overall well-being.

Self-Reported Grades

Attachment did not appear to compensate for stress in a meaningful way in terms of self-reported grades, however, given that the grades were self-reported, this could have impacted the results. What would have been interesting is to get teacher reports of grades and a measure of their overall interaction with the student. Could it be that students with anxious attachment or avoidant attachment vary in their academic achievement depending on how they feel about the teacher? Thus, rather than solely explore grades, it would be interesting to investigate how the relationship with the teacher impacts the outcome of grades.

Differences Between Stress-Affected and Stress-Resilient Adolescents

The second part of this study examined group differences between adolescents who could be considered stress-affected (i.e., high stress/high externalizing behavior problems) with adolescents who could be considered stress-resilient (i.e., high stress/low externalizing problems). From the sample of 94, there were 19 adolescents who met the criteria for stress-resilient and 26 who met the criteria for stress- affected, significant differences emerged on dimensions of optimism, relationships with peers, avoidance, relationships with adults, attachment avoidance, self-reported grades, and number of very important adults. There were no significant differences between the two group on self-efficacy and anxious attachment.

On the Resiliency Inventory (RI), stress-resilient youth reported significantly higher levels of optimism and better relationships with adults. Optimism is a characteristic that has been cited in the literature as a characteristic of resilient individuals (Rutter, 1985; Seligman, 1990) and as mentioned previously, the finding that they have better relationships with adults is also well documented in the resiliency literature and previously reviewed in this study.

However, in the present study, stress-affected youth reported better relationships with peers than stress-resilient youth. This difference in peer relationships can perhaps be understood in light of the tendency for stress-affected youth to under-utilize potentially supportive relationships with adults as the levels of attachment avoidance is significantly higher among these adolescents. As a consequence, they tend to gravitate more to peers than adults. What is not clear is whether the level of intimacy in these friendships is high or whether relationships are on a more superficial level. Unfortunately, the measure

utilized in this study was not designed to tap into intimacy levels. It may be that stress-affected adolescents do not have the same expectations for emotional support as stress-resilient adolescents, given the distancing from emotional needs given the high levels of attachment avoidance among these individuals. Although they have friends, the quality of these friendships may be quite different when compared to stress-resilient youth.

Finally, in the present study, reported feelings of self-efficacy did not differ between stress-affected and stress-resilient adolescents. As discussed earlier, this may in part be attributable to the self-structure that attachment avoidant individuals construct in order to keep emotional issues that would leave them vulnerable, at bay. That is, attachment avoidant individuals tend to see themselves in a positive light and as self-sufficient, not needing others for support (Mikulincer, 1995). It may be that stress-resilient adolescents have a more realistic view of their abilities and hence their self-reported feelings of self-efficacy may reflect a closer match to authentic feelings rather than defensive feelings. Future research is needed to explore this possibility. Another possibility is that the subscale of the RI did not adequately tap into self-efficacy.

When the two higher order subscales of attachment avoidance and attachment anxiety were examined, a striking and significant difference was found on attachment avoidance, with stress-affected adolescents reporting significantly higher rates of attachment avoidance when compared to stress-resilient adolescents. There were no significant differences between the two groups on attachment anxiety. As previously discussed, the finding that attachment avoidance is higher in stress-affected adolescents makes sense given that one major way all individuals can better deal with stress at any age is by utilizing social support. Without the advantage of this social support,

functioning is compromised (Cauce, Felner, & Primavera, 1982; Garmezy, Masten & Tellegen, 1984; Sandler, Miller, Short, & Wolchik, 1989; Wolchik, Ruehlman, Braver, & Sandler, 1989).

The lack of differences in attachment anxiety is an interesting finding. This is a new finding in the area of resiliency research as attachment and resiliency have not been examined in this particular manner. Luther and Becker (2002) in their work have found a link between resilient individuals and internalizing problems. They note that internalizing problems may be the cost of resiliency. However, this is an area that is beginning to be explored. In the current study, it may be that these differences were not evident given the sample or that anxious attachment does not prevent one from being resilient. There may be other psychological dimensions that have a greater negative impact on the well-being of adolescents.

In the present study, significant differences were found for grades with stress-resilient adolescents reporting higher grades as compared to stress –affected adolescents. This is supported in previous work by Masten (1989, 1999) in which she utilizes good academic achievement as one of the markers for resilience. Given the other positive characteristics and supports that stress-resilient adolescents have in their life, such as greater feelings of optimism and more social support, it makes sense that they would in turn be able to utilize these positive aspects in order to assist in focusing on academic work.

Stress-resilient adolescents also reported a greater number of important adults in their lives as compared to stress-affected adolescents. The finding that stress-resilient adolescents have more adults is worthy of exploration. One of the most longstanding

finding in the area of resiliency is that resilient adolescents are able to name at least one adult who was important to them in their development. It would be interesting to explore whether there is a correlation between the number of adults and the level of well-being. That is, does having more supportive adults in your life increase overall well-being? Is there an ideal number of adults? This line of research would extend our understanding of the area of resiliency. The link between avoidant attachments and adult support has been demonstrated in this study. If one has avoidant attachment, seeking out adults will be hampered and as a result the support that could facilitate development will be absent.

Overall, the findings of the present study extend the existing literature in the area of risk and resiliency by considering attachment which provides an explicit mechanism for explaining the consistent finding that resilient adolescents are able to identify important adults who have made a difference in their life. It is not a simple cause and effect but rather one that needs to be looked at as having a snowball effect. For example, having the ability to reach out and form relationships increases the social support available to an individual. Having higher levels of social support helps one deal with stress and when stress is managed, one is able to function more effectively in day to day life. This is a huge loss for an avoidantly attached adolescent who is at-risk and having to face the world alone due to early internal working models that were and are impeding healthy development. Finally, the present study supports existing literature that has found differences between stress-resilient adolescents and adolescents who are stress-affected.

Study Strengths and Limitations

In terms of the strengths of this study, this study adds an important dimension to the research in the area of risk and resiliency in that it provides a new dimension to consider when examining the finding that stress-resilient adolescents report better relationships with adults and are able identify more important adults in their life. By using attachment theory as a way to understand the reasons for some adolescents having greater support and hence more positive well-being, we can deepen our understanding. In addition, the recommendation of Luthar, Cicchetti, and Becker (2000), to move away from merely identifying characteristics and work toward understanding underlying mechanism, is addressed.

Second, the results of this study confirm that there are differences between adolescents who are stress-affected when compared to adolescents who are stress-resilient in terms of attachment style and specifically attachment avoidance. Adolescents at who are stress-affected have significantly higher levels of attachment avoidance compared to stress-resilient adolescents. However, within the attachment literature, adolescents and adults with an anxious attachment style are viewed as having the poorest outcomes when compared attachment avoidant individuals (Cooper et al., 1998). The present study does not support these results. However, the present study considers attachment among adolescents who have significant stress in their lives which may paint a different picture of how attachment can impede or enhance functioning.

Third, the results of this study have tremendous implications for how we view prevention and intervention efforts. The current climate is to have adolescents go through programs in the schools that address such issues such as drug and alcohol issues,

disordered eating, and anti-bullying programs. In light of the present findings, perhaps a two pronged approach would have a greater impact, one which provides adolescents with the information they need about such issues such as drugs and alcohol, anti-bullying and mental health, while at the same time work with the adults in their life to help them understand the relational needs of adolescents given their attachment styles. In the absence of caring and supportive adults, distress that overwhelms the emotional capacities of the adolescent will be managed in whatever way the adolescent finds is effective in that moment.

As with every study, there are limitations. A larger sample size with a greater range of age would assist in discerning developmental differences and needs among adolescents. The transition into high school is a particularly stressful period and having the window on this transition would provide a natural opportunity to gain an understanding of the impact that attachment has in managing this transition. For example, there is always room for more data to be gathered in order to get a more in-depth look at the population, in terms of attachment style, risk status and cultural issues. These would all add to our understanding. In the present study, all participants were fluent or near fluent in English as they had resided in Canada for a period of time however this does not capture the complexity involved in cultural issues. As Weisner (2005) posits, attachment issues may need to be examined not only on the individual level but also as they relate to cultural issues. That is, what is valued in various cultures or across contexts may vary with respect to what parents perceive as necessary in their relationships with their children in order to help their children survive to adulthood. For example, in stressful environments, such as in countries characterized by war and political violence,

promoting independence early in life may lead to more emotional distancing in attachment but may assist the child in surviving harsh circumstances.

Additional measures and informants would also have been preferable. In the present study, the survey was a self-report and was relatively short in order to accommodate the school's class schedule as well as not to overburden participants and staff. The reliance on self-reports has been defended by other researchers who argue that adolescent perceptions are a valid representation of their experience (Steinberg, 1990; Wintre & Crowley, 1993). However future research must consider data from multiple informants.

Although the measure of stressful life events used in the present study was chosen because it is a measure used frequently in the research on adolescent stress and coping, there are a number of problems that ensue when using measuing stress or risk via an uncontrollable adverse life events checklist as was done in the present investigation. Indeed, many problems can arise with regard to individual differences and the nature and function of each of the stressful events that participants endorse. For instance, such an approach limits the extent to which one can assess the impact a given event has or has had on an individual's functioning. Furthermore, because similar events may have varied adverse effects across individuals, it is problematic to assume universal weighting of events in terms of their impact. Thus, for one individual, four uncontrollable life events may be less stressful to an individual who has endorsed them in contrast to someone who has experienced two uncontrollable adverse life events. Finally, because stress was operationalized with respect to the total number of stressful events each individual endorsed with regard to their life time, it is difficult to determine if more recent stressors

had a larger impact on functioning than stressors that occurred in the adolescents' life time.. Future research should clearly try to unravel the complexities in assessing stressful life events and capture the impact of events on individuals.

Further to this, the literature in the area of risk and resiliency has received criticism on the use of the term "at-risk" as a term that is too obscure (Schonert-Reichl, 2000). What some argue for is a more precise use of the term, such as "at-risk of school failure" or "at risk for the development of a mental health disorder." By using risk in global sense, we may attribute risk factors in developmental areas that are not directly implicated as a result of a certain risk.

Two of the measures are relatively new (RI: Noam & Goldstein, 1998; Song, 2003; CAPAI: Moretti, McKay & Holland, 2000) with limited evidence of psychometric quality available to date. However, the available evidence on reliability and validity is encouraging and both measures appear to provide unique and promising information to the fields of risk and resiliency and attachment. Given the present findings, these measures were helpful in ferreting out some of the differences between those individuals who have an anxious vs. avoidant attachment style who are coping quite well as compared with those who are experiencing significant distress.

Finally, using a longitudinal design to assess would greatly add to our understanding of the links between resiliency and attachment over time. It is only with longitudinal studies that we will be able to see developmental shifts and long-term implications of attachment.

Implications and Considerations for Future Research

This research has both practical and theoretical implications for future research. Although no causal links can be made, results from this research suggest that in terms of practical implications, if the goal of research is to make the lives of people better, then considering the use of an attachment framework in order to foster resiliency may assist in accomplishing this goal. By educating the adults in the lives of children and adolescents regarding the specific relational needs of high risk individuals with particular attachment styles, they may be better able to understand the apparent resistance or fears displayed by the adolescent and in doing so this may increase the likelihood that a trusting relationship can develop over time. There can not be an assumption that just because an adult works with adolescents, that he/she has a sufficient level of emotional competence to be able to effectively support the adolescent. This education of adults is not only for the general population of adults who work with adolescents (e.g., teachers, coaches, youth leaders) but also for adults who offer formal support, such as that support one would receive through an organization such as Big Brother/Big Sisters. In designing matches between adults and adolescents, the role of attachment style has a great deal of power in determining whether a match is successful or not in the long run. If an adult understands the stance from which the adolescent is coming, they will be better able to ride out the storms involved in developing a stable relationship. In turn, this relationship can assist the adolescent in fostering resiliency which can increase the likelihood of successful adjustment.

While individuals with anxious attachment need assistance regulating emotions, assisting attachment avoidant adolescents to build capacity for emotion awareness will

also be necessary. Due to the pattern of avoiding emotion this task can be quite challenging. These adolescents are typically not ones who seek out assistance in order to become more emotionally aware. Interventions will need to be creative and take place over time so that the adolescent does not feel threatened. Relationship building will be key in the process so that emotion awareness can be introduced slowly. By going in with a predetermined agenda, the intervention is likely to fail and the adolescent likely to distance further. One must keep in mind that a whole self-structure has been built with the goal of protecting oneself from emotions. It is only within the context of a long term relationship that has stood the test of time that an adult can expect an adolescent to venture into the world of emotion. However, if this can be accomplished, there will be more language to describe the internal world and less reliance on acting out behaviors in an attempt to communicate to others.

This approach of using attachment as a framework for intervention is done in some clinical settings. There are therapists who use attachment theory as the foundations for treatment of individuals across the lifespan. With adolescents who are resistant to treatment and intervention, this approach is less often employed due to the long term nature of the program and our tendency to focus on outward behavior. However, an example of a program that does use attachment as the framework is parenting program designed for adolescents with conduct disorder and their parents. By focusing on the attachment needs of these adolescents, parents came to feel more competent as caregivers, and there was a reduction of problem behaviors and less avoidance in the caregiver-parent relationships (Obsuth, Moretti, Holland, Brabar, & Cross, 2006). It is programs such as these that have the potential to make a long-term impact on an

adolescent's life as these programs can shift the way in which adolescents see themselves in relationship with others. To have this approach utilized in more clinical settings and also general settings (e.g., schools, daycares, youth organizations) could have the potential for tremendous impact.

In terms of future research, more studies examining the role of attachment in resiliency are needed with youth from all backgrounds and with larger sample sizes to confirm or disconfirm the findings in the present study. Further to this, the differences found between the impact of attachment avoidance and attachment anxiety speaks to the importance of future examination of these two distinct groups. It appears from the results of this study that attachment anxiety may not be so detrimental to developmental outcomes when compared to attachment avoidance. Further to this, is the need to understand more about the two distinct groups of individuals who are avoidant of attachment: the group that does not value attachment and those in the group who are so fearful of attachment that they avoid relationships. A greater understanding of the differences between these two groups will no doubt have a great impact on their differing needs.

In increasing our depth of knowledge of the interplay between attachment and resilience, we would be well served to branch further out into the genetics and the neuroscience field. In terms of resiliency, genetics may play a factor in an indirect way, as outlined in a recent article in the New York magazine (Bazelon, April 2006) in which scientists claim to have found links between a gene responsible for the regulation for Serotonin, which impacts depression and as a consequence the ability to function in a resilient manner. In terms of neuroscience, Dr. Allan Schore, a neuropsychiatrist, has

spent the past several years mapping the impact of attachment on brain activity. He has found that very early on, our attachment experiences have effects on the neuronal activity and lay down pathways that become the foundation for how we relate to others in the world. He has essentially taken the earlier work of Bowlby and demonstrated through neuroscience, the power of attachment. In essence, our brains adjust to our earlier experiences and as neurons that are not used are pruned, our attachment style becomes a set pattern, which can be a struggle in the case of insecure attachment. On the positive side, he has found that insecure attachment styles can be modified over time. How? Through a long term positive and emotionally sensitive relational experience that counters earlier less than optimal early experiences (Schore, 1997).

In summary, this research joins two bodies of literature that have tremendous possibilities to inform one another. By examining resiliency and attachment, some the deeper questions can be addressed so that we move beyond merely identifying characteristics but get to the underlying mechanisms. As with discovery that is more complex in nature comes the challenge of using such layered information in a meaningful way. Addressing the ways in which individuals relate to the others can not be changed through a single program or quick fix. We need to think carefully about how to improve the lives of adolescents in the present. However, as a society, we also need to think about using a more proactive approach before it becomes so difficult to provide the necessary interventions to change the developmental trajectory of an individual.

References

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M. & Dumenci. L. (2001). Advances in empirically based assessment: Revised cross-informant syndromes and new DSM-oriented scales for the CBCL, YSR and TRF: Comment on Legua, Sadowski, Freidrich, and Fisher (2001). *Journal of Consulting and Clinical Psychology, 69*, 699-702.

Adam, K. S., Sheldon-Keller, A.E., & West, M. (1996). Attachment organization and history of suicidal behavior in clinical adolescents. *Journal of Consulting and Clinical Psychology* , 64, 264-272

Ainsworth, M. D. (1972). Attachment and dependency: A comparison. In J.L. Gewirtz (Ed.), *Attachment and Dependency*. Washington, DC: V.H. Winston and Sons.

Ainsworth. M. D. (1978). *Patterns of Attachment: A psychological study of the strange situation*. Lawrence Erlbaum Associates.

Ainsworth, M. D. (1989). Attachments beyond infancy. *American Psychologist, 44*, 709-716.

Ainsworth, M. D., & Bell, S. M. (1974). Mother-infant interaction and the development of competence. In K. Connolly & J. Bruner (Eds.), *The growth of competence* (pp. 97-118). New York: Academic Press.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1977). *Patterns of attachment: Observations in the strange situation and at home*. Hillsdale, NJ: Erlbaum.

Allen, J. P., McElhaney, K. B., Land, D. J., Kuperminc, G. P., & Jodi, K. M. (2004). Stability and change in attachment security across adolescence. *Child Development, 75*, 1792-1805.

Allen, J. P., & Hauser, S. T. (1996). Autonomy and relatedness in adolescent-family interactions as predictors of young adults' states of mind regarding attachment. *Development and Psychopathology, 8*, 793-809.

Allen, J. P., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 319-335). New York: Guildford.

American Psychiatric Association (2000). Diagnostic and Statistical Manual of Mental Disorders: Text Revision (4th Ed.). Washington, DC: American Psychiatric Association.

Anthony, E. J. (1974). The syndrome of the psychological invulnerable child. *In* E. J. Anthony (Ed.), *The Child in His Family, Vol. 3: Children at Psychiatric Risk* (pp. 529-544). New York: John Wiley and Sons.

Antonucci, T. C. (1986). Hierarchical mapping technique. *Generations, 10,* 10-12.

Allen, J. P., McElhaney, K. B., Land, D. J., Kupermine, G. P., Moore, C. M., O'Beirne-Kelley, H., et al. (2003). A secure base in adolescence: Markers of attachment security in the mother-adolescent relationship. *Child Development, 74*, 292-307.

Allen, J. P., Moore, C. M., & Kupermine, G. P. (1997). Developmental approaches to understanding adolescent deviance. In S. S. Luthar, J. A. Burack, D. Cicchetti, & J. R. Weisz (Eds.), *Developmental Psychopathology: Perspectives on adjustment, risk and disorder* (pp. 548-567). Cambridge: University Press.

Allen, J. P., Moore, C., Kuperminc, G., & Bell, K. (1998). Attachment and adolescent psychosocial functioning. *Child Development, 69*, 1406-1419.

Ammaniti, M., Van IJzendoorn, M. H., Speranza, A. M., & Tambelli, R. (2000) Internal working models of attachment during late childhood and early adolescence: An exploration of stability and change. *Attachment & Human Development, 2,* 328-346.

Anthony, E. J., & Cohler, B. J. (Eds.). (1987). *The invulnerable child.* New York: The Guildford Press.

Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Relationships to well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454.

Bachmann, J. G., Green, S., & Wirtanen, I. D. (1971). *Youth in Transition: Dropping Out—Problem or Symptom?* Ann Arbor: University of Michigan, Institute For Social Research, Vol. 3.

Baldwin, A. L., Baldwin, C. P., Kasser, T., Zax, M., Sameroff, A., & Seifer, R. (1993). Contextual risk and resiliency during late adolescence. *Development and Psychopathology, 5,* 741-761.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175-1184.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.

Battistich, V., & Horn, A. (1997). The relationship between students' sense of their school as a community and their involvement in problems behaviors. *American Journal of Public Health, 87*, 1997-2001.

Battistich, V., Schaps, E., Watson, M., & Solomon, D. (1996). Prevention effects of the Child Development Project: Early findings from an ongoing multisite demonstration trial. *Journal of Adolescent Research, 11*, 12-35.

Bazelon, E. (2006, April). A Question of Resilience. *The New York Times Magazine*, 54-59.

Beardslee, M. D. & Podorefsky, M. A. (1988). Resilient adolescents whose parents have serious affective and other psychiatric disorders: importance of self-understanding and relationships. *American Journal of Psychiatry, 145*, 63-69.

Beardslee, W. R. (1989). The role of self-understanding in resilient individuals: The development of a perspective. *American Journal of Orthopsychiatry, 59*, 266-278.

Beardslee, W. R., Bemporad, J., Keller, M. B., & Klerman, G. L. (1983). Children with parents of major affective disorders: A review. *American Journal of Psychiatry, 140*, 825-832.

Beardslee, W. R., Versage, E. M., & Gladstone, T. G. (1998). Children of affectively ill parents: A review of the past ten years. *Journal of American Academy of Child and Adolescent Psychiatry, 3237*, 1134-1141.

Benoit, D., & Parker, K. (1994). Stability and transmission of attachment across three generations. *Child Development, 65*, 1444-1456.

Berlin, L. J., Cassidy, J., & Belsky, J. (1995). Loneliness in young children and infant-mother attachment: A longitudinal study. *Merrill-Palmer Quarterly, 41*, 91-103.

Black, K. A., & McCartney, K. (1997). Adolescent females' security with parents predicts the quality of peer interactions. *Social Development, 6*, 91-110.

Blaske, D. M., Borduin, C. M., Henggeler, S. W., & Mann, B. J. (1989). Individual, family, and peer characteristics of adolescent sex offenders and assaultive offenders. *Developmental Psychology, 25*, 846-855.

Blatt, S. J., & Blass, R. (1990). Attachment and separateness: A dialectical model of the products and processes of psychological development. *Psychoanalytic Study of the Child, 45*, 107-127.

Blum, R., & Rinehart, P. (1997). *Reducing the risk: Connections that make the difference in the lives of youth.* Minneapolis, MN: University of Minnesota, Division of General Pediatrics, Adolescent Health.

Blyth , D.A., Hill, J. P., Smith Thiel, K. (1982). Early adolescents' significant others: Grade and gender differences in perceived relationships with familial and nonfamilial adults and young people. *Journal of Youth and Adolescence, 11*, 425-450.

Bowlby, J. (1969/1982). *Attachment and loss: Vol.1. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation.* New York: Basic Books.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss, sadness and depression.* New York: Basic Books.

Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development.* New York: Basic Books.

Brennen, K. A., Clark, C. L., & Shaver, P. R. (1996, August). *Development of a new multi-item measure of adult romantic attachment: A preliminary report.* Paper presented at the meeting of the International Society for the Study of Personal Relationships, Banff, Alberta, Canada .

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford.

Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychological etiology of adolescent drug use: A family interactional approach. *Genetic, Social & General Psychology Monographs. 116*, 111-267.

Brook, J. S., Whiteman, M., Balka, E. B., & Cohen, P. (1997). Drug use and delinquency: Shared and unshared risk factors in African American and Puerto Rican adolescents. *Journal of Genetic Psychology, 158*, 25-39.

Brown, G. W., & Harris, T. (1978). *Social origins of depression: A study of psychiatric disorder in women.* London: Tavistock Publications.

Buckner, J. C., Bassuk, E. L., Weinreb, L., & Brooks, M. (1999). Homelessness and its' relation to the mental health and behavior of low-income school-age children. *Developmental Psychology, 35*, 246-257.

Buckner, J. C., Mezzancappa, E., & Beardsless, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development and Psychopathology, 15*, 139-162.

Buhrmeister, D. (1996). Need fulfillment, interpersonal competence and the developmental contexts of early adolescent friendship. In W. Bukowski, A. Newcomb, & W. Hartup (Eds.), *The company they keep: Friendship in child and adolescence* (pp. 158-185). New York: Cambridge University .

Campbell, A. (1987). Self-reported delinquency and home life: Evidence from a sample of British girls. *Journal of Youth and Adolescence, 16*, 167-177.

Canadian Paediatric Society. (2003) Office practice guidelines for the care of adolescents. Retrieved July 10, 2006, from www.cps.ca/english/statements/am/am94-04.htm.

Cassady, J. C. (2001). Self-reported GPA and SAT: A methodological note. *Practical Assessment, Research and Evaluation, 7* http://PAREonline.net/getvn.asp?v=7&n=12.

Cassidy, J. (1999). The nature of children's ties. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment: Theory, research and clinical applications* (pp. 3-20). New York: The Guildford.

Catterall. J.S. (1998). Risk and resilience in student transitions to high school. *American Journal of Education*, 106, 302-333.

Cauce, A. M., Felner, R. D., & Primavera, J. (1982). Social support in high-risk adolescents: Structural components and adaptive impact. *American Journal of Community Psychology, 10*, 417-428.

Chappell, K. D., & Davis, K. E. (1998). Attachment, partner choice and perception of romantic partners: An experimental test of attachment security hypothesis. *Personal Relationships, 5*, 327-342.

Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and Psychopathology, 7*, 1-10.

Cicchetti, D., Ganiban, J., & Barnett, D. (1991). Contributions from the study of high risk populations to understanding the development of emotion regulation. In J. Garber & K. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 15-49). New York: Cambridge University.

Cicchetti, D., & Garmezy, N. (1993). Prospects and promises in the study of resilience. *Development and Psychopathology, 5*, 497-502.

Cicchetti, D., & Lynch, M. (1993). Toward an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry, 56*, 96-118.

Coie, J. D., Watt, N. F., West, S. G., Hawkins, J. D., Asarnow, J. R.,Markman, H. J., et al. (1993). The Science of Prevention: a conceptual framework and some directions for a national research program. *American Psychologist, 48*, 1013-1022.

Cole-Detke, H., & Kobak, R. (1996). Attachment processes in eating disorder and depression. *Journal of Consulting & Clinical Psychology, 64*, 282-290.

Conrad, M., & Hammen, C. (1993). Protective and resource factors in high and low-risk children: A comparison of children with unipolar, bipolar, medically ill, and normal mothers. *Development and Psychopathology, 5*, 593-607.

Cooper, M. L., Shaver, P. R., & Collins, N. L. (1998). Attachment styles, emotion regulation, and adjustment in adolescence, *Journal of Personality and Social Psychology,* 74, 1380-1397.

Corbett, R. P., & Petersilia, J. (1994). Up to speed: A review of research for practitioners. *Federal Probation, 58*, 51-56.

Cowen, E. L., & Work, W. C. (1988). Resilient children, psychological wellness, and primary prevention. *American Journal of Community Psychology, 16*, 591-607.

Cowen, E. L., Wyman, P. A., Work, W. C., Kim, J. Y., Fagen, D. B., & Magnus, B. B. (1997). Follow up study of young stress-affected and stress-resilient urban children. *Development and Psychopathology, 9*, 565-577.

Czikszentimihalyi, M., & Larson, R. (1984). *Being Adolescent: Conflict and growth in the teenage years*. New York: Basic Books.

Davidson, W. S., Redner, R., Blakely, C. H., Mitchell, C. M., & Emshoff, J. G. (1987). Diversion of juvenile offenders: An experimental comparison. *Journal of Consulting and Clinical Psychology, 55*, 68-75.

De Wolff, M. S. & Van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*, 571-591.

Dodge, K. A., Price, J. M, Bachorowski, J., & Newman, J. P. (1990). Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99*, 385-392.

Doyle, A. B., & Moretti, M. M. (2000). *Attachment to Parents and Adjustment in Adolescence: Literature Review and Policy Implications*. Ottawa: Health Canada.

Dozier, M., Lomax, L., Tyrrell, C. L., & Lee, S. W. (2001). The challenge of treatment for clients with dismissing states of mind. *Attachment and Human Development , 3*, 62-76.

Dryfoos, J. (1998). *Safe passage: Making it through adolescence in a risky society.* NewYork: Oxford.

Egeland, B.; Jacobvitz, D.; and Sroufe, L. A. (1988). Breaking the cycle of abuse. *Child Development, 59*, 1080-1088.

Elder, G. H. (1998). The Life Course as Developmental Theory. *Child Development, 69*, 1-12.

Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. Parke & G. Ladd (Eds.), *Family-peer relations: Modes of linkage* (pp. 77-106). Hillsdale, NJ: Lawrence Erlbaum.

Erikson, E. H. (1968). *Identity: Youth and Crisis.* NewYork: Norton.

Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relation between quality of attachment and behavior problems in preschool in a high-risk sample. In I. Bretherton & E. Waters (Eds.), *Child Development Monographs, 50* (1-2), 147-166.

Fagot, B. I. & Kavanagh, K. (1990). The prediction of antisocial behaviour from avoidant attachment classification, *Child Development*, 61, 864-873.

Felner, R. D., Aber, M. S., Primavera, J., & Cauce, A.M. (1985). Adaptation and vulnerability in high risk adolescents: an examination of environmental mediators. *American Journal of Community Psychology, 13*, 365-379.

Felner, R. D., Brand, S., DuBois, D. L., Adan, A. M., Mulhall, P. F., & Evans, E. G. (1995). Socioeconomic disadvantage, proximal environmental experiences, and

socioemotional and academic adjustment in early adolescence: Investigation of a mediated effects model. *Child Development, 66*, 1-12.

Finzi, R., Ram, A., Har-Even, D., Shnit, D., & Weizman, A. (2001). Attachment styles and aggression in physically abused and neglected children. *Journal of Youth and Adolescence , 30*, 769-786.

Fosha, D. (2000). *The transforming power of affect: A model for accelerated change.* Basic Books: New York

Fraley, R. C., & Davis, K. E. (1997). Attachment formation and transfer in young adults' close friendships and romantic relationships. *Personal Relationships, 4*, 131-144.

Freeman, H., & Brown, B. (2001). Primary attachment to parents and peers during adolescence: Differences by attachment style. *Journal of Youth and Adolescence, 30*, 653-674.

Furman, W. (1999). Friends and lovers: The role of peer relationships in adolescent romantic relationships. In W. A. Collins & B. Laursen (Eds.), *Relationships as developmental contexts*. The Minnesota symposia on child psychology: Vol. 30. (pp. 133-154). Mahwah, NJ: Lawrence Erlbaum.

Furman, W. & Buhrmester, D. (1992): Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63,* 103-115.

Gad, M. T., & Johnson, J. H. (1980). Correlates of adolescent life stress as related to race, SES, and levels of perceived social support. *Journal of Clinical Child and Adolescent Psychology, 9*, 13-16.

Garbarino, J., Dubrow, N., Kostelny, K. and Pardo, C. (1992). *Children in danger: Coping with the consequences of community violence*. San Francisco: Jossey-Bass.

Garmezy, N. (1970). Process and reactive schizophrenia: Some conceptions and issues. *Schizophrenia Bulletin, 2*, 30-74.

Garmezy, N. (1971). Vulnerability research and the issue of primary prevention. *American Journal of Orthopsychiatry, 41*, 101-116.

Garmezy, N. (1983). Stressors of childhood. In N. Garmezy & M. Rutter (Eds.), *Stress, coping, and development in children.* (pp. 73-84). New York: McGraw Hill.

Garmezy, N. (1985). The NIMH-Israeli high-risk study: Commendation, comments, and cautions. *Schizophrenia Bulletin, 11*, 349-353.

Garmezy, N. (1990). A closing note: Reflections on the future. In J. Rolf, A. S. Masten, D. Cicchetti, K. Nuechterlein, & S. Weintraub (Eds.), *Risk and Protective Factors in the development of psychopathology* (pp. 527-534). New York: Cambridge University Press.

Garmezy, N. & Masten, A.S. (1986). Stress, competence, and resilience: common frontiers for therapist and psychopathologist. *Behavior Therapy, 17*, 500-521.

Garmezy, N., & Masten, A. S. (1994). Chronic adversities. In M. Rutter, L. Herzov, & E. Taylor (Eds.), *Child and adolescent psychiatry* (pp. 191-208). Oxford, England: Blackwell Scientific.

Garmezy, N., Masten, A.S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55*, 97-111.

Garmezy, N. & Nuechterlein, K. (1972). Invulnerable children: The fact and fiction of competence and disadvantage. *American Journal of Orthopsychiatry, 42*, 328-329.

George, C., Kaplan, N., and Main, M. (1985). *Adult attachment interview.* Unpublished protocol (3rd ed.) Berkeley, CA: Department of Psychology, University of California.

Gersten, J. C., Langner, T. S., Eisenbery, J. S., & Simcha-Fagan, O. (1977). An evaluation of the etiological role of stressful life-change events in psychological disorders. *Journal of Health and Social Behavior, 43*, 228-244.

Gest, S. D., Reed, M. G., Masten, A. S. (1999). Measuring developmental changes in exposure to adversity: A life chart and rating scale approach. *Development and Psychopathology, 11,* 171-192.

Goldberg, S., Perrotta, M., Minde, K., & Corter, C. (1986). Maternal behaviour and attachment in low-birth-weight twins and singletons, *Child Development,* 57, 34-46.

Greenberg, M. T. (1999). Attachment and Psychopathology in Childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: theory, research and clinical applications* (pp. 469-496). New York: Guilford.

Greenberg, M. T., Lengua, L .J., Coie, J. D., & Pinderhughes, E. E. (1999). Predicting developmental outcomes at school entry using a multi-risk model: Four American communities. *Developmental Psychology, 35*, 403-417.

Greenberg, M. T., Seigal, J. M., & Leitch, C. J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth and Adolescence, 12*, 373-386.

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

Griffin, D. W., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*, 433-445.

Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143-154.

Grossman, F. K., Beinashowitz, J., Anderson, L., Sakurai, M., Finnin, L., & Flaherty, M. (1992). Risk and resilience in young adolescents. *Journal of Youth and Adolescence, 21*, 529-550.

Grossman, J. B., & Tierney, J. P. (1998). Does mentoring work? An impact study of the Big Brothers Big Sisters program. *Evaluation Review, 22*, 403-426.

Grych, J. H., & Fincham, F. D. (1997). Children's adaptation to divorce: From description to explanation. In S. A. Wolchik, & I. N. Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention* (pp. 159-193). New York: Plenum.

Hamburg, B. A., & Takanishi, M. (1989). Preparing for life: The critical transition of adolescence. *American Psychology, 44*, 825-827.

Hamilton , C. (1994) *Continuity and discontinuity of attachment from infancy through adolescence*. Unpublished doctoral dissertation, UC-Los Angeles.

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

Hechtman, L. (1991). Resilience and vulnerability in long term outcome of attention-deficit/hyperactivity disorder. *Canadian Journal of Psychiatry, 36*, 415-421.

Henderson, N., & Milstein, M. M. (1996). *Resiliency in schools: Making it happen for students and educators*. Thousand Oaks, CA.: Sage.

Holahan, C. J., & Moos, R. H. (1987). Risk, resistance, and psychological distress: A longitudinal analysis with adults and children. *Journal of Abnormal Child Psychology, 96*, 3-13.

Holmbeck, G. N., & Kendall, P. C. (2002). Introduction to the special section on clinical adolescent psychology: Developmental psychopathology and treatment. *Journal of Consulting and Clinical Psychology, 70*, 3–5.

Horowitz, F. D. (1989, April). *The concept of risk: A re-evaluation.* Paper presented at the meeting of the Society for Research in Child Development, Kansas City, MO.

Huber , P. J. (1981). *Robust Statistics*. Wiley: N. Y.

Jacobite, D., & Hazen, N. (1999). Developmental pathways from infant disorganization to childhood peer relationships. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment* (pp. 671-687). New York: Milford Press

Jenkins, J. N., & Smith, M. A. (1990). Factors protecting children living in disharmonious homes: Maternal reports. *Journal of American Academy of Child and Adolescent Psychiatry, 29*, 60-69.

Jessor, R. (1976). *Predicting time of onset of marijuana use: a developmental study of high school youth.* New York, NY: Academic.

Jessor, R., Turbin, M., & Costa, F. (1998). Risk and protection in successful outcomes among disadvantaged adolescents. *Applied Developmental Science, 2*, 194-208.

Johnson, J. H. (1986). *Life events as stressors in childhood and adolescence*. Beverley Hills, CA: Sage.

Johnson, J. H., & McCutcheon, S. M. (1980). Assessing life stress in older children and adolescents. Preliminary findings with the Life Events Checklist. In I. G. Sarason, & C.D. Spielberger (Eds.), *Stress and anxiety*: Vol. 7. Washington, D.C: Hemisphere.

Kershaw, P., Irwin, L., Trafford, K., & Hertzman, C. (2005). *The British Columbia Altas of Child Development* (1st ed.). Vancouver, Canada: Human Early Learning Partnership and Western Geographical Press.

Kobak, R. R, & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135-146.

Kumpfer, K. L. (1999). Factors and processes contributing to resilience: The resilience framework. In M. D. Glantz & J. Johnson (Eds.), *Resilience and Development: Positive life adaptations* (pp. 179-224). New York: Plenum.

Kwakman, A. M., Zuiker, F. A., Schippers, G. M., & de Wuffel, F. J. (1988). Drinking behavior, drinking attitudes, and attachment relationship of adolescents. *Journal of Youth and Adolescence, 17*, 247-253.

Larsen, R. W., Richards, M. H., Moneta, G., & Holmbeck, G. C. (1996). Changes in adolescents' daily interaction with their families from ages 10-18: Disengagement and transformation. *Developmental Psychology, 32*, 744-754.

Laursen, B., & Williams, V. A. (1997). Perceptions of interdependence and closeness in family and peer relationships among adolescents with and without romantic partners. In S. Shulman & W. A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 3-20). San Francisco, CA: Jossey-Bass.

Lerner, R. M., & Galambos, N. L. (1998). Adolescent development: Challenges and opportunities for research, programs and policies. *Annual Review of Psychology, 49*, 413-446.

Lessard, J. C., & Moretti, M .M. (1998). Suicidal ideation in an adolescent sample: Attachment patterns and clinical implications. *Journal of Adolescence, 21*, 383-395.

Lieberman, M., Doyle, A. B., & Markiewicz, D. (1999). Developmental patterns in security of attachment to mother and father in late childhood and early adolescence: Associations with peer relations. *Child Development, 70*, 202-213.

Liotti, G. (1992). Disorganized/disoriented attachment in the etiology of dissociative disorders. *Dissociation, 4*, 196-204.

Lipton, W. L., & Werner, M. D. (1983). Explaining delinquent involvement: A consideration of suppressor effects. *Journal of Research in Crime and Delinquency, 20*, 199-213.

Losel, F. (1994). Protective factors of social resources in adolescents at high-risk for antisocial behavior. In E. G. Weitekamp & H.J. Kerner (Eds.), *Cross-national longitudinal research on human development and criminal behavior* (pp. 281-301). Dordrecht: Kluwer Academic Publishers.

Luthar, S. S. (1991). Vulnerability and resilience: A study of high risk adolescents. *Child Development, 62*, 600-616.

Luthar, S. S. (1993). Annotation: Methodological and conceptual issues in research on research on child resilience. Pediatric Annals, 20, 501-506.

Luthar, S. S. (1999). Measurement issues in the empirical study of resilience: An overview. In M. Glanz & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 129-160). New York: Plenum.

Luthar, S. S. (2003). *Resilience and Vulnerability: Adaptations in the context of child adversities*. Cambridge: Cambridge University.

Luthar, S. S., & Becker, B. E. (2002). Privileged but pressured? A study of affluent youth.*Child Development, 73*, 1593-1610.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543-562.

Luthar, S. S., Doernberger, C. H., & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a prospective study of inner-city adolescents. *Developmental Psychopathology, 5*, 703-717.

Lyons -Ruth, K., Alpern, L., & Reparcholi, B. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. *Child Development, 64*, 572-585

Lyons-Ruth, K., Repacholi, B., McLeod, S., & Silva, E. (1991). Disorganized attachment behavior in infancy: Short term stability, maternal and infant correlates, and risk-related subtypes. *Development and Psychopathology, 3*, 377-396.

Magnus, K., Cowen, E. L., Wyman, P. A., Fagen, D. B., & Work, W. C. (1999). Correlates of resilient outcomes among highly stressed African-American and White urban children. *Journal of Community Psychology, 27*, 473-488.

Main, M. & Goldwyn, R. (1994). *Adult attachment scoring and classification systems* (3rd ed.). Unpublished manuscript, University of California at Berkeley.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development, 50*, 66-104.

Main, M., & Weston, D. (1981). The quality of toddler's relationship to mother and father: Related to conflict behavior and the readiness to establish new relationships. *Child Development, 52*, 932-940.

Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M. C. Wang & E.W. Gordon (Eds.), *Educational resilience in inner city America: Challenges and prospects* (pp. 3-25). Hillside, NJ: Erlbaum.

Masten, A. S. (1986). Humor and competence in school-aged children. *Child Development, 57*, 461-473.

Masten, A. S. (1989). Resilience in development: Implications of the study of successful adaptation for developmental psychopathology. In D. Cicchetti (Ed.), *The emergence of a discipline: Rochester symposium on developmental psychopathology* (pp. 261-294). Hillsdale, NJ.: Lawrence Erlbaum.

Masten, A. S. (1999). Resilience comes of age: Reflections on the past and outlook for the next generation of research. In M. D. Glantz, J. Johnson, & L. Hoffman (Eds.), *Resilience and development: Positive life adaptations* (pp. 282-296). New York: Plenum.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227-238.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*, 425-444.

Masten, A. S., & Coatsworth, J. D. (1995). Competence, resilience and psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol.2. Risk, disorder and adaptation* (pp. 715-752). New York: Wiley.

Masten, A. S., & Garmezy, N. (1985). Risk, vulnerability and protective factors in developmental psychopathology. In B. B. Lahey & A.E. Kazdin, (Eds.), *Advances in child psychology:* Vol. 8 (pp. 1-52). New York: Plenum.

Masten, A. S., Garmezy, N., Tellegen, A., Pellegrini, D. S., Larkin, K., & Larsen, A. (1988). Competence and stress in school children: the moderating effects of individual and family qualities. *Journal of Child Psychological Psychiatry, 29*, 745-764.

Masten, A. S., Hubbard, J., Gest, S., Tellegen, A., Garmezy, N., & Ramirez, M. (1999). Competence in the context of adversity: Pathways to resilience and maladaptation from childhood to late adolescence. *Development and Psychopathology, 11*, 143-169.

Masterpasqua, F. (1989). A competence paradigm for psychological practice. *American Psychologist, 44*, 1366-1371.

McElwain, N. L., Cox, M. J., Burchinal, M. R., & MacFie, J. (2003). Differentiating among insecure mother-infant attachment classifications: A focus on child-friend interaction and exploration during solitary play at 36 months. *Attachment and Human Development, 5*, 136-164.

McKay, S., & Moretti, M. M. (2001, August). *Comprehensive Adolescent-Parent Attachment Inventory (CAPAI): Preliminary Validation.* Poster presented at the American Psychological Association, San Francisco, CA.

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

Mikulincer, M. (1995). Attachment style and the mental representation of the self. *Journal of Personality and Social Psychology, 69*, 1203-1215.

Mikulincer, M., & Florian, V. (2000). Exploring individual differences in reactions to mortality salience – Does attachment style regulate terror management mechanisms? *Journal of Personality and Social Psychology, 79*, 260-273.

Miles, J., & Shevlin, M. (2001). *Applying Regression and Correlations: A Guide for Students and Researchers*. Newbury Park, CA: Sage .

Monroe, S. M., & Peterman, A.M. (1988). Life stress and psychopathology. In L. H. Cohen (Ed.), *Life events and psychological functioning: Theoretical and methodological issues* (pp. 31-63). Newbury Park, CA: Sage Publications.

Moretti, M. M., & Holland, R. (2003). The journey of adolescence: Transitions in self in the context of attachment relationships. In S. M. Johnson (Ed.), *Attachment processes in couple and family therapy* (pp234-257). New York, NY: Guilford Press.

Moretti, M. M., McKay, S., Holland R. (2000). *The comprehensive adolescent-parent attachment inventory*. Unpublished protocol.

Munsch, J., & Wampler, R. S. (1993). Ethnic differences in early adolescents' coping with school stress. *American Journal of Orthopsychiatry, 63*, 633-646.

Murphy, L. and Moriarty, A. (1976). *Vulnerability, coping, and growth from infancy to adolescence*. New Haven: University Press.

Najaka, S. S., Gottfredson, D. C., & Wilson, D. B. (2001). A meta-analytic inquiry into the relationship between selected risk factors and problem behavior. *Prevention Science, 2*, 257-271.

Nickerson, A. B., & Nagle, R. J. (2005). Parent and peer attachment in late childhood and early adolescence. *Journal of Early Adolescence,* 25, 223–249.

Noam, G. G., & Hermann, C. A. (2002). Where education and mental health meet: Developmental prevention and early intervention in schools. *Development and Psychopathology, 14*, 861-875.

Noam, G. G., & Goldstein, L. S. (1998). *The Resilience Inventory.* Unpublished Protocol.

Noom, M. J., Deković, M., & Meeus, W. H. J. (1999). Autonomy, attachment and psychosocial adjustment during adolescence: A double-edged sword? *Journal of Adolescence, 22*, 771-783.

Offer, D. (1987). The mystery of adolescence. *Adolescent Psychiatry, 14*, 7-27.

Obsuth, I., Moretti, M. M., Holland, R., Brabar, K., & Cross, S. (2006). Conduct disorder: New directions in promoting effective parenting and strengthening parent-adolescent relationships. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 15, 6-15.

Papini, D. R., Roggman, L. A., & Anderson, J. (1991). Early-adolescent perceptions of attachment to mother and father: A test of emotional-distancing and buffering hypotheses. *Journal of Early Adolescence, 11*, 258-275.

Parker, G. R., Cowen, E. L., & Work, W. C. (1990). Test correlates of stress-resilience among urban school children. *Journal of Primary Prevention, 11*, 19-35.

Patrick, M., Hobson, R. P., Castle, D., Howard, R., & Maughan, B. (1994). Personality disorder and the mental representation of early social experience. *Development and Psychopathology, 6*, 375-388.

Pietromonaco, P. R., & Carnellay, K.B. (1994). Gender and working models of attachment. *Personal Relationships, 1*, 63-82.

Pines, M. (1984). Resilient children: The search for protective factors. *American Educator, 8,* 34-37.

Pryor-Brown, L., & Cowen, E. L. (1989). Stressful life events, support and children's school adjustment. *Journal of Clinical Child Psychology, 18*, 214-230.

Renken, B., Egeland, B., Marvinney, D., Mangelsdorf, S., & Sroufe, L. A. (1989). Early childhood antecedents of aggression and passive withdrawal in early elementary school. *Journal of Personality, 57*, 257-281.

Resnick, M., Bearman, P., Blum, R., Bauman, K., Harris, K., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the national longitudinal study on adolescent health. *Journal of American Medical Association, 278*, 823-832.

Rhodes, J. E., Ebert, L., & Fisher, K. (1992). Natural mentors: An overlooked resource in the social networks of African-American adolescent mothers. *American Journal of Community Psychology, 20*, 445-462.

Rice, K. G (1990) Attachment in adolescence: A narrative and meta-analytic review. *Journal of Youth and Adolescnce, 19,* 511-538.

Robinson, J. L. (2000). Are there implications for prevention research from studies on resilience? *Child Development, 71*, 570-572.

Rosenstein, D. S., & Horowitz, H. A. (1996). Adolescent attachment and psychopathology. *Journal of Consulting and Clinical Psychology, 64*, 237-243.

Rowe, A. C., & Carnelley, K. B. (2005). Premlinary support for the use of a hierarchical mapping technique to examine attachment networks. *Personal Relationships, 12*, 499-519.

Rumberger, R. (1987). High school drop outs: A review of issues and evidence. *Review of Educational Research, 57*, 101-121.

Rutter, M. (1972). *Maternal deprivation reassessed.* Harmondsworth, England: Penguin.

Rutter, M. (1979). Protective factors in children responses to stress and disadvantage. In M. W. Kent & J. E. Rolf (Eds.), *Primary prevention of psychopathology: Social competence in children: Vol. 3* (pp. 49-74). Hanover, NH: University Press of New England.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry, 147*, 598-611.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*, 316-331.

Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. S. Masten & D. Cicchetti (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 181-214). New York: Cambridge University.

Rutter, M. (1993). Resilience: some conceptual considerations. *Journal of Adolescent Health, 14*, 626-631.

Rutter, M. (Ed.). (1983). *Stress coping and development: some issues and some questions*. New York: McGraw-Hill.

Rutter, M., Maughan, B., Mortimore, P., Ouston, J., & Smith, A. (1979). *Fifteen thousand hours*. Cambridge: Harvard University Press.

Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy and the self in psychological development. In J. Jacobs (Ed.), *Nebraska symposium on motivation: Developmental perspectives on motivation*: Vol. 40 (pp. 1-56). Lincoln: University of Nebraska Press.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.

Ryan, R. M., & Lynch, J. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Development, 60*, 340-356.

Ryan, R. M. & Stiller, J. D. (1991). The social contexts of internalization: Parent and teacher influences on autonomy, motivation and learning. In P. R. Pintrich & M.L. Maher (Eds.), *Advances in motivation and achievement: Vol 7. Goals and self-regulatory processes* (pp. 115-149). Greenwich, CT: JAI.

Sandler, I. N., Miller, P., Short, J., & Wolchik, S.A. (1989). Social support as a protective factor for children in stress. In D. Belle (Ed.), *Children's social network and social support* (pp. 277-307). New York: Wiley.

Sarason, B. R., Pierce, G. R., & Sarason, I. G. (1990). Social Support: The sense of acceptance and the role of relationships. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds), *Social support: An interactional view* (pp. 95-128). New York: Wiley.

Savin-Williams, R., & Berndt, T. J. (1990). Friendship and peer relations. In S. Feldman & G. Elliot (Eds.). *At the threshold: The developing adolescent* (pp. 277-307). Cambridge, MA: Harvard University.

Scarr, S., & McCartney, K. (1983). How people make their own environment: A theory of genotype-environment effects. *Child Development, 54*, 424-435.

Schore, A. N. (1997). Early organization of the nonlinear right brain and development of a predisposition to psychiatric disorders. *Development and Psychopathology, 9*, 595-631.

Schonert-Reichl, K.A. (April 2000). Children and Youth at Risk: Some conceptual considerations. Paper presented at the Pan Canadian Educational Research Agenda Symposium, "Children and Youth at Risk". Ottawa, Canada.

Schorr, L., & Schorr, D. (1988). *Within our reach: Breaking the cycle of disadvantage.* New York: Doubleday.

Seifer, R., & Sameroff, A. J. (1987). Multiple determinants of risk and invulnerability. In E. J. Anthony & B. J. Cohler (Eds.), *The invulnerable child* (pp. 51-69). New York: Guilford.

Seligman, M. E. (1990). *Learned optimism.* New York: Knopf.

Shaver, P. R., & Hazan, C. (1994). Attachment as an organizational framework for research in close relationships. *Psychological Inquiry, 5*, 1-22.

Shyamala, N. R., McGee, R. & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence, *Journal of Youth and Adolescence,* 21, 471-485.

Siegel, D. J. (1999). *The developing mind: Toward a neurobiology of interpersonal experience.* New York: Guildford.

Smokowski, P. R., Reynolds, A. J., & Bezruczko. (1990). Resilience and protective factors in adolescence: An autobiographical perspective from disadvantaged youth. *Journal of School Psychology, 37*, 425-448.

Song, M. (2003). *Investigation of the Reliability and Validity of the Resiliency Inventory.* Unpublished doctoral dissertation. Harvard University, Cambridge, MA.

Speltz, M. L., Greenberg, M. T., & DeKlyen, M. (1991). Attachment in preschoolers with disruptive behavior: A comparison of clinic referred and nonproblem children. *Development and Psychopathology,* 2, 31-46.

Sroufe, L. A. (1996). *Emotional Development: The organization of emotional life in the early years*. New York: Cambridge University.

Steinberg, L. (1990, April). *Adolescent Development: an ecological perspective.* Paper presented at the meeting of the American Psychological Association, Boston, MA.

Steinhausen, H. C., & Winkler Metzke, C. (2001). Risk, compensatory, vulnerability, and protective factors influencing mental health in adolescence. *Journal of Youth and Adolescence, 30*, 259-280.

Sugland, B. W., Zaslow, M., & Winquist-Nord, C. (1993). *Risk, vulnerability, and resilience among youth: In search of a conceptual framework.* Washington, DC: William T. Grant Foundation.

Sullivan, T. N., & Farrell, A. D. (1999). Identification and impact of risk and protective factors for drug use among urban African American adolescents. *Journal of Clinical Child Psychology, 28*, 122-136.

Swearingen, E. M., & Cohen, L. H. (1985a). Life events and psychological distress: A prospective study of young adolescents. *Developmental Psychology, 21*, 1045-1054.

Swearingen, E. M., & Cohen, L. H. (1985b). Measurement of adolescents' life events: A junior high life experiences survey. *American Journal of Community Psychology, 13*, 69-85.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics* (4th ed.): Boston, MA: Allyn & Bacon.

Thomas, D.R., Hughes, E., & Zumbo, B.D. (1998). On variable importance in linear regression. *Social Indicators Research: An International and Interdisciplinary Journal for Quality-of-Life Measurement, 45*, 253-275.

Thomas, D. R., & Zumbo, B. D. (1996). Using a measure of variable importance to investigate the standardization of discriminate coefficients. *Journal of Educational & Behavioral Statistics, 21*, 110-130.

Thornberry, T. P., Lizotte, A.J., Krohn, M. D., Farnworth, M., & Jang, S. J. (1991). Testing interactional theory: An examination of reciprocal causal relationships among family, school and delinquency. *Journal of Criminal Law and Criminology, 82*, 3-35.

Tiet, Q. Q., Bird, H. R., Davies, M., Hoven, C., Cohen, P., Jensen, P., & Goodman, S. (1998). Adverse life events and resilience. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1191-1200.

Vance, E. J., Fernandez, G., & Biber, M. (1998). Educational progress in a population of youth with aggression and emotional disturbance: The role of risk and protective factors. *Journal of Emotional & Behavioral Disorders, 6*, 214-221.

Van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology, 11*, 225-249.

Verschueren, K., Marcoen, A., & Schoefs, V. (1996). The internal working model of the self, attachment, and competence in five-year-olds. *Child Development, 67*, 2494-2511.

Violato, C. & Arato, J. (2004). Childhood attachment and adolescent suicide: A stepwise discriminant analysis in a case-comparison study. *Individual Differences Research*, 3, 162-168.

Voss, K. (2000). *Understanding adolescent antisocial behavior from attachment theory and coercion theory perspectives*. Unpublished doctoral dissertation. Concordia University, Quebec, Canada.

Walker, H. M., & Stieber, S. (1998). Teacher ratings of social skills as longitudinal predictors of long-term arrest status in a sample of at-risk males. *Behavioral Disorders, 23*, 222-230.

Wang, M. C., Haertel, G. D., & Wahlberg, H. J. (1994). Educational Resilience in inner cities. In M.C. Wang & E.W. Gordon (Eds.), *Educational resilience in inner city America: Challenges and prospects* (pp. 45-72). Hillsdale, NJ: Erlbaum.

Ward, M. J., & Carlson, E. A. (1995). Associations among adult attachment representations, maternal sensitivity, and infant–mother attachment in a sample of adolescent mothers. *Child Development, 66*, 69–79.

Wartner, U. G., Grossmann, K., Fremmer-Bombik, E., & Suess, G. (1994). Attachment patterns at age six in south Germany: Predictability from infancy and implications for preschool behavior. *Child Development, 65,* 1014-1027

Waters, E., Merrick, S. K., Albersheim, L., & Treboux, D. (1995, April). *Attachment security from infancy to early adulthood: A 20-year longitudinal study.* Paper presented at the biennial meeting of the Society for Research in Child Development, Indianapolis, IN.

Waters, E., & Sroufe, L.A. (1983). Social competence as developmental construct. *Developmental Review, 3*, 79-97.

Watson, J. S. (1972). Smiling, cooing and "the game." *Merrill-Palmer Quarterly, 18*, 323-340.

Wiesner, T.S. (2005). Attachment as a cultural and ecological problem with pluralistic solutions. *Human Development, 48*, 89-94.

Weiss, R. S. (1991). The attachment bond in childhood and adulthood. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 66-76). New York: Routledge.

Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology, 89*, 411-419.

Werner, E. E. (1986). Resilient offspring of alcoholics: A longitudinal study from birth to age 18. *Journal of Studies in Alcohol, 47*, 34-40.

Werner, E. E. (Ed.). (1989). *Vulnerability and resiliency: A longitudinal perspective.* New York: Walter de Gruyter.

Werner, E. E (1989). High-risk children in youth adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry, 59*, 72-81.

Werner, E. E (1990). Protective factors and individual resilience. In S. Meisels & J. Shonkoff (Eds.), *Handbook of early childhood intervention* (pp. 97-116). New York: Cambridge University.

Werner, E. E (1993). Risk, resilience and recovery: Perspectives from the Kauai longitudinal study. *Development and Psychopathology, 5*, 503-515.

Werner, E. E (1995). Resilience in development: Current directions in psychological science. *American Psychological Society, 4*, 81-85.

Werner, E.E, & Smith, R. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth.* New York: Adams, Bannister, & Cox.

Werner, E.E, & Smith, R. (1992). *Overcoming the odds: high risk children from birth to adulthood.* New York: Cornell University.

Wilkinson, R. B. (2004). The role of parental and peer attachment in the psychological health and self-esteem of adolescents. *Journal of Youth and Adolescence, 33,* 479-493.

Wilkinson, R. B. & Walford, W. A. (2001). Attachment and personality in the psychological health of adolescents. *Personality and Individual Differences, 31, 473-484.*

Wolchik, S. A., Ruehlman, L. S., Braver, S. L., & Sandler, I. N. (1989). Social support for children of divorce: Direct and stress buffering effects. *American Journal of Community Psychology, 17*, 485-501.

Wright, M. O., Masten, A. S., Northwood, A., & Hubbard, J. (1997). Long-term effects of massive trauma: Developmental and psychobiological perspectives. In D. Cicchetti, & S.L. Toth. (Eds.), *Rochester Symposium: Vol. 9. The effects of trauma on the developmental process*. Rochester, NY: University of Rochester.

Wyman, P. A., Cowen, E. L., Work, W. C., & Parker, G. R. (1991). Developmental and family milieu correlates of resilience in urban children who have experienced major life-stress. *American Journal of Community Psychology, 19*, 405-426.

Wyman, P. A., Cowen, E. L., Work, W. C., Hoyt-Myers, L., Magnus, K. B., & Fagen, D.B. (1999). Caregiving and developmental factors differentiating young at-risk urban children showing resilient versus stress-affected outcomes: A replication and extension. *Child Development, 70*, 645-659.

Wyman, P. A., Cowen, E. L., Work, W. C., Raoof, A., Gribble, P. A., & Parker, G. R. (1992). Interviews with children who experienced major life stress: Family and child attributes that predict resilient outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 904-910.

Zimmerman, M. A., & Arunkumar, R. (1994). Resiliency research: Implications for schools and policy. *Social Policy Report, Society for Research in Child Development, 8*, 1-18.

Zimmerman, M. A., & Bingenheimer, J. B., & Notaro, P. C. (2002). Natural mentors and adolescent resiliency: A study with urban youth. *American Journal of Community Psychology, 30*, 221-243.

Zimmerman, M. A., Ramirez, J., Washienko, K. M., Walter, B., & Dyer, S. (1994). The enculturation hypothesis: Exploring direct and protective effects among Native American youth. In H. I. McCubbin, E. A. Thompson, & A. I. Thompson (Eds.), *Resiliency in ethnic minority families, Volume I: Native and immigrant American families* (pp. 199-220). Madison, WI: University of Wisconsin Press.

Zimmerman, P., & Becker-Stoll, F. (2002). Stability of attachment representations during adolescence: The influence of ego-identity status. *Journal of Adolescence, 25*, 107-124.

Footnotes

[1] The "Strange Situation " is a laboratory- based assessment done with mothers and 12-18 month old toddlers in order to assess attachment quality in the dyad. It has been demonstrated through studies that the attachment orientation that an infant has with its' mother is the template for forming other relationships throughout life.

[2] Students were drawn from a class that is a requirement for graduation. Although the majority of students take this class in both grade ten and eleven, two of the students in the sample were in grade 12 at the time they took this course. These two grade twelve students account for the increased age range of the sample.

[3] This school is located in an area identified in the Human Early Learning Partnership mapping project (Kerhsaw, Irwin, Trafford, & Hertzman, 2005) as one the most vulnerable areas in the province in terms of child developmental outcomes. Details of the are available at www.earlylearning.ubc.ca/mapping/

[4] There are twelve additional subscales (insecure attachment to attachment figure, separation anxiety, self-reliance, discomfort with closeness, anger at attachment figure, uncertainty about feeling for attachment figure, discomfort with dependence, lack of trust in attachment figure, low lovability/relational self-esteem, repellant desire to merge with attachment figure, tough independence, fear of abandonment). These subscales were not used in this study because they are in the preliminary stages of development and have not yet been validated for use in assessment.

Appendix A

Student Demographic Questionnaire

Tell Us About Yourself

Name: _____ Grade _____

1. Are you a boy or a girl? (CIRCLE ONE) BOY GIRL
2. What is your birthdate? _____ day _____ month _____ year

3. How would you describe yourself in terms of racial or ethnic heritage? (Check one)
____ White (Anglo, Caucasian, European descent, etc.)
____ Latin (Spanish, Mexican, South American, Portuguese, etc.)
____ Black (African, Haitian, Jamaican, Caribbean, etc.)
____ Aboriginal/Native People (North American Indian, Metis, Inuit, etc.)
____ Asian (Chinese, Japanese, Korean, Vietnamese, Taiwanese, etc.)
____ South Asian (Indian, Indonesian, Pakistani, etc.)
____ Middle Eastern (Arabic, Iranian, Kuwaiti, Persian, etc.)
____ Mixed (more than one racial or ethnic background)
____ Not sure.
____Other ethnic or cultural group(s) Please describe:_____

4. Which of these adults do you live with MOST OF THE TIME? (Check all the adults you live with).
___Mother ___Grandmother ___ ½ mom ½ dad
___Father ___Grandfather
___Stepfather ___Stepmother
___foster home ___group home
___Other adults (EXPLAIN, for example, aunt, uncle, mom's boyfriend, friend's parents, etc.)
_____

5. What level of education did your father complete? (circle one)

a. Some high school b. high school c. Some college d. university e. don't know

6. What level of education did your mother complete? (circle one)

a. Some high school b. high school c. Some college d. university e. don't know

7. What do your parents do for a living? Mom: _____
Dad: _____

8. Do you live in (circle where you live)?
a. House b. apartment c. basement suite d. other _____ (describe)

9. For how long have you lived in the current location?_____ (in months)
If less than two years, where did you live before that? _____ (describe)

10. Do you have any brother(s) in your family? Yes No
If yes, how old are they _____

11. Do you have any sister(s) in your family? Yes No
If yes, how old are they _____

12. What is the first language you learned at home? _____

13. What kind of grades do you usually get in school?
Mostly As ___ As and Bs ___ Mostly Bs ___ Bs and Cs ___
Mostly Cs ___ Cs and lower ___ Less than Cs ___

Appendix B

Adverse Life Events Checklist

Life Events Checklist

Please read the following events. Please check off the events that have happened to you this school year in the first column and then if these events have happened to you in your lifetime, check the second column. If the event occurred in both the present year and in the past, check both boxes. If there are ( ) , please fill in the person's relationship to you, e.g., sister, grandmother, cousin. Thank you.

Event	Happened this school year _____ Since September 2004	Has happened in your lifetime	Origin of item
Someone in your family died (other than a parent) ( )			***
A parent died ( )			***
Family member was seriously injured ( )			***
You saw a crime/accident happen			*
You lost a close friend (friendship ended)			***
A close friend was seriously injured/ill			*
Parents worried about having enough money			***
Family member had drug/alcohol problems ( )			*
You got seriously physically sick/injured			***
You were hospitalized due to physical illness			****b
You were hospitalized due to emotional distress			****b
Parents argued a lot more often			***
Mother/father lost a job			***
One parent was away from home more often			***
Someone in the family was arrested ( )			***
A close friend died			***
Family member had emotional problems ( )			*
Brother or sister left home			***
You were the victim of a crime/violence/assault			***
Parents got separated			***
A parent got into trouble with the law ( )			***
You started a new school			***

Event	Happened this school year / Since September 2004	Has happened in your lifetime	Origin of item
Your family moved			***
You moved into foster care			****
You switched foster homes			****
Your parents got divorced			***
One of your parents went to jail ( )			*
You got a new stepmother or stepfather			***
Your boyfriend or girlfriend broke up with you			****s
A pet died			**
Family was on social assistance			****b
A family member became seriously ill ( )			****b
You lost the relationship with a family member ( )			****
A close adult friend died ( )			****
You lost the relationship with a close adult ( )			****
You got into trouble with the law			*
You got charged by the police			****s
You were diagnosed with a chronic physical illness			****b
Please add any other events below.....			

Note:

*	items were derived solely from Tiet et al., 1998 checklist
**	items were derived solely from Swearingen et al., 1985
***	items were in both Swearingen et al, 1985 and Tiet et al., 1998 checklists
****s	Items adapted from Swearingen
****b	Items adapted from event found on both Swearingen and Tiet checklists
****	items which were the author's own and seen as important as they addressed issues of important relationships with adults.

Appendix C

Resiliency Inventory (RI)

More About ME

For each sentence, indicate how well it describes you by circling the number that describes **HOW TRUE** it is for you. Read each sentence carefully. Answer honestly. Thank you.

	Not at all like me	A little bit like me	Kind of like me	A lot like me	Always like me
1. I have more bad times than good times.	1	2	3	4	5
2. I take pride for sticking up in what I believe in.	1	2	3	4	5
3. There's at least one adult I can talk to about my problems.	1	2	3	4	5
4. I make friends easily.	1	2	3	4	5
5. If I don't like something about someone else, I try to say it in a nice way so they don't get hurt.	1	2	3	4	5
6. Even little things make me upset.	1	2	3	4	5
7. More good things than bad things will happen to me.	1	2	3	4	5
8. When there is a lot to think about or do, I can break it into smaller pieces and handle one thing at a time until everything gets done.	1	2	3	4	5
9. I trust adults.	1	2	3	4	5
10. I like being around my friends.	1	2	3	4	5
11.I apologize when I accidentally hurt or offend someone.	1	2	3	4	5
12. I keep making the same mistakes over and over again.	1	2	3	4	5
13. I start most days thinking I'll have a bad day.	1	2	3	4	5
14. I try to look at a situation in different ways to understand it from different points of view.	1	2	3	4	5
15. There are adults I look up to and admire.	1	2	3	4	5

	Not at all like me	A little bit like me	Kind of like me	A lot like me	Always like me
16. I have fun with my friends.	1	2	3	4	5
17. I like to help people with their problems.	1	2	3	4	5
18. I get impatient when I have to wait for something.	1	2	3	4	5
19. Even if there are bad things, I'm able to see the good things about me and my life.	1	2	3	4	5
20. If the way that I am doing something isn't working I try to think of different ways to do it.	1	2	3	4	5
21. Adults usually ignore me.	1	2	3	4	5
22. I have a friend I can trust.	1	2	3	4	5
23. I stick to what I want and don't pay attention to others.	1	2	3	4	5
24. I make decisions before I have a chance to think about the consequences.	1	2	3	4	5
25. I'm bored by most things in life.	1	2	3	4	5
26. I am just as important as anyone else.	1	2	3	4	5
27. I show extra respect to authority figures.	1	2	3	4	5
28. I have many friends.	1	2	3	4	5
29. People say that I understand them very well.	1	2	3	4	5
30. I stay calm even when there is an emergency.	1	2	3	4	5
31. I think that things will get worse in the future.	1	2	3	4	5
32. I have adults other than my parents whose advice I listen to and who are important to me.	1	2	3	4	5

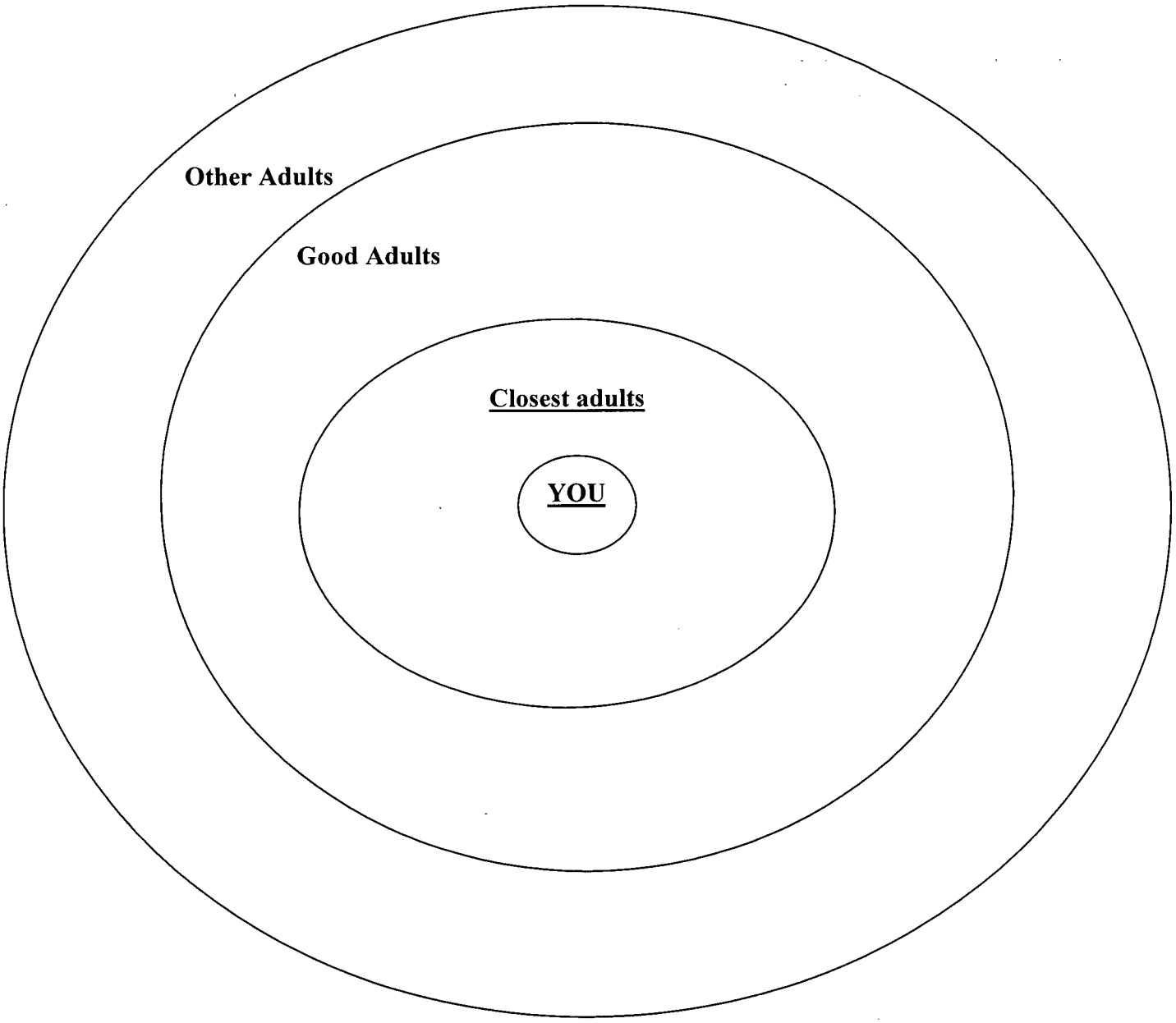
	Not at all like me	A little bit like me	Kind of like me	A lot like me	Always like me
33. I am popular among friends.	1	2	3	4	5
34. I am a good listener.	1	2	3	4	5
35. I feel good about school life.	1	2	3	4	5
36. I am happy with the choices that I have made in my life.	1	2	3	4	5
37. I discuss with adults if I have problems.	1	2	3	4	5
38. I get along well with my friends.	1	2	3	4	5
39. I try to speak from another person's perspective.	1	2	3	4	5
40. I think that I am a lucky person.	1	2	3	4	5
41. There are lots of things that I am good at.	1	2	3	4	5
42. I listen to adults.	1	2	3	4	5
43. When something bad happens to me I think that it will last long.	1	2	3	4	5
44. I will get good grades in school.	1	2	3	4	5

Appendix D

Circle of Support

Circle of Support

Write the names of all the adults, who are important to you. Beside each name, write in the person's role in your life. E.g., Dave (coach) People who are closer to you in the middle would be those adult you consider more important. People in the outside circle would be adults who are in your life who may support you in less direct ways.



Appendix E

Comprehensive Adolescent and Parent Attachment Inventory (CAPAI)

How I Feel About My Caregiver

Please think about one parent of caregiver that has played the **most important part in raising you.** You may live with this parent now or you may live somewhere else and have contact with this parent. Answer all the questions based on how you feel about this parent. **Before you start, who is this parent? (circle one)**

MOM	**DAD**
STEPMOM	**STEPDAD**
FOSTER MOM	**FOSTERDAD**
AUNT	**UNCLE**
GRANDMOTHER	**GRANDFATHER**
OTHER PERSON_____	

Read each sentence and circle the number to show how much you agree or disagree.

1	2	3	4	5	6	7
Disagree A LOT	**Disagree somewhat**	**Disagree a little**	**Neutral**	**Agree a little**	**Agree somewhat**	**Agree A LOT**

BOLDED ITEMS WERE INCLUDED IN ANALYSIS

	Disagree A LOT	Disagree somewhat	Disagree a little	Neutral	Agree A little	Agree somewhat	Agree A LOT
1. I prefer not to show my parent how I feel deep down.	1	2	3	4	5	6	7
2. When I am away from my parent I feel anxious and afraid.	1	2	3	4	5	6	7
3. I would rather take care of myself than depend on my parent.	1	2	3	4	5	6	7
4. I am very comfortable being close to my parent.	1	2	3	4	5	6	7
5. If I can't get my parent to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
6. I have very mixed feelings about my parent.	1	2	3	4	5	6	7
7. I find it difficult to depend on my parent.	1	2	3	4	5	6	7
8. I worry about being away from my parent.	1	2	3	4	5	6	7

	Disagree A LOT	Disagree somewhat	Disagree a little	Neutral	Agree A little	Agree somewhat	Agree A LOT
9. I need a lot of reassurance that I am loved by my parent.	1	2	3	4	5	6	7
10. I worry that my parent won't care as much about me as I care about my parent.	1	2	3	4	5	6	7
11. Often, just when you think you can depend on my parent, my parent doesn't come through for me.	1	2	3	4	5	6	7
12. I worry about being abandoned by my parent.	1	2	3	4	5	6	7
13. I don't feel comfortable opening up to my parent.	1	2	3	4	5	6	7
14. I don't like it when my parent and I have to be separated.	1	2	3	4	5	6	7
15. It is important to me to feel independent.	1	2	3	4	5	6	7
16. Just when my parent starts to get close to me, I find myself pulling away.	1	2	3	4	5	6	7
17. I get frustrated when my parent is not around as much as I would like.	1	2	3	4	5	6	7
18. My feelings about my parent seem to change often.	1	2	3	4	5	6	7
19. I feel comfortable sharing my private thoughts and feelings with my parent.	1	2	3	4	5	6	7
20. I get uncomfortable when my parent wants to be very close.	1	2	3	4	5	6	7
21. I have often had to get angry to get my parent's attention.	1	2	3	4	5	6	7
22. I often wish that my parent's feelings for me were as strong as my feelings are for my parent.	1	2	3	4	5	6	7
23. I feel comfortable depending on my parent.	1	2	3	4	5	6	7

	Disagree A LOT	Disagree somewhat	Disagree a little	Neutral	Agree A little	Agree somewhat	Agree A LOT
24. I have learned from bitter experience that my parent is not to be trusted.	1	2	3	4	5	6	7
25. When my parent disapproves of me, I feel really bad about myself.	1	2	3	4	5	6	7
26. I try to avoid getting too close to my parent.	1	2	3	4	5	6	7
27. I worry a lot about my relationship with my parent.	1	2	3	4	5	6	7
28. I tell my parent just about everything.	1	2	3	4	5	6	7
29. I often want to be really close to my parent and sometimes this makes my parent back away.	1	2	3	4	5	6	7
30. When I am away from my parent, I miss my parent a great deal.	1	2	3	4	5	6	7
31. I rely on myself, not my parent to solve my problems.	1	2	3	4	5	6	7
32. I want to get close to my parent but I keep pulling back.	1	2	3	4	5	6	7
33. I resent it when my parent spends time away from me.	1	2	3	4	5	6	7
34. I'm often not sure how I feel about my parent.	1	2	3	4	5	6	7
35. I usually discuss my problems and concerns with my parent.	1	2	3	4	5	6	7
36. I find it relatively easy to get close to my parent.	1	2	3	4	5	6	7
37. Sometimes I feel that I have to force my parent to show that my parent cares about me.	1	2	3	4	5	6	7
38. I don't mind asking my parent for comfort, advice or help.	1	2	3	4	5	6	7
39. I find it difficult to trust my parent.	1	2	3	4	5	6	7
40. I am confident that my parent likes and respects me.	1	2	3	4	5	6	7

	Disagree A LOT	Disagree somewhat	Disagree a little	Neutral	Agree A little	Agree somewhat	Agree A LOT
41. My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
42. I am in no hurry to make my relationship with my parent better.	1	2	3	4	5	6	7
43. I worry a fair amount about losing my parent.	1	2	3	4	5	6	7
44. I turn to my parent for many things, including comfort and reassurance.	1	2	3	4	5	6	7
45. I would like to spend much more time with my parent.	1	2	3	4	5	6	7
46. I do not need my parent to take care of me.	1	2	3	4	5	6	7
47. I prefer not to be too close to my parent.	1	2	3	4	5	6	7
48. I get frustrated if my parent is not available when I need my parent.	1	2	3	4	5	6	7
49. I often have trouble figuring out whether I love my parent or not.	1	2	3	4	5	6	7
50. It helps to turn to my parent in times of need.	1	2	3	4	5	6	7
51. It's best to be on your guard when you are dealing with my parent.	1	2	3	4	5	6	7
52. I often feel that I am not good enough for my parent.	1	2	3	4	5	6	7
53. I find that my parent doesn't want to get as close as I want to be.	1	2	3	4	5	6	7
54. If you've got a job to do, you should do it no matter who gets hurt.	1	2	3	4	5	6	7
55. I often don't worry about being abandoned.	1	2	3	4	5	6	7
56. I am nervous when my parent gets too close to me.	1	2	3	4	5	6	7

Appendix F

Achenbach Youth Self Report (YSR): Externalizing Problems

About Me

Below is a list of items that describe people. For each item that describes you **now or since the beginning of January 2005**, please circle 2 if the item is very true or often true of you. Circle the 1 if the item is somewhat or sometimes true of you. If the item is not true of you, circle the 0.

	Not True	Somewhat True or sometimes true	Very true or Often true
1. I act too young for my age.	0	1	2
2. I argue a lot.	0	1	2
3. I fail to finish things that I start.	0	1	2
4. I have trouble concentrating or paying attention.	0	1	2
5. I have trouble sitting still.	0	1	2
6. I feel confused or in a fog.	0	1	2
7. I am mean to others.	0	1	2
8. I daydream a lot.	0	1	2
9. I try to get a lot of attention.	0	1	2
10. I destroy my own things.	0	1	2
11. I destroy things that belong to others.	0	1	2
12. I disobey my parents.	0	1	2
13. I disobey at school.	0	1	2
14. I don't feel guilty after doing something that I shouldn't.	0	1	2
15. I break rules at home, school or elsewhere.	0	1	2
16. I get in many fights.	0	1	2
17. I hang around with kids who get in trouble.	0	1	2
18. I act without stopping to think.	0	1	2
19. I lie or cheat.	0	1	2
20. I physically attack people.	0	1	2

	Not True	Somewhat True or sometimes true	Very true or Often true
21. My school work is poor.	0	1	2
22. I would rather be with older kids than with kids my own age.	0	1	2
23. I scream a lot.	0	1	2
24. I am inattentive or easily distracted.	0	1	2
25. I steal from places other than home.	0	1	2
26. I am stubborn.	0	1	2
27. My moods or feelings change suddenly.	0	1	2
28. I am suspicious.	0	1	2
29. I swear or use dirty language.	0	1	2
30. I tease others a lot.	0	1	2
31. I have a hot temper.	0	1	2
32. I think about sex too much.	0	1	2
33. I threaten to hurt people.	0	1	2
34. I smoke, chew or sniff tobacco.	0	1	2
35. I cut classes or skip school.	0	1	2
36. I am louder than other kids.	0	1	2
37. I use drugs for nonmedical purposes (don't include alcohol or tobacco) Describe which drugs:	0	1	2

Appendix G

Staff Information Letter

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Educational and Counselling Psychology, and Special Education

Faculty of Education
2125 Main Mall
Vancouver, BC, Canada V6T 1Z4

Dear Administrators and Teachers:

Dr. Kim Schonert-Reichl and Ms. Denise Buote in the Faculty of Education at the University of British Columbia would like to invite you to participate in a research project entitled **"Connecting with Others: Lessons Learned From Adolescents."** We are seeking your support in participating in this project. If you agree to participate, we would ask you for times in which we could come into your class to explain and pass out permission slips for students to take home. This would take about five to ten minutes. We would then ask you to hold onto the permission slips as students hand them into you. Finally we would set up a time that is convenient for you and we would come in for one class period (60 minutes) to work with students to complete a series of questionnaires. Below is a more detailed description of the study.

Purpose: The overall purpose of this study is to learn about how adolescents view relationships with adults and how they are able to use the support of adults and how this support can help adolescents in their lives. We want to learn more from adolescents about how having adult support can help them experience success in the various aspects of their lives. The study is being done as part of a doctoral thesis by Ms. Denise Buote.

Study Procedures: Students who participate in this study will be asked to fill out a set of questionnaires. Completion of these questionnaires will take approximately one class period (60 minutes). The first questionnaire asks about students' backgrounds, such as age, gender, family composition, parental education level language and stresses that they have experienced in their lives. Another set of questionnaires asks students to report on the quality of their relationships with family, friends and other adults in their lives. The final set of questionnaires asks adolescents about different characteristics of themselves, for example, how they feel and think about certain things in their life. In addition to the above, students will be asked whether they would be willing to participate in a forty-five minute interview at a later time in the year in which more detailed information will be discussed about how an important adult, identified by the adolescent, offers support. This interview would not be done during class time.

We appreciate your consideration of this request for support for this project. In the next few days, Denise Buote will be contacting you to see if you are interested in participating in this project. At that time, if you have any questions, please feel free to ask.

Sincerely,

Denise Buote
Doctoral Candidate

Kimberly A. Schonert-Reichl, Ph.D.
Associate Professor

Appendix H

Parental/Guardian Information and Consent Form

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Educational and Counselling Psychology, and Special Education

Faculty of Education
2125 Main Mall
Vancouver, BC, Canada V6T 1Z4

Dear Parent/Guardian:

Dr. Kim Schonert-Reichl and Ms. Denise Buote in the Faculty of Education at the University of British Columbia would like to invite you to participate in a research project entitled **"Connecting with Others: Lessons Learned From Adolescents."**
The purpose of this project is to understand the ways in which adolescents view their relationships with adults and how adults can support them in their lives to help them in various ways so that they experience successful social, emotional, and school success. It is hoped that the results of this study will help educators and other adults who work with adolescents to understand more about the different ways in which adolescents can be assisted by supportive relationships in their lives. The study is being done as part of a doctoral thesis by Ms. Denise Buote. The following letter invites you to give permission for your son/daughter to take part in this study.

Purpose: The overall purpose of this study is to learn about how adolescents view relationships with adults and how they are able to use the support of adults and how this support can help adolescents in their lives. We want to learn more from adolescents about how having adult support can help them experience success in the various aspects of their lives. All of the adolescents in your child's grade are being asked to participate.

Study Procedures: Students who participate in this study will be asked to fill out a set of questionnaires. Completion of these questionnaires will take approximately one class period (50-60 minutes) in the coming month. The first questionnaire asks about students' backgrounds, such as age, gender, family composition, parental education level, language and stresses that they have experienced in their lives. Another set of questionnaires asks students to report on the quality of their relationships with family, friends and other adults in their lives. The final set of questionnaires asks adolescents about different characteristics of themselves, for example, how they feel and think about certain things in their life. In addition to the above, a small group of students will be asked to participate in a forty-five minute interview at a later time in the school year, outside of class time, in which more detailed information will be discussed about how an important adult, identified by the adolescent, offers support. At this point, students will be asked if they are willing to be contacted later in the year to learn more about the interview component to this study. At that time, information and another consent form will be sent home specifically for the interview.

Possible Benefits to the Participant: In our previous research on adolescents, we have found that they genuinely enjoy the questionnaires, and are eager and happy to participate in a research study to help us better understand Canadian students.

Appendix I

Student Recruitment Letter

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Educational and Counselling Psychology, and Special Education Faculty of Education

2125 Main Mall
Vancouver, BC, Canada V6T 1Z4

Dear Student,

You are invited to participate in a research project that we are conducting with the grade ten and eleven students at your school entitled, **"Connecting with Others: Lessons Learned From Adolescents."** This project is being conducted by Denise Buote and Kimberly Schonert-Reichl from the University of British Columbia. The purpose of this project is to understand the relationships adolescents have with adults and how important adults can help support you in your life. We want to learn more from adolescents about how having adult support can help them experience success in the various aspects of your life. This is not a test and there are no right or wrong answers – just your answers. We need your help to understand the different types of support that adults can offer to students your age.

If you decide to be in this study you will be asked to fill out a series of questionnaires. The first questionnaire asks about students' backgrounds, such as age, gender, family composition, parental education level language and stresses experienced in your life. Another set of questionnaires asks students to report on the quality of their relationships with family, friends and other adults in their lives. The final set of questionnaires asks adolescents about different characteristics of themselves, for example, how they feel and think about certain things in their life. In addition to the above, a small group of students will be asked to participate in a forty-five minute individual interview at a later time in the school year in which more detailed information will be discussed about how an important adult in your life offers support.

If you want to participate in this study, you need to take the attached letter and permission slip home to your parents/guardian. One of them needs to sign the form and check 'yes' in order that you can participate in the study. Please do your best to return the form.

The name of each student who brings back a signed permission slip will be entered in a draw, with a chance to win a $25.00 gift certificate to a music store. There will be ten gift certificates drawn. It does not matter if your parent/guardian decides you can or cannot be in the study. As long as the permission slip is returned with the 'yes' or 'no' checked off and parent has signed it, you will be entered into the draw.

We hope that you agree to participate!

Sincerely,

Denise Buote, M.A.
Ph.D. Candidate

Kimberly Schonert-Reichl, Ph.D.
Associate Professor

Appendix J

Survey Student Assent Form

THE UNIVERSITY OF BRITISH COLUMBIA

STUDENT ASSENT FORM

The purpose of this form is to give you the information you need in order to decide whether or not you want to be in a research study **"Connecting with Others: Lessons Learned From Adolescents".**

Purpose of this Study

The purpose of this study is to help us learn more about how students your age think about yourself, your friends, your family and the different ways that adults provide you support in your life. This study is being organized by Denise Buote at the University of British Columbia. By taking part in this research project you will help us better understand how adolescents view their relationships with adults and how adults can be offer support to you. We want to learn more from adolescents about how having adult support can help them experience success in the various aspects of their lives.

Study Questionnaires and Procedures

Students who participate in this study will be asked to fill out a set of questionnaires, which will take approximately one class period. The first questionnaire asks about students' backgrounds, such as age, gender, family composition, parental education level language and stresses that they have experienced in their lives. Another set of questionnaires asks students to report on the quality of their relationships with family, friends and other adults in their lives. The final set of questionnaires asks adolescents about different characteristics of themselves, for example, how they feel and think about certain things in their life.

THIS IS NOT A TEST. There are no right or wrong answers - just your answers. Please answer all questions if you can.

Remember no one at school or in your community (not even your parents, teacher, or school principal) will ever see your answers (they will be confidential). Completed questionnaires will be labeled with code numbers, not with any of the students' names, and will be stored in locked cabinets at UBC. Only the code numbers, not names, will be used when the information is analyzed on the computer. In these ways, the information obtained will be kept confidential. The only individuals who will have access to these materials are research assistants who have been trained in methods to protect confidentiality.

If during the course of completing the questionnaire you indicate that you are feeling suicidal, the U.B.C. researcher will make a referral to the counselor. This referral will be done with or without your consent as your personal well-being is our biggest concern.

It is **your choice** whether or not you want to take part in this study at any time during the study and there will be no consequence. If you choose not to participate, it will not affect your marks. You may stay in the class and work quietly while others complete the survey unless your teacher has made other arrangements. We will be happy to answer any questions you have before signing or later. Please indicate that you have read this form by signing your name on the line below. You may have a copy of this consent form for your records.
Thank you for your help!

_____
Date

_____ _____
Name (Please print) Signature

Appendix K

Survey Cover Sheet

Connecting with Others: Lessons Learned from Adolescents

2005

Thank you for helping us learn more about how adolescents your age think about relationships and life experiences. By taking part in our research project you will help us better understand what is important to Canadian adolescents your age.

This is <u>not</u> a test. THERE ARE NO RIGHT OR WRONG ANSWERS, WE ARE ONLY INTERESTED IN YOUR OPINIONS, SO PLEASE ANSWER HONESTLY. The information you put in this booklet will <u>not</u> be shared with your teacher, principal, parents or your school friends. The researcher will be the only person to collect your booklet. The information will then be used by the researcher to find out how connecting with others and life experiences help shape the lives of adolescents. Remember that NO ONE at school or in the community (not even your parents) besides the researchers will ever see your answers.

Therefore, feel free to give answers that truly reflect your own feelings.

Thank you for your help and co-operation!

Appendix L

Counselor Referral Form

This page is optional

You only need to fill it out if you want to talk to your counselor but there is one situation in which the U.B.C. researcher will refer someone to the school counselor without your permission and that is if

a student reports or indicates that he/she is having feelings about suicide

If you would like some help for any issues, please fill out the following.

Name: _____
Grade: _____
Counselor name: (if known): _____

We will rip off this page and give it to your school counselor.

Appendix M

UBC Research Ethics Board Certificates

The University of British Columbia
Office of Research Services and Administration
Behavioural Research Ethics Board

Certificate of Approval

PRINCIPAL INVESTIGATOR	DEPARTMENT	NUMBER
Schonert-Reichl, K.A.	Educ & Couns Psych & Spec Educ	**B05-0090**

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT

CO-INVESTIGATORS:

Buote, Denise, Counselling Psychology

SPONSORING AGENCIES

Faculty of Education Graduate Student Research Grant

TITLE :

Connecting with Others: Lessons Learned from Adolescents

APPROVAL DATE	TERM (YEARS)	AMENDMENT:	AMENDMENT APPROVED:
05-04-05 (yr/mo/day)	1	April 12, 2005, Questionnaires	APR 2 0 2005

CERTIFICATION:

The protocol describing the above-named project has been reviewed by the Committee and the experimental procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approval of the Behavioural Research Ethics Board by one of the following:

Dr. James Frankish, Chair,
Dr. Cay Holbrook, Associate Chair,
Dr. Susan Rowley, Associate Chair
Dr. Anita Hubley, Associate Chair

This Certificate of Approval is valid for the above term provided there is no change in the experimental procedures

The University of British Columbia
Office of Research Services and Administration
Behavioural Research Ethics Board

Certificate of Approval

PRINCIPAL INVESTIGATOR	DEPARTMENT	NUMBER
Schonert-Reichl, K.A.	Educ & Couns Psych & Spec Educ	B05-0090

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT

CO-INVESTIGATORS:

Buote, Denise, Counselling Psychology

SPONSORING AGENCIES

Faculty of Education Graduate Student Research Grant

TITLE:

Connecting with Others: Lessons Learned from Adolescents

APPROVAL DATE	TERM (YEARS)	DOCUMENTS INCLUDED IN THIS APPROVAL:
APR - 5 2005	1	March 21, 2005, Consent forms / Advertisement / Survey / Assent form / Jan. 17, 2005, Questionnaires

CERTIFICATION:

The protocol describing the above-named project has been reviewed by the Committee and the experimental procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approval of the Behavioural Research Ethics Board by one of the following:

Dr. James Frankish, Chair,
Dr. Cay Holbrook, Associate Chair,
Dr. Susan Rowley, Associate Chair
Dr. Anita Hubley, Associate Chair

This Certificate of Approval is valid for the above term provided there is no change in the experimental procedures