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The Effect of Childhood Attachment on Adolescent Suicide: A Stepwise Discriminant Analysis

by

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ABSTRACT

There has been a 300% increase in suicide among adolescents, worldwide, in the last four decades. Many studies implicate the role of family background factors in this complex phenomena, including attachment theory which formed the theoretical basis of the present study. The focus of the present study is on the relevance of childhood attachment for psychological adaptation and development into adolescence. Childhood attachments appear to have far reaching effects on future behaviour in adolescents, including suicidality. Using a stepwise discriminant analysis, the relationship between attachment, secure and insecure, and suicidality was examined.

Fifty-two adolescents, between the ages of 12 and 18 (mean =14.7) participated in the present study. Thirty-five of these youths were in the community group, recruited from the general population. The community group was designated as the nonsuicidal group. Seventeen adolescents were in the group designated as the suicidal, clinical group. All of these participants had been admitted to an adolescent psychiatric unit in a major University hospital. All of the hospitalised subjects had confirmed suicidal behaviour as well as other psychiatric diagnoses. Participants completed the Adolescent Attachment Survey, the Parental Bonding Instrument, and the Youth Self Report via computer administration.

Between group differences were explored through chi-square analyses, analyses of variance and a stepwise discriminant analyses. The suicidal group reported more exposure to alcohol ($p < .01$), drugs ($p < .01$) and crime ($p < .01$). They had more exposure to physical ($p < .01$) and sexual abuse ($p < .01$) than the community sample. They perceived their parents to be less caring ($p < .01$) and more overprotective ($p .01$) than the community group. A Stepwise discriminant analysis resulted in a single function (Wilks' Lambda = .235, $p < .001$)

clearly discriminating between suicidal and non- suicidal groups with childhood attachment variables (canonical r = .88). The discriminant function resulted in a correct classification between the groups of 94.6%. The significance of these findings linking insecure attachment to psychopathology, especially suicidality, are discussed.

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DEDICATION

To Shawn,

My Happy Ending,

You Complete Me.

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CHAPTER ONE

INTRODUCTION

Adolescent suicide is one of the major social problems in our society. It is also one of the most significant mental health problems among youth of today (Reynolds & Mazza, 1994). The rate of suicide among 15 to 19 year olds has tripled in most industrialized countries since 1950 (Diekstra, 1989; Rotheram-Borus, Walker and Frens, 1996). This complex phenomenon is influenced by a multitude of factors, including psychological and developmental issues. Notwithstanding substantial research efforts, the nature and causes of adolescent suicide are not well understood. Psychological, social, and developmental factors have been identified as correlated factors to suicide. There are several theoretical orientations from which one may attempt to explain suicide.

Psychopathology is often present alongside suicide and suicidal ideation. Depression and feelings of hopelessness/ helplessness are often associated with suicidal ideation and behavior. Several studies of suicide in general have revealed psychological disorders in over 90% of cases, frequently including hopelessness and helplessness (Cantor, Hill & McLachlan, 1989). Other researchers have focused on the pattern of chronic emotional upheaval and conflict in the individual's early childhood (Hutchinson & Dragnus, 1987).

Adolescents with a history of suicidality often have family backgrounds that include instability, early loss, disorganization, and chaos (Adam, Sheldon-Keller, & West, 1996; Violato, Raab & Grossi, 1996). Family problems contribute to adolescent suicide in many forms, some of which include poor communication, value conflicts with parents, and alienation of the adolescent from the family (Dukes & Lorch, 1989).

Other contributing findings that are correlated or considered "causal" factors in adolescent suicide include what Fremouw, Callahan and Kashden (1993) term "the interaction of family cohesion with total life stress" (p.47). These researchers found a link from crisis in the home to crisis at school and in other aspects of the youth's life. School problems by themselves have also been discussed in research as contributory factors towards adolescent suicide and suicidality. Academic pressure and dissatisfaction with one's achievements in this area may lead to low self-esteem, self-derogation and ultimately suicidality (Dukes & Lorch, 1989).

Rotheram-Borus et al. (1996) have focussed on adolescents in crisis as a group at increased risk for suicidal acts. The adolescents have a background of substance abuse, depression, running away from home, and conduct problems. These factors, along with histories of suicidal behavior, put them at the highest risk for future suicidal action.

From the research on suicidality, several factors emerge as central features of suicidality in adolescents. There are, however, few theories that attempt to integrate all these factors to explain why any of these occur and how each part relates affectively, behaviorally, and cognitively towards adolescent suicide.

Attachment Theory

A recent approach that has appeared promising in examining adolescent suicidality is attachment theory and research. Attachment patterns in young children have shown to have a great impact on behavior and psychological adjustment (Zeanah, Boris & Scheering, 1997). Attachment has been defined as an enduring affectional bond between two individuals that serves to join them emotionally (Fahlberg, 1979). Bowlby (1969/1982, 1973, 1980) viewed an individual's attachment to the primary caregiver as

the theme around which every perception concerned with relating to others revolves. The attachment between an infant and its primary caregiver allows a child to develop trust in others and reliance upon oneself, to think logically, develop a conscience, cope with stress and frustration, and handle fear and worry (Fahlberg, 1979). Therefore, at the root of attachment theory is the idea that the absence of a durable attachment relationship during the first years of life leads to problems in future emotional development (Tavecchio & Van IJzendoorm, 1987). Accordingly, disrupted early attachment could contribute to the development of suicidality in adolescence.

Theorists such as Bowlby (1969/1982, 1973, 1980), have focussed on the organizing principles of attachment theory to examine affect, behavior, and cognitive functions. The working framework that is developed by early association between the primary caregiver and the child effects each of these areas. Attachment is regarded as a prominent developmental theme that influences adaptation throughout the life span (Rosenstein & Horowitz, 1996).

Working from Bowlby's (1969/1982, 1973, 1980) attachment theory, Ainsworth described two major classifications, secure attachment and insecure attachment (insecure attachment is also referred to as anxious attachment). Insecure attachment is divided into three subgroups: insecure-ambivalent, insecure-avoidant and insecure disorganized/disoriented (Ainsworth & Wittig, 1969; Main, 1991). As will be discussed in Chapter II, attachment can be assessed by behavioral observation in infancy and childhood, projective methods in adolescence, and self-reports in adolescence and adulthood. Upon entering adolescence and adulthood, attachment is assessed primarily through self-report and structured or semi-structured interviews.

Attachment classifications are hypothesized to remain stable throughout the life span and each distinct classification is said to effect the individual's subsequent, psychological and social adaptation (Grossman & Grossman, 1991). A theoretical emphasis in attachment theory is the *working model*. The working model one forms through interaction with one's primary caregiver, according to Bowlby (1969/1982, 1973, 1980) will govern all other interactions with others throughout the life span. All attachment-related behavior information will be appraised through the working model and will guide behavior and cognitions. Crittenden and Ainsworth (1989) carry this theory a step further by indicating that the child eventually reflects more on this working model rather than relying on the actual presence of his caregiver. A close examination of attachment theory may reveal a basis for causal links towards correlates of adolescent suicide. Attachment research emphasizes the potential of family relationships to either increase risk or provide protection from suicidality. Attachment seems to play a central role in psychological adaptation across the life span including the development of psychopathology and suicidality (Ainsworth, 1991; Zeanah et al., 1997).

Statement of the Problem

The focus of the present study is on the importance of early childhood attachment for psychological adaptation and development. Childhood attachments appear to have far reaching effects on future adaptive behavior in adolescents including suicidality. While a great deal of information and empirical evidence has pointed to psychological factors underlying adolescent suicidality, there is little consensus as to the causes of suicide. The major purpose of the present study is to further explore adolescent suicidality by comparing the attachment and other developmental histories of suicidal and nonsuicidal

adolescents using a clinical sample (suicidal) in comparison to a community (nonsuicidal) sample employing the Adolescent Attachment Survey (AAS). Attachment is more difficult to assess in adolescence than in infancy and childhood. While in infancy and childhood, behavioral observations are included in the testing procedure, assessing attachment in adolescents relies primarily on self-report. The AAS is one such self-report measure that has demonstrated some success in this area.

A stepwise discriminant analysis will be employed in an attempt to derive a discriminant function that discriminates between the suicidal and nonsuicidal groups. A secondary aim of the present study is to further explore differences between the two groups employing analysis of variance based techniques. A tertiary aim is to explore sex-differences in suicidal adolescents.

Chapter II, a literature review, includes (A) research on suicide and the adolescent, (B) description and observations on attachment (including: 1. assessment of attachment in infancy and childhood, 2. assessment of attachment in adolescence, 3. classifications of attachment-including secure, insecure-ambivalent, insecure-avoidant and insecure-disorganized/disoriented), (C) attachment and psychopathology, (D) attachment and suicide, and finally (E) the research questions. The Methods section presents a description of the participants, the instruments used, the research methodology and the data analysis. The results are described in Chapter IV and the ensuing discussion is in Chapter V. Appendix A includes a copy of the AAS, with Appendix B and C including the Parental Bonding Instrument and the Youth Self Report respectively. These tests are used in conjunction with the AAS to compare between group differences on suicidality and nonsuicidality.

CHAPTER TWO

LITERATURE REVIEW

A. Research on Suicide and the Adolescent

Current research paints an ominous picture of the increase of adolescent suicide and suicidality. Rotheram-Borus, Walker and Frens, (1996) have stated that the frequency of adolescent suicide in the U.S. has increased approximately 300% in the last 25 years, with adolescents committing suicide at a rate of 10 per 100,000 each year. Suicide is seen by many as the second leading cause of death among adolescents and the rate among this group now equals that of the general population (Fremouw, Callahan, & Kashden, 1993). Furthermore, it is important to note that many suicides go unreported or are misconstrued as accidents. Therefore, the prevalence of adolescent suicide may be even higher than is generally reported.

There has been a substantial amount of research searching for predictors and preventors of adolescent suicide (Chew, & McCleary, 1994; Moscicki, 1995). Notwithstanding their efforts producing numerous studies and volumes of research, researchers have not clearly identified one or several specific factors as the cause of suicide. It is necessary to observe the multidimensional factors that are emerging (O'Carroll, 1993) to create an environment that may predispose an individual towards suicidal ideation and, eventually, suicidal behavior. As Violato, Raab and Grossi (1996) stated, " there are... no compelling explanations in general of suicide, notwithstanding current research efforts. There are, however, a number of factors which have been found to be related to, or implicated in, suicide" (p. 312).

There are several myths concerning suicide that promote misinformation (Reynolds, 1987). Suicide, as a major cause of death is a youth phenomenon. It is rarely among the leading causes of death among the elderly (Moscicki, 1995). Another general myth concerns the cause of suicide. Some believe that even if one grants that multiple factors do indeed work together to cause a particular death from suicide, one factor must somehow be more responsible than the others (O'Carroll, 1993). This denies the very nature of multiple causation. Santrock (1993) has discussed suicide in terms of immediate (proximal) and earlier (distal) experiences. The problem with discussing proximal experiences is that so-called "trigger" events can be misinterpreted. One event cannot be the cause of suicide without a preexisting environment that contributes to the situation. Several factors have been identified as correlates of suicide.

1. Depression, Hopelessness and Helplessness

Several factors including depression, hopelessness and helplessness, have been identified as assisting in creating an environment for an adolescent that is conducive to suicidal ideation, which may lead to suicidal behavior. Of the several main contributing factors concerning suicide, depression has been identified as a prominent symptom (Violato, Raab & Grossi 1996) and is found consistently in attempted and completed adolescent suicide (Allberg & Chu, 1990). Others researchers believe that suicidal adolescents have depressive personality structures (Triolo, McKenry, Tishler & Blyth, 1984). The issue with depression and suicide is that it cannot be labeled as a cause or even a precipitate of suicide merely that it is very often present in suicidal adolescents.

A similar concept is that of hopelessness/ helplessness. Many suicidal

adolescents are reported to be withdrawn, lonely, hopeless and helpless (Dukes & Lorch, 1989). Other researchers have reasoned that adolescents may turn to suicide if they view themselves in a hopeless situation (Triolo et al., 1984). Hopelessness is a significant clinical symptom for reasons both practical and theoretical. Empirical research confirms that negative expectations are a major feature of the symptomatology of depression (Beck, Riskind, Brown & Steer 1988). It has also been cited as a predictor of suicide in schizophrenia as well as depression (Young, Halper, Clark, Scheftner & Fawcett, 1992). Other researchers have gone so far as to declare that hopelessness is perhaps the best single predictor of eventual successful suicide (Dyck, 1991). Both children and adolescents' ability to cope and problem solve differ significantly than that of an adult (Reynolds & Mazza, 1994). Depression and hopelessness may influence problem-solving skills.

Hawton, O'Grady, Osborn and Cole (1982) have stated that family problems are ranked as one of the most contributory factors to adolescent suicide. Family problems have been defined as poor communication, value conflict with parents, alienation of the adolescent from the family, as well as inadequate love, affection and support provided by family members (Dukes & Lorch, 1989). It seems, therefore, that much of the literature surrounding adolescent suicide is in some way linked to attachment theory. Family relationships especially with the primary caregiver (usually the mother) are often focussed upon.

2. Family Stability

In a meta-analysis of 81 studies examining the predictability of suicidal behavior, it was concluded that the suicide attempters' way of life was consistently less stable than

the nonattempters (Van Egmond & Diekstra, 1988). Linked with this is the consideration of issues around early loss and attachment. Certain research has likened the behavior of individuals immediately after an unsuccessful suicide attempt to behavior of children following separation and/or loss of the mother (Adam, 1980). Secure attachment or connectedness to parents has been shown to promote competent peer relations and positive, close relationships outside the family (Santrock, 1993). Those adolescents deemed as insecurely attached are predicted to have difficulties in relationships in later development. In their study comparing suicidal and nonsuicidal adolescents, Grossi and Violato (1992) found that disturbed attachment and loss produced the most powerful separation of suicidal and nonsuicidal youths in a discriminant analysis. Violato et al. (1996) has used this information to suggest that the importance of early loss is connected to subsequent psychopathology (Zeanah et al., 1997).

3. Substance Abuse

A history of substance abuse is also considered a major contributing factor towards suicidal ideation and behavior (Reynolds, 1987). Upon entering adolescence, individuals are exposed to social behavior they are unfamiliar with. Included in these social patterns is alcohol and drug use. As mentioned previously, adolescents with suicidal histories have been known to experience instability and chaos in their lives. Rotheram-Borus, Walker and Ferns (1996) conducted research which indicated that alcohol and drug abuse are highly correlated with suicidality, and are considered high risk behavior. In their study, 1616 adolescents were interviewed and assessed as to risk factors considered contributory towards suicidality. Substance abuse correlated highly with suicidal ideation and behavior as did depression and a history of suicide attempts

both by the adolescent or by their peers or family. Rotheram-Borus et al. (1996) purported that their results supported a multiple problem behavior theory.

From all the aforementioned contributing factors, one can draw the conclusion that suicide risk increases when negative life stresses are experienced in a consistent developing pattern (Fremouw, Callahan & Kashden, 1993). If one's family environment is unstable, there is a history of psychopathology (depression and hopelessness) and substance abuse, one's cognitions appear more predisposed towards suicidal ideation. The very nature of instability in a child's environment could hypothetically be associated with their attachments and the classification of said attachment (secure or insecure). It is essential, then, to examine the adolescent's history, both social and psychological, in an attempt to describe the environment that can lead to suicide. Attachment theory represents a fertile soil for such an approach

B. Attachment

Attachment Theory was originated in the works of Bowlby (1969/1982, 1973, 1980) with subsequent contributions from Ainsworth (Bretherton, 1991). It is concerned with the formulation and schematization of human emotions throughout the life span (Ainsworth, 1991). Attachment itself is the affectionate bond between two individuals, usually a child and its primary caregiver, that endures through space and time and serves to join them emotionally (Fahlberg, 1979). So much of what researchers have studied throughout their empirical research focuses on the emergence and maintenance of early social bonds within the family (Vaughn et al., 1991). The quality of this social bond will effect the infant from childhood to adolescence into adulthood. Therefore, a positive attachment assists the individual in attaining full intellectual potential, coping with stress

and frustration, developing future relationships, and exerts a positive influence on overall social competence (Fahlberg, 1979; Parkes, Stevenson-Hinde & Marris, 1991; Teti et al., 1991; Vaughn et al., 1991; Vaughn & Waters, 1991).

One of the first studies on attachment theory was the Strange Situation procedure introduced by Ainsworth and Wittig (1969) which classified attachment as either secure or insecure and demonstrated that the quality of attachment is highly concordant between two assessments across a six month period. The Strange Situation was devised to capture the quality of functioning of the infant- caregiver dyad and the attachment classifications are based solely on the infant behavior (Sroufe, 1985). Researchers in this area have stated that secure attachment leads to healthy personality development and self-reliance while insecure, anxious attachment can lead to a number of negative developmental outcomes (Bowlby, 1973). Based on past empirical research concerning attachment, a recent and essential focus for the development of the theory of attachment is that of the long-term implications (Genuis, 1995). The obvious psychological importance of the establishment of a "healthy" attachment has led to the creation of multiple assessment procedures for attachment from infancy to late adolescence.

1. Assessment in Infancy and Childhood

At birth human infants appear to lack any organized attachment responses and it is only after about six months that the baby begins to exhibit observable, measurable aspects, of attachment such as proximity seeking, secure base effect and separation protest (Holmes, 1993). It is well established that infant attachment security, as derived from the Strange Situation is rooted in the infant-caregiver relationship (Teti et al., 1991).

Therefore, original attempts at assessing attachment focused on observable behavior of infant and caregiver, usually the mother. The measurement or assessment of attachment began with observation of an infant. Since then, several instruments have been created to aid in the assessment of attachment in childhood.

Upon it's creation, the Strange Situation became the favored assessment of attachment because of it's standardized administration, the manner in which it systematically elicits theoretically relevant attachment behaviors and because of the reliability and training requirements that coders must meet (Tarabulsey et al., 1997). Yet, the Strange Situation's results are only as relevant as the situation this experiment creates. The Strange Situation consists of a mother bringing her child into a room where a researcher is present. The mother leaves the child, whose reaction is recorded during the mother's presence, absence and re-entrance into the situation. The artificiality of the situation demonstrates the need for an assessment tool that meets a more naturalistic context and Tarabulsey et al (1997) felt that the Attachment Q-Set (AQS) does just this.

The AQS scores are based on behavior in naturalistic settings and do not rely on a standardized procedure and specific coding instructions (Tarabulsey et al., 1997). This issue makes concerns regarding validity and reliability dependent on observer training and inter-rater reliability. Many similar studies use either mothers or neutral observers as the assessors (Teti & McGourty, 1996). In the Tarabulsy et al (1997) study, the researchers compare and correlate mother and observer security scores to see if a mother's score truly reflects the construct of attachment security. This particular study is included because, as has been described, much of the assessment of attachment seems to rely on an individual's observations that may or may not be able to be standardized. It

would seem that a mother would have the most accurate information concerning her own child's behavior. Yet, can their subjective impressions be relied upon as empirical evidence in regards to attachment bonds? The Tarabulsy study indicated that, during home visits, mother-observer agreement was moderate while inter-observer agreement was high. There were indications that the similarities and differences between these two groups occurred because of training and instructions variations as well as levels of confidence. Sources of variation could also depend on where observers are conducting their observations and in what context (Tarabulsy, 1997). That so many simple and minor aspects of assessment of attachment can alter results become very apparent within this study.

Wright, Binney and Smith (1995) conducted a study examining the security of attachment in 8-12 year olds, using an adapted version of the Separation Anxiety Test (SAT). This measure was defined as a "semi-projective test (used) to assess children's responses to representations of separations from parents" (p.761). Researchers showed photographs to the children, asked a specific set of questions, recorded all responses made by the participants, and analyzed the responses. Issues addressed included inter-rater reliability (perfect agreement was found for 67% of the attachment scores, 79% of self reliance scores and 80% of avoidance scores), test-retest reliability (attachment scale- self, r= .23, other, r= .39; self reliance scale- self, r= .21, other, r=.28; avoidance scale- self, r= .17, other, r=.12), split-half reliability (all correlations except for control group self-reliance 'self' scores were positive) and internal consistency (Cronbach's alpha of attachment- self = .74, other = .60; self reliance- self = .42, other = .58; avoidance- self = .77, other = .56), inter-scale relationships (correlation between attachment and avoidance

r= .12 to r= -.61 and self-reliance and avoidance r= .22 to r= -.35), across group comparisons on clinical measures (62% of the clinical group's responses would be classified as clinical and 29% as significantly depressed) and across group comparisons on the SAT (clinic group showed significantly lower attachment scores, $p< .05$). By closely examining these properties of the test used and applying this to the resultant data, the conclusions reached were reliable and specific. The authors could address the success of the study while commenting on areas that needed improvement. For example, it was stated that "inter-rater reliability was acceptable but the SAT proved to have low reliability regarding test-retest scores and the internal construction of the self-reliance scale...validity of the SAT in 8-12 year-olds was found in several respects, highlighting the importance of scoring both "self" and "other" and..the clinical value of further analysis of SAT responses at a broader qualitative level was demonstrated." (p.772). Such a specific detailing of this particular evaluation tool details the importance the assessment procedure of attachment.

Becker and Becker (1994) examined the measurement of the behavioral side of mother-to-infant attachment using the Maternal Behavior Inventory (MBI). They felt that a psychometric point of view was necessary because most observed indicators, taken individually, contain substantial amounts of random measurement error as well as systematic method variance. The MBI was developed "as a means of tapping several categories of behavior which have been associated with, and are seen as indicators of, mother-to-infant attachment" (p. 180). The four categories of this instrument are *tactile contact, visual contact, verbal contact* and *awareness and responsivity to the infant's need state.* The psychometric properties that were addressed in the assessment were:

reliability of indicators and composite (this included interrater reliability), dimensionality and cohesiveness of indicators, distribution properties of indicators and background variables as predictors of MBI scores. The findings of the authors were apparently consistent with past research and they felt that the MBI, as a research tool "measures a single underlying variable, has an acceptable level of both interrater and interindicator reliability, and takes only up to five minutes to administer" (p.192). As opposed to the Strange Situation, this study demonstrates that there is now an attempt to establish tools that produce data that can be empirically analyzed yet studies the attachment relationship in the environment where it develops.

Most assessment during infancy and childhood relies on observation and behavior checklists. Adolescence creates a new arena of assessment of attachment. How does one assess attachment in adolescence when the individual is older, more developed, more cognitively mature and capable of contributing their thoughts verbally?

2. Assessment in Adolescence

Attachment theory was conceived as a general theory of personality development and research has focussed primarily on infancy and childhood (Kobak & Sceery, 1988). However, the strategies of attachment developed in infancy are posited to remain stable throughout childhood, adolescence and adulthood. Recently, researchers have begun to focus on long-term implications of attachment with theorists hypothesizing that insecure attachment patterns could be predictors of maladaptive behavior in adolescence and adulthood (Ainsworth, 1991; Genius et al., 1997). Currently, there are very few instruments examining long-term implications. As the focus has been primarily on childhood, it is interesting to examine the few assessment tools available for adolescents

and the psychometric properties of such tests. It is essential to note that such instruments are few and recently developed

The Parental Bonding Instrument (PBI) is an instrument that has been used to assess childhood attachment in adolescence (Parker, Tupling & Brown, 1979) and can also be used with parents of adolescents. It is a 25 item instrument on a 4-point Likert type scale and was designed to measure self-reported care and overprotection given by parents as perceived by the adolescent (See Appendix B). It focuses on two principal underlying dimensions of parental characteristics: care versus indifference/rejection and overprotection versus encouragement of autonomy and independence.

Upon creating this assessment tool, Parker et al. (1979) utilized a six month interval to examine test-retest reliability. The reliability results for total scale was a coefficient of .70 ($p < .001$), for the care scale it was .76 ($p < .001$) and for the overprotection scale it was .63 ($p < .001$). Split-half reliability (a Pearson coefficient corrected with the Spearman-Brown formula) was .88 ($p < .001$) for the care scale and .74 for the overprotection scale ($p < .001$). In order to evaluate validity, independent scores were obtained from a semi-structured interview with the parents of the adolescents by two independent raters. The results were correlated with those determined by the scales. The Pearson correlation for the two care measures were .77 ($p < .001$) for both independent raters. The correlations for the two overprotection scales were .48 ($p < .001$) for one rater and .51 ($p < .001$) for the second rater. Scrutiny of and reliability/validity results of the PBI are important in examining the assessment of attachment in adolescence. In creating new tools to assess long term implications of attachment, it follows that if attachment remains relatively stable from childhood into adolescence,

childhood assessment tools could be used as evaluators of reliability and validity for new assessment tools examining the adolescent population.

In a study by Kobak and Sceery (1988), the Adult Attachment Interview (AAI) was used to assess attachment organization during late adolescence. This interview was described to all participants during the initial session as involving questions about relationships with parents and memories of childhood. The validity of this instrument was strengthened by the authors performing an initial pilot study with the test to provide baseline information before proceeding with the main study. Pilot studies provide essential information of the process of assessment of attachment issues in this field. The interviews themselves were all conducted by the senior author. His training established consistency within the study. The transcripts were then rated and classified by two independent raters. Interrater reliability was established by rating and classifying 15 interview transcripts from a separate study, the Berkeley Social Development Project. Auxiliary reliability checks were performed following the rating of every five interviews. This procedure aided in avoiding interrater drift. Interrater agreement ranged from .67 to .88 dependent on each rating scale. It seems that every effort was made to create a reliable and valid procedure of assessment in this project. The AAI has been used subsequently in several studies and is considered a reliable instrument.

The Adolescent Attachment Survey (AAS) (Genuis, 1995) is an instrument designed to measure attachment to mother, father and the parental unit together according to the adolescent. It assesses childhood attachment of an adolescent. There is a survey parent version of the AAS as well. The results of a pilot study run to examine the psychometric properties of the AAS (Genuis et al., 1997), allowed the

researchers to deem that adequate internal consistency existed for all variables by using Cronbach's Alpha (Alpha values ranged from .75 to .97: proximity seeking = .75; total attachment = .84; parental involvement = .85; attachment to parental unit = .96; attachment to father = .97; attachment to mother = .97). In addition, criterion-related coefficients were consistent and significant. The authors have provided evidence for the validity and reliability of the AAS. After the pilot study, it was used in an additional study exploring childhood attachments and psychopathology in adolescence (Violato & Genuis, 1997) and results again proved internal consistency and validity of the assessment tool. In comparing aspects examined in this assessment tool to most assessment procedures in infancy and childhood, the sample individuals participate directly. A child or infant is usually observed while the adolescent actively answers questions posed to them. The issues of individual interpretation of items on the test may become known and individual differences could be an issue that brings reliability into question. However, as mentioned earlier, there are few instruments available examining adolescent attachment and long term implications of attachment and thus with repeated applications of the AAS, reliability and validity will become stronger.

(a) Summary

Attempts to assess attachment began in the 1960's. Since then, the psychometric properties of several assessment tools have been examined very closely and the establishment and success of new tools depend on passing such scrutiny. As the measurement and classification of attachment in infancy and childhood relies heavily on observation, it follows that interrater reliability, observer training and confidence must play a role in establishing the strength of a test instrument.

Assessing attachment in adolescence involves active engagement of the participant i.e. the adolescent. The AAS is a computer administered test, a sign of the community's growing technology, which could further engage an adolescent's cooperation. In the study with the Adult Attachment Interview, the participants, young college students, were engaged in rapport building interviews before the test probes were initiated (Kobak & Sceery, 1988). Creating an environment for a study that can produce reliable data that can then be analyzed within a framework of validity must be the goal when assessing attachment in adolescence. As long-term implications seem to be where the direction of future research is headed, new instruments need to be created. The creators of these new instruments must view the past research and the psychometric properties of assessment tools with caution and attention.

The brief overview of assessment of attachment in infancy to adolescence offered here is but a small portion of the important area of attachment. The impact that attachment has on young adults has only recently been addressed in the research. With this new area of research comes the responsibility of accurate assessment tools with sufficient and reliable psychometric properties.

3. Classifications in Attachment

As Holmes (1993) has stated, Attachment is an overall term which refers to the state and quality of an individual's attachment. These can be divided into secure and insecure attachment. The classifications in attachment theory were derived from Ainsworth's strange situation studies (Ainsworth et al. 1978). Initially three major patterns of response were identified with a fourth added later. The conclusions garnered from the Strange Situation were thought to be the catalyst for an increase in the

popularity of attachment research (Grossman & Grossman, 1991). They were also seen as a primary cause for the growth of attachment theory towards an officially recognized research program (Tavecchio & IJzendoorm, 1987). Ainsworth's original work, before the Strange Situation (1963), classified infants as securely attached or insecurely (anxiously) attached or nonattached. However, from the birth of the Strange Situation, came the realization that all individuals are attached in some form (Ainsworth & Wittig, 1969).

As mentioned previously, Ainsworth's research resulted in two main categories of attachment: secure and insecure (anxious). Anxious attachment originally had two, and subsequently three subcategories.

Secure Attachment

Secure attachment is deemed the most positive of attachments and exists as a working model that shapes how the individual interprets and responds to their social interactions (Pietromonaco & Barrett, 1997). These working models are based on actual experiences but are used to extrapolate those experiences to new situations (Bowlby, 1969/1982). Bowlby (1969/1982) stated that in order for the working model of an individual to be effective, it would have to be internally consistent, include realistic representations from the environment and the self, be subject to revision and be, on occasion, consciously explored. Securely attached children are distressed when separated from their primary caregiver and are greatly comforted by their return (Holmes 1993). They also are confident in the caregiver's availability, responsivity and aid in adverse experiences. Recent studies that classify a sample as secure, label the infant as "generally

calm on reunion, interactions smooth and the relationship feels 'special'" (Acherman, Dinneen & Stevenson-Hinde, 1991).

Researchers have noted that small children in strange surroundings require a parent's presence for security (Weiss, 1991). As the child ages, only periodic assurance of a parent's accessibility is necessary and adolescents are still less needful of parental presence. The securely attached individual seems to evolve and develop security from their immediate environment and then internalizes it as a secure base upon which to rely. When examining adults, secure adults are able to provide clear and coherent accounts of early attachment while insecure individuals produced conflicted childhood memories about attachment (Bretherton, 1991). In addition, parents of securely attached children also have given researchers the impression of having unusually easy access to childhood memories (Main, 1991) which is significant as the infant Strange Situation behavior is presumed ultimately reliant upon parental behavior. Although the Strange Situation does not directly assess maternal behavior, conclusions can be drawn about the contributions of mothers and findings do implicate a critical influence of the mother (or caregiver) on the organization of attachment relationships (Rosen & Rothbaum, 1993).

Secure attachment aids an individual in thinking logically, developing a conscience and greatly aids in social interaction and relationships with others (Fahlberg, 1979). Secure attachment shapes an infant's personality. One researcher has stated that the personality of children with secure attachment to either parent was described more positively and more favorably along the dimensions of ego-control and ego-resiliency than insecurely attached children (Grossman & Grossman, 1991) as well as their accuracy in social perception. The strategies developed in secure attachment in relation

to significant others are designed to maintain and further develop a person's emotional coherence and integrity (Grossman & Grossman, 1991). From the initial attachment development stage, secure attachment shapes the individual. Another study discussed the greater prevalence of self-directed speech in an infant who was classified as securely attached over insecurely attached infants (Main, 1991). Other external correlates of secure attachment include peer competence, self-esteem, coping with novelty and persistence in problem solving (Sroufe, 1985).

Insecure/Anxious Attachment

There are three subgroups:

(i) Insecure-Ambivalent

Insecure-Ambivalent attachment has also been termed insecure-resistant. These infants are highly distressed by separation and cannot be easily soothed upon reunion (Holmes, 1993). While they seek contact, they resist it, alternating between anger and anxiety, appearing uncertain as to whether the primary caregiver can be relied upon, responsive to their needs, or could exist as a secure base. Bowlby used the notion of faulty internal working models to describe different patterns of neurotic attachment (Holmes, 1993) and felt that, with ambivalent attachment, feelings of anger at the rejection by the caregiver is most conspicuously subjected to 'defensive exclusion'. This means that models cannot be updated in the light of new experience. The individual's representation of self and others is not accurate and the caregiver is viewed as unpredictable or rejecting. Although it is stated that perceptions are not accurate, parental behavior is markedly different in secure and insecure parents (Acherman, Dinneen & Stevenson-Hinde, 1991). One study demonstrated that parents of

ambivalently attached children scored lower on the Parental Acceptance Test than parents of secure children (Rosen & Rothbaum, 1993). As it has been stated that achieving a secure base early on had many correlated positive effects on an individual, an insecure-ambivalent attachment has negative effects. It has been reported that ambivalent attached children had either no friends or few friends and discussed problems such as being exploited, ridiculed or excluded from group activities by their peers (Grossman & Grossman, 1991). Main (1991) stated that "a child who has highly contradictory experiences with the same attachment figure will be more likely to develop and maintain an insecure-ambivalent attachment organization if she is too young to remember prior feelings in the face of new and different experiences" (p. 137). Main (1991) also distinguishes secure from insecure attachment by stating that for both ambivalent and avoidant attachment individuals, they have difficulty in accessing attachment-related information, maintaining organization of this information and preventing distortion of this information. As the research purports that attachments remain stable over time, it becomes clear that such cognitive dysfunctions effect the individual from childhood, to adolescence into adulthood.

Insecure-Avoidant

Insecure-avoidant attachment, while classified under the same heading as ambivalent (insecure), consists of markedly different behavior in an infant from ambivalent attachment behavior. It is defined as a child demonstrating no confidence in their caregiver as a secure base, expecting rejection. They show no distress when separated from their mother and ignore her upon return, while remaining watchful and inhibited in play (Holmes, 1993). The avoidant pattern in the Strange Situation illustrates

a strategy on the part of the infant to deny negative feelings elicited by maternal separation (Grossman & Grossman, 1991). Research has demonstrated that this strategy involves defensive strategies of "reducing their reactivity to threatening cues that would otherwise elicit both fear and attachment behavior and diverting their attention to other objects in the environment" (Ainsworth & Eichberg, 1991 p.161). As the avoidant infant develops into childhood and adolescence, they tend to become socially isolated, show unprovoked outbursts of anger, to lack self-awareness and to be unable to tell a coherent story about themselves (Holmes, 1993). It seems, then, that attachment styles may underlie emotional security, delinquent behavior and, possibly, psychopathology in adolescence (Genuis, 1995).

Holmes (1991) provided a delineation of the differences between these two subgroups of insecure attachment styles by describing the two with specific clinical aspects:

Narrative style: avoidant= dismissive; ambivalent = enmeshed,

Parenting: avoidant= functional pushing away; ambivalent= inconsistent intrusive

Core anxiety: avoidant= abandonment; ambivalent = impingement

Secondary defense: avoidant= splitting denial; ambivalent = false self compliance

Transference: avoidant= terrified of contact; ambivalent = terrified of separation

Counter-transference: avoidant= bored, angry; ambivalent = stifled

Therapeutic strategy: avoidant= acceptance of rage; ambivalent = containment

The above description displays to the reader the continuing effects attachment has, how it can portend future problem behavior and emotional instability because of the very nature

of the stability of attachment classification throughout childhood into adulthood. During adolescence, the way the youth chooses to use the parents as a secure base during times of difficulty will provide clues to the quality of communication in parent-adolescent relationships and confirm attachment classification (Kobak & Sceery, 1988).

Insecure –Disorganized/Disoriented

Insecure-disorganized/disoriented attachment is characterized by two incompatible behaviors, that of the infant both seeking and avoiding proximity of the attachment figure. The children act as though both environment and the attachment figure are sources of threat to them and they show a diverse range of confused behaviors including 'freezing', or stereotyped movements, upon reunion (Ainsworth & Eichberg, 1991; Holmes, 1993). Most of the previous studies mentioned earlier focussed on the three aforementioned attachment classifications. Recently, researchers have concluded that the original classifications do not capture the distinct organizational features of infant attachment behavior among the severely socially-at-risk populations (Lyons-Ruth, Alpern & Repacholi, 1993).

From these conclusions, Main and Solomon (1990) developed classification criteria for a new disorganized/disoriented attachment category. To these researchers, this category was not a fourth organized strategy for maintaining access to the attachment figure under stress. Instead, "conflicting behavioral tendencies are activated in the infant and compete for expression, resulting in incomplete or contradictory actions or the display of combinations of behaviors from two of more usually distinct organized strategies. Disorganization can occur in the context of an otherwise secure infant strategy

or in the context of insecure strategies characterized by the restriction (avoidant pattern) or augmentation (resistant pattern) of attachment-related behavior and affect" (Lyons-Ruth, Alpern & Repacholi, 1993 p. 573). There is very little research on the behavior of the parents of disorganized infants. However, it has been postulated that unresolved trauma may lead parents to be frightened and/or frightening at times, which would situate the infant in a temporarily irresolvable conflict situation and might lead to the aforementioned disorganized/disoriented behavior (Main, 1991). There is also some evidence of parents of disorganized infants experienced early loss of an attachment figure through death. Infant disorganization may be associated with the mother's unresolved mourning for a lost attachment figure (Ainsworth & Eichberg, 1991). In addition, data exists demonstrating that behavioral patterns of children with disorganized attachments may be particularly discontinuous over early development (Lyons-Ruth, Alpern & Repacholi, 1993). As this classification is so recent, more research is necessary to create clearer definitions and developmental frameworks of the aspect of attachment theory.

(c) Summary

Attachment theory and its classifications have long-term, crucial implications on an individual's development. As stated in this review of the classifications, such attachment organizations are stable throughout a person's life. Therefore, once an attachment is established it effects the individual and all facets of their life. Although working models developed from insecure attachments in early life appear to remain stable through the person's life, it is the sensitive periods of development that are the strongest from birth to adolescence. One critical question for future research is how working models of attachment and style of affect regulation influence and are influenced

by the quality of affective communication in current attachment relationships (Kobak & Sceery, 1988).

The original work of Ainsworth has certainly pioneered the research in this area and provides a 'secure base' from which researchers can springboard towards other directions. The continuum of attachment classification within the lifeline of the individual poses further questions. The Strange Situation focussed on infant behavior while other instruments focussed on the parental perceptions. Still other instruments assess attachment in adolescence and then adulthood. The predictive validity of early attachment classifications concerning specific aspects of an individual's personality, psychopathology and interpersonal relationships has not been thoroughly examined and future exploration must be addressed.

Attachment theory and its classifications have been universally accepted. The newest addition to the attachment classification, disorganized attachment was not only accepted but now is being used to explore the influence of adolescent attachment on psychopathology (Violato & Genius, in press). Violato and Genius (using the AAS) believe that "the reciprocal effects between behavioral experiences in childhood and the security of emotional attachments is evidenced by both the loadings of observed variables on to the latent variable, and the significant correlations found between attachment and...two other latent variables, Abuse and Isolation." (p.15). The next step in this research will focus specifically on disorganized attachment. The classifications detailed here have been empirically validated and recognized in the scientific community. Yet, the long-term vital importance of the initial stages of classifications have not yet been explored and it is vital to the understanding of developmental psychology that it will be.

C. Attachment and Psychopathology

Attachment is a prominent and well recognized developmental theory that exists throughout the human life span; relatively little attention has been paid to the relationship between attachment processes and the development of psychopathology in childhood through to adolescence and adulthood (Rosenstein & Horowitz, 1996). Nevertheless, it is the next logical step within this area to direct research questions towards psychopathology. Attachment theory with its reliable and clinically relevant findings provides a "broad, multidisciplinary basis for the understanding of socioemotional dysfunction" (del Carmen & Huffman, 1996 p. 291). During his observations of insecurely attached children, Bowlby (1973) noted that they are highly vulnerable to fragmentation or incoherence, producing multiple, inconsistent models. These defensively based multiple models form the initial stages of defensive structures which could ultimately lead to distortions in personality and psychopathology (Rosenstein & Horowitz, 1996). Other researchers have argued that anxious attachment in infancy and early childhood may contribute towards a significantly increased risk of the development of psychopathology in adolescence and adulthood (Genuis, 1995). In examining adult attachment and the effects of adolescent psychopathology, Allen, Hauser and Borman-Spurrell (1996) believed that adult organizations that "lack coherence or security may create enduring vulnerabilities to psychopathology by impairing an individual's ability both to participate in satisfying social relationships and to appropriately understand and evaluate social interactions" (p.254).

Attachment processes have been linked to several disorders such as depression, oppositional and conduct disorders, reactive attachment disorder, abuse and

maltreatment, and eating disorders (del Carmen & Huffman, 1996; Zeanah et al., 1997). Notwithstanding this work, the relationship between attachment with psychopathology has not been well researched. There are several reasons for this.

Attachment assessment and classification are well established in infancy and childhood (Ainsworth & Wittig, 1969; Holmes, 1993; Teti et al., 1991). Yet, more work is needed in the area of validation of diagnostic criteria for clinical disorders in infancy and toddlerhood, especially from a developmental perspective (del Carmen & Huffman, 1996). In late childhood and adolescence, the research situation is inverted where there is more information concerning the development of psychometrically valid diagnostic tools to examine pathologized states whereas attachment research for this age group is in need of elaboration (Genuis et al, 1997; Kobak & Sceery, 1988). For late adolescence and adulthood, the creation of the Adult Attachment Interview (AAI; George, Kaplan & Main, 1985) has aided immensely in assessing and classifying attachment and connecting this information to psychopathology. With this instrument, biased mental models of attachment in insecure adolescents and their parents can be studied and linked with the adolescents' difficulties in interpersonal and intrapsychic functioning (Rosenstein & Horowitz, 1996). Validation has also been found in studies linking parents' adult attachment status to their infant's attachment classification. Researcher's have tentatively associated attachment insecurity (in the preschool years) with incompetence with peers, overdependence on teachers and lower self-confidence (Pianta , Egeland & Adam, 1996). "Specifically, the insecure-resistant [ambivalent] group shows greater passivity or impulsiveness and the insecure-avoidant group shows more aggression and antisocial tendencies, as well as high scores on teacher judgments of depression. Infants

classified as disorganized-disoriented with respect to attachment have also been shown to be at risk for disruptive problem behavior" (p. 273). Still, the research in this area is relatively new and requires much more examination and observation.

Emotional stability, affiliative behaviors and level of psychological adaptation are viewed by many in the psychological community to be rooted in childhood attachments (Fahlberg, 1979). Attachment models both shape an individual's beliefs about " whether the self is worthy of love and whether others can be trusted to provide love and support and also influence the kinds of interactions individuals have with others and their interpretations of these interactions" (Mickelson, Kessler & Shaver, 1997 p. 1092). It follows then, that insecure and disorganized childhood attachment patterns could be predictors of psychological adaptation and behavior and also psychopathology in adolescence and adulthood (Ainsworth, 1991). Several studies have taken this issue and explored certain facets of this argument.

It has been stated by researchers that attachments can shape psychological adjustment and psychopathology (Waters et al., 1993). In a study directed by Violato and Genuis (1999), the purpose was to demonstrate the direct significant link between childhood attachments and psychopathology in adolescence. A latent variable path model was utilized to test this hypothesis. One hundred and thirty eight adolescents with their parents, when possible, made up the sample. Forty percent of this sample was from a clinical environment, while the remaining sixty percent was from the community. The adolescents completed three instruments: the Adolescent Attachment Survey (AAS; Genuis et al., 1997), the Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979) and the Youth Self-Report (YSR; Achenbach, 1991a). The parents were issued

one instrument, the Child Behavior Checklist (CBCL; Achenbach, 1991b). The latent variable path model was fit to the data, identifying three latent variables: Abuse, Childhood Attachment and Social-Emotional. The data clearly identified all three latent variables and they intercorrelated. The crucial path coefficient from Childhood Attachments to Diagnosis of Psychopathology was significant (path coefficient = -.48; $p < .001$). The role of childhood attachments factored significantly into the development of psychological adaptation, furthering the link between attachment and psychopathology.

Allen, Hauser and Borman-Spurrell (1996) conducted a study that examined the long-term sequelae of severe adolescent psychopathology from the perspective of adult attachment theory. Several research questions were addressed. The one that will be discussed here is the question: " Does pathology severe enough to warrant psychiatric hospitalization in adolescence predict insecurity in attachment organization in young adulthood, and if so, are there particular types of insecure attachment organization that are overrepresented in a previously hospitalized population?" (p. 257). Therefore, not only does this study follow the probability that insecure attachment could predict psychopathology in adulthood, but it goes one step further posing the question concerning a particular classification of insecure attachment having a greater influence on psychopathology that other types of insecure attachment.

The participants of this study consisted of 76 adolescents from the freshman class of a public high school and 66 adolescents of similar age, nonpsychotic, nonorganically impaired individuals who had recently been psychiatrically hospitalized. The participants were reinterviewed as young adults 11 years later (97% of the original sample of 146 adolescents interviewed at age 14). The most important assessment tool

that garnered the critical information for the research question discussed here, was the previously mentioned Adult Attachment Interview (AAI). The process of this instrument is to classify the individual into one of four categories: (1) secure-autonomous, (2) insecure-dismissing, (3) insecure-preoccupied, and (4) insecure-unresolved. These categories mirror the infant attachment categories of (1) secure, (2) insecure-avoidant, (3) insecure-ambivalent and (4) insecure-disorganized (Holmes, 1993). The results of the study produced substantial differences in young adult classifications between previously hospitalized and high school groups. Forty four point seven percent of high school sample was classified as secure in young adulthood while only seven point six percent of the previously hospitalized sample was secure. The lack of secure classifications in the hospitalized sample was reflected in the higher frequencies (28.8%) of insecure-unresolved category (insecure-disorganized). The results do seem to support the idea that psychopathology severe enough to warrant hospitalization at age 14 is strongly predictive of insecure attachment organization 11 years later. Overall, insecurity was associated with past hospitalization, low perceived self-worth, and self-reported paranoia, whereas dismissing mental strategies predicted self-reported criminal behavior and drug use. One could conclude, then, that not only is childhood attachment predictive of future psychopathology in adults, but adolescent psychopathology could be predictive of adult attachment organization.

Another study that used the AAI classifications and related them to psychopathology reported an extremely high prevalence of insecure classifications (98%) in an inpatient psychiatric population of 69 adolescents (Rosenstein & Horowitz, 1993). The adolescents that were classified by the AAI as preoccupied or unresolved were most

likely to have a diagnosis of affective disorder, whereas the dismissing classification was associated with conduct disorder. This study brought forward the interesting fact that not only are insecurely attached individuals more predisposed to psychopathology than secure attached individuals but that different categories of insecure attachment may predict different aspects of pathology.

Pianta, Egeland and Adam (1996) are the authors of the study that examined the relationship between adult attachment and self-reported psychiatric symptomatology as measured by the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen & Kaemmer, 1989) in a sample of first-time mothers from a high-risk poverty category. The MMPI-2 is essentially the same as the MMPI using the same validity and clinical scales but with a new set of norms, additional items and elimination of "offensive" terms. The authors of this study, upon reviewing the literature, believed that findings show that self-report measures of psychopathology underestimate the "degree of relation between attachment and symptoms, and they provide support for the use of interview-based measures such as the AAI as alternatives to self-report procedures" (p. 274).

The sample consisted of 110 first-time mothers in their second trimester. All were either on medical assistance or uninsured and had "generally disorganized life circumstances". The participants were randomly assigned to a treatment or a control group. The treatment consisted of a preventive intervention program that was designed to promote healthy parent-child interactions among children and first time mothers who are at risk for parenting problems. The individuals in the control group received prenatal and postnatal social and health services as normally available through state and city agencies.

The entire sample was administered the MMPI-2 prenatally and then the AAI was administered 1.5 years later, at the time that the child was 19 months of age. The data resulting from this study supported the findings of other investigations that demonstrate an overall relation between attachment insecurity and symptoms of psychopathology. Attachment security was related to but not equivalent with freedom from symptoms. The results of the individuals classified as secure that did report certain levels of symptomatology could be associated with their high-risk status or the possibility that "adults classified as autonomous with respect to attachment are also willing to evaluate themselves and report openly about problems" (p. 278). Upon examining the categories of the AAI, the dismissing group displayed an inclination to suppress anxiety and emotion and to support self-descriptions consistent with a view of self as strong, emotionally healthy and independent of others. This result can be linked with Kobak and Sceery's (1988) statement that an individual with a dismissing status might have a tendency to distance oneself in relationships. The preoccupied group was viewed as extremely vulnerable and distressed at levels consistent with a diagnosis of major mental illness. Pianta and his colleagues also determined that "preoccupation with attachment-related issues combined with unresolved loss or trauma appears to be strongly associated with high levels of self-reported distress and psychiatric symptoms and may account for the pattern of findings..." (p. 279). While their findings are essentially descriptive, the investigations clearly demonstrate that attachment insecurity is notably predominant among individuals diagnosed with mental illness and a particular configuration of attachment organization (Preoccupied-unresolved) has self-reported symptom levels that are high and consistent with such a diagnosis. It is also important to note, however, that

one aspect of weakness in this study, as pointed out by the authors, is the reliability of self-report instruments (in particular, the MMPI-2). The information and symptoms supplied are only ones that the participants are willing and capable of reporting. Inaccuracy or illusion of symptoms could possibly skew the data.

Lyons-Ruth, Alpern and Repacholi (1993) reported in their study of 62 low income families that the strongest single predictor of deviant levels of hostile behavior towards peers in the classroom was earlier disorganized/disoriented attachment status.

D. Attachment and Suicide

When discussing psychopathology and attachment, it is interesting to examine one psychopathology in particular, namely, suicide.

In a study by Adam, Sheldon-Keller and West (1996), they examined one hundred and thirty-three adolescents in psychiatric treatment in a case comparison study that investigated the association of attachment patterns with a history of suicidal behaviors. The case group consisted of 69 adolescents with histories of suicidal behavior (n=53) and severe ideation (n=16). Exclusion criteria included diagnosis of psychosis or organic brain or central nervous system disorder. The comparison group was made up of 64 adolescents who had never experienced suicidal ideation or behaviors. Adam's (1973) Suicidal Ideation and Behaviors protocol was utilized in classifying the two groups. The AAI was implemented to assess attachment patterns. 86% of the case group and 78% of the comparison group had experienced attachment-related trauma. The resultant data indicated that "preoccupied attachment, in interaction with unresolved-disorganized attachment, was associated with the case group, whereas dismissing attachment was associated with the comparison group" (p. 264). There was a surprisingly high

population of dismissing participants in the comparison group. The authors felt that it was unlikely that suicidal feelings were denied in this group and ultimately purported that "the setting aside of attachment difficulties and detachment from attachment –related feelings is associated with diminished suicidal ideation and behavior, at least in this age group (13 to 19) and particularly in male adolescents" (p. 270). Another important conclusion that the authors reached was that individuals unresolved from earlier trauma may be prone to disorganized responses in situations that draw attention to, or represent repetitions of, earlier trauma. This vulnerability to trauma can be linked with Main's (1991) discussion of metacognitive knowledge, functioning and processes related to attachment. Within the multiple model framework exists the possibility of denial or distortion of trauma which can lead to 'mental suffering' a possible precursor to psychopathology.

1. Summary

Based on the aforementioned discussion, future study should focus not only on the connections between infant attachment classifications and future psychopathology, but also on specific categories of attachment with specific types of pathologies. The disorganized/unresolved category has garnered the strongest, most identifying results to date. More longitudinal and follow up studies must be created in order to illustrate the developmental relationship between attachment and psychopathology. "Attachment theory views development as a process of directed change, of competencies, adaptive patterns and personality emerging from the reorganization of previous patterns, structures and competencies. This viewpoint stresses the connections between the normal ontogenetic process and the pathologic development and conceptualizes psychopathology

as a deviation from a normal developmental pathway in an effort toward adaptation" (Rosenstein & Horowitz, 2996 p. 244). The developmental pathways of attachment and psychopathology are obviously not only parallel, but can intersect frequently.

Substantial research has linked adolescent suicide and attachment disruption such as insecure attachment (Adam, 1973; Adam et al., 1996; Grossi & Violato, 1992; Violato et al., 1996). Nonetheless, further research is required to further explore the relationship between suicide and attachment. Accordingly, the present study was undertaken to explore the following research questions.

E. Research Questions

(1) Does childhood insecure attachment predispose adolescents towards suicidality?

(2) What are the major differences between suicidal adolescents and a community sample of adolescents on parental relationships and personal characteristics?

(3) What are the major differences between suicidal adolescents and a community sample on psychological functioning?

(4) What are the sex-differences in suicidal adolescents?

CHAPTER THREE

METHODS

A. Participants

A total of 52 adolescents participated in the study in which their childhood attachment (prior to 10 years of age) to each parent and their parental unit were assessed. The participants were divided into two distinct groups, one clinical and one community. The clinical group was recruited into the study from admissions to an inpatient psychiatric assessment and treatment unit for adolescents at the Foothills Provincial Hospital, Calgary, Alberta. Permission from both the adolescent and their parents or guardians were required. The study was explained by the researcher to the participants and anonymity was ensured as well as the opportunity to withdraw at any time during the study. It was necessary to establish exclusion criteria of symptoms of psychosis, pervasive developmental disorder, bipolar disorder, mental retardation and organic brain damage as these disabilities interfered with the completion of the instrument completion. In addition to these criteria, it was necessary to exclude those with no history or current presentation of suicidal ideation, gestures, and/or behavior as this group was to be designated as clinical and suicidal. Upon admission to the facility, the staff psychiatrist provided each adolescent with a diagnosis, most based on the Diagnostic Statistical Manual IV-R. Table 1 provides these diagnoses. Although each individual presented in Table 1 had some history of suicidality, some had exhibited extreme suicidalty and this is shown in the Table. The community, nonsuicidal group were recruited from the general population through schools, physicians and dentists. Notices were posted in local offices and the adolescents, with the permission of their parents or guardians, volunteered to

participate in the study. As with the clinical group, the study was explained to the participants, anonymity was ensured as well as the opportunity to withdraw at any time during the study.

B. Instruments

The Self-report measures that were used in this study included the Adolescent Attachment Survey (AAS) (see Appendix A), the Parental Bonding Instrument (PBI) (see Appendix B) and the Youth Self-Report (YSR) (see Appendix C). The AAS, which is made up of 377 items, is intended to measure retrospectively, childhood attachments and experiences, prior to the age of ten. Internal consistency reliability coefficients for the eight subscales range from .82 to .94 and the research has provided evidence of validity (Violato & Genuis, 1999). The questions of this instrument were created in order to obtain descriptive information on the participant and information pertaining to attachment in accordance with variables revealed in the literature which pertain to attachment (Paolucci et al., 1998). The PBI is also used to assess childhood attachment and has been used to evaluate the criterion-related validity of the attachment subscale of the AAS. It consists of 25 statements, which the adolescent is requested to self-report on, rating each item on a 4-point Likert type scale (Very Like/ Moderately Like/ Moderately Unlike/Very Unlike). The YSR, also a self report measure, contains 118 behavior problem items and a social competence scale (Achenbach, 1991a). This assessment tool assesses current levels and types of psychopathology in adolescents. It, similarly to PBI (although the PBI had a 4-point scale), requires the participant to rate each item on a 3-point scale (Not True/Somewhat or Sometimes true/Very True or Often True) in terms of

themselves. Individual scale scores (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behaviour, aggressive behaviour, and self-destructive identity problems), externalizing and internalizing scores and an overall total problem score are produced. Achenbach (1991) used a seven day and seven month period to examine test-retest reliability. Achenbach reported alpha values using Cronbach's alpha for the scales. The individual scores ranged from a low of .59 (withdrawn) to a high of .90 (anxious/depressed) with the mean alpha value at .75. The value for internalizing was .89, the value for externalizing was .89, and the value for the total problem score was .95. Achenbach (1991) compared scores obtained from the YSR from 2 groups of adolescents, one group being referred for mental health services and one group demographically similar but nonreferred. To assess criterion-related validity of these scores, Achenbach then used referral for mental health services to test the criterion-related validity of the scales on the YSR. Multiple regression analyses of scale scores were conducted to assess the effects of referral status. All but one of the scales demonstrated effects of referral status that were significant at $p < .01$ level, reflecting higer problem scores for the referred group. Somatic Complaints was significant at $p < .015$.

C. Procedure

All participants were given the use of a computer in order to complete the questionnaires, based on the design of Violato and Genuis (1999). The clinical group was given the instrument in a private room within the unit at the hospital. The researcher

was present during the testing to answer any questions the participant may have had. The testing took between 45 minutes to an hour and a half depending on each individual's pace. The community group was given the instrument via a computer at the participant's residence, with the researcher in an adjoining room, available to answer any questions. All participants were informed of their anonymity and the confidentiality of the information. They were also asked to relay any feelings of discomfort at answering any of the items. Is this were to occur, testing would be halted. Both groups, both clinical and community reported no discomfort or distress in participating in the study.

D. Data Analysis

Data analyses is threefold: (1) Descriptive statistics focus on frequency distributions, means, and standard deviations; (2) Multivariate analysis of the data was utilized, to further explore group differences; (3) A discriminant function analysis between the suicidal and nonsuicidal groups was developed; and (4) Non-parametric analyses were conducted to explore sex-differences in the suicidal clinical sample.

TABLE 1

Diagnosis of Clinical Sample Upon Admission (N=17*)

SUBJECT	SEX	DIAGNOSIS
1	MALE	PTSD/DYS/ADHD
2	MALE	SA/PTSD/DYS
3	MALE	ANX/MDD
4	MALE	MDD/EXTR. SUIC.
5	MALE	MDD/EXTR. SUIC
6	MALE	EXTR. SUIC
7	FEMALE	CD/SA/ODD/MAN.
8	FEMALE	PTSD/MDD
9	FEMALE	PTSD/DYS/CD/ODD
10	FEMALE	SA/DYS
11	FEMALE	MDD/SA/PTSD/ANX
12	FEMALE	MDD
13	FEMALE	PTSD/SA/EXTR. SUIC.
14	FEMALE	CD/MD
15	FEMALE	MDD/EXTR. SUIC.
16	FEMALE	DSY/ANORX/EXTR. SUIC
17	FEMALE	PTSD/EXTR.SUIC.

*Diagnosis upon admission from Jan - April, 1999 by staff psychiatrist-many diagnoses based on the DSM-IV

PTSD = Post Traumatic Stress Disorder
DYS = Dysthymia
ADHD = Attention Deficit Disorder
SA = Substance Abuse
ANX = Anxiety
MDD = Major Depressive Disorder
EXTR. SUIC. = Extreme Suicidality
CD = Conduct Disorder
ODD = Oppositional Defiant Disorder
MAN = Mania
ANORX = Anorexia

CHAPTER FOUR

RESULTS

A. Descriptive Statistics of the Sample

There was a total sample size of 52 adolescents. Descriptive analyses and differences between the clinical and community samples are summarized in Table 2.

Adolescents for the clinical and community groups ranged in age from 12 to 17 years. The community, nonsuicidal group consisted of 35 individuals with the mean age at 14.2 and a standard deviation at 1.7. In the clinical group of 17 individuals the mean age was 15.8 and the standard deviation of 1.01. Thus, the total sample of adolescents had a mean age of 14.73 with a standard deviation of 1.7. The mean present school grade for the clinical group was 10.7 with a standard deviation of 1.4. In the community group, the mean present school grade was 9.1, with a standard deviation of 1.9. Both variables of age and school grade were significant. As the clinical group was most often older than the community group, it follows that they would be in a slightly higher school grade. Frequencies of within and between city moves were similar and nonsignificant for the two groups as was the number of siblings for both groups (See Table 2).

There was an even division of gender in the community group with 17 males and 17 females. In the clinical group, there were six males (35%) and 11 females (65%). For the total sample then, 23 of the adolescent subjects were male and 28 were female.

B. Description of the Sample on Categorical Variables

The variables reported in Table 3 reflect answers given by the participants on a number of questions in the AAS that require categorical answers such as "yes, no and

don't know". A Chi-square analysis was run to compare the answers for the two groups. The frequencies of the clinical adolescent participants experiencing physical abuse, unwanted sexual touching, oral sex and sexual intercourse was significantly higher than the community adolescent group ($p < .001$- see Table 3). There was an occurrence of missing data in each of these categories with one participant in the community group not answering and two participants in the clinical group not answering the physical abuse category. In addition, the clinical group reported a higher frequency of drinking alcohol as a child than that of the community group. Again, one participant in the community group chose not to answer. Two responses in the clinical group were recorded incorrectly and were indicated as missing data. Histories of mothers and fathers as alcohol drinkers were not significantly different between the two groups ($p > .05$). The category indicating whether the adolescent participant was currently abusing substances was not significant ($p > .05$). There was a large portion of the community group that did not answer this section.

C. Between Group Differences in the Adolescent Attachment Survey and the Parental Bonding Instrument

Between Group differences on the AAS and PBI were explored by performing several analyses of variance. Specific items pertaining to each subscale were summed to obtain the total score for each subcategory (See Table 4).

1. Parental Care

Parental Care, from the Parental Bonding Instrument, indicates the perception of the adolescent of their parents' attention and care towards them. The community group

reported a significantly higher perception of parental care compared to that of the clinical group's perception of care ($F(1,49)=54.63$, $p < .0001$).

2. Parental Overprotection

These items were summed and reverse coded to indicate which participants perceived their parents to be the most overprotective of them. Therefore, a higher score indicated *less* overprotection. The community group score was accordingly significantly higher than the clinical ($F(1,49)= 23.11$, $p< .0001$), reflecting higher overprotection than for the community sample.

3. Mother Attachment

Specific items from the Adolescent Attachment Survey were grouped together and summed to record a score reflecting the adolescent participant's attachment relationship to their mother (or the indicated primary caregiver). The community group had a much higher score (104.41) than the clinical group (73.4) which indicated significance ($F(1,49)=117.49$, $p> .0001$).

4. Father Attachment

Similar to the Mother Attachment category, the community group reported higher scores (98.65) on the attachment relationship to the father than that of the clinical group (72.66), indicating significance ($F(1,47)=20.48$, $p< .0001$).

5. Parental Attachment

Similar to the two previous categories, the community group total score on attachment to the parental unit was significantly higher than the total scores in the clinical group ($F(1,46)=56.86$, $p< .0001$).

6. Parental Involvement

This section examined perceived parental support, perceived parental affection and physical proximity. Items in the perceived parental support subcategory were answered as either rarely or regularly. Items in the perceived parental affection subcategory compared comparisons from mother only and then father only and was analyzed as either rarely or regularly. Physical proximity was operationalized as being held or hugged and was analyzed in the two categories of rarely and regularly. The results of comparisons of physical proximity were to mother only and then father only. The total score comparison in this category of parental involvement resulted in a higher score in the community group (87.77) than in the clinical group (74.59). However, the differences did not indicate significance ($F(1,50)=5.55$, $p< .022$).

7. Separation

This category examined three levels of separation: (a) nonparental care before regular attendance in school, (b) long-term separation from either and/or both parents before the child turned 10 years of age, and (c) permanent separation from either and/or both parents. The clinical group's total score was higher (27.23) than the community group's total score (21.74) but was not significant ($F(1,50)= 1.41$, $p< .240$).

8. Parental Neglect

This subscale of neglect consists of three variables: (a) felt rejection, (b) withholding of love, and (c) ridicule of children. The results looked at felt rejection by both parents, mother only, and then father only. Withholding love was analyzed as either rarely or regularly. Ridicule of children was defined as the participants perceived feelings that they were ridiculed or made fun of by both parents, mother only and then father only. All

of these items were reversed score, with a lower score indicating higher Neglect. Although the clinical group had a lower score (28.18) than the community group (33.83), the difference was not significant (F (1,50)=2.54, p< .117).

9. Threats

The threats category was divided into three categories: (a) threats of abandonment, (b) threats to harm self, and (c) threats to harm subjects. Each category examined the specific threats by both parents, mothers and then fathers separately. The items were reversed scored. The difference in scores between the two groups was not significant (F (1,50)=.151, p, .699).

10. Blame

For this study, Blame was operationalized as children perceiving that parents blamed them for parental illness. This section of blame was categorized as rarely and regularly. This category was reversed scored. The community group scores were higher (11.97) than the clinical group (7.71). However, the difference was not significant (F (1,50)=5.41, p< .024).

11. Crime

This category examined the adolescent's involvement in illegal activities. Items in this area included queries around involvement with prostitution, car theft, robbery, breaking and entering, illegal weapons possession, vandalism, fire starting, theft over $1000, physical assault, sexual assault, murder and attempted murder. All items were reversed scored, with a lower score indicating higher illegal activities. The clinical group's scores were much lower (21.88) than that of the community group's score (59.85) and the difference was significant (F (1,49)= 366.60 p< .0001).

12. Drugs

This category consisted of items that asked the participant about past exposure to illegal substances. The items included exposure to marijuana and hash, crack or cocaine, angel dust, acid, sniffing glue, sniffing paint or paint thinner, sniffing household cleaners and sniffing fuels. This category was also reversed scored, with a lower score indicating higher drug use. The clinical group had a lower score (38.65) than the community group (54.94). The difference in score was significant ($F(1,49) = 24.81$, $p < .0001$).

D. Between Group Differences in the Youth Self Report

The Youth Self Report contains items which produce eleven problem scales. The between group differences reported in Table 4 indicated significance on nine of those scales. These included: (1) Withdrawn $F(1,49) = 24.76$, $p < .0001$; (2) Somatic complaints $F(1,49) = 32.89$, $p < .0001$; (3) Social problems $F(1,49) = 21.09$, $p < .0001$; (4) Thought problems $F(1,49) = 36.97$, $p < .0001$; (5) Attention problems $F(1,49) = 19.56$, $p < .0001$; (6) Delinquency $F(1,49) = 35.02$, $p < .0001$ (7) Aggressive behavior $F(1,49) = 23.42$, $p < .0001$; (8) Internalizing total $F(1,49) = 17.99$, $p < .0001$; and (9) Self destructive-identity problems $F(1,49) = 8.575$, $p < .005$. The two categories that were not significant were depression ($F(1,49) = 2.479$, $p < .122$) and the externalizing total ($F(1,49) = .677$, $p < .415$). Reasons for these differences will be expanded upon in the discussion.

E. Discriminant Analyses

A stepwise discriminant analyses was performed on the groups defined as Suicide and Nonsuicide. Table 6 is a summary of these results. A single discriminant function was formed from the variables and was found to separate the suicidal group from the nonsuicidal group (Wilks' Lambda= .23, df=2, $p < .0001$). The discriminant function produced a large canonical correlation of .87 thus accounting for 77% of the variance in suicide.

Compared to the Nonsuicidal group, more of the suicidal group had insecure maternal, parental and paternal attachment, perceived their parents as less caring, less involved and overprotective.

Based on the discriminant analysis and resulting model, 94% of the adolescents were correctly classified as either suicidal or nonsuicidal. More specifically, 88% of the adolescents were correctly predicted as suicidal and 97% were correctly predicted as nonsuicidal Table 6).

F. Secondary Analysis: Sex Differences in the Suicidal Group

A secondary analysis was employed to explore sex-differences in the clinical, suicidal group. As the community group served to maintain a baseline for comparison with the suicidal group, sex comparisons were limited to the clinical group. As there were relatively few males (n=6) and females (n=11) in the suicidal group, non-parametric statistical procedures were used. As with the previous analyses, between group differences from the Adolescent Attachment Survey (AAS), The Parental Bonding

Instrument (PBI) and the Youth Self Report (YSR) were examined, only this time with males and females as the two groups. In Table 7, categorical descriptive statistics, using a Chi-Square analysis were investigated. The differences in the categories of physical abuse, sexual touching, oral sex, alcohol consumption as a child, mother alcohol consumption, father alcohol consumption and presently abusing substances were not significant. The category of sexual intercourse was significant ($X^2(1)= 3.996$, $p< .046$).

Table 8 is a summary of Kruskal-Wallis Analysis of Variance test used to examine the differences between sex for the categories in the Adolescent Attachment Survey and the Parental Bonding Instrument. With the exception of Parental Attachment ($X^2=4.71$, $p< .030$) and Parental Involvement ($X^2= 4.06$, $p< .044$), the rest of the variables were not significant (Table 8).

The variables from the Youth Self Report are reported in Table 9 by utilizing the Kruskal-Wallis Analysis of Variance to focus on the sex differences. No differences were found on any of the variables (Table 9).

G. Evaluation of the Research Questions

Question One: Does childhood insecure attachment predispose adolescents towards suicidality? The present results clearly indicate an affirmative answer. The data presented in both Tables 4 and 6 address this question. The clinical-suicidal group reported highly significant lower scores in the Mother Attachment, Father Attachment and Parental Attachment categories ($p< .0001$) than the Community-Nonsuicidal group. The lower scores indicate insecure attachment. Insecure Maternal Attachment is

particularly significant. Table 6 contains a summary of the discriminant analysis of attachment variables including correlations to the discriminant function. Maternal Attachment was correlated at .85 with suicidality with Parental Attachment at .52 and Father Attachment at .36. These variables assessed attachment during the first 10 years of the participants' lives. From these results together with the discriminant analysis it is clear that childhood insecure attachment can predispose adolescents towards suicidality.

Question 2: What are the major differences between suicidal adolescents and a community sample of adolescents on parental relationships and personal characteristics? Table 3 contains data that the suicidal group experienced significantly more Physical Abuse ($p < .001$), more Sexual Touching ($p < .0001$), more Oral Sex ($p < .0001$), more Sexual Intercourse ($p < .0001$) and drinking alcohol as a child ($p < .001$) than did the community group. As reported in the examination of research question one, the suicidal group is lower in attachment scores indicating insecure attachment, where the community sample presents as securely attached. In addition, the suicidal group reported on the Parental Bonding Instrument that they viewed their parents as significantly more overprotective than the community group did ($p < .0001$). Conversely, the community group reported that they perceived their parents as significantly more caring than the suicidal group did ($p < .0001$). The suicidal group recorded much higher crime scores ($p < .0001$) and drug scores ($p < .0001$) than the community group.

Question 3: What are the major differences between suicidal adolescents and a community sample on psychological functioning? The data in Table 5 contains the results of these differences for the Youth Self Report. The suicidal group was

significantly more withdrawn, had more somatic complaints, experienced more social, thought and attention problems, reported higher on delinquency and aggressive behavior, and had more self destructive identity problems than the community group. In examining total scores, the suicidal group was significantly different on their internalizing total score ($p < .0001$). The suicidal group was not be significantly different than the community group on the externalizing score ($p < .415$). This will be explained in the discussion.

Question 4: What are the sex-differences in suicidal adolescents? The data in Table 7 demonstrate the sex differences on categorical variables. There were no significant differences between sexes for sexual or physical abuse, or for alcohol use, personal or parental. Table 8 is a non parametric analyses (using the Kruskal- Wallis analysis of variance) examining sex differences in the AAS and the PBI. With the exception of parental attachment ($p < .030$) and parental involvement ($p < .044$), none of the variables demonstrated significant differences. A Kruskal-Wallis test was used to compute sex differences on the YSR (Table 9). No significant sex differences were found in these variables examining psychological functioning.

TABLE 2

Descriptive Statistics of the Sample and Between Group Differences (N= 52)

VARIABLE	Community	Clinical	F	DF	P
Age	14.2 (S.D. 1.7)	15.8 (S.D. 1.01)	12.77	1,50	.001
# of Siblings	2.0 (S.D. 1.0)	2.2 (S.D. 1.6)	.322	1,50	.573
School Grade	9.1 (S.D. 1.9)	10.7 (S.D. 1.4)	9.468	1,50	.003
Moves Within City	1.9 (S.D 1.9)	2.1 (S.D. 2.0)	.123	1,50	.727
Moves Between Cities	1.25 (S.D. 1.7)	1.1 (S.D. 1.1)	.088	1,50	.768
Ethnicity					
White	N= 33 (94.3%)	N=17(100%)			
Asian	N= 2 (5.7%)	N= 0			

TABLE 3

Descriptive Statistics of the Sample on Categorical Variables (N= 52)

VARIABLE	Community		Clinical		X^2	P
	Yes	No	Yes	No		
Physical Abuse*	5 14.7%	29 85.3%	10 66.7%	5 33.3%	13.2	.001
Sexual Touching*	4 11.8%	30 88.2%	12 70.6%	5 29.4%	18.2	.0001
Oral Sex*	2 5.9%	32 94.1%	13 76.5%	4 23.5%	27.1	.0001
Sexual Intercourse*	0 0%	34 100%	11 64.7%	6 35.3%	28.1	.0001
Alcohol Drinker*	13 38.2%	21 61.8%	13 76.5%	2 11.8%	13.5	.001
Father Alcohol+	21 63.6%	10 30.3%	9 60%	5 33.3%	.058	.971
Mother Alcohol+	16 48.5%	15 45.5%	8 50%	7 43.8%	.013	.994
Presently Abusing++	1 14.3%	6 85.7%	6 42.9%	6 42.9%	3.6	.162

*The totals of each group do not add up to the final N, indicating that some subjects did not respond. For community N should = 35 and for clinical N should = 17.

+A third optional response was "Don't Know" not included in table. For Father Alcohol Drinker, in the community group, 2 answered "Don't Know"; in clinical group, 1 answered "Don't Know". For Mother Alcohol Drinker, community group , 2 answered "Don' Know"; in clinical group 1 answered "Don't Know". Both groups for both categories also had missing, unreported data resulting in the N not being complete.

++ Most participants in the community group did not answer this section, three participants in the clinical group did not answer.

TABLE 4

Between Group Differences in the Adolescent Attachment Survey and The Parental Bonding Instrument (N=52)

VARIABLE	Community	Clinical	F	P
PBI- Care	45.9* (S.D. 5.89)**	33.23* (S.D. 5.57)**	54.63	.0001
PBI- Overprotection	39.9 (S.D. 5.69)	31.76 (S.D. 5.86)	23.11	.0001
M. Attachment	104.41(S.D. 10.5)	73.4 (S.D. 7.51)	117.49	.0001
F. Attachment	96.85 (S.D. 19.3)	72.66 (S.D. 10.79)	20.48	.0001
P. Attachment	105.33(S.D. 15.49)	72.27 (S.D. 10.14)	56.86	.0001
Parent. Involvement	87.77 (S.D. 17.58)	74.59 (S.D. 21.51)	5.55	.022
Separation	21.74 (S.D. 15.31)	27.23 (S.D. 16.27)	1.41	.240
Parental Neglect	33.83 (S.D. 8.01)	28.18 (S.D. 17.65)	2.54	.117
Threats	33.37 (S.D. 7.87)	30.12 (S.D. 48.73)	.151	.699
Blame	11.97 (S.D. 3.89)	7.71(S.D. 9.34)	5.41	.024
Crime	59.85 (S.D. 3.07)	21.88 (S.D. 10.82)	366.60	.0001
Drugs	54.94 (S.D. 10.48)	38.65 (S.D. 12.02)	24.81	.0001

* represents the Mean Score

** represents the Standard Deviation

TABLE 5

Between Group Differences in the Youth Self Report (N=52)

VARIABLE	Community	Clinical	F	P
Withdrawn	3.5 (S.D. 2.6)	8.11 (S.D. 3.95)	24.76	.0001
Somatic Complaints	3.09 (S.D. 3.13)	13.11 (S.D. 9.23)	32.89	.0001
Depression	6.01 (S.D. 5.39)	8.94 (S.D. 7.34)	2.48	.122
Social Problems	2.76 (S.D. 2.45)	6.23 (S.D. 2.73)	21.09	. 0001
Thought Problems	1.65 (S.D. 2.29)	7.12 (S.D. 4.15)	36.97	.0001
Attention Problems	4.50 (S.D. 3.24)	9.18 (S.D. 4.14)	19.56	.0001
Delinquency	3.74 (S.D. 3.65)	13.53 (S.D. 8.22)	35.02	.0001
Aggressive Behavior	9.35 (S.D. 6.69)	22.65 (S.D. 13.04)	23.42	.0001
Internalizing Total	12.26 (S.D. 9.76)	25.29 (S.D.11.45)	17.99	.0001
Externalizing Total	13.09 (S.D. 9.57)	15.29 (S.D. 7.79)	.677	.415
Self Destructive-Identity Problems	3.29 (S.D. 3.50)	18.41(S.D. 29.99)	8.575	.005

TABLE 6

Discriminant Function Analysis of Attachment and Suicidality Between Suicidal and Community Adolescents (N=52)

Part A: Correlation with Discriminant Function

VARIABLE	Correlation
Maternal Attachment	.85
Parental Attachment	.52
PBI- Care	.50
Father Attachment	.36
Parental Involvement	.21
PBI- Overprotection	.19

Part B: Canonical Discriminant Functions

Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	DF	Significance
3.261	.8748	.2347	63.780	2	<.0001

Part C: Classification Results

Membership Actual Group	No. of Cases	Predicted Group Suicide	Nonsuicide
Clinical- Suicide	17	15	2
		88.2%	11.8%
Community- Nonsuicide	35	1	34
		2.9%	97.1%

Percent of "grouped" cases correctly classified: 94.23%

TABLE 7

Sex-Differences on Categorical Variables of the Suicidal Sample (N=17)

VARIABLE	Males		Female		X^2	P
	Yes	No	Yes	No		
Physical Abuse*	3 60.0%	2 40.0%	2 20.0%	8 80.0%	2.40	.121
Sexual Touching	2 33.3%	4 66.7%	3 27.3%	8 72.7%	.069	.793
Oral Sex	3 50.0%	3 50.0%	1 9.1%	10 90.9%	3.61	.057
Sexual Intercourse	4 66.7%	2 33.3%	2 18.2%	9 81.8%	3.99	.046
Alcohol Drinker*	1 16.7%	4 66.7%	1 9.1%	9 81.8%	.495	.781
Father Alcohol+	2 33.3%	3 50.0%	3 33.3%	6 66.7%	1.66	.435
Mother Alcohol+	4 66.7%	2 33.3%	3 30.0%	6 60.0%	2.29	.319
Presently Abusing++	2 40.0%	2 40.0%	4 44.4%	4 44.4%	.207	.901

*The totals of each group do not always add up to the N= 17, due to certain participants not answering. The N for Males should equal 6 and the N for Females should equal 11.

+This question had a "Don't Know" category not reflected in the table. For the Mother Drinking category, 1 female answered "Don't Know" and 1 female did not answer. In the Father Drinking category, 1 male answered "Don't Know" and 2 females did not answer.

++2 cases (one in the Male group and one in the female group) were recorded incorrectly and are coded as missing data. In addition, 1 male and 2 females did not answer this category.

TABLE 8

Kruskal-Wallis Analysis of Variance of Sex Differences

in the Adolescent Attachment Survey and the Parental Bonding Instrument (N=17)

VARIABLE	Males	Females	X^2	P
PBI- Care	10.75*	8.05	1.142	.285
PBI- Overprotection	6.83	10.18	1.739	.187
M. Attachment	10.42	8.23	.815	.367
F. Attachment	9.58	8.68	.125	.724
P. Attachment	12.58	7.05	4.71	.030
Parent. Involvement	12.33	7.18	4.06	.044
Separation	7.58	9.77	.733	.392
Parental Neglect	7.67	9.73	.650	.420
Threats	7.25	9.95	1.15	.284
Blame	7.00	10.09	1.71	.191
Crime	9.25	8.86	.024	.877
Drugs	9.00	9.00	.000	1.000

* represents the Mean Rank

TABLE 9

Kruskal-Wallis Analysis of Variance of Sex Differences on the Youth Self Report

(N=17)

VARIABLE	Male	Female	F	P
Withdrawn	8.08*	9.50	.312	.577
Somatic Complaints	7.42	9.86	.920	.338
Depression	8.58	9.23	.063	.801
Social Problems	6.83	10.18	1.75	.186
Thought Problems	6.08	10.59	3.12	.077
Attention Problems	6.08	10.59	3.17	.075
Delinquency	5.92	10.68	3.49	.062
Aggressive Behavior	7.50	9.82	.821	.365
Internalizing Total	7.08	10.05	1.34	.246
Externalizing Total	6.92	10.14	1.59	.207
Self Destructive-Identity Problems	9.25	8.86	.023	.879

* represents Mean Rank

CHAPTER FIVE

DISCUSSION

A. Summary of the Major Findings

The main findings of the present study may be summarized as follows: (1) Adolescents who have disrupted attachment such as insecure attachment are at risk for suicidality, 2) There are clear differences in the childhood experiences of the suicidal and community samples, including unwanted sexual contact and early exposure to alcohol. Later childhood and early adolescent experiences with drugs and crime along with insecure attachment are related to suicidality, 3) The suicidal adolescent perceived their parents to be more overprotective and less caring of them than did the community sample, 4) In terms of psychological functioning, insecurely attached adolescents indicated more psychopathology, than community sample adolescents, and 5) Sex-differences within the suicidal sample were largely nonsignificant.

1. Attachment and Suicide

The results of the categorical descriptive statistics, the chi-square analyses, the analyses of variance and the discriminant function analyses all support the contention that childhood attachment is central to the development of psychological adjustment in adolescence. These results are in congruence with the contentions of Bowlby (1969/1982, 1973, 1980), Ainsworth (1963,1991) and others (Grossman & Grossman, 1991; Main, 1991). As Bowlby (1980) stated:

> *Intimate attachments to other human beings are the hub around which a person's life revolves, not only when he is an infant or a toddler or a schoolchild but throughout adolescence and his years of maturity, and on into old age.* (p.442)

The present results provide clear support for this contention. When examining how attachment influences suicidality in the present study, it is essential to explore the multiple factors that played a significant role in relation to suicidal outcomes.

One of the most significant differences on the AAS was with the variable of attachment, particularly to the mother. The community group reported secure attachment to mother, father and parental attachment. The clinical group reported highly insecure attachment in each of these areas. As we saw in Table 6, the correlation between the discriminant function and maternal attachment was .85. This leads one to the conclusion that insecure attachment puts youth at risk of suicidality. This is supported in much of the research on psychpathology and attachment. Specifically, Adam, Sheldon-Keller and West (1996), were able to confirm the formulation that suicidal behavior is an extreme outcome of disrupted attachment behavior. de Jong (1992) also found that suicidality was related to greater insecurity of attachment to parents. In the general sense, it is well supported that attachment provides a broad basis for the understanding of socioemotional dysfunction (del Carmen & Huffman, 1996) and suicide, specifically.

2. Differences in Childhood Experiences

There were clear differences between the community and clinical samples on their developmental experiences and their current psychological functioning. As early childhood events have an impact on attachment which may predict future behavior (Rosenstein & Horowitz, 1996), it is unsurprising that the suicidal group reported more physical and sexual abuse than did the community group. What is interesting is the

between group differences. Not only did the suicidal group report higher incidences in physical and sexual abuse, but the community group reported almost no exposure to physical and sexual abuse whatsoever. None of the community group reported had engaged in unwanted or wanted sexual intercourse. One might argue that as this is a self-report instrument, there is always the possibility that the participants have not responded truthfully. However, when we examined the "currently abusing substances" category in the next section, we notice that the inclination appears to be not answering, rather than lying, since a large number of the community group did not answer this question. The adolescents did appear to be truthful when reporting past experience with alcohol, both personally and in concerns to their parents.

It is interesting to note that group differences with their parents' use of alcohol was not significant ($p < .971$ for mother, $p < .994$ for father). There are several possible explanations. The variable used to compute this focussed on whether their parents drank or not and did not take into account the questions regarding frequency of drinking. The community groups parents might only drink infrequently while the clinical group's parents might drink on a more regular basis. This was not clear in the present data. Another explanation may be that alcohol consumption is so widespread that it fails to discriminate between groups. In any case, further research is required to clarify this matter.

Group differences of the participants' exposure and involvement with crime and drugs is highly significant. Adolescents who were involved in substance abuse were at a higher risk for suicidality than those not involved in substance abuse. Combining criminal behavior, drugs and insecure attachment appears to create an environment for

high risk of suicidality. The study reported by Violato, Raab and Grossi (1996) reflects these findings in their model of risk factors and they suggested that an interpersonal crisis together with the availability of alcohol and drugs may be the 'final link' to attempted suicide. Intoxication whether with alcohol or psychoactive drugs, may disinhibit the at risk youth from engaging in suicidal behaviour.

3. Differences in Perception of Attachment

The perceptions of attachment patterns of the suicidal adolescents was significantly different than those of the community group. The clinical group found their parents to be less caring and more overprotective than did the community group. These results are in concordance with data and theory of insecure attachment. Rosenstein and Horowitz (1996), for example, stated that "... unresponsive, interfering, rejecting and otherwise insensitive parenting is expected to foster the development of insecure working models in the offspring" (p. 244). Other research supports this idea that sensitive, attuned and accepting caregivers enhance their children's expectations that the attachment figure will be available (Ainsworth et al., 1978). A chaotic home-life together with disruption and stress within the family lead to poor parental care and increase the likelihood that parents are unavailable and unresponsive. It is logical, then, than the group labeled as having less caring and overprotective parents would be insecurely attached. This, in turn, continues to support the major finding that insecurely attached youth are at risk for suicidality.

4. Differences in Psychological Functioning

Upon examination of the psychological variables reported on the Youth Self Report, the differences between the two groups were highly significant. As supported by the research in this area, psychopathology is often present with insecure attachment and researchers can "...conceptualize(s) psychopathology as a deviation from a normal developmental pathway in an effort toward adaption " (Rosenstein & Horowitz, 1996 p.244). Bowlby (1980) has stated that the quality of attachment has a role in determining the individual's degree of vulnerability to developmental deviations. The clinical, suicidal sample in the present study was significantly more withdrawn, had somatic complaints, social, attention and thought problems, delinquency and aggressive behavior than did the community sample. The internalizing total from the YSR was significantly higher for the clinical group than the community as was the self-destructive identity problems total. The externalizing total differences between the two groups are nonsignificant, supporting the contention that insecure attachment works from an internal working model which can eventually replace the actual external presence of the caregiver (Crittenden & Ainsworth, 1989).

What is of particular interest is that the Depression subscale of the YSR was not significant between the two groups. This was a rather surprising finding as it was expected that the analyses would result in significant differences for depression between the two groups. As summarized in Chapter II, depression has been frequently noted as a very common factor associated with suicidal individuals (Violato et al., 1996). Many of the clinical subjects in the present study had been diagnosed as having major depressive

disorder. Could this mean that the adolescents in the community group were also depressed? The more likely explanation is that the clinical participants were not fully aware of their depression and thus were unable to report it in a self-report instrument such as the YSR. This may be a further reflection of their unrealistic view of their own psychological functioning. It may also support the theory that while depression is often present with suicidality, it is not a cause of it, but a comorbid variable. Accordingly, depression was not indicated on the YSR as a significant difference between the two groups.

5. Sex Differences in Suicidal Sample

Sex differences have been thoroughly explored in the research on suicidal behavior and ideation of adolescents. Women have more suicidal ideation and attempt suicide more often than men while men successfully complete more often (80% of suicide completers are men) than women (Moscicki, 1995). This is partly due to the fact that men use, and often have access, to more lethal methods, such as firearms, than do females. Less lethal methods such as self-poisoning (Reynolds & Mazza, 1994) are frequently used by females. Further evidence of these differences comes from epidemiological studies that have estimated that among adolescent attempters, the female/male attempt ratio is approximately 3:1 (Reynolds & Mazza, 1994).

However, sex differences in attachment are not as well known. No sex differences were found in the original studies on infants (Ainsworth et al., 1978), or reported in the initial studies with children or using the adult attachment interview (Main, Kaplan & Cassidy, 1985). When examining studies on adolescents and attachment, some

sex differences are found. de Jong (1992) has reported that females are more attached to peers than are males. Other research shows that female self-esteem is more closely tied to attachment (Rice, 1990). Why sex differences in attachment are not apparent in infancy and only some are available in adolescence is not known.

The results in the current study indicate that there are no significant sex differences in the suicidal group. Using non-parametric statistics because of the small sample, childhood experiences, attachment perception and psychological functioning were examined between the groups. No significant differences were found, with two exceptions. The variables of parental involvement and separation were significant ($p < .030$ and $p < .044$ respectively). These may reflect true group differences or, more likely, they are Type I errors. Given that so many statistical analyses were computed, it is possible that the Bonferroni effect has come into play. This effect indicates that the probability of finding differences by chance alone is the number of statistical tests (31 in the present study- Tables 7, 8, and 9) multiplied by the nominal alpha level (.05). In the present instance, this is $31 \times .05 = 1.55 \cong 2$. This means that 2 variables are likely to emerge as statistically significant by chance alone. Therefore, the apparent differences in parental involvement and separation may reflect Type I errors.

B. Limitations

In the present study, there was an attempt to examine differences between a clinical, suicidal group of adolescents and a community sample of adolescents in order to examine some specific issues dealing with the consequences of attachment security in childhood. The main aim of the present study was to further explore and assess the

importance of childhood attachment and any adolescent predisposition towards suicidality. While the data analyzed produced some highly significant and important findings summarized above, there are some limitations to the present study as well.

First, while the Adolescent Attachment Survey has been found to be reliable, with evidence of substantial validity, it is a self report instrument that relies on data collected retrospectively. The AAS requires participants to recall, subjectively, their circumstances and perceptions of their home environment before the age of ten. This makes limitations of memory reconstruction, individual bias and honesty crucial to the eventual data analysis. In addition, self report measures may not be able to access the mental representations of attachment that give rise to an individual's defensive structures and operate outside of conscious perception or awareness.

Second, obtaining clinical participants was problematic. The exclusion criteria precluded in many of the adolescents admitted to the hospital program from the present study. This resulted in a relatively small sample of 17. As well, the disproportionate sex composition of the sample (males=6, females=11) was also a result. By contrast, the community sample was obtained from a much larger data base and was randomly chosen with an equal number of males and females. Because of the unequal division, sex differences could only be run within the suicidal group and not between the two groups. Future research may very well include a larger clinical sample and equal numbers of males and females.

Third, the present study examined only secure and insecure attachment. As will be discussed in the next section, further work should expand on this to include the various

subgroups of insecure attachment identified in previous research (avoidant, ambivalent and disorganized).

C. Implications for Future Research

The results of this study are encouraging in mapping out correlates between attachment and suicide. Longitudinal designs should be employed in the future to examine long term effects of securely and insecurely attached individuals and their patterns of adaptation including of possible suicidality. Kobak and Sceery (1988) indicated over ten years ago that a "critical question for future research is how working models of attachment and style of affect regulation influence and are influenced by the quality of affective communication in current attachment relationships" (p.144). This study has examined how attachment relationships formed in early childhood have affected affective communication in adolescence and adulthood. Less attention has been paid to attachment relationships formed later in life as early attachment has been indicated to be stable throughout the life span. Future research on how current attachment relationships affect the working model may provide substantial insight into the relevance of attachment and psychological adaptation.

Recent developments in attachment theory are centered on various patterns in attachment. Particularly, the category of disorganized/disoriented attachment has been postulated to be at the root of a variety of pathologic outcomes (Zeanah et al., 1997) and therefore should become the focus in future research. There is a need to be able to assess attachment in a more fine-grained way. This study produced important differences between secure and insecure attachment and the correlation with suicidality. The next

step is to look at the differences between the subcategories of insecure attachment and possible correlations with suicidality.

D. Summary and General Conclusions

There appears to be substantial evidence that disrupted attachment in childhood is a precursor of suicidal behavior in adolescence. The present study has attempted to examine the influence of attachment security, developed prior to the age of 10 years, on emotional and psychological development into adolescence. Specifically, the focus has been on suicidal behavior and whether there is a relationship with disrupted attachment. Further research is warranted to continue the examination of suicidality and insecure attachment, especially focussing on the types of insecure attachment especially disorganized attachment patterns.

There is value in collecting data from current clinical populations and this study strongly demonstrated that childhood attachment plays a central role in the development of adolescent psychopathology, especially suicide. There needs to be more research employing larger clinical samples and comparing them with community samples. It would also be interesting to further explore sex differences in attachment styles particularly in relation to suicide. Although maternal attachment appears to be the most significant factor in suicidality, this does not preclude other influential factors in addition to the mother, or primary caregiver. While the working model is formed during interaction with the primary caregiver, the primary caregiver responds to her own support system in interacting with her child. Bowlby (1988) himself agreed when he stated that

> *... despite voices to the contrary, looking after babies and young children is no job for a single person... In most societies throughout the world these facts have been, and still are, taken for granted and the society organized accordingly. Paradoxically it has taken the world's richest societies to ignore these basic facts...Man and woman power devoted to the production of happy, healthy and self-reliant children in their own homes does not count at all. We have created a topsy-turvy world.* (p.2)

The increase in adolescent suicide and suicidality over the last several decades continues to be a large problem. Researchers have sought to explain it and identify causes and links. However, the roots of this problem are on care and support at an early age, which continues into adolescence and perhaps adulthood. As found in the present study, the community children who felt cared for yet not overprotected by their parents were not at risk for suicidality. These adolescents also were not sexually or physically abused and had less exposure to drugs, alcohol and crime. While the causal interactions from disrupted childhood attachments to adolescent adaptation remain to be clarified, the present results support the theory of disrupted attachment as precursors to suicidal outcomes.

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APPENDIX A

The Adolescent Attachment Survey

Item Number	Item	Scoring
1.	Gender	1=male, 2=female
2.	Age	12- 18
3.	Ethnicity	1=White 2=Black 3=Asian 4=East Indian 5=Aboriginal 6=Mixed 7=Metis 8=Other
4.	Maternal Age at Birth	1=Twelve or Younger 2=Thrirteen to Fifteen 3=Sixteen to Nineteen 4=Twenty to Twenty-two 5=Twenty-three or older 6=Don't Know
5.	Paternal Age at Birth	1=Twelve or Younger 2=Thrirteen to Fifteen 3=Sixteen to Nineteen 4=Twenty to Twenty-two 5=Twenty-three or older 6=Don't Know
6.	Total # of Siblings	0- 10
7.	Older siblings	0- 10
8.	Younger siblings	0- 10
9.	Same age siblings	1=twin, 2=triplets, 3=Not my age
10.	Present school grade	4-- 12, 13= Not presently attend.
11.	Highest Grade Completed	4- 12, 13=Attended University/College
12.	# of Repeated grades	1-2, 3=More than twice, 4=Never
13.	Number of moves within city/town	0- 12, 13=more than 12
14.	Number of moves	0- 12, 13=more than 12

	between cities/towns	
15.	Present Family Structure	1=Married & Lived Together 2=Married & Not Living Together 3=Not Married & Live Together 4=Divorced 5=Not Married & Live Apart 6=Foster Family 7=Mother Dead 8=Father Dead 9=Both Dead 10=Other
16.	Family Structure at 10 years	1=Married & Lived Together 2=Married & Not Living Together 3=Not Married & Live Together 4=Divorced 5=Not Married & Live Apart 6=Foster Family 7=Mother Dead 8=Father Dead 9=Both Dead 10=Other
17.	Time of Parents' Marriage	1=Before Birth 2=After Birth 3=Don't know
18.	Child's Relationship to Parent	1=Biological 2=Adopted 3=Don't Know
19.	Married & Not Living Together	1=Yes 2=No 3=Don't Know
20.	# of Spousal Separations	1-3,4=More than Twice, 5=Don't Know
21.	Age of Last Spousal Separation	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten

		6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
22.	Reason for Spousal Separation	1=Work/Business 2=Parents Arguing 3=Children 4=Child Abuse 5=Physical Conflicts 6=Boy/Girlfriends 7=Other 8=Don't Know
23.	Parents' Living Arrangement	1=Before Birth 2=After Birth 3=Don't Know
24.	Other Children from Father	1=Yes 2=No 3=Don't Know
25.	# Children from Father	1-5, 6=More than Five, 7=Don't Know
26.	Other Children from Mother	1=Yes 2=No 3=Don't Know
27.	# of Children from Mother	1-5, 6=More than Five, 7=Don't Know
28.	Age at Parental Divorce	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
29.	Reason for Parents' Divorce	1=Work/Business 2=Parents Arguing 3=Children 4=Child Abuse 5=Physical Conflicts 6=Boy/Girlfriends 7=Other 8=Don't Know

30.	Custody Arrangement	1=Mother Sole 2=Father Sole 3=Mother Main 4=Father Main 5=Parents Joint 6=Don't Know 7=Other
31.	Mother's New Partner	1=Married 2=Living With 3=No 4=Don't Know
32.	Age When Mom Remarried	1=Less than one, 2=One, 3=Two 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
33.	Mother's New Partner's Children	1=Yes 2=No 3=Don't Know
34.	# of Mother's New Partner's Children	1-5, 6=More than Five, 7=Don't Know
35.	Father's New Partner	1=Married 2=Living With 3=No 4=Don't Know
36.	Age When Dad Remarried	1=Less than one, 2=One 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
37.	Father's New Partner's Children	1=Yes 2=No 3=Don't Know
38.	# of Father's New Partner's Children	1-5, 6=More than Five, 7=Don't Know
39.	Parents Ever Lived Together	1=Yes 2=No

		3=Don't Know
40.	Age When Lived Together	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
41.	# of Foster Care Placements	1-5, 6=More than Five, 7=Don't Know
42.	Age at First Foster Placement	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
43.	Age at Current Placement	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
44.	Structure Before Placement	1=Married & Lived Together 2=Married & Not Living Together 3=Not Married & Live Together 4=Divorced 5=Not Married & Live Apart 6=Mother Dead 7=Father Dead 8=Both Dead 9=Other
45.	Age When Mother Died	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know

46.	Structure Before Mother Died	1=Married & Lived Together 2=Married & Not Living Together 3=Not Married & Live Together 4=Divorced 5=Not Married & Live Apart 6=Foster Family 10=Other
47.	Currently Living With Father	1=Yes 2=No 3=Don't Know
48.	Present Living Arrangement	1=Relatives 2=Family Friends 3=Foster Care 4=Boy/Girlfriend 5=Other
49.	Father's Living Arrangement	1=Married 2=Living With 3=No 4=Don't Know
50.	Age When Father Remarried	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
51.	Father's New Partner's Children	1=Yes 2=No 3=Don't Know
52.	# of Father's New Partner's Children	1-5, 6=More than Five, 7=Don't Know
53.	Age When Father Died	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know

54. Structure Before Father Died	1=Married & Lived Together 2=Married & Not Living Together 3=Not Married & Live Together 4=Divorced 5=Not Married & Live Apart 6=Foster Family 10=Other
55. Currently Living With Mother	1=Yes 2=No 3=Don't Know
56. Present Living Arrangement	1=Relatives 2=Family Friends 3=Foster Care 4=Boy/Girlfriend 5=Other
57. Mother's New Partner	1=Married 2=Living With 3=No 4=Don't Know
58. Age When Mom Remarried	1=Less than one, 2=One, 3=Two, 4=Three to Five, 5=Six to Ten, 6=Eleven to Fifteen 7=Older than Fifteen 8=Don't Know
59. Mother's New Partner's Children	1=Yes 2=No 3=Don't Know
60. # of Mother's New Partner's Children	1-5, 6=More than Five, 7=Don't Know
61. Parents' Relationship-Loving	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
62. Parents' Relationship-Secure	5=Strongly Agree 4=Somewhat Agree

	3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
63. Parents' Relationship-Happy	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
64. Parents' Relationship-Safe	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
65. Parents' Relationship-Caring	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
66. Parents' Relationship-Close	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
67. Parents' Relationship-Cheerful	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
68. Parents' Relationship-Friendly	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
69. Parents' Relationship-Confused	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
70. Parents' Relationship-Cold	1=Strongly Agree

	2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
71. Parents' Relationship-Tense	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
72. Parents' Relationship-Sad	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
73. Parents' Relationship-Scary	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
74. Parents' Relationship-Unsafe	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
75. Parents' Relationship-Fright	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
76. Parents' Relationship-Violent	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
77. Parents' Relationship-Distant	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
78. Parents' Relationship-Spiteful	1=Strongly Agree

	2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
79. Parents' Relationship-Angry	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
80. Parents' Relationship-Bullied	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
81. Parents' Relationship-Hateful	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
82. Parents' Relationship-Abusive	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
83. Regular Nonparental Care	1=No 2=Yes
84. Nonparental Caregiver	1=Grandparent(s) 2=Nanny 3=Daycare 4=Relative 5=Baby Sitter 6=Family Friend 7=Different People 8=Other
85. Location of Caregiver	1=Home 2=Someone else's Home 3=Day Care Centre 4=Varied 5=Don't Know
86. Daily Hrs of Nonparental Care	1=Less than one

		2=One to four 3=Five the eight 4=More than Eight
87.	Days/wk of Parental Separation	1-5, 6=Six or Seven
88.	Permanent Parental Separation	1=No 2=Yes, Father 3=Yes, Mother 4=Yes, Both at Same 5=Yes, Both at Different
89.	Age at Permanent Paternal Separation	1-10, 11=Less than One
90.	Reason for Perm. Paternal Separation	1=Work/Business 2=Marital Separation 3=Parent Illness 4=Your Illness 5=Mother's Death 6=Father's Death 7=Both Parents' Death 8=Child Abuse 9=Other
91.	Father Substitute	1=No 2=Yes
92.	Age When Father Substitute	1-10, 11=Less than One
93.	Age at Perm. Maternal Separation	1-10, 11=Less than One
94.	Reason for Perm. Maternal Separation	1=Work/Business 2=Marital Separation 3=Parent Illness 4=Your Illness 5=Mother's Death 6=Father's Death 7=Both Parents' Death 8=Child Abuse 9=Other
95.	Mother Substitute	1=No 2=Yes
96.	Age When Mother Substitute	1-10, 11=Less than One
97.	Long-term Maternal Separation	1=No 2=Yes 3=Don't Know
98.	# of Long-term Maternal Separations	1=Once

	2=Two to Four 3=Five to Nine 4=Ten or More
99. Age at Long-term Maternal Separation	1-10, 11=Less than One
100. Length of Long-term Maternal Sep.	1=One Week & One Month 2=One & Three Months 3=More than Three Months
101. Reason for Long-term Maternal Sep.	1=Work/Business 2=Holidays 3=Mother's Illness 4=Your Illness 5=Marital Separation 6=Other
102. Maternal Relationship-Loving	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
103. Maternal Relationship-Secure	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
104. Maternal Relationship-Happy	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
105. Maternal Relationship-Safe	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
106. Maternal Relationship-Caring	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree

107. Maternal Relationship-Close	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
108. Maternal Relationship-Cheerful	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
109. Maternal Relationship-Friendly	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
110. Maternal Relationship-Confused	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
111. Maternal Relationship-Cold	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
112. Maternal Relationship-Tense	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
113. Maternal Relationship-Sad	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
114. Maternal Relationship-Scary	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree

115. Maternal Relationship-Unsafe	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
116. Maternal Relationship-Frightening	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
117. Maternal Relationship-Violent	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
118. Maternal Relationship-Distant	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
119. Maternal Relationship-Spiteful	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
120. Maternal Relationship-Angry	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
121. Maternal Relationship-Bullied	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
122. Maternal Relationship-Hateful	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree

123. Maternal Relationship-Abusive	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
124. Days/Month With Mother	1=Zero 2=One to Four 3=Five to Nine 4=Ten to Fourteen 5=Fifteen to Nineteen 6=Twenty to Twenty-four 7=Twenty-five or More
125. Time Spent With Mother	1=None 2=Up to Two 3=Two to Five 4=More than Five
126. Adequate Time With Mother	1=Wanted Less Time 2=Had Enough Time 3=Wanted Much More Time 4=Wanted Some More Time
127. Adequate days With Mother	1=Wanted Fewer Days 2=Had Enough Days 3=Wanted Many More Days 4=Wanted Some More Days
128. Long-term Paternal Separation	1=No 2=Yes 3=Don't Know
129. # of Long-term Paternal Separations	1=Once 2=Two to Four 3=Five to Nine 4=Ten or More
130. Age at Long-term Paternal Separation	1-10, 11=Less than One
131. Length of Long-term Paternal Separation	1=One Week & One Month 2=One & Three Months 3=More than Three Months
132. Reason for Long-term Paternal Separation	1=Work/Business 2=Holidays 3=Father's Illness 4=Your Illness 5=Marital Separation

6=Other

133. Paternal Relationship-Loving
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

134. Paternal Relationship-Secure
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

135. Paternal Relationship-Happy
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

136. Paternal Relationship-Safe
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

137. Paternal Relationship-Caring
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

138. Paternal Relationship-Close
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

139. Paternal Relationship-Cheerful
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

140. Paternal Relationship-Friendly
5=Strongly Agree
4=Somewhat Agree
3=Uncertain
2=Somewhat Disagree
1=Strongly Agree

141.	Paternal Relationship-Confused	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
142.	Paternal Relationship-Cold	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
143.	Paternal Relationship-Tense	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
144.	Paternal Relationship-Sad	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
145.	Paternal Relationship-Scary	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
146.	Paternal Relationship-Unsafe	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
147.	Paternal Relationship-Frightening	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
148.	Paternal Relationship-Violent	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree

149. Paternal Relationship-Distant	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
150. Paternal Relationship-Spiteful	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
151. Paternal Relationship-Angry	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
152. Paternal Relationship-Bullied	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
153. Paternal Relationship-Hateful	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
154. Paternal Relationship-Abusive	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
155. Days/Months With Father	1=Zero 2=One to Four 3=Five to Nine 4=Ten to Fourteen 5=Fifteen to Nineteen 6=Twenty to Twenty-four 7=Twenty-five or More
156. Time Spent With Father	1=None 2=Up to Two 3=Two to Five 4=More than Five

157.	Adequate Time With Father	1=Wanted Less Time 2=Had Enough Time 3=Wanted Much More Time 4=Wanted Some More Time
158.	Adequate Days With Father	1=Wanted Fewer Days 2=Had Enough Days 3=Wanted Many More Days 4=Wanted Some More Days
159.	Long-term Separation Parental Separation	1=No 2=Yes 3=Don't Know
160.	# of Long-term Parental Separations	1=Once 2=Two to Four 3=Five to Nine 4=Ten or More
161.	Age at Long-term Parental Separation	1-10, 11=Less than One
162.	Length of Long-term Parental Separation	1=One Week & One Month 2=One & Three Months 3=More than Three Months
163.	Reason for Long-term Parental Separation	1=Work/Business 2=Holidays 3=Father's Illness 4=Your Illness 5=Marital Separation 6=Other
164.	Parental Relationship-Loving	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
165.	Parental Relationship-Secure	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
166.	Parental Relationship-Happy	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree

167. Parental Relationship-Safe	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
168. Parental Relationship-Caring	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
169. Parental Relationship-Close	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
170. Parental Relationship-Cheerful	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
171. Parental Relationship-Friendly	5=Strongly Agree 4=Somewhat Agree 3=Uncertain 2=Somewhat Disagree 1=Strongly Agree
172. Parental Relationship-Confused	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
173. Parental Relationship-Cold	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree
174. Parental Relationship-Tense	1=Strongly Agree 2=Somewhat Agree 3=Uncertain 4=Somewhat Disagree 5=Strongly Agree

175. Parental Relationship-Sad
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

176. Parental Relationship-Scary
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

177. Parental Relationship-Unsafe
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

178. Parental Relationship-Frightening
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

179. Parental Relationship-Violent
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

180. Parental Relationship-Distant
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

181. Parental Relationship-Spiteful
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

182. Parental Relationship-Angry
1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

183. Parental Relationship-Bullied

1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

184. Parental Relationship-Hateful

1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

185. Parental Relationship-Abusive

1=Strongly Agree
2=Somewhat Agree
3=Uncertain
4=Somewhat Disagree
5=Strongly Agree

186. Days/Months With Parents

1=Zero
2=One to Four
3=Five to Nine
4=Ten to Fourteen
5=Fifteen to Nineteen
6=Twenty to Twenty-four
7=Twenty-five or More

187. Time Spent With Parents

1=None
2=Up to Two
3=Two to Five
4=More than Five

188. Adequate Time With Parents

1=Wanted Less Time
2=Had Enough Time
3=Wanted Much More Time
4=Wanted Some More Time

189. Adequate Days With Parents

1=Wanted Fewer Days
2=Had Enough Days
3=Wanted Many More Days
4=Wanted Some More Days

190. Supportive Parents

1=None
2=Very Little
3=Some
4=Very Much

191. Timely Support from Parents

1=Never
2=Rarely

		3=Sometimes 4=Very Often
192.	Supportive Mother	1=None 2=Very Little 3=Some 4=Very Much
193.	Timely Support from Mother	1=Never 2=Rarely 3=Sometimes 4=Very Often
194.	Affectionate Mother	1=None 2=Very Little 3=Some 4=Very Much
195.	Timely Affection from Mother	4=Often 3=Sometimes 2=Rarely 1=Never
196.	Mother Hugs	1=Never 2=Rarely 3=Sometimes 4=Very Often
197.	Want More Mother Hugs	1=Never 2=Rarely 3=Sometimes 4=Very Often
198.	Supportive Father	1=None 2=Very Little 3=Some 4=Very Much
199.	Timely Support from Father	1=Never 2=Rarely 3=Sometimes 4=Very Often
200.	Affectionate Father	1=None 2=Very Little 3=Some 4=Very Much
201.	Timely Affection from Father	4=Often 3=Sometimes

2=Rarely
1=Never

202. Father Hugs

1=Never
2=Rarely
3=Sometimes
4=Very Often

203. Want More Father Hugs

1=Never
2=Rarely
3=Sometimes
4=Very Often

204. Pride in Accomplishment

1=Held Inside
2=Cried
3=Yelled at People
4=Talked to Mother
5=Talked to Father
6=Talked to Other Adult
7=Beat up Objects
8=Beat People Up
9=Teased People
10=Talked to Brother/Sister
11=Talked to Friend
12=Other

205. Pride in Success

1=Held Inside
2=Cried
3=Yelled at People
4=Talked to Mother
5=Talked to Father
6=Talked to Other Adult
7=Beat up Objects
8=Beat People Up
9=Teased People
10=Talked to Brother/Sister
11=Talked to Friend
12=Other

206. Expression of Happiness

1=Held Inside
2=Cried
3=Yelled at People
4=Talked to Mom
5=Talked to Father
6=Talked to Other Adult
7=Beat up Objects
8=Beat People Up
9=Teased People

	10=Talked to Brother/Sister 11=Talked to Friend 12=Other
207. Expression of Anger	1=Held Inside 2=Cried 3=Yelled at People 4=Talked to Mother 5=Talked to Father 6=Talked to Other Adult 7=Beat up Objects 8=Beat People Up 9=Teased People 10=Talked to Brother/Sister 11=Talked to Friend 12=Other
208. Comforted by Person	1=Not Comforted 2=Little Comforted 3=Somewhat Comforted 4=Very Comforted
209. Expression of Sadness	1=Held Inside 2=Cried 3=Yelled at People 4=Talked to Mother 5=Talked to Father 6=Talked to Other Adult 7=Beat up Objects 8=Beat People Up 9=Teased People 10=Talked to Brother/Sister 11=Talked to Friend 12=Other
210. Comforted by Person	1=Not Comforted 2=Little Comforted 3=Somewhat Comforted 4=Very Comforted
211. Expression of Loneliness	1=Held Inside 2=Cried 3=Yelled at People 4=Talked to Mother 5=Talked to Father 6=Talked to Other Adult 7=Beat up Objects

8=Beat People Up
9=Teased People
10=Talked to Brother/Sister
11=Talked to Friend
12=Other

212. Comforted by Person

1=Not Comforted
2=Little Comforted
3=Somewhat Comforted
4=Very Comforted

213. Expression of Upset

1=Held Inside
2=Cried
3=Yelled at People
4=Talked to Mother
5=Talked to Father
6=Talked to Other Adult
7=Beat up Objects
8=Beat People Up
9=Teased People
10=Talked to Brother/Sister
11=Talked to Friend
12=Other

214. Comforted by Person

1=Not Comforted
2=Little Comforted
3=Somewhat Comforted
4=Very Comforted

215. Expression of Physical Pain

1=Held Inside
2=Cried
3=Yelled at People
4=Talked to Mother
5=Talked to Father
6=Talked to Other Adult
7=Beat up Objects
8=Beat People Up
9=Teased People
10=Talked to Brother/Sister
11=Talked to Friend
12=Other

216. Comforted by Person

1=Not Comforted
2=Little Comfort.
3=Somewhat Comfort.
4=Very Comforted

217. Hospitalization

1=No

	2=Yes
218. Caregiver when ill	1=Mother 2=Father 3=Brother/Sister 4=Other
219. Caregiver Concern	1=Definitely Not 2=Little 3=Some 4=Very Much
220. Close Adult Figure	1=No 2=Yes
221. Adult Figure	1=Stranger 2=Someone at Work 3=Friend 4=Neighbour 5=Teacher 6=Counsellor 7=Youth Worker 8=Other Professional 9=Religious Leader 10=Sister 11=Brother 12=Other Relative 13=Other
222. Gender of Adult Figure	1=Male 2=Female
223. Age When Met Adult Figure	1-17, 18=Less than One
224. Age When Last Saw Adult Figure	1-17, 18=Still Seeing Him/Her
225. Parental Rejection	4=Never 3=Rarely 2=Sometimes 1=Often
226. Age at Parental Rejection	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
227. Parental Realization of Rejection	3=No 2=Sometimes 1=Yes

228. Maternal Rejection	4=Never 3=Rarely 2=Sometimes 1=Often
229. Age at Maternal Rejection	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
230. Maternal Realization of Rejection	3=No 2=Sometimes 1=Yes
231. Paternal Rejection	4=Never 3=Rarely 2=Sometimes 1=Often
232. Age at Paternal Rejection	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
233. Paternal Realization of Rejection	3=No 2=Sometimes 1=Yes
234. Parent Threats of Abandonment	4=Never 3=Rarely 2=Sometimes 1=Often
235. Age of Parent Threats of Abandonment	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
236. Frequency of Abandonment Threats	1=Once 2=Two to Five 3=Six to Nine 4=Ten or More
237. Time Span of Abandonment Threats	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year

238.	Maternal Threats of Abandonment	4=Never 3=Rarely 2=Sometimes 1=Often
239.	Age of Maternal Threats of Aband.	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
240.	Frequency of Aband. Threats	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
241.	Time Span of Aband. Threats	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
242.	Paternal Threats of Aband.	4=Never 3=Rarely 2=Sometimes 1=Often
243.	Age of Paternal Threats of Aband.	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
244.	Frequency of Aband. Threats	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
245.	Time Span of Aband. Threats	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
246.	Blame for Parents Illness	4=Never 3=Rarely 2=Sometimes 1=Often
247.	Age at Blame for Parent Illness	1=Less than Two 2=Two to Three 3=Four to Six

	4=Seven to Ten
248. Frequency of Blame for Illness	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
249. Time Span of Blame for Illness	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
250. Blame for Maternal Illness	4=Never 3=Rarely 2=Sometimes 1=Often
251. Age at Blame for Mother Illness	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
252. Frequency of Blame for Illness	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
253. Time Span of Blame for Illness	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
254. Blame for Paternal Illness	4=Never 3=Rarely 2=Sometimes 1=Often
255. Age at Blame for Father Illness	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
256. Frequency of Blame for Illness	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
257. Time Span of Blame for Illness	1=Less than One Week

	2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
258. Parental Threats to Self-Harm	4=Never 3=Rarely 2=Sometimes 1=Often
259. Age at Parental Self-Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
260. Frequency of Parent Self-Harm	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
261. Time Span of Parent Self-Harm	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
262. Maternal Threats to Self-Harm	4=Never 3=Rarely 2=Sometimes 1=Often
263. Age at Maternal Self-Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
264. Frequency of Mother Self-Harm	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
265. Time Span of Mother Self-Harm	1=Less than One Week 2=> One Week, < One Month =>One Month, <One Year 4=More than One Year
266. Paternal Threats to Self-Harm	4=Never 3=Rarely 2=Sometimes

	1=Often
267. Age at Father Self-Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
268. Frequency of Father Self-Harm	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
269. Time Span of Father Self-Harm	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
270. Parental Threats to Harm	4=Never 3=Rarely 2=Sometimes 1=Often
271. Age at Parental Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
272. Frequency of Parent Harm	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
273. Time Span of Parent Harm	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
274. Maternal Threat to Harm	4=Never 3=Rarely 2=Sometimes 1=Often
275. Age at Mother Threats to Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
276. Frequency of Mother Harm	4=Once

	3=Two to Five 2=Six to Nine 1=Ten or More
277. Time Span of Mother Harm	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
278. Paternal Threat Harm	4=Never 3=Rarely 2=Sometimes 1=Often
279. Age at Father Threats to Harm	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
280. Frequency of Father Harm	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
281. Time Span of Father Harm	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
282. Parents Withhold Love	4=Never 3=Rarely 2=Sometimes 1=Often
283. Age at Parents Withhold Love	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
284. Frequency of Withholding Love	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
285. Time Span of Withholding Love	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year

	4=More than One Year
286. Mother Withhold Love	4=Never 3=Rarely 2=Sometimes 1=Often
287. Age at Mother Withheld Love	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
288. Frequency of Withholding Love	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
289. Time Span of Withholding Love	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
290. Father Withheld Love	4=Never 3=Rarely 2=Sometimes 1=Often
291. Age at Father Withheld Love	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
292. Frequency of Withholding Love	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
293. Time Span of Withholding Love	1=Less than One Week 2=> One Week, < One Month 3=>One Month, <One Year 4=More than One Year
294. Parental Teasing	4=Never 3=Rarely 2=Sometimes 1=Often

295. Age at Parental Teasing	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
296. Frequency of Parental Teasing	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
297. Maternal Teasing	4=Never 3=Rarely 2=Sometimes 1=Often
298. Age at Maternal Teasing	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
299. Frequency of Maternal Teasing	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
300. Paternal Teasing	4=Never 3=Rarely 2=Sometimes 1=Often
301. Age at Paternal Teasing	1=Less than Two 2=Two to Three 3=Four to Six 4=Seven to Ten
302. Frequency of Paternal Teasing	4=Once 3=Two to Five 2=Six to Nine 1=Ten or More
303. Physical Abuse Experience	1=Never 2=Yes
304. Relation of Abuser	1=Stranger 2=Someone at Work 3=Friend 4=Neighbour 5=Teacher 6=Counsellor 7=Youth Worker

		8=Mother 10=Father 11=Sister 12=Brother 13=Other Relative 14=Other
305.	Gender of Abuser	1=Male 2=Female
306.	Frequency of Abuse	5=Once 4=Twice 3=Three to Five 2=Six to Ten 1=More than Ten
307.	Age at First Abuse	1-17, 18=Less than One
308.	Age When Abuse Ended	1-17, 18=less than One
309.	Age of Abuser	1=Younger than Twenty 2=Twenty to Twenty- Nine 3=Thirty to Thirty- Nine 4=Forty to Forty- Nine 5=Fifty to Fifty- Nine 6=Sixty or Older
310.	Sexual Magazines	1=Never 2=Yes
311.	Sexual Movies or Videos	1=Never 2=Yes
312.	Sex Parts	1=Never 2=Yes
313.	Sex Talk	1=Never 2=Yes
314.	Sex Activities	1=Never 2=Yes
315.	Sexual Touching	1=Never 2=Yes
316.	Oral Sex	1=Never 2=Yes
317.	Sexual Intercourse	1=Never 2=Yes
318.	Consensual Sexual Experiences	1=Wanted All

		2=At Least One Unwanted
319.	# of Sexual Abusers	1=One 2=Two 3=Three to Five 4=Six to Ten 5=More than Ten
320.	Relation of Sexual Abuser	1=Stranger 2=Someone at Work 3=Friend 4=Girlfriend 5=Boyfriend 6=Neighbour 7=Teacher 8=Counsellor 9=Youth Worker 10=Other Professional 11=Mother 12=Father 13=Sister 14=Brother 15=Other Relative 16=Other
321.	Gender of Sexual Abuser	1=Male 2=Female
322.	Frequency of Sexual Abuse	5=Once 4=Twice 3=Three to Five 2=Six to Ten 1=More than Ten
323.	Age at First Sexual Abuse	1-17, 18=Less than One
324.	Age when Sexual Abuse Ended	1-17, 18=Less than One
325.	Age of Sexual Abuser	1=Younger than Twenty 2=Twenty to Twenty- Nine 3=Thirty to Thirty- Nine 4=Forty to Forty- Nine 5=Fifty to Fifty- Nine 6=Sixty or Older
326.	Threats to hurt/kill you	1=Never 2=Yes
327.	Threats to hurt/kill loved ones	1=Never

		2=Yes
328.	Bribed to keep secret	1=Never 2=Yes
329.	Physical force to keep secret	1=Never 2=Yes
330.	Guilt to keep secret	1=Never 2=Yes
331.	Child Alcohol Drinker	1=Never 2=Yes
332.	# of Alcoholic Beverages	1=Once or Twice 2=Three to Five 3=Six to Ten 4=More than Ten
333.	Age When Started Drinking	1=Less than Ten 2=Eleven to Thirteen 3=Fourteen or Fifteen 4=Sixteen or Seventeen
334.	Parent Knowledge of Drinking	1=No 2=Yes 3=Don't Know
335.	Parent Disapproval of Drinking	1=No 2=Yes 3=Don't Know
336.	Frequency of Drinking	6=Less than Once per Month 5=Once every two Weeks 4=Once per Week 3=Two to Three Times per Week 2=Four to Five per Week 1=More than Five per Week
337.	Amount of Alcohol Consumed	4=One or Less 3=Two to Three 2=Four to Five 1=More than Five
338.	Mother Alcohol Drinker	1=No 2=Yes 3=Don't Know
339.	Age When Mother Started	1=Less than Five 2-Six to Ten

	3=Ten to Fourteen 4=Fifteen or Older
340. Frequency of Mom Drinking	6=Less than Once per Month 5=Once every two Weeks 4=Once per Week 3=Two to Three Times per Week 2=Four to Five per Week 1=More than Five per Week
341. Amount Mother Consumed	4=One or Less 3=Two to Three 2=Four to Five 1=More than Five
342. Father Alcohol Drinker	1=No 2=Yes 3=Don't Know
343. Age When Father Started	1=Less than Five 2-Six to Ten 3=Ten to Fourteen 4=Fifteen or Older
344. Frequency of Dad Drinking	6=Less than Once per Month 5=Once every two Weeks 4=Once per Week 3=Two to Three Times per Week 2=Four to Five per Week 1=More than Five per Week
345. Amount Father Consumed	4=One or Less 3=Two to Three 2=Four to Five 1=More than Five
346. Regular Smoker	1=No 2=Yes
347. Age When Started Smoking	1=Less than Five 2-Six to Ten 3=Ten to Fourteen 4=Fifteen or Older
348. Marijuana or Hash Use	5=Never 4=Once 3=Rarely 2=Sometimes

	1=Often
349. Crack or Cocaine Use	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
350. Speed Use	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
351. Angel Dust Use	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
352. Acid Use	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
353. Sniffed Glue	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
354. Sniffed Paint or Paint Thinner	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
355. Sniffed Household Cleaners	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
356. Sniffed Fuels	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often

357. Frequency of Drug Use	4=Once or Twice 3=Three to Five 2=Six to Ten 1=More than Ten
358. Presently Abusing Substances	1=No 2=Yes
359. Age When First Took Drugs	1=Less than Ten 2=Eleven to Thirteen 3=Fourteen or Fifteen 4=Sixteen or Seventeen
360. Age When Substance Abuse Ended	1=Less than Ten 2=Eleven to Thirteen 3=Fourteen or Fifteen 4=Sixteen or Seventeen
361. Illegal Weapons Possession	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
362. Involvement in Prostitution	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
363. Car Theft	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
364. Robbery	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
365. Break and Enter	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
366. Vandalism	5=Never 4=Once

		3=Rarely 2=Sometimes 1=Often
367.	Fire Starting	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
368.	Theft Over $1000	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
369.	Physical Assault	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
370.	Sexual Assault	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
371.	Murder	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
372.	Attempted Murder	5=Never 4=Once 3=Rarely 2=Sometimes 1=Often
373.	Apprehension for Crimes	1=Never 2=Yes
374.	# of Crimes prior to Apprehension	1=Once or Twice 2=Three to Five 3=Six to Ten 4=More than Ten
375.	Frequency of Law-breaking	4=Once or Twice 3=Three to Five

		2=Six to Ten 1=More than Ten
376.	Persisted in Law-breaking	1=No 2=Yes
377.	# of Crimes after Apprehension	4=Once or Twice 3=Three to Five 2=Six to Ten 1=More than Ten

APPENDIX B

The Parental Bonding Instrument

As you remember your MOTHER/FATHER in your first 16 years, click the most appropriate button:

Very Like/ Moderately Like/ Moderately Unlike/Very Unlike

1. Spoke to me with a warm and friendly voice
2. Did not help me as much as I needed
3. Let me do things I liked doing
4. Seemed emotionally cold to me
5. Appeared to understand my problems and worries
6. Was affectionate to me
7. Liked me to make my own decisions
8. Did not want me to grow up
9. Tried to control everything I did
10. Invaded my privacy
11. Enjoyed talking things over with me
12. Frequently smiled at me
13. Tended to baby me
14. Did not seem to understand what I needed or wanted
15. Let me decide things for myself
16. Made me feel I wasn't wanted
17. Could make me feel better when I was upset
18. Did not talk to me very much
19. Tried to make me dependent on her/him
20. Felt I could not look after myself unless she/he was around me
21. Gave me as much freedom as I wanted
22. Let me go out as often as I wanted
23. Was over protective of me
24. Did not praise me
25. Let me dress in any way I pleased

APPENDIX C

Youth Self Report

Not True/Somewhat or Sometimes true/Very True or Often True

1. I act too young for my age
2. I have an allergy (describe)
3. I argue a lot
4. I have asthma
5. I act like the opposite sex
6. I like animals
7. I brag
8. I have trouble concentrating or paying attention
9. I can't get my mind off certain thoughts
10. I have trouble sitting still
11. I'm too dependent on adults
12. I feel lonely
13. I feel confused or in a fog
14. I cry a lot
15. I am pretty honest
16. I am mean to others
17. I daydream a lot
18. I deliberately try to hurt or kill myself
19. I try to get a lot of attention
20. I destroy my own things
21. I destroy things belonging to others
22. I disobey my parents
23. I disobey at school
24. I don't eat as well as I should
25. I don't get along with other kids
26. I don't feel guilty after doing things I shouldn't
27. I am jealous of others

28. I am willing to help others when they need help
29. I am afraid of certain animals, situations, or places, other than school
30. I am afraid of going to school
31. I am afraid I might think or do something bad
32. I feel that I have to be perfect
33. I feel that no one loves me
34. I feel that others are out to get me
35. I feel worthless or inferior
36. I accidentally get hurt a lot
37. I get in many fights
38. I get teased a lot
39. I hang around with kids who get in trouble
40. I hear sounds or voices that other people think aren't there
41. I act without stopping to think
42. I would rather be alone than with others
43. I lie or cheat
44. I bite my fingernails
45. I am nervous or tense
46. Parts of my body twitch or make nervous movements
47. I have nightmares
48. I am not liked by other kids
49. I can do certain things better than most kids
50. I am too fearful or anxious
51. I feel dizzy
52. I feel too guilty
53. I eat too much
54. I feel overtired
55. I am overweight
56. Physical problems without known medical cause: (a) Aches or pains (NOT headaches)

56. Physical problems without known medical cause: (b) Headaches
56. Physical problems without known medical cause: (c) Nausea, feel sick
56. Physical problems without known medical cause: (d) Problems with eyes
56. Physical problems without known medical cause: (e) Rashes or other skin problems
56. Physical problems without known medical cause: (f) Stomach aches or cramps
56. Physical problems without known medical cause: (g) Vomiting, throwing up
56. Physical problems without known medical cause: (h) Other
57. I physically attack people
58. I pick my skin or other parts of my body
59. I can be pretty friendly
60. I like to try new things
61. My school work is poor
62. I am poorly coordinated or clumsy
63. I would rather be with older kids than with kids my own age
64. I would rather be with younger kids than with kids my own age
65. I refuse to talk
66. I repeat certain actions over and over
67. I run away from home
68. I scream a lot
69. I am secretive or keep things to myself
70. I see things that other people think aren't there
71. I am self-conscious or easily embarrassed
72. I set fires
73. I can work well with my hands
74. I show off or clown
75. I am shy
76. I sleep less than most kids
77. I sleep more than most kids during the day and/or night
78. I have a good imagination
79. I have a speech problem

80. I stand up for my rights
81. I steal at home
82. I steal from places other than home
83. I store up things I don't need
84. I do things other people think are strange
85. I have thoughts that other people think are strange
86. I am stubborn
87. My moods or feelings change suddenly
88. I enjoy being with other people
89. I am suspicious
90. I swear or use dirty language
91. I think of killing myself
92. I like to make others laugh
93. I talk too much
94. I tease other a lot
95. I have a hot temper
96. I think about sex too much
97. I threaten to hurt people
98. I like to help others
99. I am too concerned about being neat or clean
100. I have trouble sleeping
101. I cut classes or skip school
102. I don't have much energy
103. I am unhappy, sad, or depressed
104. I am louder that other kids
105. I use alcohol or drugs for nonmedical purposes
106. I try to be fair to others
107. I enjoy a good joke
108. I like to take life easy
109. I try to help other people when I can

110. I wish I were the opposite sex

111. I keep from getting involved with others

112. I worry a lot