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THE UNIVERSITY OF CALGARY

Attachment Organization and Severity of Depressive Symptomatology in Clinical Adolescents

by

A. Todd Jenkins

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES IN PARTIAL FULFILLMENT

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies

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Abstract:

One hundred thirty two clinical adolescents participated in a cross-sectional study investigating the association between attachment organization and severity of depressive symptomatology. Attachment organization was assessed using the Adult Attachment Interview and severity of depressive symptomatology was measured utilizing the Youth Self-Report Checklist. All participants completed the following questionnaires: the Beck Hopelessness Scale, the Rosenberg Self-Esteem Scale, and the Perceived Support from Family and Friends Scales.

Regression analysis indicated that insecure attachment organization was associated with increased severity of depressive symptomatology. More specifically, those adolescents classified as preoccupied in their attachment organization reported higher levels of depressive symptomatology as compared to those classified as secure or dismissing. Further, increased hopelessness, decreased self-esteem, and the interactive effect of being female and older, were related to higher levels of depressive symptomatology.

These findings suggest that past insecure attachment experiences and the cognitive organization of such experiences, in conjunction with affective and demographic characteristics, are related to severity of depressive symptomatology during adolescence. The results are, therefore, consistent with the view of depression as explicated by attachment theory. Finally, the findings are discussed in light of discourse coherency, reflective capacity and autonomous self, and future clinical and research issues are addressed.

ACKNOWLEDGEMENTS:

I would like to dedicate this thesis to the following people who have supported me throughout my life and educational endeavors, without whom this work would not have been possible.

To my guiding light; my inspiration; the reason I strive for greater things: My mother, Anne Jenkins. Without your love, support, and guidance none of this would have been possible.

To my big brother Troy: You make me proud every day.

To my father, Albert Jenkins.

To my nephew and God son, Alexander Troy.

To my Heavenly inspirations, my grandparents, Thomas and Mary Yetman and Elizabeth MacEachern: You made me who I am and your spirit lives on.

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To my "adopted grandparents": Tommy and Minnie MacMullin.

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To my Calgary family: Alex and Joey Sanderson, the BVCC group, Katherine Ardo, and Manfred Grote.

To Dr. Malcolm West, without whom none of this would have been possible. It has been an honour working with you.

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CHAPTER I

INTRODUCTION

Depressive disorders are the most common complaint among adolescents seeking psychiatric treatment comprising over 30 per cent of psychiatric admissions (Brown & Stevens, 1991; Compas, Conner, & Hinden, 1998). Moreover, it has been reported that between 21 and 32 percent of adolescents report mild to severe symptoms of depression, lasting on average seven to 10 months, with an average age of onset of 10.98 years (Kovacs, Devlin, Pollack, Richards, & Mukerji, 1997; Shochet & Dadds, 1999). In addition, increased suicidality (Brage, 1995; Ehrlich, 1998; Gutierrez, 1999; Pagliaro, 1995; Sarvet, 1996), co-morbidity with other psychosocial disorders (Birmaher et al., 1996; Sarvet, 1996), and the risk of continuance of depression into adulthood (Garber, Kriss, Hoch, & Lindholm, 1988; Harrington, 1996; Pine, Cohen, Cohen, & Brook, 1999) underscore the importance of further research in this area.

Scope and Objectives:

Previous research has implicated familial and affective factors in the etiology of adolescent depression. Many of these studies, however, have been limited by loosely defined familial variables and have used inappropriate comparison groups in that they have compared clinical to non-clinical adolescents (Cummings & Davie, 1992; O'Connor, Thorpe, Dunn, & Golging, 1999; Rutter & Quinton, 1984). The current study is grounded in attachment theory, focuses on depressive symptomatology rather than

depressive disorder, and examines the relation of unresolved attachment to severity of depressive symptomatology in clinical adolescents.

The majority of studies on adolescent psychopathology and attachment status have focused on the organized insecure patterns of dismissing and preoccupied attachment (Cicchetti & Toth, 1998; Flack, 1998; Kobak & Cole, 1994) as assessed by the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985/1996; Main & Goldwyn, 1994). However, it is becoming increasingly apparent that unresolved/disorganized (U/D) attachment is more likely to be associated with psychopathology than the organized insecure forms of dismissing and preoccupied attachment. A review of the literature uncovered only one study that examined the association between unresolved/disorganized attachment and depression in adolescents (Rosenstein & Horowitz, 1996).

The current study examined the relationship between unresolved/disorganized attachment and severity of depressive symptomatology in clinical adolescents. More specifically, it was hypothesized that adolescents classified as unresolved with regard to loss, abuse, or unwanted separation will exhibit more severe depressive symptomatology as compared to adolescents with organized forms of insecure attachment (preoccupied and dismissing).

In the following sections, the research on adolescent depression is reviewed, the attachment construct is discussed, and studies that have examined the linkage between depression and attachment are reviewed.

Adolescent depression: Current literature:

The most consistently supported correlates of adolescent depression are affective factors, sex, family structure, parental characteristics, and attachment organization.

<u>Affective variables:</u>

Cognitive theories of depression predict that dysfunctional self-cognitions, including low self-esteem, negative perception of the future (hopelessness), and low perceived family and peer support predispose an individual to depression (Abramson, Metalsky, & Alloy, 1988; Abramson, Seligman, & Teasdale, 1978; Beck, 1967; Seligman, 1975).

Self-esteem: This variable has been linked to depression as both a risk and a protective factor, and has been related to both severity and recovery time of depressive episodes. A large body of research has supported the contribution of low self esteem to the development of depression in children, adolescents, and adults (Allgood-Merton, Lewinsohn, & Hops, 1990; Barnett & Gotlib, 1988; Brage, 1995; Brage & Meredith, 1994; Kashani, Suarez, Allan, & Reid, 1997; Lewinsohn, Seeley, & Gotlib, 1997; Roberts, Gotlib, & Kassel, 1996). Furthermore, self-esteem has been examined as a moderator of depressive symptom severity. For example, King, Naylor, Segal, Evans, and Shain (1993) determined that the intensity of negative self-cognitions parallel the severity of depressive symptoms. Additionally, self-consciousness, pessimism about the future, external locus of control, and personal isolation have been associated with the development of depression during adolescence (Garber, Quiggle, & Shanley, 1990; Hammond & Romney, 1995; Lewinsohn et al, 1997).

Perceived social support: This category is based on the perception of support rather than available support, and is thus discussed as an affective factor. Kistner, Balthazor, Risi, and Burton (1999) concluded that lack of perceived peer acceptance and support during early adolescence (4th and 5th graders) significantly predicted depression during later adolescence, whereas actual acceptance did not. Harter and Whitesell (1996) examined multiple pathways to depression in 1725 adolescents and determined that individuals reporting depressive symptoms perceived deficiencies in both peer and family support. Finally, among adolescents experiencing high levels of stress, those with high perceived peer support reported lower levels of depression (e.g., Licitra-Klecker & Waas, 1993; McFarlane, Bellissimo, & Norman, 1997).

Sex differences:

The literature on sex differences and depression in adolescence supports a much higher rate of depressive symptoms among females. Although there are no sex differences in depression rates in prepubescent children, after the age of 15 girls and women are approximately twice as likely to be depressed as boys and men (Angold & Worthman, 1993; McFarlane, Bellissimo, & Norman 1995; Nolen-Hoeksema, 1995; Nolen-Hoeksema & Girgus, 1994). Suesser (1998) points out that females possess more of the risk factors for depression in childhood (e.g., lower levels of assertiveness, lower self-esteem) but that these risk factors do not express themselves in the form of depression until adolescence when male-female interactions increase. Broderick (1998) attributes such an increase to the coping style used by females in which negative attention is internally directed. Males, on the other hand, turn their thoughts away from such emotions to reduce negative affect (Broderick, 1998).

Family factors and parental characteristics:

A number of parental characteristics, including depression and psychopathology, have been linked to depressive symptoms in adolescence (Rask, 1998; Rault, Descalzo, & Raimond, 1989; Shiner & Marmorstein, 1998). Rask (1998) provided evidence that children of a depressed mother in an unhealthy family situation were more prone to depressive symptoms than those reporting a healthy family environment. Shiner and Marmorstein (1998) examined the role of parental depression on later offspring depression, and found a significant difference between depressed and non-depressed adolescents with regard to maternal depression, but not paternal depression. It has been proposed that the link between parental psychopathology and depression in adolescence is a result of a decrease in the responsiveness and emotional availability of the caregiver rather than simply the presence of psychopathology (Cummings & Davie, 1992; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Rutter & Quinton, 1984).

Family conflict has been widely examined and supported as a correlate of adolescent depression in both longitudinal and cross sectional studies (e.g., Nardi & Pannelli, 1999; Puskar, Tusaie-Mumford, Sereika, & Lamb, 1999; Sheeber, Hops, Alpert, Davis, & Andrews, 1997; Spirito, 1997). In a major study of 2,706 participants, Lau and Kwok (2000) concluded that a cohesive, orderly, and achieving family environment was related to positive development in adolescence. Pavlidis (1998) has shown that depressed adolescents perceive the quality of their relationships with parents as impaired, and the mothers of these adolescents report heightened conflict with their offspring, even when this conflict is not present in the general household.

Divorce and family structure:

The role of divorce in the development of psychopathology in adolescence has been examined extensively, with contradictory results. A study by Elliot (1989) found no significant difference in depression among adolescents with different family structures. Other researchers have detected a significant association between depression and divorce; however, in most instances divorce is associated with a wide range of early risk factors for depression and life course patterns which mediate this relationship (O'Connor, Thorpe, Dunn, & Golding, 1999; Ross & Mirowsky, 1999). Such factors as decreased socioeconomic status of the offspring after the divorce (Aseltine, 1996; Ross & Mirowsky, 1999), problems in interpersonal relationships (Ross & Mirowsky, 1999), and alteration of psychological status of the primary caregiver (Simons, Lin, Gordon, Conger, & Lorenz, 1999) have all been linked to the development of depression during adolescence. Simons et al. (1999) stated that divorce elevates a female's risk factors for depression because it increases the likelihood of depression in the mother, in turn decreasing the mother's ability to carry out parental duties. Overall, research linking divorce and depression has failed to establish a direct link between these two variables.

Loss of parent or caregiver to death or separation:

The contribution of death of an attachment figure at an early age to later depression development has been examined in the current literature as a correlate of adolescent depression. The findings, however, assert that loss of caregiver to separation serves as a better predictor of later depressive symptomatology than does loss to death (Browne, Joyce, Wells, Bushnell, & Hornblow, 1995; Kendler, Neale, Kessler, Heath, & Eaves, 1992; Tennant, 1991). As with parental psychopathology, familial structure, and

family conflict, the impact of the loss of a caregiver to death or separation on later depression development can be understood in terms of quality of past interaction between child and caregiver(s).

Summary:

Family dysfunction has been implicated in the development and severity of depressive symptomatology during adolescence. From an attachment standpoint, such dysfunction poses a continuing threat to the consistent availability and responsiveness of the caregiver, in turn resulting in the development of dysfunctional attachment patterns that predispose the individual to depressive symptomatology during adolescence. The current study examined the impact of such attachment dysfunction, more specifically unresolved attachment, on the severity of depressive symptomatology in clinical adolescents.

Attachment Theory:

Attachment as a Behavioral System:

Following Bowlby (1969/1982), attachment is a biologically-based behavioral system that promotes species survival and reproduction through a complementary system of infant-caregiver interaction. Infants possess innate expectations of care manifested in various care-seeking behaviors (e.g., crying, clinging, smiling, and following) that serve to activate caregiving responses from the parent(s) (e.g., holding, providing closeness). These caregiving responses not only ensure the immediate survival of the infant through protection and care, but also promote species survival by ensuring the propagation of familial genes across generations (Bowlby, 1969/1982).

All behavioral systems share the common characteristics of function, set goal, and feedback mechanisms. The function of the attachment system is protection from danger or perceived threat (Bowlby, 1969/1982). Through continual monitoring of the environment, the child identifies certain situations or conditions (e.g., illness, fatigue, unfamiliar persons, or the absence of the attachment figure) as distressing or threatening. These real or perceived threats in turn activate the attachment system and result in the child attempting to attain or maintain close contact with the caregiver. The set goal of the attachment system, therefore, is the maintenance of proximity to the attachment figure who is perceived as stronger and wiser (Bowlby, 1969/1982). Finally, as the child's actions are goal-corrected in maintaining proximity to the attachment figure, the responsiveness of that attachment figure serves as the feedback mechanism of the attachment system (Bowlby, 1969/1982). Over time, these repeated child-caregiver interactions give rise to generalized expectations of the attachment figure's availability and become the basis for the development of internal working models.

Internal Working Models:

Beginning in late infancy, during what Bowlby (1969/1982) termed the "clear-cut attachment" phase, the child's attachment behaviors become increasingly organized at both the behavioral and representational level. Through repeated child-caregiver interaction, a variety of affectional responses and experiences with the attachment figure(s) become organized into internal working models (Bowlby, 1969/1982) representing self, the attachment figure(s), and the external environment. These internal working models reflect the child's evaluation of self as worthy of care and protection and the attachment figure as consistently available and responsive during stressful or

threatening situations and guide behavioral and affective responses of the child to later attachment-related experiences. As internal working models function primarily at the unconscious level, they are resistant to change, unless a life-altering event is experienced that forces change to occur (e.g., death of the attachment figure). Information arising from new attachment experiences can, however, modify and update the model throughout life.

The organization of the internal working model varies according to the child's perception of the security of the attachment relationship. The secure child perceives the attachment figure as consistently available and responsive during times of distress or perceived danger. In addition, the child views the self as worthy and deserving of care and protection and as capable of eliciting caregiving responses from the attachment figure. Finally, in secure individuals, updating and reevaluation of internal working models continues throughout life, allowing for adaptation in response to novel attachment situations.

The insecure child perceives the attachment figure as unavailable and unresponsive and the self as unworthy or undeserving of care. As a result of such perceptions, secondary strategies for maintaining proximity to the attachment figure develop (Main, 1990). Consistent rejection of the child's attachment behaviors results in a deactivation of the attachment system, in turn leading to a reduction or minimizing of the child's attachment behaviors in response to stressful situations (Main, 1990). Inconsistent responding on the part of the caregiver serves to hyperactivate the attachment system, resulting in the maximizing of attachment behaviors on the part of the child (Main, 1990). Moreover, Main (1990) states that as a result of such inconsistent

responding, termination of the attachment system does not occur, even in situations where the attachment figure is available and responsive to the needs of the child. Lastly, internal working models of insecure individuals are more rigid and less adaptable with respect to the incorporation of new attachment relevant information than are those of secure individuals.

Attachment: Empirical Evidence:

Infant Attachment:

The work of Bowlby (1969/1982) provided the theoretical foundation of attachment theory based on the hypothesized existence of variations in the formation and maintenance of infant-caregiver bonds. The empirical foundation of attachment theory was provided by Ainsworth, Blehar, Waters, and Wall (1978) who demonstrated, through the use of the Strange Situation protocol, that quality of attachment between child and attachment figure could be captured in three distinct patterns. Briefly, the strange situation classifies an infant's attachment status according to their behavior towards the parent during a number of brief separation and reunion events. The response of the child toward the attachment figure during the reunion event determines the attachment classification (Ainsworth et al, 1978). Ainsworth et al.'s (1978) original classification system included the secure pattern and two insecure patterns, ambivalent and avoidant attachment:

The secure infant shows signs of missing the parent during separation, prefers the parent to a stranger, and greets the parent upon reunion with proximity and contact seeking activities. Furthermore, the infant continues with exploratory behavior after the

reunion with the parent, reflecting an underlying confidence that the parent will be accessible and responsive to his/her need for comfort and acceptance.

2.   Insecure-avoidant infants fail to cry during separation, avoid the parent upon reunion, show neither distress nor anger, and focus on physical surroundings during the procedure rather than the parent. Rejection by the attachment figure during past interactions (Main, 1990) results in a deactivation of the avoidant child's attachment system.

3.   Insecure-ambivalent infants may be distressed even prior to separation, demonstrate very little exploratory behavior, and are preoccupied with the parent throughout the procedure. Additionally, they may seem angry or passive, are not comforted by reunion with the parent, continue to cry, and fail to resume exploratory behavior after parental reunion. Although ambivalent infants magnify their attachment behaviors in stressful situations, the activation of the system is not terminated, even if the caregiver attempts to provide comfort (Main, 1990). Main (1990) has stated that because ambivalent infants have experienced inconsistent responding by the caregiver in the past, they no longer respond to parental cues, even those that would normally terminate the activation of the attachment system.

Disorganized/Disoriented Infant Attachment:

Main and Solomon (1986/1990) observed that some infants were not classifiable according to Ainsworth et al.'s (1978) original strange situation classification system. Previously, such children were either excluded from studies or were placed in the organized attachment classification for which their overall behavior fit most closely. Such children demonstrated fear, contradictory behavior (e.g., approaching the mother, then becoming dazed and walking away) and/or disorientation/dissociation in the caregiver's

presence (Main & Solomon, 1990). These children now comprise the fourth category of infant attachment organization, disorganized/disoriented attachment. Main and Hesse (1990) propose that the disorganized/disoriented classification reflects the child's perception of the parent as frightening and/or frightened. Frightened parental behaviors such as looming or freezing in response to the child's demands have a similar impact as frightening behaviors (e.g., physical, verbal abuse) on the development of attachment disorganization in childhood (Main & Hesse, 1990). Further, Main and Hesse (1990) propose that such parental behaviors may be triggered internally from personal thoughts or events associated with past traumatic and/or frightening experiences. Regardless of the form of parental responding (i.e., frightened and/or frightening), the child is faced with a paradoxical situation; because the attachment system has been activated, the child is driven to approach the attachment figure, but at the same time is compelled to withdraw. Such behavioral contradiction results in a breakdown of the child's behavioral strategies for interacting with the attachment figure during stressful situations (Main & Hesse, 1990).

Research demonstrates that by age 6, disorganized/disoriented children develop strategies for interacting with caregivers in which control is central (Main & Cassidy. 1988). Such control may take a punitive form, in which the child attempts to embarrass or punish the caregiver, or a caregiving form in which the child takes responsibility for the parent's emotions. In each instance, the parent appears to have abdicated the role as caregiver (George & Solomon, 1998). Solomon and George (1996) suggest that such experiences may lead to a frightening and vulnerable feeling within the child that results in the activation of the attachment system. However, since the function and goal of

attachment behaviors (i.e., protection from danger and proximity to caregiver) are not met, termination of the attachment system does not occur. Therefore, the child is unable to develop organized strategies for dealing effectively with the caregiver during stressful situations. Disorganized/disoriented attachment during childhood has been linked to unresolved attachment in adulthood discussed below.

Adult Attachment:

In infancy and early childhood, the maintenance of proximity to the attachment figure is accomplished through physical closeness. As a result of cognitive maturation and development, proximity during adulthood is accomplished through a more complex and representational approach (internal working model) to attachment relationships. In this instance, physical contact becomes secondary to mental representations of the attachment figure. Whereas the Strange Situation protocol classifies childhood attachment status according to the behavioral expression of attachment, the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985/1996) accesses attachment organization at the representational level (Main & Goldwyn, 1994). The AAI classifies individuals' mental representations concerning early attachment relationships through a series of questions and probes designed to elicit an account of past experiences and the effects these have had on development and present functioning. The AAI classifies individuals as secure/autonomous, insecure (preoccupied or dismissing) and/or unresolved with regards to loss, abuse or trauma with regard to the individual's ability to coherently discuss past attachment experiences. Main (1995) suggests that the level of coherency of discourse and collaboration with the interviewer during the administration of the AAI are representative of the current organization of the individual's internal

working model(s). Coherency is based on Grice's (1975) four maxims of coherent discourse; quality ("be truthful and have evidence for what you say"), quantity ("be succinct, yet complete), relation ("be relevant"), and manner ("be clear and orderly"). Collaboration is achieved through conversational turn-taking, where, after completion of a response, the individual allows the interviewer to take his or her turn in speaking. The secure individual demonstrates high coherency and collaboration and discusses and evaluates past attachment relationships in a clear and consistent manner, even if such experiences were unpleasant. Furthermore, secure individuals are able to remain objective when discussing and interpreting attachment experiences, while at the same time valuing the importance of such relationships. Main (1995) proposes that these characteristics of the participant's discourse demonstrate the presence of a single, consistent internal working model of attachment.

If the maxims of coherency and/or collaboration are violated, an individual's attachment organization is judged as insecure (dismissing or preoccupied). Preoccupied attachment is one of two major AAI patterns of organized insecure attachment. According to Main and Goldwyn (1994) individuals classified as preoccupied cannot free themselves from an overwhelming enmeshment with past attachment relationships. This enmeshment is expressed within the AAI in an angry, passive, or fearful tone when discussing past attachment relationships. Such individuals may wander from topic to topic during the interview (violating the maxim of relation) or digress from the context of the question or probe presented by the interviewer (e.g., may discuss current relationship with parental figures when asked about past relationships). Preoccupied individuals also

present lengthy descriptions of past attachment related experiences (violating quantity) that lack clarity and logical order (violating manner).

The dismissing individual, on the other hand, denies the occurrence, importance, or effects of attachment relationships. More specifically, they tend to normalize past attachment relationships, such that their representations of these experiences are not supported by examples of past events (violating quality). Furthermore, they negate the importance of attachment relevant information through such strategies as idealization of parents or claiming lack of memory of childhood experiences (Rosenstein & Horowitz, 1996). Finally, the A A I transcripts of dismissing individuals are brief and lack evaluation and succinct discussion of attachment related events, hence violating the maxim of quantity.

Individuals classified as unresolved with regards to loss or trauma (including death of caregiver, physical and/or sexual abuse, and unwanted/forced separation) exhibit cognitive disturbances when discussing specific instances of attachment relevant losses or trauma. These individuals have failed to assimilate such events and move beyond them. Furthermore, U/D individuals show signs of disorientation and disorganization during administration of the A A I, where, as Main and Goldwyn (1994) observed, a lapse in the monitoring of discourse may occur. In this instance, the speaker enters a state of mind where he or she no longer appears consciously aware that the interview is taking place and has lost awareness of the content of their discourse. For example, the individual may briefly indicate a belief that a dead person is still alive in the physical sense (e.g., referring to the person in the present tense), that the death of a caregiver was a result of a childhood thought, or claim responsibility for childhood physical or sexual abuse. The

individual may also lapse into a prolonged silence or eulogistic speech. Persons classified as U/D are also given a secondary classification (i.e., secure, dismissing, or preoccupied) corresponding to the overall organization of the interview. It must be stressed that the unresolved classification deals with the discussion of specific loss or traumatic episodes in the individual's past, whereas the secondary classification represents the underlying attachment organization based on the individual's entire history of caregiving experiences.

<u>Attachment and Adolescence:</u>

Adolescence is a transitional period in which earlier attachment status plays a critical role in normative development. It is at this stage that the total dependence on the parental figure is relinquished and the development of autonomy becomes a central issue. The relationship with the caregiver remains important, however, the adolescent must develop new strategies for approaching novel attachment relationships. A transition occurs in which the behavioral expression of attachment seen throughout childhood, once focused on multiple caregivers, develops into a more abstract, cognitively based attachment system characteristic of adolescence and adulthood.

Another key developmental change during adolescence is the formation of peer relationships, including those with the opposite sex, all of which are greatly impacted by early attachment status. Steinberg (1990) views these new peer relationships as important in the development of autonomy, in that they function as important attachment relationships apart from those previously shared with the parental caregiver(s).

Adolescents who have developed secure attachment strategies are more likely to be able to balance the struggle for autonomy with their need for close attachment

relationships. Secure individuals are able to successfully negotiate conflict in the parent-adolescent relationship, while at the same time, recognizing the importance of such attachment relationships. Because secure individuals have learned that the relationships they have developed throughout life will remain, even in the face of disagreement and struggle (Allen, Hauser, Bell, & O'Connor, 1994), they are less likely to be impacted negatively by the psychological, physical, and social changes characteristic of adolescence (Allen & Land, 1999).

Patterns of attachment and adolescent depression: Current Literature:

Research demonstrates that insecure attachment patterns may increase the risk of psychosocial maladjustment (e.g. depression) at various developmental transitions, including adolescence (Cicchetti & Toth, 1998; Hortacsu, Cesur, & Oral, 1993; Kobak & Cole, 1994; Muris, Mayer, & Meesters, 2000; Roberts, Gotlib, & Kassel, 1996; Searle, 1998).

Much of the current literature regarding adolescent depression and attachment focuses on the organized insecure patterns of preoccupied and dismissing. Adolescents with preoccupied attachment organization and lower quality parental relationships are more likely to have depressed mood when compared to those individuals classified as dismissing or secure (Cole-Detke, 1998; Kobak, Sudler, & Gamble, 1991; Leibman, 1998; Murphy & Bates, 1997). Various researchers have attempted to account for the over representation of preoccupied individuals in depression case groups. Cole-Detke and Kobak (1996) propose that individuals classified as preoccupied are more likely to experience depression because of a preoccupation with their own shortcomings in interpersonal relationships. Because these individuals become enmeshed in past

attachment relationships, they are unable to develop more active forms of coping that would normally result in the development of autonomy and increased levels of interpersonal competence. Moreover, they focus distress internally and hence are more prone to low self-esteem, repeated negative affect, and feelings of hopelessness, which have all been linked to the development of depression across the life span.

A major shortcoming of the previously discussed research, however, is that such studies have focused on the three category classification system of attachment (secure, preoccupied and dismissing) and hence have neglected the category of unresolved/disorganized attachment which has been increasingly linked to other forms of psychopathology throughout life.

Unresolved/disorganized Attachment and Psychopathology:

Research regarding the unresolved classification and depression is much less clear. Only one study regarding unresolved attachment status and depressive symptoms in adolescence has been reported in the current literature. Rosenstein and Horowitz (1996) found that an unresolved classification was associated with affective disorder, with or without a comorbid diagnosis of conduct disorder. Although the U/D classification has been underrepresented in the current literature with regards to depression, it has been linked to other forms of psychopathology including dissociative disorders (Liotti, 1999; Macfie, 1999), borderline personality disorder (Apsel, 1999; Patrick, Hobson, Castle, & Howard, 1994), externalizing behavioral problems (van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999), stress disorders (van Ijzendoorn et al., 1999), internalizing problems in preschool children (Shaw, Keenan, Vondra, Delliquadri, & Giovannelli, 1997), partner/domestic violence (Holtzworth-Munroe, Stuart, &

Hutchinson, 1997; West & George, 1999), childhood aggression problems (Lyons-Ruth,

1996; Lyons-Ruth, Alpern, & Repacholi, 1993; Shaw, Owens, Vondra, & Keenan, 1996),

and generalized child psychopathology (Kyung Sook, Yee Jin, & Kim, 1999). Further

support that unresolved/disorganized attachment may be associated with the development

of depressive symptomatology during adolescence has been provided by Van der Kolk

and Fisler (1994), who demonstrated that among abused and neglected children, those

classified as disorganized showed an impaired capacity to express and regulate emotions.

Hypotheses and Research Questions:

Based on the above discussion, it is hypothesized that:

Hypothesis 1: Individuals classified as insecure in their attachment organization will score higher on measures of severity of depressive symptomatology than those classified as secure (insecure versus secure).

Hypothesis 2: Those individuals classified as preoccupied will score higher on measures of severity of depressive symptomatology than those classified as dismissing or secure (preoccupied versus dismissing and secure).

Hypothesis 3: It is hypothesized that individuals classified as unresolved disorganized (U/D) with regards to loss or trauma will score higher on measures of severity of depressive symptomatology than those classified as organized in their attachment strategies (disorganized versus organized).

Research Questions:

The following research questions investigate the hypothesized association between

depressive symptom severity and variables including attachment organization,

demographic variables, and familial and cognitive variables:

Research Question 1: Is there a relationship between severity of depression

symptomatology and attachment organization? If there is, then those adolescents

classified as insecure in their attachment organization will score higher on measures of

severity of depressive symptomatology than those classified as secure.

Research Question 2: Is there a relationship between attachment disorganization and

severity of depressive symptomatology? If there is, then those adolescents classified as

unresolved/disorganized with regards to loss or trauma will score higher on measures of

depressive symptomatology than those demonstrating more organized forms of

attachment.

Research Question 3: Is there a relationship between severity of depressive

symptomatology and affective deficiencies? If there is, then participants expressing more

severe depressive symptomatology will have greater affective impairments represented as

lower scores on measures of perceived social support from family members and friends,

higher scores on ratings of hopelessness, and lower scores with regards to self esteem.

Research Question 4: Can a multivariate analysis differentiate between severity levels of depressive symptomatology in clinical adolescents? If so, then some specific combination of attachment organization (disorganization), familial variables, and affective variables will best describe differences in severity of depressive symptomatology.

CHAPTER II

METHODS

A. Participants:

The sample was comprised of 145 adolescents between the ages of 12 and 19 years, consecutively recruited to the study upon admission to 1 of 5 psychiatric treatment centres in 3 Canadian cities. The recruitment period was 24 months long, although the study was in operation at different centres for different lengths of time. Three treatment centres in 1 city participated for the first year of the study; one treatment centre in another city participated for the entire two-year period; the treatment centre in the third city participated for the last year of the study. The sites included inpatient and outpatient programs, longer-term residential settings, and day programs. Exclusion criteria were the presence of active psychosis, organic brain disorder, mental sub-normality, and significant physical illness. Participants otherwise encompassed a full range of emotional and behavioral disturbances.

Participants were usually interviewed within the first week after admission by a research assistant who collected demographic, psychosocial, and historical information including the Youth Self Report Checklist (Achenbach, 1991). The second session, usually completed within two weeks of the first, involved the administration of the Adult Attachment Interview (AAI) by the same research assistant. Occasionally, interviews were conducted later for clinical or scheduling reasons. Complete information (which

included the AAI) was collected on 132 participants (13 were eliminated from the study: 3 who failed to appear for the attachment interview, 6 who gave incomplete interviews, and 4 whose interviews were not recorded for technical reasons), yielding a 92% participation rate. The complete sample comprised 74 males (56%) and 58 females (44%), predominately Caucasian (88%), with a mean age of 15.3 years (SD=1.44 years). Fifty-three percent of the participants were in residential treatment at the time of the study.

B.   Measures Used to Collect Data:

1.   Demographic and Descriptive Information

A standardized interview was used to obtain demographic data; social, educational, and delinquent histories; alcohol and drug use and related problems; and psychiatric disorders in the participant, including the YSR Behavior Checklist (Achenbach, 1991).

2.   Measurement of Attachment Status

Adult Attachment Interview (AAI)

The AAI was administered following the protocol described by George, Kaplan, and Main (1996). For this study, the wording of some of the interview questions was modified to suit the adolescent population, as suggested by Ward and Carlson (personal communication to Dr. M. West, January 9, 1990). In this interview, individuals' mental representations concerning early attachment relationships (i.e., loss of attachment figure or separation from that attachment figure, etc.) are explored through a series of questions and probes designed to elicit an account of past experiences and the effects these have had on development and present functioning. Although the transcripts of the interviews

are rated for probable experience with attachment figures, the manner in which these experiences are described determines the overall attachment classification. In other words, the organization, and hence the coherency of the participant's discourse during administration of the A A I determines their attachment classification (specific discourse examples have been discussed in the previous literature review).

Each A A I was audio taped, transcribed verbatim, and three trained raters, who did not conduct the interviews, rated the transcripts independently. The raters were uninformed of all other information about the participants until all transcripts had been coded. One rater coded all transcripts; the other two raters examined overlapping subsets of the transcripts. A ll transcripts were coded by at least two raters.

The coding of the A A I is a complex task requiring several steps. Each transcript is scored on several 9-point scales. Five scales rate probable early experiences with attachment figures, and six scales rate current state of mind with regard to attachment. Two scales rate evidence of unresolved-disorganized loss and abuse related to attachment. Two scales rate evidence of the participant's coherency: one with regard to coherency of transcript discourse and one for overall coherency of mind. From these scales, following a detailed coding and classification manual (Main & Goldwyn, 1994), the rater derives the attachment classification (or classifications) for the participant. Each rater independently recorded both quantitative ratings and qualitative summaries of the transcript. Consensus was achieved on both the scale scores and the final classification after discussion by all raters who scored the transcript.

These procedures assess three principal organized states of mind with respect to attachment. An autonomous or secure state of mind is characterized by good access to

memories of early attachment history and the ability to describe this experience and its effects coherently, even if such events are unfavorable. A dismissing state of mind is characterized by idealization or derogation of the parents in which the individual claims a lack of memory of childhood experiences and emphasizes personal strength or normalcy. A preoccupied state of mind is characterized by a focus on relationships with parents in either an angry unobjective manner or in a passive, helpless manner. Transcripts that do not appear to fit one of the primary categories or show a striking mixture of organizations are coded "Cannot Classify".

Each transcript is also assessed for evidence of unresolved-disorganized response to attachment related trauma (U/D). The classification of U/D is made on the basis of specific lapses in the monitoring of reasoning or discourse when the individual is asked to describe potentially traumatic events such as loss or abuse or, more rarely, on the basis of reports of extreme behavior at the time of the trauma. This involves the identification of specific sentences or phrases during discussion of these experiences and is not based on more general evidence such as continued preoccupation with the traumatic experience, anger, or tearfulness during the interview or saying the experience did not affect them. Separate scores are reported for specific incidents of loss or abuse, with a secondary classification given for the organization of the discourse overall. The AAI manual allows for the U/D classification on evidence of lack of resolution of the death of a parent or other close relationship figure and for the lack of resolution of physical or sexual abuse. Adam, Sheldon-Keller, and West (1995) have, through previous research in suicidal populations, suggested that severe, unwanted separation experiences should be included as one of the precursors to the U/D classification. In a number of their early interviews,

Adam et al. (1995) found many of the indices of disorganization described under the U/D classification in association with reported separation experiences, such as being unwillingly ejected from the home or placed in foster or institutional care.

The validity and reliability of the AAI has been established in a number of studies. As previously stated, high concordances between parental AAI and infant Strange Situation classifications have been reported retrospectively (Ainsworth & Eichberg, 1991; Grossman, Fremma-Bombik, Rudolph, & Grossman, 1988; Main, 1997; Main, Kaplan, & Cassidy, 1985) as well as prospectively (Benoit & Parker, 1994; Fonagy, Steele, & Steele, 1991; Ward & Carlson, 1995). Cross-generational AAI concordances have been reported between mothers and adult daughters (Benoit & Parker, 1994). Test-retest reliabilities of 78% (kappa=.52) (after controlling for life altering events such as the death of a parent or caregiver) (Waters, Merrick, Albersheim, & Treboux, 1995) and 90% (kappa=.79) (Benoit & Parker, 1994), have been reported.

In an analysis of inter-rater reliability for the AAI in this study, the mean concordance rate across all AAI classifications (U/D, secure (F), dismissing (Ds), preoccupied (E), and cannot classify (CC)) for all pairs of raters was 78.6%. The mean kappa for primary classifications (F, Ds, E, and CC) was .71.

The AAI has been utilized extensively with clinical adolescents including those diagnosed with eating disorders (Candelori & Ciocca, 1998), those who have reported suicidal attempt or ideation (Adam, Sheldon-Keller, & West, 1996), and those diagnosed with various psychosocial disorders (Ivarsson, Broberg, & Gillberg, 1998; Rosenstein & Horowitz, 1996).

3.   Measure of Depressive Symptomatology

The Youth Self-Report Checklist (YSR) is part of a family of instruments including the Child Behavior Checklist and the Teacher Rating Form, developed and refined by Thomas Achenbach to assess competencies and problems of 11- to 18-year olds (Achenbach, 1991). Seventeen items constitute three competence scales: Activities, Social Competence, and Total Competence. A principal-components analysis of 103 items was used to delineate eight problem scales: Somatic complaints, Anxious-Depressed, Social Problems, Thought Problems, Attention Problems, Self-destructive-Identity Problems (male adolescents only), Delinquent Behavior, and Aggressive Behavior.

The validity and reliability of the YSR has been tested in large samples (N>1000) of both community youths and youths referred for psychological and psychiatric treatment. All scales of the YSR demonstrated strong content validity, criterion related validity, and discriminant validity, as well as high internal reliability and test-retest reliability. Only the Activities Scale (alpha=.38) and the Total Competence Scale (alpha=.46) had Cronbach alpha coefficients less than .55; Pearson r coefficients of one week test-retest reliability ranged from .47 (thought problems) to .81 (Anxious-Depressed and Externalizing). The YSR has been extensively used in research studies with clinical and non-clinical samples, addressing a variety of topics (Achenbach & Brown, 1991). The Anxious-Depressed syndrome scale of the Youth Self-Report (YSR) was used to assess depressive symptomatology. Raw scores were utilized in analysis.

4.   Measures of Affective Variables

a)   Perceived Social Support from Family and Friends Questionnaire

The 40-item Perceived Social Support from Family and Friends Questionnaire measures the extent to which an individual believes that his or her needs for support, information, and feedback are fulfilled by family and friends. This measure consists of 20 declarative statements to which the participant answers "yes", "no", or "don't know." For each item, the response indicative of perceived social support is scored as 1, with the remaining responses coded as 0. Scores range from 0 to 20, with higher scores representing higher perceived support.

Construct validity studies demonstrate that the PSS is significantly related to lower psychopathology and greater social competence (Procidano & Heller, 1983). Studies of psychometric properties of these scales were derived from a series of three studies that included 432 undergraduate students (Procidano & Heller, 1983) and included comparisons with clinical samples (Gavazzi, 1994; Lyons, Perotta, & Hancher-Kvam, 1988; Procidano & Heller, 1983). The internal consistency of the items presented a Cronbach's alpha of 0.90. The Pearson correlation ranged from 0.80 for the Family scale to 0.86 for the Friend Support scale over a one month period, hence indicating high test-retest reliability.

b) **Rosenberg Self-Esteem Scale**

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) measures attitudes toward the self on a favorable/unfavorable dimension. The scale comprises ten items, each rated on a 4-point scale from strongly agree to strongly disagree; higher scores indicate higher levels of global self-esteem. Pearson correlation coefficient of 0.85 has been reported with regards to test-retest reliability (Crandall, 1973).

c) **The Beck Hopelessness Scale**

The Beck Hopelessness Scale (Beck, Weissman, Lesser, & Trexler, 1974) measures negative expectancies concerning self and the future. It is a 20-item, true-false instrument of which 9 are keyed false and 11 are keyed true. Each statement is assigned a score of either 0 or 1, giving a summed score ranging from 1 to 20, with higher scores indicating greater hopelessness. Alpha coefficients ranged from .82 to .93 (Dowd, 1989) with moderate test-retest reliability properties ranging from 0.69 after one week to 0.66 over a 6-week period (Dowd, 1989).

C. **Statistical Analysis:**

Descriptive statistics using means (with 95% confidence intervals), standard deviations and frequencies, where appropriate, were produced for demographic, affective, and attachment variables. Demographic statistics were produced for the total sample and for each of the affective, attachment, and depressive symptomatology variables.

Testing for potential differences between the demographic, attachment, and affective variables was performed by the chi-square test for contingency tables for categorical variables and one-way analysis of variance for continuous variables.

Linear regression (involving 2 independent variables and the outcome variable) was used to examine the potential confounding and interactive effects of each of the predictor variables. Prior to each multiple regression analysis, boxplots illustrating the distribution of scores of depressive symptomatology by each of the demographic and attachment variables were constructed. The outer box extends from the 25th to the 75th percentile, or from the lower to the upper quartiles of the data. The line running through the quartiles marks the median of the data (50th percentile). The medians were compared for each variable.

Correlation analysis was performed to examine potential bivariate relationships between the predictor variables. Pearson product-moment correlations were calculated for each analysis and p-values were reported. Scatterplots representing each relationship were generated. Only those variables significantly correlated were reported.

The statistical method for combining the individual variables into a model predicting scores on depressive symptomatology is multiple linear regression. Preliminary analysis examined the potential relationship between each of the affective, attachment, and demographic variables to depressive symptomatology by using simple linear regression. Those variables whose relationships were considered both statistically and theoretically relevant were included in the multiple linear regression analysis. The independent variables initially selected to be entered into the model were: attachment classification (F, Ds, E, CC, U/D), self-esteem, perceived support from family, perceived

support from friends, and hopelessness. The outcome variable was severity of depressive symptomatology. Interactions among all of the independent variables were examined. The fit of the model was examined through residual plots, and each variable was interpreted with respect to depressive symptomatology severity. The most parsimonious model describing the relationship between the independent variables and depressive symptomatology was produced.

ETHICAL CONSIDERATIONS:

Participation was completely voluntary and no invasive or threatening procedures were utilized in the current study. Furthermore, participants had to submit written informed consent to participate or, for participants under eighteen years old, his or her parent or guardian had to submit written consent to participate. To ensure anonymity, number codes were assigned to each participant. Approval of this study's protocol was obtained from the Conjoint Medical Research Ethics Board of the University of Calgary.

CHAPTER III

RESULTS

DEMOGRAPHIC VARIABLES:

The demographic variables included sex, age, and race. Race was originally subdivided into eight categories. These categories were collapsed to satisfy the requirements for a valid chi-squared analysis (i.e., no cell should have an expected frequency of less than 1 and no more than 1/5 of the cell frequencies should be less than 5 for each analysis (Cochran, 1954)). The race variable was, therefore, divided into (1) white; (2) other than white (Native American, Black, other, and don't know). Age was subdivided into younger (<14) and older adolescents (>=15) for analysis (see Appendix A).

CHARACTERISTICS OF THE SAMPLE:

The mean age of the study sample was 15.3 years (standard deviation=1.44 years). There were 58 (44%) female adolescents and 74 (56%) males. Eighty eight percent of the sample was white (88%) (n=1 15).

DEMOGRAPHIC COMPARISON OF ATTACHMENT VARIABLES:

The distribution of attachment organization by sex, race, and age is presented in Table 1. There were no significant sex (x^2(3, 132)=2.06, p=.56), age $(x^2$ (3, 132)=6.45, p=.09), or racial (Fisher's exact test: p= .92) differences on attachment status.

Table 1

Distribution of Attachment Status by Demographic Variable.

Attachment Status		Secure	Dismissing	Preoccupied	Cannot Classify	Total
Sex	Male	15	23	24	12	74
		(0.20)*	(0.31)	(0.32)	(0.17)	
	Female	15	22	14	7	58
		(0.26)	(0.38)	(0.24)	(0.12)	
	Total	30	45	38	19	132
Age	Younger	7	19	9	3	38
		(0.18)	(0.50)	(0.24)	(0.08)	
	Older	23	26	29	16	94
		(0.24)	(0.28)	(0.31)	(0.17)	
	Total	30	45	38	19	132
Race	White	26	40	32	17	115
		(0.23)	(0.35)	(0.28)	(0.14)	
	Other	3	5	6	2	16
		(0.19)	(0.31)	(0.38)	(0.12)	
	Total	29	45	38	19	131

*(Proportion in each group)

Unresolved for loss and/or trauma:

There were no significant differences between unresolved status for male versus female adolescents ($\wedge 2(1, 132)=2.93$, p=.087), younger versus older adolescents ($x2(1, 132)=.05$, p=0.83) or white versus other races ($x2(1, 132)=3.12$, p=.08). The distribution of unresolved attachment by each of the demographic variables is presented in Table 2.

Table 2
Distribution of Unresolved Attachment Status by Demographic Variable.

		Resolved	Unresolved	Total
Sex	Male	43	31	74
		(0.58)*	(0.42)	
	Female	25	33	58
		(0.43)	(0.57)	
	Total	68	64	132
Age	Young	19	19	38
		(0.50)	(0.50)	
	Old	49	45	94
		(0.52)	(0.48)	
	Total	68	64	132
Race	White	63	52	115
		(0.55)	(0.45)	
	Other	5	1 1	16
		(0.31)	(0.69)	
	Total	6X	63	131

*(Proportion in each group)

DEMOGRAPHIC COMPARISON OF AFFECTIVE VARIABLES:

T-tests were used to examine possible significant sex, age (younger, age$\leq$14; older, age $\geq$15) and race differences on each of the affective variables (esteem, hopelessness, friend support, and family support).

SEX:

There were no significant sex differences on self-esteem (t(129)=l.74, p=.08) or

hopelessness (t(130)= -1.75, p=.08). There were, however, significant sex differences on

perceived family support (t(106)=l.99, p=.05) and perceived peer support (t(103)= -3.07,

p=.003). More precisely, males perceived greater family support than females and

females reported higher friend support than did males. Means with 95% confidence

intervals and standard deviations are presented for family support and friend support in

Table 3.

Table 3
Means with 95% Confidence Intervals and Standard Deviations for Affective Variables
Differing by Sex.

Affective Variable:	n	Mean	Standard Deviation	95% CI Lower	95% CI Upper
Family Support:					
Male	63	12.1	5.10	10.8	13.3
Female	45	9.62	6.96	7.53	11.7
Total	108				
Friend Support:					
Male	61	12.9	4.81	11.7	14.4
Female	44	15.7	4.00	14.2	16.9
Total	105				

AGE:

There were significant age differences on measures of hopelessness (t(130)=-2.32,

p= 02) and family support (t(106) =2.07, p=.04). Mean values for hopelessness

demonstrate that older adolescents reported greater hopelessness than did their younger

counterparts. Additionally, older adolescents reported less family support than did

younger adolescents. There were no age differences with regards to esteem (t(129)=l.59,

p=. 11) or friend support (t(103)= -1.41, p=.16). Means with 95% confidence intervals and

standard deviations are presented in Table 4.

Table 4
Means with 95% Confidence Intervals and Standard Deviations for Affective Variables
Differing by Age.

Affective Variable:	n	Mean	Standard Deviation	95% CI Lower	95% CI Upper
Hopelessness					
Younger	38	4.11	3.45	2.97	5.24
Older	94	6.38	5.63	5.23	7.54
Total	132				
Family Support					
Younger	31	12.9	4.93	11.1	14.7
Older	77	10.9	6.30	8.86	11.7
Total	108				

RACE:

There were no significant race differences on scores for self-esteem (t(128)= 1.12,

p=.26), hopelessness (t(129)=.082, p=.94), perceived friend support (t(102)=-.07, p=.94)

or perceived family support 0(106)= 1.04, p=.30).

**ATTACHMENT ORGANIZATION AND DISTRIBUTION OF AFFECTIVE
VARIABLES:**

One-way analysis of variance was carried out to examine potential relationships

between attachment classification and each of the affective variables. The mean scores

for each of the affective variables did not significantly differ with regards to attachment

classification. The results for the overall test of significance (F-test) are presented in

Table 5.

Table 5

Overall Test of Significance for each Affective Variable by Attachment Classification.

Affective Variable:	F-statistic	Degrees of Freedom	p-value
Esteem	0.73	3, 127	0.53
Hopelessness	0.29	3, 128	0.83
Family Support	1.18	3, 104	0.32
Friend Support	1.28	3, 101	0.29

The following boxplots represent the distribution of each of the affective variables by attachment status. The median esteem value is similar across the secure, dismissing, preoccupied, and cannot classify categories. The median value for hopelessness was lower in the "cannot classify" category than in the other attachment categories. The median family support value was highest in the "cannot classify" group, followed by the median for the secure category. The median family support score appears similar in the dismissing and preoccupied categories. The median friend support score was highest for the "cannot classify" category, followed by the secure category. The median score for friend support is similar in the preoccupied and dismissing categories.

ROSENBERG SELF-ESTEEM SC/1E

: BECK HOPELESSNESS SCALE

Cannot Classify   Dismissing   Preoccupied   Secure

Cannot Classify   Dismissing   Preoccupied   Secure

PSS-FAMILY SCALE

• PSS-FRIEND SCALE

I

Cannot Classify   Dismissing   Preoccupied   Secure

Cannot Classify   Dismissing   Preoccupied   Secure

Figure 1. Affective Variable Distribution by Attachment Classification.

Unresolved attachment: Each affective variable was examined with regards to unresolved attachment status (resolved versus unresolved). Mean scores for self-esteem differed significantly between those who were resolved and those unresolved with regards to loss and/or trauma (t(129)= 2.16, p=.03). In this instance, those classified as resolved had a significantly higher self-esteem mean score than did those classified as unresolved.

Boxplots of esteem, hopelessness, family support, and friend support by unresolved attachment status are presented in Figure 2. The median value for self-esteem

was higher in those individuals resolved for loss and/or trauma than in those who were classified as unresolved. Furthermore, those individuals classified as resolved had a slightly lower hopelessness median, and a higher median perceived family support value as compared to those classified as unresolved. Finally, the median values for friend support were similar for both groups.

ROSENBERG SELF-ESTEEM *SCfiL* E

: BECK HOPELESSNESS SCALE

PSS-FRIEND SCALE

PSS-FAMLY SCALE

Unresolved

Figure 2: Affective Variable Distribution by Unresolved Attachment Classification.

BIVARIATE RELATIONSHIPS BETWEEN AFFECTIVE VARIABLES:

Bivariate relationships between each of the affective variables were examined using scatter plots and correlational analyses. Esteem and hopelessness were significantly correlated (-.6154, p<.001). This relationship is highlighted in the scatter plot of esteem

by hopelessness presented in Figure 3. No other affective variables were significantly correlated. A number of outliers were spotted and checked for accuracy and plausibility. All were plausible values for esteem and hopelessness and were, therefore, included in the final analysis.
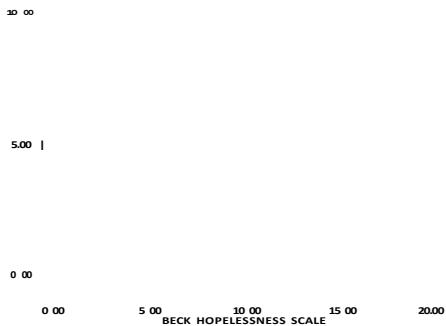
Figure 3: Bivariate Relationship between Self-Esteem and Hopelessness.

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND DEPRESSIVE SYMPTOMATOLOGY:

Simple linear regression analysis was carried out to determine the association between each of the demographic variables and severity of depressive symptomatology. Sex was found to be significantly associated with depressive symptomatology at the univariate level (t(130)= -6.47, p<.001). More precisely, being female was associated with increased severity of depressive symptomatology as compared to being male. Age (t(130)=-3.93, p<.001) was also found to be significantly associated with depressive symptomatology, in that being older was associated with increased levels of severity of

depressive symptomatology as compared to being younger. Race was not associated with depressive symptomatology at the univariate level (t (129)= -1.10, p=.28).

Figure 4 presents boxplots of depressive symptomatology by each of the demographic variables found to be significantly associated with depressive symptomatology at the univariate level. Females had a higher median depressive symptomatology value than did males. Older adolescents had higher median depressive symptomatology scores than their younger counterparts.

DEPRESSED RAW SCORE

DEPRESSED RAW SCORE

Young

Figure 4. Comparison of Severity of Depressive Symptomatology by Demographic Variable.

ATTACHMENT STATUS AND DEPRESSIVE SYMPTOMATOLOGY:

Attachment status was examined using simple linear regression to determine if being classified as secure, preoccupied, dismissing, or cannot classify was significantly related to severity of depressive symptomatology. Attachment status, in general, was not associated with severity of depressive symptomatology (F(3, 128)=0.21, p=.89) at the univariate level.

Unresolved attachment status was significantly related to severity of depressive symptomatology in the simple linear regression model (t(130)=2.73, p=.007). In other words, being unresolved for loss and/or trauma was associated with higher scores of depressive symptomatology as compared to those classified as resolved.

Figure 5 presents the distribution of depressive symptomatology by the attachment classification categories (Attachment Classification and Unresolved Status). Individuals classified as unresolved with regards to loss and/or trauma had a higher median score for depressive symptomatology than those classified as resolved. Those in the preoccupied attachment category had a higher median depressive symptomatology score than the secure and dismissing categories. The median score for depressive symptomatology was similar in the preoccupied and cannot classify categories.

DEPRESSED RAW SCCRE   DEPRESSED RAW SCORE

Cannot Classify   Dismissing   Preoccupied

Figure 5. Distribution of Depressive Symptomatology by Attachment Classification.

AFFECTIVE VARIABLES AND DEPRESSIVE SYMPTOMATOLOGY:

Simple linear regression analysis was performed to examine the relationship between each of the affective variables (predictor variables) and the outcome variable, depressive symptomatology. At the univariate level, esteem (t(129)= -6.48, p< .001),

hopelessness (t(130)=7.66, p<.001), and family support (t(106)= -4.5, p<.001) were significantly related to the severity of depressive symptomatology, whereas friend support was not (t(103)= -1.11, p= .27).

The scatterplots in Figure 6 illustrate the relationship between each of the affective variables and depressive symptomatology. As anticipated, esteem, hopelessness, and family support were associated with depressive symptomatology. Figures 6 (i-iii) highlight the significant association between depressive symptomatology and self-esteem, hopelessness, and family support. Figure 6 (iv) shows the weak, non-significant relationship between friend support and depressive symptomatology. Closer examination of the plots in Figure 6 suggests that the assumptions of linearity and homogeneity of variance may be violated somewhat for the simple linear regression models. A complete residual analysis of the final multiple regression model was carried out and all assumptions were satisfied.

oe   20

(i) Self Esteem   (ii) Hopelessness

0   40   o   40

1

                                                                              15 00   20 00
                              15.00   20.00

(iii) Perceived Family Support   (iv) Perceived Friend Support
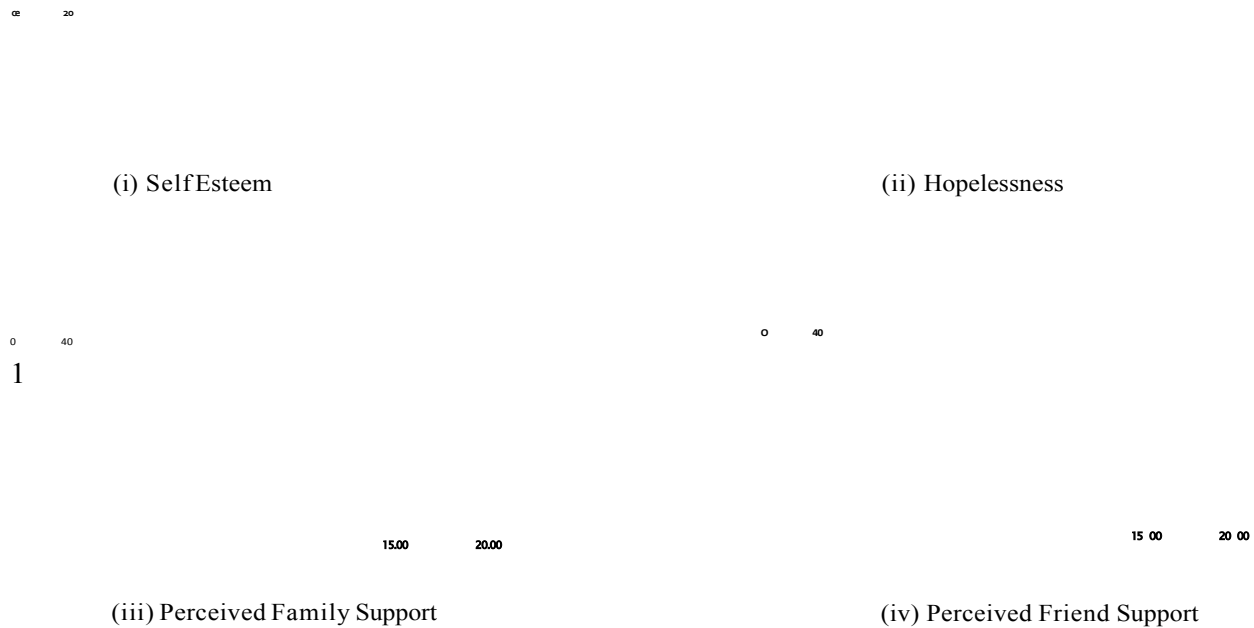
Figure 6. **Scatterplots of the Relationship between Depressive Symptomatology and Affective Variables.**

FINAL MULTIPLE REGRESSION MODEL:

The following independent variables were significantly related to depressive symptomatology when considered individually in a simple linear regression model: self-esteem, hopelessness, perceived support from family members, and unresolved attachment status. Perceived support from friends and overall attachment classification were not significantly related to severity of depressive symptomatology at the univariate level. However, these variables were included in the development of the multiple

regression model as they address the primary hypotheses and research question. Due to the statistically significant age and sex differences on depressive symptomatology, these demographic variables were entered into the multivariate model.

All possible two-way interactions were examined using linear regression (2 independent variables and the outcome variable). A significant interaction was found between age and sex. No other significant interaction terms were present. Confounding was assessed following interaction testing and hopelessness was found to confound the relationship between esteem and severity of depressive symptomatology.

The final, multivariate model is presented in Table 6 and consisted of main effects for self-esteem, hopelessness, preoccupied attachment organization, and the age by sex interaction. The final model accounted for 57% of the variance in severity of depressive symptomatology (Adjusted R-squared=0.57).

Table 6
Multiple Linear Regression Model Relating Affective, Demographic, and Attachment Variables to Severity of Depressive Symptomatology.

Predictor Variable	Coefficient (Estimated)	SE	t	P
Hopelessness	0.74	0.18	4.20	<001
Esteem	-1.04	0.38	-2.69	0.008
Preoccupied	4.55	2.01	2.26	0.026
Sex	4.25	2.74	1.55	0.124
Age	1.96	2.10	0.93	0.353
Age by Sex	8.85	3.26	2.71	0.008
Intercept	15.21	4.03	3.77	<0.001

Overall test of model significance (F(6, 124)= 22.43, p<.001)

Self-esteem was significantly related to the severity of depressive symptomatology, after controlling for hopelessness, preoccupied attachment, and the age by sex interaction. More specifically, keeping all variables in the model constant, depressive symptomatology scores would decrease by 1.04 units for every 1.0-unit increase in self-esteem. Therefore, after controlling for all other factors, an increase in self-esteem was significantly related to a decrease in depressive symptomatology.

Hopelessness was significantly associated with depressive symptomatology, after controlling for all factors in the model. Keeping self-esteem, attachment organization, and age by sex interaction constant, the predicted value for severity of depressive symptomatology would increase by 0.74 units for each 1.0-unit increase in hopelessness. Therefore, after controlling for all other factors, an increase in hopelessness was related to an increase in depressive symptomatology.

Preoccupied attachment organization was significantly related to depressive symptomatology, after controlling for all other factors in the model. More precisely, keeping self-esteem, hopelessness, and the age by sex interaction constant, the predicted score for depressive symptomatology would be 8.85 units higher in preoccupied individuals than in those classified as not preoccupied (i.e., dismissing, secure, or cannot classify).

The final significant variable in the multiple regression model was the age by sex interaction. Keeping all other variables constant, there is no increase in depressive symptomatology for younger male adolescents. For younger, female adolescents there is an increase in predicted depressive symptomatology of 4.25 units, after controlling for all

other factors. Keeping all other variables in the model constant, being an older male was related to a 1.96 unit increase in depressive symptomatology. Finally, being an older female predicted a 15.1 unit increase in depressive symptomatology, after controlling for self-esteem, hopelessness, and attachment organization. The distribution of depressive symptomatology by the age by sex interaction is presented in Figure 7, where older female adolescents have a much higher median depressive symptomatology score than do their younger female, and male (regardless of age) counterparts.

Figure 7. Depressive Symptomatology by Age by Sex Interaction.

Perceived support from friends was found to be bordering on significance (p=.l 14) in the final model. This finding may be important for future research although it was not included in the final model in the current study.

The final, multivariate model including all main effects and the interaction term can be expressed as follows:

Predicted Depressive Symptomatology Score = 0.74 hopelessness -1.04 esteem +4.55 preoccupied attachment +4.25 sex + 1.96 age + 8.85 Age by Sex + 15.2

ASSUMPTIONS OF MULTIPLE LINEAR REGRESSION:

In order to examine the fit of the final model to the current data, a full graphical analysis was carried out (see Appendix B) including studentized residuals, normal distribution plots, p-norm plots, and q-norm plots. It can be inferred from these plots that the assumptions of multiple linear regression (i.e., linearity, homogeneity of variance, and normality) have been satisfied. That is, the model appears to fit the data very well, without any significant violations of the assumptions.

CHAPTER IV

DISCUSSION

This study examined the association between attachment organization, as assessed by the Adult Attachment Interview (AAI), and severity of depressive symptomatology in clinical adolescents. The results demonstrate that insecure attachment organization, more specifically, preoccupied attachment, is significantly related to severity of depressive symptomatology. Furthermore, it was found that affective variables including self-esteem and hopelessness and the interaction between the demographic variables of sex and age were significantly associated with severity of depressive symptomatology, after controlling for the attachment variables.

DEMOGRAPHIC VARIABLES:

Age, sex, and race were included as demographic variables in the current study. Prior to the development of the final multivariate model, each of the demographic variables was examined using simple linear regression to investigate their relationship to severity of depressive symptomatology and to examine their suitability for inclusion in the multivariate model. Age and sex were significantly related to severity of depressive symptomatology at the univariate level, however race was non-significant.

Following the univariate examination of the demographic, affective, and attachment variables, all possible two-way interactions were examined. Only the interaction between age and sex was significant. In the multiple regression model, a significant interaction between age and gender, in that the combination of being female

and being older was significantly associated with the depression outcome variable, after controlling for the other variables in the model.

In summary, age and sex are important factors associated with the severity of depressive symptomatology. Demographic differences have been reported in the literature regarding adolescent depression that are consistent with the findings of this study. It has been found that females are at least twice as likely to be depressed as males during adolescence and adulthood, whereas there are no sex differences during childhood (Angold & Worthman, 1993; McFarlane, Bellissimo & Norman 1995; Nolen-Hoeksema, 1995; Nolen-Hoeksema & Girgus, 1994). In a meta-analysis of studies regarding sex and depression, Jorm (1987) concluded that sex differences are age specific, in that rates of male depression remain constant across the life span, whereas female rates tend to increase dramatically between childhood and late adolescence. The results of the current study, therefore, are consistent with these findings, in that older females demonstrated greater severity of depressive symptomatology during adolescence than their male and younger female counterparts.

ATTACHMENT VARIABLES:

After controlling for demographic and affective factors, preoccupied insecure attachment was significantly related to severity of depressive symptomatology. This finding is consistent with previously reported studies of adolescent depression and attachment organization. For example, Cole-Detke (1998), Kobak, Sudler, and Gamble (1991), and Leibman (1998) found that preoccupied adolescents reported elevated levels of depressive symptomatology as compared to adolescents classified as secure or dismissing. Cole-Detke and Kobak (1996) and Rosenstein and Horowitz (1996) state that

individuals classified as preoccupied are more likely to experience depression as compared to those classified as secure or dismissing because of their inability to regulate negative affect or develop active forms of coping that promote autonomy and interpersonal competence. These findings can be justified by examining, at the representational level, the cognitive organization of past attachment experiences and memories in the preoccupied individual.

Inconsistent responding by the caregiver to the preoccupied child's attempts for comfort and support results in the hyperactivation of the attachment system. This hyperactivation leads to a breakdown in internal structures that would normally regulate affective responses to aversive experiences. As a result of attachment system activation and the inability to regulate affect, the preoccupied individual becomes enmeshed and overwhelmed by experiences, emotions, and memories related to past attachment experiences. Whereas the secure individual is able to successfully incorporate such attachment-related experiences into a single, unified, representational model of self, (as evident in discourse qualities) the preoccupied individual develops inconsistent, multiple models of self. As the preoccupied individual has been unable to define his/herself distinct from past attachment experiences, the goal of autonomy during adolescence is unattainable, in turn eventuating in frustration and self-blame. Furthermore, the self is viewed as unchangeable and the environment as unresponsive and uninfluenced by personal action (much like the attachment figure is viewed as unresponsive to attachment behaviors). Based on such experiences of inconsistent responding, the hyperactivation of the attachment system leads further to deficiencies in interpersonal competence that result in the expression of inappropriate or excessive help-seeking behaviors during stressful

situations. As a result, the belief that others may be unavailable or incapable of offering

support in stressful situations leads to higher levels of stress, an inability to trust others,

and a decrease in later help-seeking activities, all of which may mediate the relationship

between attachment organization and depression during adolescence (Larose & Bernier,

2001).

The lack of an integrated representational model of self is evident in the discourse

of the preoccupied individual. Such individuals present lengthy transcripts regarding

attachment-related experiences that lack clarity and logical order, wander from topic to

topic, or digress from the context of the question or probe presented by the interviewer.

Hesse (1996) summarized the central task of the AAI as the ability of the participant not

only to produce memories of past attachment experiences, but also to reflect upon such

experiences in a coherent and consistent manner. In other words, the ability of the

individual to focus on the task at hand (in this instance maintaining coherent discourse)

while at the same time discussing attachment-relevant information demonstrates the

presence of an internally consistent model of self characteristic of the secure individual.

By contrast, the preoccupied individual is overwhelmed during discussions of

attachment-related experiences leading to a transcript characterized by a lack of reflective

capacity and coherence. Such incoherent discourse represents the preoccupied

individual's attempts at controlling or regulating attachment-related experiences or

memories that cannot be integrated into a consistent model of self. The frustration

associated with unsuccessful efforts to organize these attachment-related experiences into

a coherent representational model of self leads to low self-esteem, repeated negative

affect, and feelings of hopelessness that may ultimately contribute to the development of depressive symptomatology during adolescence.

Dismissing attachment was not significantly related to severity of depressive symptomatology after controlling for age, sex, age by sex interaction, hopelessness, and self-esteem. This finding is consistent with the cognitive organization of dismissing individuals, in that they develop strategies for interacting with the attachment figure that serve to deactivate the attachment system, and in turn reduce their response to negative affect. Not surprisingly, then, the majority of studies regarding dismissing attachment strategies have demonstrated a link between such strategies and externalizing problems like substance abuse and behavioral conduct problems, as opposed to internalizing problems like depression (Cole-Detke & Kobak, 1996; Rosenstein & Horrowitz, 1996). As dismissing individuals avoid emotional responses to attachment-related experiences, they tend to develop symptoms (e.g., eating disorders, substance abuse, etc) that direct attention away from the experience of internal distress and focus on externalizing behaviors (Kobak & Cole, 1994). Whereas preoccupied individuals sacrifice autonomy for relationship enmeshment, dismissing individuals develop autonomy at the expense of attachment relationships. Furthermore, the dismissing individual views the self as the primary source of change and control in his/her self and environment, in turn leading to confidence and an increase in self-efficacy. Therefore, dismissing attachment organization may serve as a protective factor against depression based on increased self-esteem and self-efficacy that result from the perception of self as the primary source of action and change.

Individuals classified as unresolved with regards to loss or trauma (including death of caregiver, physical and/or sexual abuse, and unwanted/forced separation) exhibit cognitive disturbances when discussing specific instances of attachment relevant losses or trauma and have failed to assimilate such experiences and move beyond them. Although it was hypothesized in the current study that those individuals classified as unresolved would experience increased levels of depressive symptomatology, the results did not support this hypothesis. A study by West and George (2001) found that unresolved attachment was not significantly related to the occurrence of depression in an adult female sample. In explaining the finding that unresolved attachment was not significantly related to severity of depressive symptomatology, a number of factors must be considered. Firstly, as the U/D classification is based on the coherency of discourse surrounding specific events only, it is still possible for the individual to develop a coherent model of self that is lacking in preoccupied individuals. Further, it has been hypothesized that fear underlies those processes that lead to lapses in monitoring of discourse during discussion of traumatic events characteristic of the unresolved individual (Main & Hesse, 1990). If this is the case then it may be that the unresolved/disorganized attachment classification is more likely to be associated with anxiety disorders as opposed to depressive disorders. Support that it is the underlying attachment organization of the individual that is related to depressive symptomatology and not the lack of resolution for loss and/or trauma has been provided in the current study.

AFFECTIVE VARIABLES:

The affective variables included in this study were self-esteem, hopelessness, perceived support from friends, and perceived support from family members. The friend and family variables are presented as affective factors as they represent the perception of support rather than available support. Of the four affective variables, hopelessness and self-esteem were significantly related to severity of depressive symptomatology, after controlling for the attachment and demographic variables. Perceived friend and family support, within the multiple linear regression model, were not significantly associated with severity of depressive symptomatology, after controlling for sex, age, attachment classification, age by sex interaction, self-esteem, and hopelessness.

Self-esteem was significantly related to severity of depressive symptomatology at the univariate and multivariate level. This finding is consistent with the current literature, in that individuals reporting lower self-esteem are more likely to be over-represented in depression case groups and to report significantly higher depressive symptomatology than are those with higher levels of self-esteem (Allgood-Merton, Lewinsohn & Hops, 1990; Brage, 1995; Brage & Meredith, 1994).

Hopelessness was also significantly associated with severity of adolescent depressive symptomatology at the univariate and multivariate levels. In more specific terms, increased levels of hopelessness were associated with increased severity of depressive symptomatology, after controlling for all other variables in the model. Once again, these findings are consistent with the current literature, in that increased pessimism about the future (hopelessness) has been associated with increased severity of depressive symptomatology during adolescence (Garber, Quiggle, & Shanley, 1990; Hammond &

Romney, 1995; Lewinsohn et al., 1997).

The perception of family support at the univariate level was a significant predictor of severity of adolescent depressive symptomatology. That is, examined independently, the extent to which an individual believes that his or her needs for support, information, and feedback are fulfilled by family members is significantly related to severity of depressive symptomatology, a finding that is consistent with other studies (Harter & Whitesell, 1996; Kistner, Balthazor, Risi, and Burton, 1999). Within the multiple linear regression model, however, family support was not significantly related to severity of depressive symptomatology, after controlling for the other variables in the model. This non-significant outcome may be a result of the change in the parent-child relationship that occurs during adolescence. Adolescence is a transitional period in which reliance on the parental attachment figure decreases, while the importance of affiliative or peer relationships increases. It has been reported that by late adolescence peers are preferred over parents as sources of emotional support (Steinberg & Silverberg, 1986). Furthermore, Hazan and Zeifman (1994) found that adolescents between the ages of 15 and 17 develop what can be considered "true attachment" to their peers, apart from their previous parental attachment figures. It may, therefore, be speculated that the perception of low peer support would more likely be associated with depressive symptomatology development than the perception of family support.

The finding that friend support was not significantly related to depressive symptomatology in the current study does not negate the importance of peer relationships in the development of depressive symptomatology during adolescence. As friend support approached significance in the development of the final model, some evidence was

provided that perceived support from friends may be related to depressive symptomatology during adolescence. Further research using a larger sample size and more sensitive measures of depression is, therefore, necessary to examine this potential relationship in more detail and to distinguish the impact of peer support versus family support in the development of adolescent depression.

STUDY LIMITATIONS:

This study is cross-sectional and retrospective; therefore, causal statements regarding insecure attachment organization and severity of depressive symptomatology can not be made. The sample is derived from a clinical population and, therefore, cannot be considered representative of adolescents in the general population. However, the results can be generalized to clinical adolescents. Finally, depressive symptomatology was utilized as the outcome variable as opposed to a clinical diagnosis derived from interview-based depression measures.

STRENGTHS AND FUTURE DIRECTIONS:

Within the aforementioned limitations, the results of this study suggest the use of the attachment construct in future research in depression. More precisely, the findings support the use of parent-adolescent attachment as a clinically relevant way to describe the "dysfunctional" family environment common among depressed adolescents. Furthermore, the findings have potential relevance in clinical practice. The use of the attachment construct as a component of the assessment battery in clinical settings could prove to be an important predictor of treatment success in depressed adolescents. Moreover, attachment status in adolescence may be utilized within the clinical setting to assess and describe treatment outcomes, as the basis for the formation of the therapeutic

relationship, and as a guide to understanding and interpreting current dysfunction in light of the individual's overall life experiences.

CONCLUSIONS:

The results of this study suggest an association between depressive symptomatology and insecure attachment organization. The findings are consistent with previous studies of attachment organization and depression, in that preoccupied attachment was significantly associated with depressive symptomatology whereas dismissing and secure attachment were not (Cole-Detke, 1998; Kobak, Sudler, & Gamble, 1991). Furthermore, West and George (2001) found that preoccupied attachment was related to depression diagnosis in females, whereas unresolved attachment was not. Of greatest significance is the finding that preoccupied attachment, regardless of sex or age, is significantly related to increased depressive symptomatology during adolescence. The finding that esteem and hopelessness were significantly associated with depressive symptomatology is not surprising as these variables have been linked to the development of depression in a plethora of studies in the current literature. Finally, the finding that being older in interaction with being female is significantly associated with severity of depressive symptomatology also concurs with the current literature. The current study found that the interaction between age and sex, having low self-esteem, high hopelessness, and preoccupied attachment status were all significantly related to increased levels of depressive symptomatology during adolescence.

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APPENDIX A:

The appropriateness of examining Age as a continuous variable has been questioned in past studies utilizing the current data set. Age was initially examined as a categorical variable utilizing the quartiles of the continuous variable: it was, therefore, divided into (1) age $\leq$14; (2) age=15; (3) age=16; (4) age$\geq$=17. Simple linear regression was then carried out utilizing the four-category age variable to examine the linearity of the data. Table 7 presents the findings; as there was no evidence of an increasing or decreasing trend in the estimated coefficients, it can be inferred that the age data are not linear. As the coefficients are similar in value for the last three age variables, and all appear to be different from the first group, it suggests that age should be represented in two distinct groups- a younger category and an older category.

As a result of previous research and the evidence presented in the simple linear regression model, the binary variable of younger (<14) and older (>=15) was created for age and used in analysis.

Table 7
Simple Linear Regression Model of Age as a Four-Category Variable.

Variable	Coefficient	SE
Intercept	30	12.5
Age2	-9.74	12.6
Age3	-7.88	12.74
Age4	-10.57	12.72

APPENDIX B:

The following plots were utilized to examine the assumptions of multiple linear regression. All assumptions were satisfied as evidenced by the lack of deviation from normality, homogenous variance, and linearity in Figures 8-13. A number of points (high leverage and high or low residual values) were of greatest concern as to their potential influence on the estimation of the regression coefficients. Examination revealed that these points did not significantly influence the predictive ability of the current model.

Inverse Normal

Normal F((resids-mys]   Empirical P[i] = i^N*1]

100

0.00

o oo   0 25   0.75   1.00

Empirical Ppi = i+N+1)

Figure 8. Q-norm Residual Plot   **Figure 9. P-norm residual plot**

Figure 10. Normal Distribution   **Figure 11. Residual vs Predicted**

Figure 12. Standardized Residual Plot   **Figure 13. Studentized Residual Plot**

Standardise! residuals

DEPRESSED RAW SCORE

(i)   Leverage versus Standardized Residuals   (ii) Leverage versus Depressed score

(iii) Leverage by ID   (iv) Cooks D

Figure 14 (i-iv). Plots of Leverage, Cooks Distance and Residuals.

APPENDIX C:

BRIEF SUMMARY OF THE ADULT ATTACHMENT INTERVIEW PROTOCOL:

1. To begin with, could you just help me get a little bit oriented to your family- for example, who was in your immediate family, and where you lived?

2. Now I'd like you to try and describe your relationship with your parents as a young child, starting as far back as you can remember.

3. Could you give me five adjectives or phrases to describe your relationship with your mother during childhood? I'll write them down, and when we have all five I'll ask you to tell me what memories or experiences led you to choose each one.

4. Same as 3, but for father.

5. To which parent did you feel closer, and why?

6. When you were upset as a child, what did you do, and what would happen? Could you give me some specific incidents when you were upset emotionally? Physically hurt? 1ll?

7. Could you describe your first separation from your parents?

8. Did you ever feel rejected as a child? What did you do, and do you think your parents realized they were rejecting you?

9. Were your parents ever threatening toward you—for discipline, or jokingly?

10. How do you think your overall early experiences have affected your adult personality? Are there any aspects you consider a setback in your development.

11. Why do you think your parents behaved as they did during your childhood?

12. Were there other adults who were close to you—like parents—as a child?

13. Did you experience the loss of a parent or other close loved one as a child, or in adulthood?

14. Were there many changes in your relationship with parents between childhood and adulthood?

15. What is your relationship with your parents like for you currently?

PERCEIVED SOCIAL SUPPORT FROM FAMILY SCALE

1. My family gives me the moral support I need.

2. I get good ideas about how to do things or make things from my family.

3. Most other people are closer to their family than I am.

4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.

5. My family enjoys hearing about what I think.

6. Members of my family share many of my interests.

7. Certain members of my family come to me when they have problems or need advice.

8. I rely on my family for emotional support.

9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.

10. My family and I are very open about what we think about things.

11. My family is sensitive to my personal needs.

12. Members of my family come to me for emotional support.

13. Members of my family are good at helping me solve problems.

14. I have a deep sharing relationship with a number of members of my family.

15. Members of my family get good ideas about how to do things or make things from me.

16. When I confide in members of my family, it makes me uncomfortable.

17. Members of my family seek me out for companionship.

18. I think that my family feels that I'm good at helping them solve problems.

19. I don't have a relationship with a member of my family that is as close as other people's relationships with family members.

20. I wish my family were much different.

PERCEIVED SOCIAL SUPPORT FROM FRIENDS SCALE:

1. My friends give me the moral support I need.

2. Most other people are closer to their friends than I am.

3. My friends enjoy hearing about what I think.

4. Certain friends come to me when they have problems or need advice.

5. I rely on my friends for emotional support.

6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.

7. I feel that I'm on the fringe in my circle of friends.

8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.

9. My friends and I are very open about what we think about things.

10. My friends are sensitive to my personal needs.

11. My friends come to me for emotional support.

12. My friends are good at helping me solve problems.

13. I have a deep sharing relationship with a number of friends.

14. My friends get good ideas about how to do things or make things from me.

15. When I confide in friends, it makes me feel uncomfortable.

16. My friends seek me out for companionship.

17. I think that my friends feel that I'm good at helping them solve problems.

18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.

19. I've recently gotten a good idea about how to do something from a friend.

20. I wish my friends were much different.

ROSENBERG SELF ESTEEM SCALE:

1. I feel that I'm a person of worth at least on equal basis with

2. I feel that I have a number of good qualities.

3. All in all, I am inclined to feel that I am a failure.

4. I am able to do things as well as most other people.

5. I feel I do not have much to be proud of.

6. I take a positive attitude towards myself.

7. On the whole, I am satisfied with myself.

8. I wish I could have more respect for myself.

9. I certainly feel useless at times.

10. At times I think I am no good at all.

BECK HOPELESSNESS SCALE:

1. I look forward to the future with hope and enthusiasm.

2. I might as well give up because there is nothing I can do about making things better for myself.

3. When things are going badly, I am helped by knowing that they cannot stay that way forever.

4. I can't imagine what my life would be like in ten years.

5. I have enough time to accomplish the things I want to do.

6. In the future, I expect to succeed in what concerns me most.

7. My future seems dark to me.

8. I happen to be particularly lucky, and I expect to get more of the good things in life than the average person.

9. I just can't get the breaks, and there's no reason I will in the future.

10. My past experiences have prepared me well for the future.

11. All I can see ahead of me is unpleasantness rather than pleasantness.

12. I don't expect to get what I really want.

13. When I look ahead to the future, I expect that I will be happier than I am now.

14. Things just don't work out the way I want them to.

15. I have great faith in the future.

16. I never get what I want, so it's foolish to want anything.

17. It's very unlikely that I will get any real satisfaction in the future.

18. The future seems vague and uncertain to me.

19. 1 can look forward to more good times than bad times.

20. There's no use in really trying to get anything I want because I probably won't get it.