THE UNIVERSITY OF MANITOBA

THE DEVELOPMENT OF AN ADULT ATTACHMENT SCALE

by

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A Thesis submitted to the Faculty of Graduate Studies

in Partial Fulfillment for the Requirements for the Degree of

Master of Arts

Department of Psychology

Winnipeg, Manitoba,

January 1981

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Abstract

Research exploring adult attachment or bonding has been curtailed by the absence of a measure of this variable. The development of an Adult Attachment Scale (AAS) a 54-item measure of the intensity of attachment currently experienced, employed 155 married and divorced men and women. The data confirmed that the married scored significantly higher than the divorced, their mean scores providing a standardized measure of attachment and detachment. Further analysis revealed that the AAS can predict marital status and the duration of a relationship, and that the intensity of attachment increases as the duration of the relationship decreases. Evidence for test-retest reliability as well as for convergent, discriminant and construct validity was presented, along with recommendations for the future employment of this instrument.

Acknowledgements

I would like to express my gratitude to Dr. Marvin Brodsky, my advisor. It was he who led me to the development of this scale. His confidence, encouragement and assistance was always forthcoming. I would also like to thank Sharon Koffman, a fellow student. Without her statistical help this scale could not have been validated. A special thanks to Pat Brodsky, a dear friend, whose theoretical and practical knowledge of attachment contributed to my understanding of this phenomenon. Lastly I would like to thank Parents Without Partners for providing me with a cooperative pool of subjects.

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CHAPTER I

INTRODUCTION

Attachment is an affectional bond that binds one person to particular others, enduring over time and space. The prevalence of strong and persistent bonds are the norm in many species, the commonest being between parent and offspring and between adults of the opposite sex (Bolby, 1979). Each member of a bonded pair tends to remain in proximity to the other. Ainsworth (1973) infers the existence of a bond from a stable propensity over time to seek proximity and contact with a specific person even though this behavior may be absent for long periods of time, as in the case of major separations. Thus, while proximity seeking may appear only intermittently, attachment as a bond is more or less constant.

Attachment serves a biological function because it keeps mother and child and mates in proximity in order to protect the child from predators, thereby promoting survival. It is distinct from feeding and sexual behavior but is of equal significance because of its functional importance. (Bolby, 1969).

Usually the infant forms his first attachment to his mother which develops over time. Ainsworth, Blehar, Waters and Wall (1978) have demonstrated that infants become attached even to unresponsive or abusive mothers. However, institution reared infants may not become attached to anyone. This condition has been termed "maternal deprivation" and its adverse effects on physical and emotional development,

intelligence, abstract thinking, social maturity and the ability to relate to significant others have been well documented (Goldfarb, 1955; Tizard and Tizard, 1971). Similarly, clinical retrospective studies indicate that psychiatric disturbance is also associated with an absence of opportunity to form attachments in childhood, or else, with repeated disruption of bonds once formed (Bowlby, 1951; Ainsworth, 1962).

Some psychiatric syndromes preceded by disrupted bonding during childhood are depression and suicidal tendency. Suicidal patients lost parents during the first five years of life three times more frequently than non-suicidal persons (Bruhn, 1962; Greer, Gunn and Koller, 1966). The loss of suicidal patients usually included both parents through death or divorce whereas depression was primarily preceded by the death of one parent rather than by divorce or separation. Dennehy (1966), Hill and Price (1967), and Brown and Harris (1978) all reported that parental death occurs about twice as frequently among depressives as in the population at large.

Some theorists believe that disruption of bonds during childhood are causal in impairing the capacity for affectional bonding during adulthood. They point to human infant behavior as evidence wherein two disturbances are linked with disrupted bonding. These are (1) emotional detachment, and (2) anxious attachment.

Emotional detachment was observed by Heiniche and Westheimer (1966). They studied two-year olds during and following a stay in a residential nursery comparing them with children who remained at home.

One disturbance prevalent during institutionalization only in the separated children was emotional detachment. This behavior is described as not recognizing mother when she visited, ignoring or looking right through her, and refusing her hand. This state can last for days. In fact, the length of time detachment persists is significantly correlated with the length of separation. Hostile and angry behavior was also exhibited four times as frequently by these separated children.

Yarrow (1967) in a similar study investigated 100 separated infants in foster homes awaiting adoption. By 8 months of age all infants transferred from foster to adoptive homes exhibited strong overt disturbances. Although this does not demonstrate that detached behavior is causally related to personality disorder, impairment of the capacity to form bonds and aggressively demanding behavior resembles the behavior of some psychopaths (Bowlby, 1979).

The second childhood disturbance linked with disruptive bonding observed following institutionalization consists of clinging behavior when the attachment relationship is resumed. The child tends to cry and pursue his mother wherever she goes, demanding her constant attention. If she refuses, hostile and negative behaviors ensue. This disturbance is referred to as anxious or insecure attachment (Moore, 1969).

Bowlby (1973) and Stayton and Ainsworth (1973) explained that the causal factors of anxious attachment are experiences that shake a child's confidence that an attachment figure will be accessible and

responsive when desired. Separation or rejection arouses hostility towards their mother, while the hostile thoughts and acts further increase the fear of rejection or loss of the attachment figure (Bowlby, 1973).

Three phases of response to separation noted in children aged one to three years were described by Robertson and Bowlby (1952) and were later confirmed by Ainsworth et al. (1978). These are early prototypes of human mourning with the sequences being "protest, despair and detachment." During "protest," attachment behavior is intensely activated, crying and searching ensue. The child looks up at every sight and sound expecting his mother's return. If separation continues, "despair," follows and he becomes inactive, withdrawn, and appears to be in a state of deep mourning. Finally, if separation persists long enough, "detachment" eventuates. In both child and adult, the mourning process includes phases of "protest, despair, and detachment" wherein anger and hatred are present (Robertson, J. and Robertson, J., 1970). Bowlby (1973) elucidated that "protest" relates to separation anxiety, "despair" to grief and mourning, while "detachment" is a defensive mechanism.

To further reveal the effects of bond disruption, the children of divorced and deceased parents have been retrospectively investigated. Rosenberg (1965) administered a self-esteem questionnaire to 5,024 adolescents aged 16 to 18 years. Adolescents whose mothers married young and were divorced by 24 years of age had lower self-esteeem as did the adolescent offspring of young widows. Low self-esteem correl-

ated significantly with anxiety, depression, and sensitivity to criticism.

Another study employed the CPI sociability scale with 488 university students. Megargee, Parker and Levine (1971) discovered that scores correlated positively when students (a) lived with both parents, (b) parent's marriage was rated excellent, and (c) had a happy childhood. Scores correlated negatively with parental divorce. Seemingly, Peck and Havighurst's (1960) findings are in agreement with the above data. They claim that a stable family base for the child and adolescent promotes stability, self-reliance, high leadership qualities, and high autonomy in adulthood.

Unfortunately, many experience common deviations in the development of their attachment relationships such as (1) parental unresponsiveness or rejection, (2) discontinuity of parenting, (3) parental threats of withdrawing love, (4) abandonment or threats of committing suicide or inducing guilt in the child by claiming his deeds will kill the parent, or (5) reversal of roles where the child enacts the parental role. According to attachment theory any of these experiences can lead to constant anxiety or fear. Depending on the problems encountered, people experiencing deviant patterns during childhood may later relate to others in a manner indicative of their deviant pattern. They may develop personality disorders or encounter difficulties when they marry and have children. Life events such as serious illness , death or separation from an attachment figure are particularly stressful for them and they may break down under this stress (Bowlby, 1979).

A key point of attachment theory is that there's a strong association between one's relationship with one's parents and one's later capacity to form affectional bonds. The main variable is the extent to which parents provide a secure base and encouragement to explore from it. Children who are provided with these conditions are said to be "security attached." They grow up secure, self-reliant, trusting and cooperative. Such people are said to possess a strong ego or show "basic trust" (Erickson, 1950). However, in many western populations approximately one third of the children do not receive these conditions (Bowlby , 1979).

Attachment theory postulates that the representational models of attachment figures and of the self constructed during childhood and adolescence, tend to persist into adulthood. Consequently, a person's behavior may sometimes be more explicable in terms of his early experiences because one tends to assimilate a new person with whom one bonds (i.e., spouse or therapist) to an existing model even though it is inappropriate. For example, a man who was threatened with abandonment during childhood may fear his wife will leave him, even though he believes she is loyal. Bowlby (1979) claimed that the stronger the emotions aroused in the relationship, the more likely the earlier, less conscious models become dominant. Therefore, patterns of interaction which become established between a child and his mother or other caregivers in his environment have a potent influence on the quality of his social relationships in adulthood.

Attachment as a Construct

The attachment construct plays an important role in developmental theory. Previously, infant-adult ties were conceptualized as a trait construct which evolved from the study of dependency. A variety of discrete behaviors (i.e., cry, cling, approach) were thought to be "indices" of this dimension. Yet many theorists observed that there was little stability in early attachment behaviors across situations or across time. Therefore, Coates, Anderson and Hartup (1972b), Masters and Wellman (1974) and Ainsworth et al. (1978) concluded that the concept of attachment should be viewed as an organizational construct, where specific behavior towards an attachment figure is determined by the underlying organization and by the situational context. Hence, they infer the existence of attachment from a stable propensity over time to seek proximity and contact with a specific figure. Even though attachment behaviors change over time, the set goal of the underlying behavior is the same--maintaining proximity or contact (Sroufe and Waters, 1977).

The examination of the organization of attachment behaviors provided the framework for assessing the quality of individual attachment relationships. Ainsworth, Blehar, Waters and Wall (1978) employed a scheme for assessing and then classifying the attachment behavior of one-year-olds. Infants were observed in a standard lab situation which approximates events in the environment. It consisted of the following episodes: (1) mother and infant enter an unfamiliar room, (2) infant at play with mother present, (3) stranger enters room, (4) mother leaves while infant remains with stranger, (5) mother returns and

stranger leaves, (6) mother leaves, infant left alone, (7) stranger returns, (8) mother returns. Experience in each episode was expected to affect behavior in the succeeding episode.

When examining the 106 one-year-olds, Ainsworth et al. (1978) found the presence of separation distress the most conspicuous element. So they classified the infants into three groups as to quality of attachment. Group B (70 infants) showed minimal disturbance at separation and no anger at reunion and were labelled securely attached. Although Group A and C were both anxious or insecure in their attachment to the mother, they differed in the expression of their anxieties. Group A (23) babies did not exhibit distress during separation but avoided proximity with mother during reunion. These were referred to as "avoidant" babies. Group C (13 babies) on the other hand, were passive and their exploratory behavior was limited. Their proximity-seeking behavior was very strong in pre-separation episodes as well as during reunion. However, they exhibited more anger prior and following separation, so they were referred to as "resistant" infants.

Anger is engendered by separation or threat of separation and is more likely to be manifested during reunion (Bowlby, 1973). Short separations do not consistently arouse angry feelings as do lengthy separations or intermittent inaccessibility of the attachment figure. Anger may also ensue if intense attachment behavior is not terminated appropriately. To terminate intensified attachment behavior, distressed infants need to be picked up and held closely for several minutes in order to be soothed. For those older than 12 months, the

mothers return should be sufficient (Bell and Ainsworth, 1972; Ainsworth et al., 1978). Hence, reunion behaviors were crucial in identifying different patterns of attachment in the lab.

Indications of insecure attachment rarely occurred in isolation. Each child was first observed in the home prior to the strange situation in the lab. Evidence showed that the patterns of behavior in the lab reflected the quality of an infant's relationship with his mother. Stayton and Ainsworth (1973) found that securely-attached infants at home were later identified as Group B infants in the lab. Mother-avoidant behavior in the strange-situation characteristic of Group A, was significantly related to anxious attachment at home, as well as to nonavoidant anxiously attached behavior of infants in Group C. Group A and Group C both displayed negative affect when interacting with their mothers while Group B did not (Bell, 1978).

The strange-situation was repeated in four studies by Maccoby and Feldman (1972), Ainsworth (1973), Connell (1976), and Waters (1978). The primary measures of interactive behavior were contact maintaining, proximity/contact seeking, avoidance and resistance as directed towards the mother in runion episodes. These behaviors were stable from 12 months to over 18 months of age.

The patterns of behavior identified first in the home and later in the lab remained strikingly stable from 12 to 18 months of age. However, Waters (1978) admitted that secure attachments may fail in families under stress. Still, improvements in the family situation can lead back to normative patterns of secure attachment. Thus, continuity is more frequent than discontinuity.

Different patterns of infant strange-situation behaviors were also associated with different patterns of maternal behavior in the home. Group B mothers were more sensitive, accepting, cooperative and accessible to their babies. The mothers of Group A and C were insensitive to infant signals and communications, with Group A more rejecting, interfering or angry while Group C mothers were more neglecting and ignoring. A mothers were especially rejecting to close bodily contact with the baby and their feelings were frequently mixed with anger or irritation. Group C mothers delayed in response to crying and did their chores while holding the child (Ainsworth, et al., 1978).

Bell and Ainsworth (1972) clearly demonstrated that unresponsiveness to crying in the first nine months of life is positively associated with increased crying from 9 to 12 months. So that those that cried the most between 9 and 12 months of age had been responded to less frequently and less contingently. On the other hand, group B babies cried the least at this age. These findings negate the belief that anxious attachment develops from excessive gratification and contradicts behaviorist theory.

Establishing a secure, adaptive attachment relationship is a major developmental task for the first year of life. This relationship bears consequences for subsequent tasks, such as exploration and mastery of the environment. Sroufe and Waters (1977) argued that exploration is an important function in human adaptation because of the need for flexibility and problem-solving skills. Extensive exploration is characteristic of the securely-attached child who is more likely to

risk the initial insecurity in a learning situation because he can rely on the protection of his parents. If the adventure evokes undue anxiety, he can easily return to home base. Given an insecure attachment, he would not leave for fear of them not being available or responsive when he returned. This was theorized by Blatz (1966) and confirmed by Ainsworth (1963, 1967), who reported that the anxiously attached child foregoes exploration and subsequent learning. Therefore, the ability to use the caregiver as a secure base for exploration should serve to advance learning and cognitive development.

The quality of the attachment relationship was found to be significantly related to cognitive development in the second and third year of life. Cognitive development, namely object and person permanence (Piaget, 1936) was probed by Bell (1970) who tested infants during four observational periods between 8-1/2 and 13-1/2 months. Infants more advanced in person permanence had been classified by Ainsworth et al. (1971) as securely attached (Group B). This is understandable because Group B mothers were more accessible. Infants who were more advanced in object permanence had been classified as ansxiously attached. By 13-1/2 months, those who were more advanced in person permanence were also more advanced in object permanence. This notion was supported by Paradise and Curcio (1974). In a follow-up study Bell (1978) confirmed that the same phenomenon held true cross-culturally. Group B infants in both a white middle class and a black disadvantaged group were significantly advanced compared to non-B infants in object and person permanence. However, the black disadvantaged sample contained a higher rate of anxiously attached infants because the mothers

and fathers were absent for long daily periods.

An infant's learning capacity is also affected by the quality of attachment. Connell (1974) measured response decrement to a redundant stimulus. The securely attached infants showed marked habituation to a repeated stimulus, indicative of higher learning capacity. Group A showed a lower rate of habituation whereas Group C were overly distressed and presentations of the stimulus had to be discontinued. These findings are concurrent with Main's (1973) theory that Group C are too anxious to explore and thus forego learning. This did not occur with the securely attached children. Indeed, in a later study Connell (1976) noted that securely-attached toddlers were also more advanced in language acquisition than anxiously-attached toddlers.

Secure attachment is an important indication of successful adaptation in later childhood. The ability to use adult assistance without being overly dependent on it promotes autonomy and competence (White, 1959; Loevinger, 1976). Therefore, it was expected that the securely attached child would exhibit more autonomous, competent behavior in a problem-solving situation at two years of age than the insecurely-attached child (Matas, Arend and Sroufe, 1978). As predicted, Group B showed less frustration, noncompliance and negativism as well as less non-task behavior. The "avoidant" children (Group A) were especially noncompliant and tended to seek help from the experimenter rather than their mothers, towards whom they behaved aggressively. The "resistant" children (Group C) exhibited extreme reliance on their mothers and were generally incompetent. They whined and stomped and gave up quickly. Thus the patterns of attachment were revealed in a

transformed way at age two.

Continuity was also observed in the maternal behavior. The mothers of non-B groups were significantly less supportive and offered a lower quality of assistance to their children. These findings were consistent with Main (1973), Connell (1976), and Bell (1978 who found Group B mothers had greater input in interactong with their children during the second and third year of life. Given the continuity in mother-child interaction, it is not surprising that Matas, Arend and Sroufe (1978) observed that securely attached toddlers were more enthusiastic, persistent, cooperative and in general more effective than insecurely attached children.

It could be argued that the securely attached children displayed more competence due to the presence and/or behavior of their mothers. This argument would be invalid if attachment is shown to be a stable integrative developmental construct. Then secure attachment would elicit later competence in the peer group even in the absence of mother. The stability of the attachment construct was tested by Waters, Wippman and Sroufe (1979) at 18 months and again at 3-1/2 years of age. Study I assessed babies at 18 months and 24 months to determine if secure attachment relates to positive affect towards an attachment figure. Smiling combined with sharing of toys was characteristic of the securely attached but not the anxiously attached groups. Study 2 predicted that the quality of the attachment relationship would be significantly associated with personal and interpersonal competence and effectance in the peer group at 3-1/2 years of age. It was postulated that the positive affect towards the attachment figure would generalize to others.

As predicted, the securely attached scored higher in personal and interpersonal competence and peer leadership ability while anxiously attached children were rated as more socially withdrawn, unsympathetic to peer distress and they were avoided by other children. Obviously they scored significantly lower in personal and interpersonal competence.

The following conclusions can be drawn from studying the infant-mother attachment relationship.

The quality of the attachment relationship as categorized by Ainsworth et al. (1978) is significantly related to later cognitive, emotional and social development up until at least the fourth year of life. Cross-age, cross-situational and cross-behavioral predictions cannot be traced to nor explained by situational variables. These predictions demonstrated that attachment is a stable developmental construct and that secure attachment correlates significantly with the ability to make use of individual and environmental resources in order to achieve a good developmental outcome in cognitive, emotional and social spheres.

Conversely, insecurely attached children exhibited strikingly poorer adaptation. They showed a marked decrement in cognitive functioning and by four years of age they were less interested in learning new cognitive skills, new stimuli, were less self-directed and were generally described as "spaced out" compared to the securely attached (Waters, Wippman and Sroufe, 1979).

Upon reaching four to five years of age, the anxiously attached children were described as unduly perseverative. They became disorganized during a stressful or novel situation and were unable to meet the demands of a changing environment (Arend, Grove and Sroufe, 1979). As

yet, there are no follow-up studies of children past the age of five years. Hence, the quality of attachment has not been correlated with emotional, social and cognitive development subsequent to this age.

How Attachment Develops and its Stages

According to attachment theory, the patterns of interaction which become established between a child and his primary care-giver unfold during several stages which have been identified. A phase of undifferentiated responsiveness precedes one of discriminating social responsiveness and then the stage wherein attachment becomes more active follows (Schaffer and Emerson, 1964a; Yarrow, 1963, 1964, 1967; Ainsworth, 1972).

The initial preattachment phase finds the new born infant most responsive to stimuli emanating from humans although he doesn't discriminate one person from another. He is equipped with a repertoire of signaling behaviors which induce others to approach him. The behaviors such as crying, vocalizing, grasping and later smiling promote proximity and contact and are classified as early attachment behaviors (Ainsworth, 1972).

Around 12 weeks of age, a second stage has been identified where the infant can discriminate one figure from another. He directs various proximity-promoting behaviors towards different figures and his repertoire of attachment behaviors increases. This phase coincides with Piaget's (1936) second stage of sensorimotor development (Ainsworth, 1972), where the infant believes his desires bring about the bottle or mother. He is not aware that his crying is a signal that brings mother,

i.e., this is called parataxic or magical reasoning.

During the third stage, the baby actively seeks proximity by locomotion rather than signaling. Exploration and object manipulation occur during the second half of the first year during this phase. This coincides with Piaget's fourth stage of sensorimotor development wherein the concept of the object and person permanence develops (Bell, 1970). Hence, the growth of attachment depends on perceptual and cognitive development, specifically the ability to discriminate figures and the concept of the object from the self (Schaffer and Emerson, 1964; Bowlby, 1969; Ainsworth, 1972). The first specific attachment occurs at approximately seven months and by 18 months all but 13% of the infants studied showed attachments to more than one person (Schaffer and Emerson, 1964).

In the final stage of attachment commencing between three and four years of age, a "goal-corrected partnership" should develop (Bowlby, 1969; Ainsworth, 1973). At this time the capacity to take the perspective of another develops. The child is able to devise complex plans that include influencing mother to fit in with his plans. S/he manifests less distress in separation and proximity-seeking decreases. Yet the change of the relationship does not imply a weaker attachment (Marvin, 1972; Maccoby and Feldman, 1972). Proximity becomes less a matter of physical distance and more a matter of symbolic availability. Attachments to other figures approximate the same model and continue throughout adulthood (Bowlby, 1973; Weinrub, Brooks and Lewis, 1977).

The above summarized stages of attachment depict a course of

normal development with no major bond disruptions. However, as related previously, many experience deviant patterns in the development of attachment, such as discontinuity of parenting or even parental rejection. This pattern can readily lead to emotional detachment.

Emotional detachment was observed by Ainsworth et al. (1978) in Group A of the anxiously attached children as related previously. The children exhibited an approach-avoidance conflict with their mothers who were observed to be rejecting and found body contact aversive. These mothers were described by Ainsworth et al. as rigid and less sensitive to their infants' needs. Their infant's demands on them activated anger and rejection even though they attempted to suppress it. The infants in question were referred to as "avoidant" infants.

Main (1977a) explained that "avoidant" infants whose attachment behavior is chronically frustrated, will in turn exhibit anger and hostility towards their mothers. A striking feature of avoidant behavior in the experimental post separation situation is that when the mother coaxes the child to come to her, he ignores the mother and looks away. Gaze aversion in infancy supposedly modulates level of arousal when a baby is in face-to-face encounters with mother (Stern, 1974). Avoidance protects the child from re-experiencing rebuff that s/he comes to expect when s/he seeks comfort and reassurance from her, which together with the gaze aversion lowers his/her level of anxiety (arousal).

When "avoidant" children reach the final stage of the development of attachment, they are more capable of achieving proximity or contact with their mothers. However, there are limits to the success of the

"avoidant" child's efforts in interacting with her, unless she becomes more sensitive to the child's needs. If she cannot understand things from a child's viewpoint, disregards his communications refusing to negotiate a plan acceptable to both, he cannot enter into a "goal-corrected partnership" with her. Consequently, interactions with his mother, his first social learning experience, will not cultivate his understanding of her or of others in terms of their roles, needs, feelings, etc. (Ainsworth, et al., 1978). Thus, it is not surprising that "avoidant" children were found to show a deficit in social cognitive functioning (Waters, Wippman and Sroufe, 1979; Matas, Arend and Sroufe, 1978; Sroufe and Waters, 1977).

The ability to understand others is necessary though not sufficient for progreasion to higher moral development (Selman, 1971; Tomlinson-Keasey and Keasey, 1974). Moral thought was described by Enright and Sutterland (1980) as understanding others in terms of their roles, needs, feelings, etc. and is a form of social cognitive development. Researchers have demonstrated that anxious attachment is associated with a marked decrement in social cognitive development at least until the age of five (Waters, Wippman and Sroufe, 1979; Arend, Grove and Sroufe, 1979). In fact, Kohn (1977) uncovered that longitudinal persistence of deficient social cognitive functioning is not uncommon. Children who were withdrawn and angrily defiant in the preschool period showed the same emotional impairment five years later. There appears to be coherence in personality development over time and an emotionally impaired child can very readily become an emotionally impaired adolescent. Hence a

deficit in social cognitive or moral development during adolescence or even adulthood may likely be linked to a deviant pattern such as avoidant or detached behavior according to attachment theory.

Detached behavior in some respects resembles psychopathic behavior. Thus psychopathic personality may also possibly stem from some deviant pattern in the development of attachment. When investigating delinquency, many researchers noted that psychopathic delinquents scored lower in moral thought than controls (Fodor, 1973; Jurkovic and Prentice, 1977; Enright and Sutterland, 1980). The scoring was rated on a moral development scale consisting of six stages which have a developmental order (Kohlberg, 1969). Higher stages emerge while lower stages recede as children increase in age and grow to adulthood. Furthermore, moral thought correlates significantly with moral action (Damon, 1975, 1977; Enright and Sutterland, 1980). Psychopaths appear incapable of higher moral thought, are deficient in role-taking and engage in egocentric behavior characteristic of young children (Fodor, 1973; Jurkovic and Prentice, 1977). It is interesting to note that the mothers of delinquents also scored lower in moral thought than the mothers of nondelinquents (Hudgins and Prentice, 1973).

Many investigators have studied parent behavior as a correlate of psychopathic personality. McCord and McCord (1964) claimed that the psychopath was severely rejected by his parents and often brutally beaten. These parents took little time in instilling moral values in their children. Cleckley (1964) also noted an absence of warmth in the parent-child relationship of the psychopath. These findings were

supported by Fodor (1973) who explained that psychopaths view their fathers as rejecting. Bandura and Walters (1959) previously obtained a similar set of relationships wherein the fathers of delinquent boys were more rejecting and punitive. However, it was not known how many of these delinquents were psychopaths.

Bowlby (1979) admits that rejection and loss of love from an attachment figure other than the mother is also consequential. The importance of the father as an attachment figure was further advanced by Ainsworth et al. (1978) who uncovered that attachments to mother and to father are similar in nature. This theory was supported by Lamb (1977) who longitudinally studied babies in the home. He found most boys and some girls preferred their fathers in a stress-free situation. Lamb claimed that both attachment relationships are significant determinants of social and personality development. Therefore, rigidity, lack of empathy, rejection and severe punishment from an attachment figure could possibly lead to psychopathic personality according to this writer.

The findings of the aforementioned developmental studies are strikingly similar to those of the outlined retrospective studies. These studies all point to a direct association between the quality of a child's attachment relationships and his interpersonal relationships and personality during adolescence and adulthood. However, with increasing age, attachment behaviors are more difficult to observe because they diminish in frequency and intensity.

To date, affectional bonding during adolescence or adulthood has not yet been researched to uncover how it corresponds with childhood

attachment behavior. There are no studies of psychiatric disturbances, specific behavioral disorders and marital problems as a correlate of the intensity of an affectional bond. Clinicians rely solely on interview data to pinpoint a problem area and therefore it could readily remain unnoticed. Consequently, the need for a research instrument which measures the intensity of an affectional bond during adulthood is vital.

Such a research instrument must not only meet the general psychometric standards of a sound measurement device but should also have clinical utility. To be maximally useful, the instrument should include a broad sample of behaviors which are characteristic of affectional bonding, as well as items which are sufficiently specific to detect impaired bonding. For example, it is more helpful to know whether a person would feel depressed or not if his loved one chose to go away without him for several weeks than to know that s/he frequently wants to be near his/her loved one. The therapist needs to know the specificity and intensity of the emotions felt by the client if s/he is to plan an effective intervention.

A standardized measure of the intensity of attachment in a relationship would not only provide vital information about a particular case, but would also serve an important research function by providing direct comparisons of the intensity of affectional bonding in different populations. The use of such a scale would enable researchers to identify and correlate impaired bonding with specific disturbances across populations and perhaps eventually the scale could aid in revealing the causal factors of these emotional disturbances.

This adult attachment scale (AAS) was designed to meet the needs

of therapists and researchers for an instrument which measures the strength of attachment in an intimate adult relationship. If adult bonding corresponds with infant attachment as theorized, the topology of the behavior should be similar. The childhood attachment system was shown to consist of emotional and social cognitive components with proximity being the set goal of attachment. Therefore the AAS was devised to consist of these same components.

Since proximity-seeking is the set goal of an attachment relationship, approximately two-thirds of the scale queries this function. However, proximity-seeking cannot be assessed without separation from an attachment figure (Ainsworth et al., 1978). Hence, questions are posed to elicit responses to varied hypothetical separation periods.

The responses to separation tap the emotional component of attachment because separation or threat of separation from an attachment figure evokes strong negative affect during infancy. Anger, depression and apprehension or fear are common infant emotional responses to separation (Robertson, J. and Robertson, J., 1971; Ainsworth et al., 1978). So these emotions are scaled according to their intensity by indicating the frequency of their occurrence. If the responder is accurate, the scale should give a clear perspective of his emotional involvement.

The remaining one-third of the scale explores the social cognitive component of the adult affectional bond. As outlined, social cognitive development during childhood should lead to the formation of a "goal-corrected partnership." During this last stage of development, understanding and consideration of others should develop. The adult bond supposedly parallels this partnership wherein each pair member adjusted

his behavior to accommodate the other. Therefore, questions in the social cognitive domain of the scale purport to gauge how much one functions in unison with one's partner.

Some attachments do not result in accommodating relationships but terminate in separation and broken attachments. If separation persists long enough, "detachment" should eventually ensue. Obviously, persons who are detached from each other would not tend to remian in proximity nor would they respond with negative affect to threat of separation. Therefore, to indicate empirical or construct validity detached persons should score significantly lower than attached individuals on this scale.

Research Design

The initial validation data for the proposed adult attachment scale (AAS) was collected during a pilot study. The study consisted of 17 lower, middle and upper-middle class males and females between the ages of 19 and 51 years.

Since affectional bonding develops over time, it was hypothesized that relatively long-term bonds would yield stronger or more intense attachments than very short term bonds. Thus persons engaged in long-term bonds should score higher on the scale than those involved in short-term bonds. Similarly, persons involved in short-term bonds would score higher than those with broken bonds, who in turn would score higher than those who are not involved in an intimate relationship.

To assess the validity of the proposed scale, the relationship between attachment scores and marital status was examined. Marital status was defined as being either (1) married for a relatively long time, (2) living together for a shorter time, (3) going steady for a

very short time, (4) separated and divorced, or (5) no steady date or special friend. Dummy variables were assigned to persons in each category. Married people were coded 5, those living together 4, those going steady were assigned 3, the separated were 2, and unattached people were coded 1. When the results were calculated, attachment scores correlated significantly with marital status, $\underline{r}$ = .8075. This measure lends initial support to the concurrent validity of the proposed scale.

During the pilot study, certain variations in scores were noted among the married subjects. Those whose relationships spanned 7 to 10 years scored higher than those whose relationships encompassed 20 years or more. Thus, it appeared that the intensity of attachment may be curvilinear. The initial stage of attachment may show increased intensity over time until a peak is reached and then a decrease in intensity would occur over time in relatively longer relationships. The peak in intensity may occur at different time periods in the relationships of different individuals. This phenomenon would make it difficult to compare short-term bonds with long-term bonds. Therefore, it was decided to employ a different design in developing the attachment scale.

The purpose of this study was to develop a reliable and valid research instrument which measures the strength or intensity of an affectional bond. Initially, this instrument was used to discriminate attachment from detachment. Therefore, it was hypothesized that persons who are engaged in affective bonds will score significantly higher on the AAS than those whose bonds have terminated.

The second purpose of this study was to provide a standardized measure of the intensity of an affectional bond for relationships of

varying time periods. The measure was based on a large sampling of married adults categorized according to the duration of their relationship. This time period consisted of the total number of years they were married, engaged and went steady.

The test-retest reliability was assessed by retesting a random sub-sample of 20 subjects. The scores from their first presentation were correlated with their scores obtained three months later.

In addition to exploring reliability, several types of validity were investigated. Cronbach and Meel (1955) and Runkel and McGrath (1972) have suggested that the validity of an instrument can be assessed by examining its homogeneity. In this conceptualization each appropriate item is hypothesized to be an individual measure of the construct "intensity of attachment." Hence item to total score correlations were examined to evaluate homogeneity to provide a measure of construct validity or internal consistency.

Cronbach and Meel (1955) and Anastasi (1976) claimed that construct validity is the extent to which a test measures a theoretical construct, showing correspondence between test scores and other indications of the attribute. The validation consists of demonstrating that the scores vary from person to person as the theory implies and is consistent with deductions from the theory. Thus construct validity was also demonstrated by comparing the mean attachment scores of the married with those of the divorced subjects. In addition, the proportion of variance in the scores accounted for by marital status (attachment and detachment) was calculated. This proportion revealed the strength-of-association between marital status and scores.

A factor analysis yielded further evidence of construct validity. Using the principal components factor technique it identified the dimensions assessed in this test by showing that items in the scale are highly correlated with each other.

Convergent validity was assessed by correlating the AAS scores with the Miller Social Intimacy scores (Miller and Lefcourt, 1980). The Miller Social Intimacy Scale (MSIS) is a reliable and valid instrument. It had a test-retest reliability of $\underline{r} = .96$; five measures of construct and convergent validity were significant at the $\underline{p} < .001$ level. Subjects who score high on the AAS should score high on the MSIS while those who score low on the AAS should also score low on the MSIS. However, attachment measures should differ from social intimacy measures since the items on the scales are not the same. A moderate positive correlation would indicate that the scales measure a similar but not the same construct, demonstrating that attachment is distinct from social intimacy.

CHAPTER II

METHOD

Instrument

The Adult Attachment Scale (AAS) is comprised of 54 questions that assess the intensity of attachment behaviors. The behaviors are scored according to the frequency of their occurrence which ranges from (1) not at all, or never to (5) always. The scale also assesses detached behavior as to the frequency of its occurrence. These frequency ratings run in the opposite direction from (1) always to (5) never. In addition, six questions which attempt to support discriminant validity are included. These questions evaluate the informant's emotional responses to persons other than the attachment figure to discover if they differ from those directed toward the attachment figure.

The frequency ratings of the 54 questions are summed to yield an overall "strength of attachment" score for each participant. The score has a potential range of 54 to 270.

Participants

The 155 participants selected for this study consisted of two matched groups. A married group and a divorced group of men and women. Most of the sixty-four divorced persons were recruited from "Parents Without Partners" in Winnipeg. Married subjects were matched in age, sex and socio-economic status (SES) with the divorced group. Additional married and a few living-together people were obtained for the attached

category bringing the total of this group up to 91.

Of the 155 participants, 95 were females and 60 were males. All but eight of the respondents resided in Winnipeg. Of the 91 cohabiting persons, 19 were previously divorced. Hence they were able to fill out two questionnaires, one for divorced and one for married respondents. All participants were middle and upper-middle class so low SES was not represented. SES was assessed by a method described below.

Procedure

When the detached subjects were recruited at Parents Without Partners it was emphasized that those considering reconciling with their former spouse should not fill in the questionnaire. Members were instructed that only subjects whose relationships have been completely severed for at least 6 months should participate. The separated subjects were also informed that even if the questions did not seem to apply to them, their participation was important.

Informants were requested to complete a copy of the AAS with an attached cover sheet. The cover included a brief demographic data list giving the age, sex, number of children and the duration of the relationship if s/he was married or the duration of the separation if s/he was divorced. This comprised the total number of years married, engaged and going steady for married respondents or the number of years separated and divorced for divorced subjects. A range of annual family incomes from $5,000 to over $50,000 was included to denote socio-economic status. Low SES was defined as $5000.

The informant was then requested to choose the appropriate frequency for each question (Q) in the AAS. Unfortunately, there was only one type of questionnaire available for both married and divorced respondents, hence the divorced group were asked to substitute the word ex-spouse whenever the questionnaire referred to their loved one. It was stressed that answers should describe the relationship as it is right now, not the way it was in the past. These instructions were repeated because detached subjects tended to slip into recalling the past. In addition, they were asked to answer the MSIS (The Miller Social Intimacy Scale).

Subjects were subsequently categorized into two groups, a married and a divorced group. Married or living together subjects were classified according to the duration of the relationship. Relationships encompassing 6 months to 2 years were coded 1, those 2 to 5 years were coded 2, five to ten years were 3, 10 to 20 years were 4 and those over 20 years were coded 5. Thus there were five married groups. Similarly, divorced persons were categorized according to the same coding system, with five length of separation periods.

CHAPTER III

RESULTS

The statistical procedures included Pearson Correlation Analyses and several descriptive statistics. In addition, an ANOVA, Multiple Correlation Regression Analyses and a Factor Analysis were computed.

Reliability

A random subset of 20 subjects, 8 in the attached and 12 in the detached category was retested three months later. A correlation analysis disclosed that there is strong stability in attachment score over time, $r = .99$.

Construct validity. Item to total score correlations were calculated for the 56 AAS questions. A correlation matrix was constructed with the scores from married and divorced participants to see if each question correlated with attachment and detachment.

The correlation coefficients for the questions were found to be generally high, as shown in Table 1. More than half of the questions yield correlations of over .80, seven of these correlating over .90 with the total score. Many coefficients are over .70, some are over .60 while 2 are over .50. Only five items are under .50. Of the five, Q29, Q43 and Q55 should be deleted while Q9 and Q22 should be retained because they are significant predictors of marriage duration. Thus only two items of the scale will correlate under .50 with the total score if three are deleted.

As expected, the six validity questions, Q 19, 27, 30, 34, 41, and 47 show low correlations with the total score, with correlations of .19, .33, .17, .23, .01 and .10, respectively. These low correlations indicate that the participants' emotional responses toward others are less intense than those directed toward their partner. Hence attachment

TABLE 1

Item to Total Score Correlations

Item	Corr. with Attachment score	Item	Corr. with Attachment Score	Item	Corr. with Attachment Score
1	.71	10	.87	20	.89
2	.51	11	.91	21	.81
3	.68	12	.79	*22	.19
4	.95	13	.77	23	.92
5	.61	14	.81	24	.85
6	.51	15	.86	25	.72
7	.89	16	.84	26	.88
8	.71	17	.66	28	.75
9	.44	18	.70	29	.34
31	.74	40	.90	50	.87
32	.75	42	.73	51	.87
33	.93	43	.47	52	.86
35	.88	44	.94	53	.87
36	.67	45	.87	54	.82
37	.64	46	.83	*55	.17
38	.68	48	.94	56	.88
39	.69	49	.87		

All correlations except Q22 and Q55 have probability values $< .001$, N = 155.

*Q22 and Q55 have p values $< .01$.

responses to their partner appear to be valid.

In view of these results, the six validity questions which did not assess attachment to the partner were then deleted from the total score. Thus a new total was computed, based on the sum of the 50 remaining items. These were calculated to measure attachment score and will henceforth be referred to as the AAS attachment items or score.

A second measure of construct validity was gained by comparing the mean of the married subjects with the mean of the divorced subjects on the 50 attachment items. The mean of the marrieds is 151.54 while the mean of the divorced participants is 58.67. As hypothesized, this difference is highly significant, $p < .001$, $N = 155$.

An additional validity measure supporting the mean attachment and detachment scores was collected from the 19 divorced and remarried participants. They completed 2 copies of the AAS, one for attachment with their current loved one and one for detachment with their ex-spouse. Their detachment scores are consistent with the rest of this group showing little deviation from the overall mean of the divorced. The mean detachment score for the 19 subjects is 58. Their attachment scores are more varied, as are the rest of the married group scores. The mean attachment score of the 19 subjects is 165. Since these 19 subjects served as a control group for themselves, the differences between their attachment and detachment score cannot be due to differences in SES, culture, age, or other variables. The differences in score can only be due to the independent variables attachment and detachment. Their scores on both of these measures support the

validity of the mean scores reported.

The standard deviation (SD) of the married subjects on the 50 item scale is 28.67; the SD of the divorced sample is 3.87. Unlike the marrieds, the divorced show minimal differences in responding to the AAS. For this group, 24 items on the AAS have a SD of zero as these items are invariant.

A third measure of construct validity consisted of calculating the proportion of variance in the scores accounted for by marital status (married or separated). Multiple regression correlation analysis was performed on marital status with the 50 items in the scale (see Table 2). It revealed that marital status significantly correlates with attachment score, $\underline{r} = .90$, $\underline{p} < .001$, $N = 155$. These findings are strikingly similar to those of the pilot study and show concurrent validity as well.

The step-wise regression analysis uncovered that all but 3 of the 50 items are significant predictors of marital status. The nonsignificant items are Q 31, Q 35 and Q 55. Q55 was proposed to be deleted. The most significant items are Q 45, Q 53 and Q 10. After the regression equation was calculated, a multiple R of .98 emerged. Consequently, 96% of the variance in score is accounted for by marital status. This measure provides irrefutable evidence of construct validity. In addition, it signifies that the AAS can significantly predict marital status (i.e., married or separated) $\underline{p} < .001$, $N = 155$.

A fourth measure of construct validity was obtained by performing

TABLE 2

Regression Analysis Predicting Marital Status with the AAS Accounting for 95% of the Variance

Predictor	Beta Coefficient	F-Value
Question		
45	.36	42.22
53	.21	16.48
49	.13	8.98
14	.10	8.22
10	.19	13.40
2	.09	13.78
8	-.12	13.89
38	.07	5.51
42	-.12	13.12
15	.09	5.57
52	-.10	6.44
40	.06	1.73
39	.05	3.21
21	-.06	3.42
16	.06	2.36
54	.05	1.96

N = 155.

Multiple R = .97.

R Square = .95.

a factor analysis on the 50 attachment items. Using the principal components factor technique with a varimax rotation, the analysis identified which items in the scale are highly correlated with each other. The eight-factor structure shown in Table 3 emerged.

These 8 factors were labelled (1) long separations, (2) short separations, (3) communication with partner, (4) independent functioning, (5) cooperative functioning, (6) security/insecurity, (7) trust and (8) sensitivity to partner's whereabouts. Note that the factor structure is very clear, with all items loading highly on only one factor.

Most of the loadings in factors one and two are above .7 in magnitude. The other factor loadings all exceed .4 with most items showing magnitudes of .6 or better. Thus, the factor analysis yields additional construct validity.

The eight factors listed account for 64% of the variance in the responses to the questionnaire. The first factor accounts for 30.8% of the variance, the second 9.2%, the third 5.7%, the fourth and fifth account for over 4% each, while the sixth, seventh and eighth factors account for over 3% each. All of the eight factors identified have an eigenvalue above 1.5.

Convergent validity. The attachment scores of both married and divorced participants were correlated with their MSIS scores. As predicted, respondents who score high on the AAS score high on the MSIS. Those who score very low on the AAS also score very low on the MSIS.

TABLE 3

Factor Structure and Correlations of Items with Factors for Measures of Attachment. Factors with Eigenvalues above 1.5 were Rotated

	Factors							
Items	1	2	3	4	5	6	7	8
15	.72							
33	.82							
40	.81							
44	.72							
46	.75							
48	.79							
50	.77							
52	.71							
56	.87							
1		.81						
3		.76						
17		.73						
18		.78						
28		.77						
31		.76						
32		.79						
42		.73						
10			.62					
24			.64					
45			.52					
53			.59					
25				.81				
38				.81				
5				.63				
14					.62			
54					.73			
12					.62			
9						.73		
55						.78		
22							.71	
21							.40	
51							.42	
36								.49
39								.52

1=Long Separation; 2=Short Separation; 3=Communication; 4=Indpendent Functioning; 5=Cooperative Functioning; 6=Security/Insecurity; 7=Trust; 8=Sensitivity to Partner's Whereabouts.

These results are highly significant, r = .91, $p < .001$, N = 155, demonstrating that the two constructs are very similar when comparing attachment and detachment with high and low social intimacy.

In order to determine if the attachment construct differed from social intimacy, the scores of only the married respondents were compared on both constructs. Greater variation is observed between the measures when comparing only attachment with high social intimacy. Married persons who score around the mean in attachment do not always score around the mean in social intimacy. Those who score below the mean in attachment do not necessarily score below the mean in social intimacy. Hence the correlation between the AAS and MSIS for the married group is only moderate as predicted, r = .48, N = 91.

Similarly, the attachment scores of the divorced participants (detachment) were compared with their MSIS scores. Again a moderate positive correlation is observed between the AAS and MSIS, r = .56, $p < .001$, N = 64, confirming that the two constructs are not the same.

There is greater variation among divorced persons in social intimacy with their ex-spouse than in attachment. They show a SD of 13.66 in social intimacy with their former loved one but only a SD of 3.87 in attachment. These results indicate that attachment differs from social intimacy. Unlike the SD of the divorced, the SD of the married respondents on the AAS is similar to their SD on the MSIS. They exhibit a SD of 28.67 in attachment and a SD of 24 in social intimacy. This difference is probably due to the shorter range of the MSIS. It ranges from 0 to 170 while the AAS ranges from 0 to 270. Individual

differences in attachment vary as much as individual differences in social intimacy as the theory implies. This completes the first objective of this study, establishing reliability, construct and convergent validity.

Additional Findings

Findings during the pilot study suggested that intensity of attachment may relate to the duration of a relationship and also to age. Hence married participants were classified according to the duration of their relationship into 5 groups as described. A correlation matrix was constructed with marriage duration and age to determine if they relate to attachment score. A small but significant negative correlation is found between attachment score and length of relationship, $r = -.36$, $p < .01$, $N = 91$. A smaller negative correlation is discerned between age and attachment score, $r = -.27$, while a moderately high correlation is observed between age and marriage duration, $r = .65$. Note that age is less related to score than to marriage duration. Thus, the variable marriage duration seems to be more relevant to the intensity of attachment than the age variable, which appears to be a nonsignificant factor. It is, therefore, deduced that the intensity of attachment decreases as the duration of the relationship increases.

A step-wise regression analysis was conducted on marriage duration with the items in the scale, as illustrated in Table 4. Numerous items emerged as significant predictors of marriage duration. The most significant are Q53, Q39, and Q35. Questions 7, 10, 11, 15, 18, 26, 36, 37, 42, 45, and 55 are not predictive of marriage length. After the regression equation was calculated, an overall multiple R of .85 was obtained. Thus 72% of the variance in attachment score can be accounted

TABLE 4

Regression Analysis Predicting Marriage Duration

With the AAS Accounting for 70% of the Variance

Predictor	Beta Coefficient	F Value
Q. 17	-.17	1.18
6	-.17	2.56
53	-.36	17.23
50	-.02	.03
39	-.37	14.55
44	.37	3.93
35	-.36	9.38
51	-.10	1.36
20	.21	3.05
38	.35	5.28
25	-.27	2.72
16	-.12	1.03
9	-.26	8.36
13	-.34	6.44
40	.21	2.60
14	.21	5.36
46	-.26	4.32
52	.25	3.07
22	-.14	2.67
31	-.18	2.06
48	-.33	3.96
33	.36	3.96
21	.06	.46
2	.16	1.95
3	-.16	1.51
4	.12	.98
5	-. 09	.73
49	-.06	.57

N = 91

Multiple R = .84

R Square = .70

for by the duration of a relationship. This implies that the AAS can also significantly predict duration of a relationship, $p < .01$, $N = 91$.

A major objective in developing this instrument is to obtain a standardized measure of attachment for relationships of varying time periods. Hence an analysis was performed on attachment score to uncover the different means for each of the five marriage duration periods (see Table 5). Group 1, the shortest marriage length has a mean of 175.40, Group 2 is 158.31, Group 3 is 155.23, Group 4 is 144.50 and Group 5 has the lowest mean of 141.50. The SD for four of the groups is around 25, while Group 2 has the largest SD of about 35. The highest score was obtained by a member of Group 3, scoring 211 in attachment. The lowest was a member of Group 5 who scored 82 in attachment.

As reported previously, the overall mean for married persons is 151.54 and their SD is 28.67. An ANOVA performed on the married subjects verifies that there are significant differences between the 5 groups, $p < .01$, $N = 91$.

Unlike marriage duration, the duration of the separation is not a significant factor and does not relate to detachment score. These results are consistent with attachment theory. When detachment sets in affective responding ceases. Therefore, one cannot become more detached after one is already detached.

Other nonsignificant findings include sex differences. A correlation analysis revealed no significant differences between sex and attachment score. These findings suggest that males and females do not significantly differ in strength of attachment, although females did

TABLE 5

Descriptive Statistics for the Five Married Groups

Group	Marriage Duration	Sample Size	Mean	Standard Deviation	Range
1	6 months-2 years	10	175.40	25.70	132-204
2	2-5 yrs	16	158.31	34.86	93-200
3	5-10 yrs	17	155.23	25.52	114-211
4	10-20 yrs	24	144.50	25.85	97-197
5	over 20 years	24	141.50	24.45	82-192
Total		91	151.54	28.67	82-211

show a somewhat higher correlation with AAS score than males, r = .18. However, the limitations of this sample does not allow for conclusive results regarding sex differences.

CHAPTER IV

DISCUSSION

The results confirm that the AAS is an extremely reliable instrument. Reliability was obtained by retesting a random subsample of 20 subjects three months later. Construct validity was demonstrated by four measures. The first yielded high item to total score correlations. The second measure compared the mean of the married with the mean of the divorced participants and established concurrent validity. The AAS then passed a very stringent validity test which measured the proportion of variance in score accounted for by marital status. Then a factor analysis served as a fourth measure of construct validity.

Convergent validity was substantiated by correlating the scores of both groups with their MSIS scores. Discriminant validity was gained by first comparing the AAS scores of the married sample and then the AAS scores of the divorced sample with their MSIS scores. The above reliability and validity measures will now be discussed.

The extremely high test-retest reliability of the AAS obtained three months later can be accounted for. Attachment is less subject to daily changes than interpersonal intimacy because couple harmony is more likely to effect how one scores on the MSIS than the AAS. For example, if one is angry at the spouse, one may not feel affectionate or close to him/her, but one can still perceive that the spouse's departure would result in negative feelings. This is congruent with the theory that attchment remains more or less constant over time.

Detachment would also remain constant if the pair remain separated and absence of the spouse would not impart negative feelings. Given that the MSIS had a test-retest reliability of .96, the higher test-retest reliability of the AAS is understandable. More than half of the respondents retested were detached, thus showing minimal differences and absence of differences in responding.

The high test-retest reliability of the AAS demonstrates that the AAS is a reliable instrument and that the attachment construct is stable over time. The stability of the construct is consistent with attachment theory, which purports long lasting stability enduring over time.

In order to test construct validity, the first measure examined was item to total score correlations. The high correlations obtained for most questions confirm that the scale is homogeneous and that the questions are individual measures of the construct "attachment." These high correlations lend initial support to the construct validity or internal consistency of the AAS.

Although questions 9 and 22 did not show high correlations with the total score, these items are significant predictors of marriage duration as indicated by the step-wise regression. These items also showed high loadings in the factor analysis, with Q 9 accounting for a large proportion of the variance in factor 6, "Security/Insecurity" and Q 22 accounting for much of the variance in factor 7, "Trust." There-

fore, these two items should be retained in the questionnaire.

A second measure of construct validity was demonstrated by comparing the mean attachment scores of the married with the mean of the divorced respondents. The mean difference was highly significant and demonstrated that the AAS can significantly discriminate between married and divorced people. This verifies that the scale measures both attachment and detachment.

The differences in the size of the standard deviations of married and divorced people can be readily explained. In keeping with the theory, attachment responses vary from low to moderate to high in intensity or frequency. This was exhibited by the large SD of the married or attached sample. Unlike the marrieds, the divorced exhibited minimal differences in scoring. This is because detachment responses do not vary from low to high. Detachment is a state of absence of emotional response towards the partner, as demonstrated by SDs of zero on 24 items. Thus the small SD of the divorced or detached people is indicative of a lack of variation in affective responding, again supporting the construct "detachment."

The minimal differences in score among the divorced appeared to be due to whether the responder had children. Many who had young children mentioned that they might feel angry if their ex-spouse went away because s/he would not be available to help with them. Since many subjects did not record the number of children, this factor was not subjected to analysis. Therefore it is not certain whether the differences in the scores of the divorced subjects were due to this factor.

A third measure of construct validity was obtained by demonstrating that the AAS items accounted for almost all of the variance between married and divorced respondents. This confirms that the AAS can significantly predict marital status as defined by this study.

Several astute participants commented on the predictive potential of the AAS. Three divorced respondents noted that they would have scored the questionnaire similarly two years prior to their separation. Two married respondents who confided they are in the process of breaking-up their relationships scored the lowest among the marrieds. Hence married people who score far below the mean of the married sample, closer to the mean of the divorced sample would be in the process of detachment. Separated subjects who score far above the mean of the divorced sample have not detached and may reunite with their former spouse. Divorced people who also score well above the mean of the divorced sample have not detached and may need therapy. Similarly, married persons who score far below the mean show attachment problems and possibly need therapy. These implications will subsequently be discussed in greater detail.

A fourth measure of construct validity was provided by the factor analysis. It pinpointed which items in the scale are highly correlated with each other. The factor structure showed strong internal validity. Only items that dealt with relatively long separation periods loaded onto factor I, while factor 2 contained items dealing only with week-end separations. Since proximity is the set goal of attachment, it is most appropriate that long and short-term separations accounted for the largest proportion of variance (40%) in the AAS, as theorized.

Factors 3 to 8 also showed internal validity. For exaple, let us examine factor 5, "Cooperative Functioning." Questions 12, 14 and 54 which loaded highly onto this factor all deal with whether the respondent makes joint decisions with his/her partner. Factor 4, "Independent Functioning" is another example showing strong internal validity. Questions 5, 25, and 38 which loaded highly onto this factor, all address the same question, whether the respondent could carry on with his/her activities during the loved one's absence. The only difference between the three questions is the duration of the loved one's absence.

Factors 3 to 8 which do not pertain to proximity, were hypothesized to guage how much one functions in unison with one's partner (see page 22). Factors 3 to 8 very aptly perform this task, as can be seen by the factor labels "Communication with Partner," "Independent Functioning," "Cooperative Functioning," "Security/Insecurity without partner," "Trust," and "Sensitivity to Partner's Whereabouts." These factors are all subsumed under the above general heading which taps the social cognitive component of the adult affectional bond as theorized.

Convergent validity was provided by correlating the scores of the combined groups of married and divorced subjects on the AAS with their scores on the MSIS. The highly significant results confirm that the AAS measures a construct that is similar to the one measured by the MSIS.

The high correlation observed between the AAS and MSIS can be explained. It is based on two factors. Attachment, the first factor

relates to high social intimacy while detachment, the second one relates to very low social intimacy. So the bi-polar clustering of scores in the AAS and MSIS accounts for the high correlation between the two constructs.

Still, there is strong evidence that attachment is a distinct construct from social intimacy. This evidence was provided by comparing the AAS scores of the married sample with their MSIS scores and then the AAS scores of the divorced sample with the MSIS scores. Only moderate correlations were obtained between the AAS and MSIS scores for each of these groups.

The married group did not exhibit intense attachment to friends but they did to their partner. However they showed intense feelings of social intimacy to both their partner and to close friends. Hence unlike the MSIS, the AAS strongly discriminated between responses to one's partner from responses towards friends.

Some married people who scored around the mean in attachment scored at or below the mean of respondents in distressed marriages in the MSIS sample. (Many in this category were recruited as respondents for the AAS). Therefore, people who are engaged in distressed relationships may still remain attached to their partner. In fact, the intensity of their attachment helps explain why some people remain in relationships that have deteriorated. Therefore, the attachment bond may be as important in keeping couples together as is social intimacy. When both of these elements break down, separation is predicted.

Other married participants who scored near the mean in social

intimacy scored well above or below the mean in attachment. Thus one's attachment relationship appears to relate to interpersonal measures in a general way but this relationship is governed more by other factors.

Further evidence for convergent and discriminant validity was collected from the divorced group. These participants scored far below the mean of respondents in distressed marriages in the MSIS sample in social intimacy. Still they showed great variation in responding to the MSIS as reflected by the magnitude of their SD. They showed less variation in responding to the AAS, with most scores not deviating largely from the mean of the detached group. This is because most divorced persons detach from their ex-spouse. Nevertheless, some maintain fairly close interpersonal relationships, particularly those who have young children, as they themselves confided. Consequently, the MSIS does not discriminate as distinctly between married and divorced status as does the AAS. The above comparisons between the AAS and MSIS demonstrate that even though the two constructs are similar, attachment and detachment are distinct from interpersonal intimacy.

The aforementioned results completed the first objective of this study, namely to develop a reliable and valid instrument that can measure attachment and detachment. The data established that the AAS is such an instrument.

The second purpose of this study involved delving into attachment. The married sample was probed to uncover whether age or marriage duration is more relative to the intensity of attachment. Although longer relationships are more prevalent among older subjects, it was noticed

that older subjects in new relationships scored as high as younger subjects in the same marriage duration group. Thus age did not appear to be as directly related to intensity of attachment as marriage duration. The larger correlation obtained between age and marriage duration compared with the smaller one between age and attachment score supports the deduction that intensity of attachment increases as the duration of the relationship decreases.

Consequently, a step-wise regression analysis was conducted on marriage duration with the items in the scale. It uncovered that a large proportion of the variance in attachment score was accounted for by marriage duration. Thus the AAS can significantly predict the duration of a relationship. Needless to say, these findings are not generalizable because of the SES and cultural limitations of this group.

Yet it seems reasonable that persons in short-term relationships would be more intensely attached than those in long-term relationships. They feel less secure in the relationship because their partner has not yet had the opportunity to demonstrate his/her loyalty. Hence temporary separation would be more negative to them, as confirmed by the questions which emerged as significant predictors of marriage duration.

A more intense attachment should not be interpreted as being more attached. Nor does it infer that a severed relationship would be more painful for persons in short-term bonds because they are more intensely attached than people in long-term relationships. It is not a quantitative difference but rather a qualitative difference in attachment. This quality of attachment simulates that of the insecure child who clings to

mother.

As cited previously, a major objective of this study was to develop a standardized measure of intensity of attachment for relationships of varying time periods. Significant differences between the groups were detected and five different means emerged for the five marriage duration periods. Since there were not enough subjects in each group, it is recommended that this procedure be repeated with larger n's in order to obtain more conclusive mean scores. The AAS should be employed for this purpose because it did account for a large portion of the variance between short and long-term relationships.

For the time being, the overall mean score of the married sample provides a standardized measure of the intensity of attachment which can be used as a guideline. The size of this sample was extensive enough to provide this measure. Likewise, the overall mean of the divorced sample can serve as a standardized measure for detachment.

The overall mean and SD were similar to the descriptive statistics reported by Oczkowski (1981). That study employed 56 nursing students who were administered the AAS in regards to their attachment with a loved one. Most of the students were not married. Thus they may not have perceived their relationships as being permanent. This factor may account for the lower mean of 135 and SD of 27.8 reported. The Oczkowski study and the development of the AAS both found the intensity of attachment to be normally distributed.

Criticisms and Revisions

When administering the AAS, the questionnaire was criticized by many divorced and several married participants for employing the term "loved one." Thus for detached people it is wise to revise the questionnaire substituting the term "X Spouse" for "Loved One." For attached persons the term "partner" should be substituted. Seemingly, this term would not offend people in loveless relationships.

Many detached subjects complained that the AAS was boring and repetitive. They felt the questions did not apply to them and saw no purpose in participating. This attitude was alleviated when they were informed that some separated people feel upset in the situations depicted by the AAS. Therefore, when administering the AAS to divorced people it is beneficial to explain this and to assure them their participation is important.

Married informants also complained that the AAS was repetitive. It was explained that it is necessary to repeat the questions naming anger, depression, and apprehension as responses because some people never get depressed while others don't get angry. Therefore, the three types of responses insured that negative affect would be detected.

The repetitious nature of the scale can now be alleviated by shortening it. The regression analysis performed on marital status with the items in the scale uncovered that 95% of the variance in marital status can be accounted for by only 16 items in the scale. Therefore, 34 items can be eliminated by giving up only 1% of the variance. The 16 questions that can predict marital status are Q 45, 53, 10, 14, 49,

2, 8, 38, 42, 15, 52, 40, 39, 21, 16, and 54. The utilization of these items requires the redevelopment of a standardized measure for attachment and detachment. However, the above questions do not measure the intensity of attachment but can only discriminate attachment from detachment.

In order to measure the intensity of attachment, the 50 item scale should be administered. This measure can also be revised. The regression analysis performed on the AAS scores of the married sample revealed that 70% of the variance in marriage length can be accounted for by 28 items in the scale. Thus 22 items can be elininated by relinquishing 2% of the variance. The 28 questions that predict marriage length are Q 17, 6, 53, 50, 39, 44, 35, 51, 20, 38, 25, 16, 9, 13, 40, 14, 46, 52, 22, 31, 48, 33, 21, 2, 3, 3, 5, and 49. The employment of these items also necessitates the redevelopment of a standard score.

The above questions emerged as significant predictors of high score. However, these questions were only significant with the married sample. Therefore, they do not discriminate attachment from detachment and should not be given to separated respondents. Since marriage duration decreased as intensity of attachment increased (high score) this factor of the scale assesses the intensity of attachment.

These revisions would result in the development of two separate factors of the scale. One would primarily be used with separated persons to determine the prevalence of attachment or detachment. The second would signify the intensity of attachment in a relationship. The revisions would provide a shorter and less repetitive instrument and would eliminate a good many criticisms of the AAS.

There were several objections that appeared to be invalid. Some

married informants criticized the AAS for being too general. More specific questions would necessitate lengthening the scale. Moreover, the generality of the AAS allows each subject to interpret the questions in a manner that is appropriate to his/her particular life style and perceptions. Therefore, a sentence should be inserted into the instruction section telling the respondent to mentally apply his/her own situational context to each question.

The way one interprets the questions is not likely to alter one's responses. For example, it doesn't matter if s/he feels angry only while the partner is away as opposed to feeling angry prior to and following the departure as well. People who choose the frequency "occasionally" as a response to anger because of the duration of the separation would do so in both situations.

Several subjects asked for clarification regarding week-end separations. They were not sure if the separation inferred one or more than one week-end. Again, the relative frequency of the separations would not alter the responses. Intensely attached people are likely to respond more negatively than less intensely attached people to one or to several week-end separations.

One interesting criticism offered was that the AAS confounds attachment to the partner with attachment to the lifestyle. Thus a person may score near the mean in attachment without being attached to the partner, but rather to things that correlate with the partner's presence (i.e., economic gains or help with the children).

In order to differentiate between attachment to the partner from

attachment to the environment, one would first have to consciously consider severing one's relationship. Without considering separation, people do not know what aspects of their relationship they are more attached to. Consequently, it is difficult for a scale to sort out the confounding elements between attachment to the partner from attachment to the environment. Possibly items dealing with this question could be added.

The confounding elements between attachment and social intimacy were easier to untangle. To accomplish this, the mean AAS and MSIS scores of the marrieds were compared. Twenty-nine participants scored at or below the mean of respondents in the MSIS distressed marriage category. Of this group, 18 scored low only in the MSIS while eleven scored low in both measures. Six respondents scored low only in the AAS (low was defined as one SD below the mean). Twenty participants scored high in the AAS (one SD above the overall mean).

The joint scores of the attached sample provided much food for theoretical thought. Those who scored low only in the MSIS were having difficulty in their relationships yet their bond appeared to be intact. Thus, in theory it seems that interpersonal intimacy usually deteriorated before attachment. If both scores fall far below the mean, it signifies marriage breakdown.

When a score is near the mean of the happily married sample of the MSIS and is coupled with a low or high AAS score (for that marriage duration group) it discloses some impairment. Therefore, it is advisable to administer the AAS along with another interpersonal measure to uncover if there are attachment problems. These difficulties may not

relate to the interpersonal relationship and can be explained by attachment theory.

A low AAS score coupled with a mean MSIS score reveals that a strong bond has not been formed. This condition is characteristic of insecure attachment and serves as a defence mechanism. It helps maintain strong independent functioning and is a protection against negative feelings if the attachment figure is inaccessible.

A high AAS score coupled with a mean MSIS score is also indicative of insecure attachment. Even short separations are threatening to these people because they feel dependent on the partner and lack confidence in his/her steadfastness.

A moderate AAS score indicates that a strong bond has been formed. People who scored in this range did not respond with negative affect to short separations. They also felt more secure in the absence of their partner and were able to function more independently, according to their responses. Thus it was believed they were securely attached. Consequently, the intensity of attachment, as measured by the AAS seems to relate to secure and insecure attachment. High or low AAS scores suggest insecure attachment, and scores near the mean signify secure attachment.

The notion of secure and insecure attachment was supported by Oczkowski (1981). He reported that nurses who scored low and nurses who scored high on the AAS showed an avoidance reaction to schizophrenics, which indicated insecure attachment. Nurses who scored near the mean did not. Oczkowski reasoned that securely attached nurses were better able to relate to detached schizophrenics.

Future Research

Secure and Insecure Attachment to the partner may or may not be associated with the interpersonal relationship. According to attachment theory, it may relate to the quality of the childhood attachments. Several participants in this study disclosed that insecurities with their spouse stemmed from childhood relationships. However, a few felt insecure because of previous experiences with their spouse. All who expressed insecurities scored high on the AAS, demonstrating intense attachment.

In the present study, intense attachment was found to be more characteristic of members of short-term bonds. Of the 20 that scored high on the AAS, 15 were involved in short- and five were involved in long-term bonds. Both of these groups showed negative affect to short separations and felt more insecure without their partners than the securely attached. Thus intense attachment appears to be similar to insecure attachment. However, the intensity or insecurity seems to dissipate over time for those engaged in short-term bonds.

These findings led to the following hypothesis. Persons who continue to remain intensely attached over time (showing high AAS scores when they are in long-term bonds) and have a stable relationship with their partners were insecurely attached during childhood. This supports Bowlby (1979) who claimed that the patterns of attachment established between a child and his mother persist into adult relationships. This hypothesis can be tested by giving Ainsworth's sample of insecurely attached children the AAS when they reach adulthood.

It is also hypothesized that the development of adult attachment parallels the pattern of infant attachment. During the development of attachment, adults as well as infants engage in increased touching, looking, listening, smiling and vocalizing behaviors. These behaviors are directed towards seeking or maintaining a high degree of proximity to the loved one. Short separations at these stages evoke emotional distress and clinging behavior. Finally, after the attachment is firmly established, the adult like the child manifests less distress in separation and proximity-seeking decreases. Thus, the intensity of both adult and infant attachment decreases over time. This proposal also supports Bowlby (1973) who theorized that adult bonding approximates the same model as infant bonding. By employing larger samples with the AAS, these findings can be confirmed.

Other clinical groups that could be administered the AAS are adults who formerly suffered some degree of maternal deprivation, or were children of divorced or deceased parents, former juvenile delinquents, psychotic, neurotic and depressed patients, sociopaths and prisoners. The AAS would enable researchers and clinicians to investigate how these disorders relate to affectional bonding and perhaps alter the effects.

One clinical group that would benefit is separated people. The scale could be employed to determine if they have detached. It is the opinion of this writer that separated people who do not detach are at risk for psychological disorders. The availability of the AAS can answer this theoretical proposition and can point out which separated persons need therapy.

People in disturbed marriages are obvious candidates for the AAS. If employed along with an interpersonal scale like the MSIS, one could uncover the nature of the problem. Both partners should be given the two questionnaires. Thus, if one is engaged in denial or is not responding accurately, it is easier to detect the discrepancy. Once the nature of the problem is revealed, treatment can be instituted.

It is the opinion of this writer that the attachment scale is more accurate when testing married subjects since the subject pool in developing the AAS consisted mainly of married persons. Married individuals are more likely to perceive their relationships as permanent and thus may show a stronger commitment to it than going steady, engaged or living together persons. This proposition was confirmed during the pilot study. It was noticed that an unmarried group showed greater variation with many scoring much below the mean of the married group.

In summary, the data confirms that the AAS is a reliable and valid instrument for measuring the intensity of attachment. Adult attachment appears to correspond with infant attachment because the topology of the behavior is the same. The behavior consists of emotional and social cognitive components with proximity being the set goal of attachment. Therefore, the AAS which is comprised of these components can further the knowledge of attachment throughout the life cycle. Therapists can employ it to uncover important information about a specific case. It can also be used by researchers and provides a promising future in enhancing scientific exploration in this extremely vital area.

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Appendix I

Demographic Data List

Please answer questions, keeping in mind how you feel right now, not how you think you should feel--or how you felt in the past. Put answers on computer sheet in pencil.

Age _____ Sex _____ No. of children _____

Went steady, engaged and married _____years

Separated and divorced _____years

Family income:
$ 5,000 _____
10,000 _____
15,000 _____
20,000 _____
30,000 _____
50,000 or over _____

Appendix II

Adult Attachment Scale

1. If your loved one had to(business or visit a sick relative) to go away for a week-end without you, would you feel depressed?
   (1) not at all (2) infrequently (3) occasionally
   (4) frequently (5) always

2. If your loved one had lunch with a person, friend of the opposite sex would you be upset?
   (1) not at all (2) a little (3) somewhat
   (4) quite upset (5) very upset

3. If you had to go away for a week-end without your loved one would you feel depressed?
   (1) not at all (2) infrequently (3) occasionally
   (4) frequently (5) always

4. If your loved one chose to (pleasure) go away without you for several months, would you feel depressed?
   (1) not at all (2) infrequently (3) occasionally
   (4) frequently (5) always

5. If your loved one was away for several days could you carry on with
   (1) all of your usual activities (2) most of your usual activities (3) some of your usual activities (4) a few of your usual activities (5) none of your usual activities

6. If your loved one occasionally kissed or hugged friends of the opposite sex would it disturb you?
   (1) not at all (2) a little (3) somewhat
   (4) considerably (5) terribly

7. If your loved one chose to go away without you for several months, would you feel angry?
   (1) not at all (2) infrequently (3) occasionally
   (4) frequently (5) always

8. If you were delayed and could not inform your loved one, would you be upset?
   (1) no (2) a little upset (3) somewhat upset
   (4) very upset (5) frantic

9. Are you comfortable at a party, when your loved one is
   (1) not there (2) in another room (3) far across the room
   (4) somewhat nearby (5) next to you

10. Sometime during the day do you and your loved one go over the days events?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

11. If your loved one had to go away for several weeks without you, would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

12. Do you make decisions without first consulting your loved one?
(1) always (2) frequently (3) occasionally
(4) infrequently (5) never

13. If you had to go away for several weeks without your loved one would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

14. Do you purchase a new garment, car, or expensive item without your loved one's approval?
(1) always (2) frequently (3) occasionally
(4) infrequently (5) never

15. If your loved one had to go away without you for several months would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

16. If you had to go away for several weeks without your loved one would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

17. If you had to go away for a week-end without your loved one would you feel angry?
(1) not at all. (2) infrequently (3) occasionally
(4) frequently (5) always

18. If your loved one had to go away for a week-end without you, would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

19. If a new neighbor didn't say hello to you would you feel upset?
(1) not at all (2) a little (3) a fair amount
(4) a lot (5) extremely

20. If your loved one chose to go away for several weeks without you would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

21. Suppose you're in a frightening situation, such as on a plane that was being hijacked. Would the presence of your loved one next to you reduce your anxiety more than if a friend was beside you?
(1) not at all (2) a little (3) somewhat
(4) a fair amount (5) a lot

22. If your loved one occasionally had to stay at work late would you accept this explanation?
(5) absolutely (4) almost (3) hesitantly
(2) with some doubt (1) with much doubt

23. If your loved one chose to go away for several weeks without you would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

24. When you are out of town do you phone your loved one?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

25. If your loved one was away for several months could you carry on with (1) all of your usual activities (2) most of your activities (3) some of your usual activities (4) few of your usual activities (5) none of your usual activities

26. If you had to go away for several weeks without your loved one would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

27. When you have a problem, do you usually discuss it with
(1) a stranger (2) an acquaintance (3) a neighbor
(4) an old friend (5) a loved one

28. If your loved one chose to go away for a week-end without you, would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

29. Would you be less apprehensive about meeting a stranger of the opposite sex when you are with your loved one, than you would be when with friends?
(1) no (2) a little less (3) a fair amount
(4) a lot less apprehensive (5) Feel no apprehension when with my loved one

30. If an old friend went away for several weeks would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

31. If your loved one chose to go away for a week-end without you, would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

32. If your loved one chose to go away for a week-end without you, would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

33. If you had to go away without your loved one for several months, would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

34. Are you uncomfortable at a party when an acquaintance is not next to you?
(1) not at all (2) a little (3) a fair amount
(4) a lot (5) extremely

35. If your loved one chose to go away without you for several months, would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

36. When you are both home in separate rooms and doing different things are you aware of your loved one's presence?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

37. If your loved one had to go away for a week-end without you would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

38. If your loved one was away for several weeks could you carry on with (1) all of your usual activities (2) most of your usual activities (3) some of your usual activities (4) a few of your usual activities (5) none of your usual activities

39. If your loved one was late and didn't phone would you be upset?
(1) not at all (2) a little (3) somewhat upset
(4) very upset (5) frantic

40. If you had to go away without your loved one for several months, would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

41. If a friend went away for several months could you carry on with:
(1) all of your usual activities (2) most of your activities
(3) some of your activities (4) few of your activities
(5) none of your usual activities

42. If you had to go away for a week-end without your loved one would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

43. On your way home to your loved one, do you stop off for coffee or beer?
(1) always (2) frequently (3) occasionally
(4) infrequently (5) never

44. If your loved one chose to go away for several weeks without you would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

45. When you have an interesting thought or a new idea do you look forward to sharing it with your loved one?
(1) not at all (2) a little (3) somewhat
(4) quite a bit (5) very much

46. If you had to go away without your loved one for several months, would you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

47. If a neighbor went away for a week-end would you feel depressed?
(1) not at all (2) a little (3) a fair amount
(4) a lot (5) extremely

48. If your loved one had to go away without you for several months would you feel depressed?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

49. How many evenings a week do you spend away from your loved one?
(1) five or more (2) four (3) three
(4) one-two (5) none

50. If your loved one had to go away for several weeks without you, would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

51. When you have a problem, do you discuss it with your loved one?
(1) never) (2) infrequently (3) occasionally
(4) frequently (5) always

52. If your loved one had to go away for several weeks without you, would

you feel angry?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

53. When your loved one comes home at the end of the day, do you kiss, hug or greet him/her?
(1) never (2) infrequently (3) occasionally
(4) frequently (5) always

54. Do you commit yourself to a regular activity (such as bowling, bridge, etcl), without first consulting your loved one?
(1) always (2) frequently (3) occasionally
(4) infrequently (5) never

55. Are you comfortable at your friend's home, when your loved one is
(1) not there (2) in another room (3) far across the room (4) somewhat nearby (5) next to you.

56. If your loved one had to go away without you for several months, would you feel apprehensive?
(1) not at all (2) infrequently (3) occasionally
(4) frequently (5) always

Appendix III

Miller Social Intimacy Scale

		Very rarely			Some of the time				Almost always		
1.	When you have leisure time how often do you choose to spend it with him/her alone?	1	2	3	4	5	6	7	8	9	10
2.	How often do you keep very personal information to yourself and do not share it with him/her?	1	2	3	4	5	6	7	8	9	10
3.	How often do you show him/her affection?	1	2	3	4	5	6	7	8	9	10
4.	How often do you confide very personal information to him/her?	1	2	3	4	5	6	7	8	9	10
5.	How often are you able to understand his/her feelings?	1	2	3	4	5	6	7	8	9	10
6.	How often do you feel close to him/her?	1	2	3	4	5	6	7	8	9	10
		Not much			A little				A great deal		
7.	How much do you like to spend time alone with him/her?	1	2	3	4	5	6	7	8	9	10
8.	How much do you feel like being encouraging and supportive to him/her when he/she is unhappy?	1	2	3	4	5	6	7	8	9	10
9.	How close do you feel to him/her most of the time?	1	2	3	4	5	6	7	8	9	10

		Not much				A little				A great deal	
10.	How important is it to you to listen to his/her very personal disclosures?	1	2	3	4	5	6	7	8	9	10
11.	How satisfying is your relationship with him/her?	1	2	3	4	5	6	7	8	9	10
12.	How affectionate do you feel towards him/her?	1	2	3	4	5	6	7	8	9	10
13.	How important is it to you that he/she understand your feelings?	1	2	3	4	5	6	7	8	9	10
14.	How much damage is caused by a typical disagreement in your relationship with him/her?	1	2	3	4	5	6	7	8	9	10
15.	How important is it to you that he/she be encouraging and supportive to you when you are unhappy?	1	2	3	4	5	6	7	8	9	10
16.	How important is it to you that he/she show you affection?	1	2	3	4	5	6	7	8	9	10
17.	How important is your relationship with him/her in your life?	1	2	3	4	5	6	7	8	9	10