

The Neurobiological Effects of Inutero Attachment on the Adopted Individual

ABSTRACT: A newborn separated from his mother at birth and relinquished for adoption is susceptible to a primal wounding (Verrier 1993). This construct describes the deep psychic scarring and the lasting emotional impact caused in adoption by the sudden severing of the inutero bond with one's biological mother. The results of the trauma are believed to be substantial and to carry major long-term developmental effects yet the nature of those implications remains poorly understood. The aim of the present study was to address the relationship between the degree of prenatal attachment felt by the birthmother during her pregnancy, and the subsequent emotional and mental development/wellbeing of the adopted individual.

KEY WORDS: Adoptee, adopted child, adoptive parent, attachment, birthparents, birthmother, biological mother, bonding, inutero, object relations, prenatal, primal wound, reunion, relinquishment, search.

Introduction

While it may seem obvious that the experience of having been adopted in childhood has important implications for psychological well-being in adulthood, the nature of those implications remains poorly understood. The findings of contemporary researchers suggest that the experience before adoption -- including the prenatal experience of the fetal-maternal relationship -- can and do have a significant effect on later psychological adjustment.

As a profession, we have begun to identify common threads in the nature of the primal wound that may account for problems in the adoptee's psychological functioning. In my clinical practice where I specialize in adoption, I had begun to observe great diversity in individuals' psychological adjustment to their adoptive status. Despite the fact that many grew up in loving adoptive homes, some adoptees suffered more internal conflicts, poorer self-esteem, depression and anxiety, mistrust and fearfulness. I began to notice that while some adoptees harbored tremendous fears about searching for their birth mothers and had a strong belief that their birthmothers would reject them, others had an internal sense that the reunion would be

welcomed. Most often, these internal perceptions were accurate. It seemed that the overall psychological functioning of the adoptee appeared to be tied to an internal belief system based upon an experience that they had with the birthmother. I began to wonder what relationship there was between the degree of attachment felt by the birthmother who planned to relinquish her unborn child following birth and the subsequent emotional and mental development of the adopted individual.

The assumption was made in this study that the psychological adjustment of the adult adoptee is significantly affected by the environment which existed in the womb. It was further argued that a significant attachment to the birth mother had developed prior to birth. Thus, even if the child was separated from the biological mother at the earliest possible age, the residual effects of the prenatal attachment were considerable.

The study specifically addressed the following research questions: (1) What are the effects of the birthmother's feelings of her unborn child upon later mental and emotional functioning in the adopted individual? (2) How does the relationship between the level of attachment felt by the birthmother to the unborn manifest in psychological functioning in the adult adoptee? (3) What are the effects of being unwanted in utero on the adopted individual's later mental and emotional development?

The theoretical argument of this study is that the first object relations are established in the womb, with the adoptee's experience of their prenatal environment. The attitudes and experiences of the birthmother significantly impacts the unborn child in a manner which is imprinted and later carried over within the individual's development. These early object relations manifest themselves in behavioral states and psychological functioning that correspond to their in utero relationship with the primary maternal object and that the adoptee experience significant adjustment problems in part because of the anxiety, unpredictability and ambivalence in their prenatal environment.

The implication of this prenatal research is that it is logical to argue that the stored memories of those pre-birth experiences will continue to affect the individual after birth. It is this author's

belief that the experiences prenatally account for the individual differences seen in the adopted individual's psychological functioning. It was hoped that this research would shed further light on the nature of the primal wound and its relationship to the prenatal experience for the adopted individual.

Background to the Problem

Once thought to be the solution for women who became pregnant yet who were not in a position to raise their babies, adoption became a common practice. With reference to the child, the accepted position was that he or she was better off growing up in a loving adoptive home than staying with a mother who either did not want the child or was not in a position to provide material support and/or adequate nurturing. Until recently there had been a tendency for researchers and clinicians to downplay the impact of the preconscious experience of the biological mother and the inutero experience on the unborn adoptee's later psychological functioning and adjustment. However, recent research on the discovery of the impact of separation of mother and child has begun to shed new light on the way we think about adoption and the lifelong significance of the primary relationship.

There has been an increasing awareness of the fact that adoption has significant long-term effects on the psychological well-being of adoptees. Mental health professionals have found that adoptees demonstrate a higher-than-average incidence of academic, social and psychological disturbances. According to 1985 statistics, while the number of adoptees in this country comprised only 2-3% of the population, they represent between 30-40% of the individuals found in residential and outpatient treatment centers, special schools and criminal detention settings (Parenting Resources, Santa Ana, California). According to Deutsch, Swanson, Bruell, Cantwell, Weinberg & Baran (1982), adoptees are over represented among children diagnosed with attention deficit disorder (ADD). Among male adoptees, 32-36 per cent are more likely to be diagnosed ADD than non-adoptee; while among female adoptees, 6-14 per cent are more likely to be affected.

The adoptive experience has become the focus of considerable research, with a number of empirical and theoretical studies published exploring the nature of the underlying emotional wound involved in adoption (Brodzinsky, Schechter, & Marantz, 1992; Lifton, 1994; Pavao, 1994; Sorosky, Baran & Pannor, 1978). Verrier (1993) whose background as both adoptive mother and therapist gave her a unique perspective, found that adoptees experienced lifelong difficulties with psychological adjustment regardless of whether their adoptive family system was dysfunctional or not. She suggested that the adoptee may experience significant losses and as a result, harbor within him or herself a deep and profound wound to the psyche. The source of that wound, she concluded, was due to the separation of the child from his or her biological mother, the connection to whom seems, "mystical, spiritual and everlasting" (p. xvi). She believed that the loss of adoption involves multiple losses: loss of identity and intimacy, experiences of separation and abandonment, and feelings of being unwanted and rejected. She felt that this set of experiences predisposes a child to a variety of dysfunctional behaviors, including depression, anxiety, and oppositional disorders.

Brodzinsky and Schechter (1990) found that the adopted child internalizes a belief that he or she is not wanted and that the adoptee's experiences of being unwanted and unconnected to others lays the groundwork for future intimate relationships, leading to a sense of alienation both within the family and in the broader world. As these feelings persist through childhood, the child is likely to experience chronic insecurities, over-sensitivity, suspiciousness, secretiveness, and mournfulness. They may be more prone to engage in acting out behavior, as well as experiencing impaired self-esteem and academic and learning problems. These behaviors represent the unrecognized manifestation of an adaptive grieving process (1987). Because of the very nature of the wound, grieving is a prolonged process that reemerges at crucial points in the individual's life, often complicating the resolution of stage-specific developmental tasks, i.e. trust, autonomy, individuation (Erickson, 1963).

Theoretical Framework

This research study derived its theoretical insights from traditional psychoanalytic theory, contemporary object relations perspectives, attachment theory and perinatal psychology. While the emphasis in this study was on object relations theory which was developed primarily with reference to the mother-infant relationship, those concepts were applied to the experience of the unborn child in the womb. Specifically, it was argued here that the first object relations are established in the womb, and that those object relations are (a) subsequently translated into symbolic form, and (b) have an important impact on later personality development and psychological well-being.

While the traditional psychoanalytic theorists did not write to any extent about the adoptive experience, their work has relevance for the current study concerning the nature of the prenatal experience for adoptee. As early as 1926 Freud conceptualized the birth experience as a prototype for anxiety reactions wherein the first experience of anxiety occurs at birth when the child is physically separated from mother's body. Otto Rank (1952) elaborated Freud's argument that all anxiety originates in the inherent anxiety of birth and believed that the separation of the child from mother at birth was the most painful and frightening human experience. He felt that humans require their entire childhood to overcome the trauma and that if it was not successfully resolved in childhood, he believed that the anxiety would be manifested in the form of fears and phobias, neurosis or psychosis.

Contemporary object relations theory provides us with a set of theoretical concepts which can significantly enhance our understanding of the maternal-fetal relationship and its effects on the child (Greenberg & Mitchell, 1983, Klein, 1935, 1952, 1977). Individuals are seen as essentially object-seeking (Fairbairn, 1954), with the prenatal situation (the womb) conceptualized as a holding environment (Winnicott, 1965) within which attachment between fetus and mother develops. Fundamentally, Winnicott argued that the unborn child experiences a sense of either predictability or unpredictability in the womb. The mother who is devoted to the needs and care of her unborn child creates a state of predictability. Klein (1957) believed that

babies are born with a particular character, and that it would be logical to trace the origins of those character traits to the physiological and psychological life of the unborn child.

The traditional theory of attachment and bonding, developed by such researchers as Bowlby (1951) and Ainsworth (1973), referred primarily to the processes which occur between mother and infant after birth. Several recent studies however, have documented the existence of high levels of maternal-fetal attachment. Verny (1981) in particular has been influential in applying the concepts of attachment theory to the relationship between a mother and her unborn child. He was among the first theorists to emphasize the role played by the mother's affects during pregnancy on the subsequent well-being of the child. Maternal attitudes and affects during pregnancy, according to Verny, play a key role in shaping the developing personality of the child. Children whose prenatal environments were characterized by love and security are more likely to develop a sense of basic trust during infancy (Erikson, 1963). In contrast, children whose prenatal environments are negative or insecure are likely to experience a diminished sense of self and characterological disorders later in life.

These insights were captured theoretically by Brodzinsky (1987), who developed a psychosocial model of adoption based on Erikson's (1963) developmental theory. Brodzinsky pointed out that during infancy the newborn's primary developmental task is to develop basic trust. However, when the child has been given up for adoption -- and particularly if the prenatal environment was dominated by insecurity or anxiety -- this developmental task may not be achieved.

In addition to the aforementioned theoretical insights, during the last three decades there has been a growing body of evidence that the unborn child is conscious of its surroundings during the period from conception to birth (Chamberlain 1993; Verny, 1981), and that behavioral states are shaped by the pre-birth environment (Piontelli, 1987). The unborn child is aware of his/her surroundings, is expressive, and is affected by his interactions with mother and the environment (Chamberlain, 1992). It is now believed that the unborn child is a fully perceptive, cognitive, and intelligent being with his or her distinct personality and memory, an array of sophisticated motor

skills (Prechtel, 1985) and mental abilities (Mancia, 1981) with the ability to hear, react and distinguish the mother's voice, the beating of her heart or the music that she may be listening to.

Verny (1981) based his theories on the argument that the "unborn child is a feeling, remembering, aware being" and that the "nine months between conception and birth molds and shapes personality, drives and ambitions in very important ways" (p. 15). He conceptualized the womb as the first world experienced by the fetus and stressed the importance of the quality of mother-child communication in shaping the emerging personality of the infant. This communication takes shape during the pregnancy itself, with the way the woman feels about her pregnancy and unborn child. He believed that those prenatal experiences which were positive and loving provide the child with trust and security, while destructive or negative prenatal experiences may scar the psyche. It is during this period that deeply rooted character traits, including a sense of security and self-esteem, begin to take shape.

Rottmann (1974), in a study of the psychological and emotional experiences of 141 pregnant women, identified four distinct types of maternal attitudes communicated during pregnancy that correlated with four distinct types of newborn states. Rottman illustrated just how precisely sensitive and aware the fetus is of the mother's feelings and that the fetus sensitivity was operative whether the mothers feelings were conscious or unconscious, and whether they are verbalized or nonverbalized. Zuckerman, Bauchner, Parker, and Cabral (1990) studied the relationship between maternal depression during pregnancy and newborn neurobehavioral functioning. Results showed that, as early as three months postpartum, infants of prenatally depressed mothers were more likely to cry excessively and to be more difficult to console.

Conversely, the adopted child who is wanted by his biological mother may sense this feeling of love in the womb. Rynearson (1982) studied 20 adolescent patients who had relinquished their babies for adoption. Women who were adolescents at the time of the pregnancy tended to engage in denial, with most refusing to seek medical confirmation of the pregnancy until late in the term. Despite this denial of the pregnancy, however, it appears that the emotional ties to their unborn child were substantial. Rynearson reported that 19 of the 20

mothers showed substantial evidence of such attachment, including developing a covert maternal identification with the fetus, deciding on a name for the baby, and experiencing an overwhelming wish for continued attachment to the baby. During their pregnancy, many of the subjects had established an intense private monologue with the fetus. Particularly interesting were rescue fantasies in which these unmarried mothers fantasized that they and the newborn would be "saved" from the relinquishment.

Research Design

The research questions were addressed in the context of a causal comparative research design, with subjects consisting of dyads made up of matched birthmothers and their adult adoptee offspring. Two groups were defined: dyads in which the birthmother exhibited higher levels of prenatal attachment ($n = 21$) and dyads in which the birthmother exhibited lower of prenatal attachment ($n = 21$). The Maternal-Fetal Attachment Scale (Cranley 1981) was used to measure birthmother's levels of attachment to her unborn child. The adoptee group was then systematically examined to identify potential statistical differences on the personality variables measured by the Sixteen Factor Personality Questionnaire (16PF).

A total of 42 adoptees and their respective birthmothers participated in the study. Age of adoptees ranged from 24 to 49, with a mean age of 32.1 years. Age at time of pregnancy (for the birthmothers) ranged from 15 to 29 years of age, mean age at the time of pregnancy was 20 years old.

In addition to the statistical analysis, the study relied on qualitative data provided in the form of open-ended comments provided by both birthmothers and adoptees. These responses were content analyzed and were presented thematically as a supplementary component of study results.

Findings

Results of the empirical data analysis provided statistical support for two of the five study hypotheses. Hypothesis 2 stated that adoptees whose birthmothers felt less attachment to their

unborn child would experience significantly less emotional stability than adoptees whose birthmothers reported more attachment to their unborn child. This proved to be the case in the statistical analysis. The emotional stability scale measures the individual's psychological adjustment; more specifically, the emotional stability scale taps the regulation of emotion and emotional sensitivity. Individuals who score low on the scale tend to be emotionally at loose ends, and to experience difficulty sorting out their feelings. They are also likely to experience difficulties in accurately communicating their feelings. Emotional stability measures an individual's emotional resourcefulness, sensitivity to his or her own and other's feelings, and the tendency to be self-assured. Study findings showed that adoptees that had experienced lower levels of inutero attachment were less emotionally stable; they might thus be expected to experience more difficulty maintaining adequate control over their emotions.

Hypothesis 5 stated that adoptees whose birthmother's felt less attachment to their unborn child would experience significantly more apprehension than adoptees whose birthmothers reported more attachment to their unborn child. This hypothesis was also statistically supported. The apprehension scale measures an individual's adjustment. High apprehension scores indicate that the individual is prone to worry and may have difficulty dealing effectively with stressful situations. High level of apprehension is also associated with excessive sensitivity, an inability to accept criticism, and lack of self confidence. Those adoptees who had experienced lack of early attachment were prone to worry and to experience more difficulties in dealing with stress. Such adoptees may also be lacking in self-confidence and hypersensitive to criticism.

There were no differences between the two groups on Hypothesis 1, 3 and 4 which measured the theoretical constructs of anxiety, liveliness and vigilance. There were however differences in a number of other personality scales which the 16PF is designed to measure and which were of interest for this study. It was found that the more attached group of adoptees showed significantly higher levels of sensitivity and warmth while they scored significantly lower in the areas of dominance and perfectionism. There were no significant differences observed on the remaining 7 personality scales of the 16PF.

Additionally, there was no difference in basic demographic variables. However, the more attached group was found to have been significantly more likely to have been in therapy and more likely to have searched for their birthparents. The more attached group was found to have younger age of adoptee and younger mean age of the birthmother at the time of pregnancy. Results of multivariate analysis showed that the "Giving of Self" dimension of prenatal attachment was predictive of overall anxiety levels, with higher levels of giving of self being predictive of lower levels of anxiety while controlling for the effects of age.

In summary, then, results of the five hypothesis tests were mixed, with two being supported and three being nonsignificant. There were significant differences in the predicted direction on levels of emotional stability and apprehension. However, the hypothesized differences were not observed on overall anxiety, liveliness, or vigilance.

Additional Qualitative Findings

In order to assess the emotional climate of the prenatal environment, each birthmother was asked to describe her feelings and experiences during the pregnancy. Each adoptee was asked a series of corresponding questions about their own experiences and perceptions, with adoptees' responses then being linked to the birthmothers' responses. All qualitative responses were then content analyzed to identify emergent themes and persistent patterns of beliefs and perceptions about the prenatal experience. These results were presented thematically as a supplemental component of the study results.

From the responses given by both the birthmother's and their adoptees it was clear that they continued to have emotional and deeply felt responses to their shared experience of pregnancy and birth. The deeply persistent feelings of the birthmother about the prenatal experience were congruent with the prenatal memories of adult adoptees. Emerging themes were apparent in the data from both birthmothers and adoptees. Many of the birthmothers in the current sample experienced powerful feelings of shame, secrecy, anger, and fear -- intense feelings which appeared to be imprinted on the developing fetus. The powerful effects of her

maternal anxiety also appeared to have impacted the inutero bonding as did the mixed messages from deeply conflicted birthmothers during their pregnancies.

There was considerable evidence that adoptee's internalized the shame and secrecy that their birthmother's experienced and were apparent in responses such as "I have always felt like I was unimportant" and "Growing up I always felt that I must have been a huge secret" and "I always felt that I didn't have the right to be on the planet." Many of the adoptee's in the study felt plagued by deeply experienced fears, "I have always had totally irrational fears that grip me and are so strong." Internalized negative messages were reflected in feeling states by adoptees "I have a lot of self hatred" and "I believed that she denied that I existed, even in her womb I knew that I was on my own. I didn't have feelings of unity with her" or "As a child, I never had strong feelings that she really wanted me". Themes of emotional instability were also apparent in adoptee's responses: "I have a lot of difficulty forming bonds with people" or "some mornings I feel a tremendous sadness. I curl up in the shower under the water. I guess I'm trying to recreate the womb." And there was also considerable evidence that the adoptees experienced high states of vigilance on a regular basis "the fear of abandonment is so strong that I would do whatever it took not to be abandoned again" or "I have a lack of trust of people and always feel that I am going to be let down". Adoptees that experienced more inutero bonding retained that memory, "I use to feel that she needed me and if I could find her I could help her. I would gaze out of the window and think so hard. I hoped that she could hear me. I was calling her silently but yelling inside so she'd hear me. I always believed that she wanted me and was unable to keep me.

Results

Results of this study strongly suggest that birth memories are both complex and accurate. It can be argued that the individual retains memories of events prior to their own birth; those memories are stored in a primitive memory system and lay the foundation for subsequent personality development and emotional well-being. To the extent that there are deficits in early maternal attachment, including during the prenatal period, the child and later adult may suffer serious psychological consequences. The prenatal environment may be usefully conceptualized

as a holding environment in which attachment between fetus and mother protect the unborn child. Conversely, acute feelings of shame and anxiety experienced by the birthmother are likely to affect the unborn in a significant way

Communication with the unborn child has been shown to be a key component of the attachment and bonding process. Healthy communications between the mother and her unborn provide an important building block for healthy adult internal object relations. The mother who communicates her love to her unborn creates a bond that sustains the child in utero and allows the child to attach and bond to subsequent maternal objects. In contrast, the unborn who experiences maternal rejection in utero will carry these seeds and emotional patterns into extrauterine life; the mother who has shut down emotionally endangers the unborn's safety and well-being, and sets the stage for a lifetime of poor object relations.

The findings of this study suggest that the high levels of emotional distress experienced by the birthmother over the lack of support from those around her creates an environment characterized by chronic and irresolvable stress. Ultimately, these high levels of environmental stress may pose a fundamental threat to the survival to the unborn and may contribute to the emergence of long-term and deep-seated anxiety, apprehension, and emotional instability. It has been argued here that the first object relations are established in the womb, and that those object relations are subsequently translated into symbolic form and have an important impact on later personality development and psychological well-being.

Clinical Implications

The findings of this study suggest that maternal attachment, even from the prenatal period, plays an important role in shaping how the individual deals with stress later in life. Despite the fact that the adoptee and birthmother were separated at birth, the adoptee carries the prenatal experience around with him or herself in the form of deeply felt feelings and beliefs about self

and others. More fundamentally, prenatal attachment would appear to play a crucial role in the individual's sense of emotional well-being.

Today it is understood that the womb environment is based on maternal attitudes and clinicians should encourage women to work through the underlying psychodynamics that are at work in the psychology of giving up one's baby for adoption. Birthmothers are faced with an extremely stressful situation as they seek to cope with the effects of an untimely pregnancy which may be complicated by the lack of family and social support. Common affects can include denial, rage, hopelessness and despair. Many birthmothers become psychically numb in order to retreat from the painful reality which they face. Part of this psychic numbness involves a suppression of their feelings of attachment to their baby. For them to attach completely and freely when it is known that they would be childless, may have been an impossible task. With increased understanding of those dynamics as well as the reasons for or need for pregnancy, the birthmother may be able to let go of some of the anxiety and uncertainty of her situation. Perhaps then the birthmother can see the unborn in a different light, and not as an invader of her body.

The foundation of this research lies in the theoretical and clinical insights of attachment and object relations theory where disturbances in the mother-infant relationship place an individual at risk for future adjustment problems and pathological personality functioning (Bion, 1975a; Fairbairn, 1954; Klein, 1935). Deficits in early object relationships, then, are generalized from the earliest relationship with the maternal figure to other significant relationships later in the child's (and adult's) life. Brodinsky and Schechter (1990) found that the adoptee who has internalized the belief that he or she was not wanted as a child may also feel unconnected to the adoptive families; the experience of being unwanted has a significant effect on all other interpersonal relationships. This argument is reinforced by the qualitative findings of the current study, with several of the adoptee's subjective statements implying poor relations with the adopted family and an impaired ability to maintain emotional stability in family relationships.

The clinical implications of these findings suggest that adoptive families must be made aware from the onset that the child carries around their experience of the prenatal period and that this

predisposes the child toward distrust, fearfulness and suspiciousness. Relating to the world and to the new caretakers will be a harder task for the adopted child. Early clinical interventions can be made to address issues faced by adopted newborns in the area of attachment, bonding and grief work. Adoptive parents can be counseled to recognize attachment flaws in their children and to decrease their negative reactions to these problems while increasing their understanding of how to help the child break through their fears of future abandonment. Adoptive parents should also be encouraged to work through their own grief of infertility and loss so that they can have empathy for, not fear of, the sorrow that their children have deep within their psyche. The adoptive parent must learn not to turn away or minimize the pain in their adopted child, so that their child does not retreat and form a protective shield in which they keep others at bay.

The findings of this study may also be discussed in terms of Verny's and Winnicott's concepts. Verny argued that to the extent that the unborn experiences the inutero environment as warm and loving, he or she will be born with the expectations that the external world will have those same characteristics. In contrast, if the unborn experiences the womb as an anxious, hostile environment, the predisposition would be toward distrust, fearfulness and suspiciousness. Winnicott derived his theoretical concepts in large part by observing children who were loved and wanted by their parents. Winnicott identified a positive pregnancy as being a primary predictor of stable personality development; such a pregnancy would ideally be wanted by the mother and supported by her significant others. The developmental implication is that the unborn child is dependent upon a nurturing environment, as created by the thoughts, feelings and experiences of the mother, in order for subsequent healthy psychosocial development to occur.

For the adoptee, the normal working through of this process is exacerbated by the bad internal object symbolized in the rejecting, anxious, or angry birthmother; after that rejection, she is constantly introjected in the psyche of the adoptee. More broadly, the fetal-maternal relationship will be projected onto the adoptive mother-child relationship. During this process, the adoptee deploys defense mechanisms such as splitting and projective identification to manage the unbearable anxiety originating in the early failures in the attachment process.

It is essential to recognize that the adoptee's psychosocial difficulties may be further magnified by the typical absence of information about his or her own inutero and birth experiences. Lifton (1994) argues that this lack of information leaves adoptees feeling vulnerable and confused about their own identity. She believes that, "inside every adoptee is an abandoned baby. It lies coiled in the core of the adopted self like a deep sorrow that can find no comfort" (1994). One consequence is that the adoptee may utilize the defense mechanism of splitting, leading to a dichotomy between an artificial and hidden self and a submerged self. Another may be that adoptees with loss and abandonment complexes are torn between merging with others to overcome the loneliness and dependency and an equally strong urge to assert their separateness as individuals and to avoid intimacy. It is now, through modern discovery of the profound psychological effects of growing up without the knowledge of one's identity, that contemporary adoptions allow children the full knowledge of their origins.

Recommendations

The primary theoretical argument of this research is that the first object relations are established in the womb, with the adoptee's experience of their prenatal environment having a significant effect on later development and psychosocial well-being. It can be argued that the knowledge that one was unwanted or unplanned and given up for adoption is rooted in the experience of the inutero relationship between mother and child. That is, those experiences are seen as being imprinted on the unborn's developing psyche from the very beginnings of consciousness. Empirical research exploring the complex intrapsychic conflicts and psychological reactions experienced by women who become pregnant and relinquish their babies for adoption remains in its infancy. Studies seeking to more accurately assess the effects of inutero experiences should consider assessing the adoptee's functioning directly after birth. For example, Apgar results which provide an operational measure of the behavior of the newborn

directly following birth might yield valuable insights into the circumstances and results of the prenatal period. Apgar scores address five levels of functioning of the newborn. With a point system the child is assessed in terms of; their color- ranging from blue to pale pink, heart rate and pulse, reaction time of cry and grimace, muscle tone, and respiratory rate. Adoptees who are stressed in utero could be compared to babies who were wanted and nurtured in utero. Such scores could then be correlated with results of psychological constructs such as those measured by the 16 PF. This study design would be limited to adoptees who were able to obtain their original hospital records.

The construct of psychological adjustment incorporates a broad range of areas, including the individual's overall emotional stability, general satisfaction, and adaptation to life. Healthy psychological adjustment is associated with positive self-esteem, normal interpersonal relations, leadership, creativity, and occupational success. The primary task of this study was to explore the relationship between the level of attachment experienced by birthmothers and outcomes associated with the adoptee's psychological adjustment later in life. This task was seen as clinically valuable given the increasing number of adoptees who are referred for mental health counseling and who suffer from poor psychological adjustment. The dynamics of this situation remain poorly understood, and it is hoped that this research study will contribute to our ability as professionals to provide effective counseling services to this population.

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