The Nature of Separation-Individuation and Attachment: A Psychometric Evaluation of Multiple Measures of Separation-individuation and Attachment

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ABSTRACT

The purpose of this study was to investigate the relationship of attachment and separation-individuation by examining four widely used instruments to assess these constructs. The primary considerations were the uni- or multidimensionality of attachment and separation individuation, and what the instruments were measuring relative to each other. Three hundred fifty-eight students (256 females, 102 males) completed self-report measures on attachment, separation-individuation, and measures of identity and autonomy. An exploratory factor analysis was conducted in which three factors emerged: Connectedness to Parents (a familial independence-dependence continuum), Level of Distress (the presence to the absence of distress), and Sense of Self (individuation). Attachment and separation-individuation appear to have a complex relationship that appears both interactive and distinct. With respect to distress and independence-dependence attachment and separation-individuation appear highly related. With respect to autonomy, identity, positive feelings, and healthy separation attachment and separation-individuation appear independent. Results suggest the need for more precise and integrative instruments which will clarify the nature of attachment and separation-individuation.

THE NATURE OF SEPARATION-INDIVIDUATION AND ATTACHMENT: A PSYCHOMETRIC EVALUATION OF MULTIPLE MEASURES OF SEPARATION-INDIVIDUATION AND ATTACHMENT

The study of attachment and separation-individuation emerged largely from psychoanalytic theorists. Both Freud and Jung theorized that growth took place as an individual transited certain stages. Freud (Strachey, 1966) identified psychosexual stages potentially culminating in the generativity of the genital stage. Jung (Read, Fordham, & Adler, 1958) described more general stages, embracing the entire life-span, and potentially resulting in an individuated self. Freud, for all practical purposes stopped clarifying developmental stages at the threshold of latency since the personality structure was conceptualized as fixed by the onset of this stage, approximately six years of age. Consequently, Freud says little about adolescence and globally addresses the ideal of the genital stage as encompassing the rest of the life cycle. In contrast, Jung, delineated general stages across the entire life-span, including the pubertal stage, approximately ages 13-25, in which an individual's "true psychic birth" occurs. Most importantly, both theorists embedded their concepts of separation and individuation in the person's attachment or connectedness with others.

Thus, separation-individuation and attachment constructs have been intimately connected, although not always carefully distinguished. Ainsworth's (1978) work with child attachment was

achieved through a study of the "strange situation", a separation event in which both separation from and reuniting with the parent were studied. Similarly, the work of Bowlby first examined attachment (1969) and then separation (1973). Mahler's (1968) groundbreaking work on the first individuation in children delineated four stages in which the child achieved a consolidation of individuality through the dual processes of separation-individuation embedded in an attachment relationship with the mother. Blos (1967) extended Mahler's work with children and identified adolescent separation as the "second individuation". Despite his emphasis on separation-individuation Blos juxtaposes individuating work with attachment relationships.

John Bowlby (1977) offered a fundamental contribution to understanding attachment from a synthesis of ethological and psychoanalytic theory. He describes attachment as "...any form of behavior which results in a person attaining or retaining proximity to some other differentiated and preferred individual who is usually conceived of as stronger and/or wiser" (Bowlby, 1977, p. 203). He viewed attachment as a life-long, enduring, and innate process. The expression of attachment is observed in the behaviors exhibited when an individual interacts with an attachment figure. Anxiety and distress over the threat of loss or actual loss of an attachment figure was not necessarily viewed as pathological, in fact, a certain degree of distress in such circumstances was appropriate.

Mahler (1968) investigated the particular relationship between child and mother, in particular the process by which a child separated and individuated from the mother. This process spans the first three years of childhood. The child begins in an exclusively dependent role in the symbiosis phase. During symbiosis it is hoped that the mother can provide the needed consistency and care that results in a stable and secure internalization of the mother image within the child. Based on this security the child can begin to explore the environment and experience independent activity which eventually results in differentiating and developing a sense of individuality. Mahler called this process the "separation/individuation" phase of development. When the mother's response to the child is inconsistent, Mahler hypothesized an insecure internalization of the mother which might result in conflictual dependence instead of a balance of dependence and independence.

These concepts of attachment and separation-individuation formed the essential building blocks for understanding both intrapsychic and interpersonal dynamics across the life-span which Blos (1973) extended to adolescents. He referred to these years as the "second individuation" phase in which the adolescent attempts to successfully disengage from the parents both emotionally and behaviorally. This painful process follows similar stages as those described by Mahler for the infant.

Historically, two groups emerged from these parallel

investigations, one focusing primarily on the study of attachment and the other targeting separation-individuation. Numerous studies were conducted exploring the relationship of attachment with various correlates, for instance, psychological function in first year college students (Kenny & Donaldson, 1991), the stability of family ties (Kenny, 1990), affiliation (Sheldon & West, 1989), relationship quality (Collins & Read, 1990), love styles (Levy & Davis, 1988), fear of death (Mikulincer, Florian, & Tolmacz, 1990), and ego identity (Quintana & Lapsley, 1987). Likewise, separation-individuation was investigated for its relationship to correlates such as adjustment to college (Lopez, Campbell, & Watkins, 1988), divorce (Allen, Stoltenberg, & Rosko, 1990), personal adjustment (Flemming & Anderson, 1986), ego identity status (Kroger & Haslett, 1988), religiosity (Richards, 1991), cross-cultural cognitive functioning (Mazor, Shamir, & Ben-Moshe, 1990), and career development (Blustein, Walbridge, Friedlander, & Palladino, 1991). Thus, during the 1980s separation-individuation and attachment have been studied generally as discrete entities and not in dialectical interaction.

More recently, theory (Franz & White, 1985; Blatt & Blass, 1990) and research (Bluestein, Walbridge, Friedlander, & Palladino, 1991; Lapsley, Rice, & Shadid, 1989) appears to be returning to a simultaneous study of both constructs. These authors stress the importance of understanding the interactive effects of attachment and separation-individuation upon the individual. They differ from

the early theorists in that a body of knowledge exists concerning the independent functioning of these constructs. A return to a synthesis in how they reciprocally affect each other will bring a broader, more definitive, and empirically based understanding than the first theorists possessed. In one sense research has come full circle, and yet in another it has risen above what has preceded in that current research and theory are generating more precise questions and relationships than at its genesis. Rather then coming full circle the best picture is of a spiral upward in which a return to the simultaneous study of both constructs is invested with a broader and deeper fund of knowledge.

To understand the dynamics of attachment and separation-individuation instruments have been developed which attempt to measure these constructs or aspects of them. Most often such instruments find their genesis in a theoretical framework, such as the Separation Anxiety Test (SAT; Hansburg, 1972) and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987), based on Bowlby's theory of attachment. The Separation-Individuation Test for Adolescents (SITA; Levine, Green, & Millon, 1986) and the Psychological Separation Inventory (PSI; Hoffman, 1983) are two clear examples based on Mahler's stages.

The early stages of investigation into these constructs possess all the elements common to exploratory work including a lack of clarity as to the nature and dynamics of these constructs. Just how accurately do they represent reality? It should not be

surprising that confusing results emerge from these initial instruments. Although much has been learned, much remains unclear as to the nature and dynamics of these constructs. Part of that confusion is evidenced in ambiguous or opposing research findings (Rice, 1990). Further confusion is evidenced externally in the labels given to the tests and their respective subtests. Confusion is also observed internally, that is, some of the tests have some areas that appear to be weak psychometrically.

The purpose of this paper is to investigate four of the popular instruments used to measure aspects of attachment and separation-individuation (SAT, PSI, IPPA, and SITA). Portions of the Erickson Psychosocial Stage Inventory (EPSI; Rosenthall, Gurney, & Moore, 1981) are also included, namely, the Autonomy and Identity subscales, in order to examine the relationship of these constructs that have been described by Erikson's developmental stage theory with those of separation-individuation and attachment.

To achieve this purpose two broad areas of inquiry will be investigated. First, the nature of attachment and separation-individuation will be explored. These two concepts have been viewed as both unidimensional and multidimensional. The unipolar position views these two constructs on a continuum, attachment at one pole and separation-individuation at the other. The multidimensional view conceives these constructs as separate and potentially interacting. Second, the inclusion of multiple measures of attachment and separation-individuation will permit

comparisons regarding these instruments relative to each other. Such comparisons offer the promise of clarifying differences and commonalities in what these tests are measuring. For instance, the SAT and IPPA, purport to measure aspects of attachment, but it is not clear whether they measure the same, different or overlapping domains of this construct.

LITERATURE REVIEW

The Dimensionality of Attachment and Separation-individuation

Early investigations by Bowlby, Mahler, and Blos do not clearly indicate whether attachment and separation-individuation were viewed either uni- or multidimensionally. Bowlby's initial concentration on attachment and Mahler's and Blos' on separation-individuation referred to both constructs without a clear statement of their dimensionality.

Bowlby, although focusing on attachment initially, entertains the idea of attachment being a life-long enduring dynamic that interacts with a person's expression of individuation. In fact, Bowlby's thesis is that adequate attachment and attachment figures are necessary for survival and for exploration, which, in turn, is necessary for separation-individuation. He posits "internal working models" (Bowlby, 1982b) that enable the individual to understand and anticipate events in the environment. If these cognitive structures are sufficiently internalized the child can then depend on these internalizations when distent from the mother. Thus,exploration is implied and the process of separation-

individuation. From these statements it is not clear whether Bowlby considered attachment uni- or multidimensional, but that they influenced each other is certain.

Hansburg (1972) buidling on Bowlby's concepts established a a clear linear relationship between separation-individuation and attachment. He used the metaphor of a seesaw to describe the balancing relationship between separation-individuation and attachment. The the relationship required continual adjustment depending on the degree of experienced separation.

Blos introduced the term "individuation" (1962) and at first appears to lean toward a more unidimensional understanding of attachment and separation-individuation. Blos (1962, 1979) suggested that the primary task of adolescence is to repudiate parental relationships, to disengage psychologically from internalized influences of parents, and to chart an individual course of development. Although not entirely clear, Blos seems to embrace a more linear understanding of attachment and separation-individuation, moving away from external and internal parental influences to self-determined actions.

Rice (1990) concluded in his review of adolescent attachment and adjustment that little empirical work had been published in the area of attachment and ego development, at least one component of individuation and a product of adequate separation experiences. Such intimates a connection between attachment and separation-individuation and the importance of simultaneous investigation of

these constructs. He suggests that the organizational perspective of attachment (Stroufe & Waters, 1977), appears to offer significant research promise because it integrates different literatures (adolescent development, family relations, and identity development). These domains comprise both attachment and separation-individuation dynamics.

Daniels (1990) represents a melding of these two constructs in a linear-depth model. She presents the separation-individuation process as a linear event embedded in attachment. Successful separation-individuation means adolescents have a sense of self and simultaneously remain connected to the family as a functional member. Unsuccessful separation-individuation means alienation which is characterized by disruptive behaviors, a rejection of societal and family norms, and potential suicide. In this view separation-individuation is seen as more dynamic than attachment, although family connectedness is essential.

Other theorists appear to be broadening separation-individuation and attachment into distinct and dynamic dimensions. Franz and White (1985) have extended Erikson's personality development stage theory beyond a linear individuation continuum to include a parallel attachment continuum. They assert that to account fully for healthy human development, a double helix model, offers the greater explanatory power. The model presents two separate but interconnected pathways, separation-individuation and attachment, in tension, exerting influence on each other.

Similarly, Blatt and Blass (1990) formulate an extension of Erikson's stage theory composed of lifelong dialectical interaction between attachment and separation.

The distinction between a uni- and multidimensional model of separation-individuation is important in understanding and measuring their effects upon behavior. This is especially so if these two dimensions have interactive effect. Such appears to be an emerging consensus among both theorists and researchers. Sullivan and Sullivan (1980) describe the goal of adolescence as involving the almost paradoxical task of increasing one's independence from parents while maintaining affection and communication with them. Failure to achieve this balance can lead to conflict (Hansburg, 1972) and result in diminished affection, interrupted communication, and inhibition of independent striving (Levi, Stierlin, & Savard, 1972). Thus, separation-individuation appears most adaptively manifested under conditions of attachment (Grotevant & Cooper, 1985). From this perspective, adolescents may find it easier to grow and develop in an environment that allows for some emotional "refueling" as they engage in the difficult developmental tasks that foster autonomy (Bluestein et al, 1990).

Empirical Analysis of Attachment and Separation-individuation

Research Analysis

Not only is the dimensionality of attachment and separation-individuation in a state of flux, but the instruments used to

measure these constructs exhibit a lack of precision in measuring the construct they claim to measure. A number of studies have demonstrated the apparent overlap of measured,constructs resulting in conclusions of questionable clarity due to the interpenetration of constructs being simultaneously measured. In short, the instruments exhibit psychometric inadequacies.

Attachment

One recent review on attachment (Rice, 1990) recommends that researchers determine the discriminant and convergent validity of the instrumentation used in attachment studies. Twenty-eight studies which examined adolescent attachment relations with parents and any association with between attachment and adolescent development or adjustment were submitted to meta-analysis.

The author offers a helpful overview of traditional attachment theory and concepts. The "organizational perspective" (Stroufe & Waters, 1977) of attachment is emphasized and developed. The organizational perspective defines the goal of attachment behavior to be "felt security", as opposed to proximity or contact. The function of the attachment bond provides support and a secure base from which one can safely explore the environment. In the organizational perspective emphasis is placed on the meaning and not the frequency of attachment behavior since behavior of any kind can have multiple meanings. Further, different behaviors can serve the same function or have the same meaning, that is, have functional equivalence. Considering the situation in which

behavior occurs provides a clearer understanding of the meaning of behavior. Thus, they argue that early quality attachment relationships can be linked to different patterns of behavioral organization.

Within the broad domain of attachment research adolescent attachment has received considerable attention. Quality attachment relationships seem to exert their adaptive functions in both emotional and social development. Adolescents and young adults who report secure, trusting attachment relationships with their parents also report high levels of social competence, general life satisfaction, and somewhat higher levels of self-esteem. Rice concludes his review, however, saying that the association between parent-adolescent attachment and identity development is unclear. That lack of clarity may depend, in part, on the particular measure of identity or attachment that is used. Such suggests that the identification and differentiation of constructs is ambiguous.

To further investigate this ambiguity Rice conducted a meta-analysis in order to evaluate the "organizational perspective" or the continuity hypothesis as it pertains to adolescent attachment relationships. Specifically, he investigated whether the research demonstrated that quality, "secure" attachment relationships correspond to organizations of behavior that enable the adolescent to adapt or adjust to his or her developmental and contextual demands.

Three techniques were used to locate studies for the review:

(1) a descendency approach in which references were located through citation indexes, (2) a computer search, and (3) an ancestry approach which consisted of tracking relevant citations from the references of retrieved articles. Each study selected for inclusion in the review met three criteria: (1) the study investigated the attachment relations of adolescents and some hypothesized attachment-adaptation association, (2)the study contained usable measures of association in text or tables within the article, and (3) the study presented usable statistics. Having met these criteria the shifting units analysis procedure was used to mesh individual and multiple hypotheses tests. For all studies used in the meta-analysis demographic information, characteristics of measurement instruments, and outcome results were coded. This method permitted correlation between measurement characteristics and outcome statistics as well as distinctions between measures of problematic attachment and healthy or secure attachment. Threats to validity were also coded.

Twenty-eight studies were identified which accounted for 231 hypotheses tests of attachment-adjustment association. The average effect size between healthy attachment and adjustment, based on 24r indices was modest but nonsignificant. There appeared to be consistent positive association between attachment and measures of social competence, self-esteem, identity, and emotional adjustment. Negligible correlations emerged between attachment and measures of college adjustment. The correlations were highest for high school

students, lowest for college freshmen, moderate for college upperclassmen, then low again for young adult samples. This finding suggested that the association between attachment and indices of adjustment waxes and wanes during one's development. It may be that a stronger association between attachment and adjustment occurs prior to important developmental transitions. Once the transition is made the adolescent may rely on other sources to help to adjust. Such point toward the importance of longitudinal investigation.

Rice points out that several studies used innovative instruments to assess attachment relations. Unfortunately, multiple measures of attachment were rarely used so that it is not known whether or not the same constructs were being assessed or different portions of the multidimensional attachment construct or even aspects of the separation-individuation construct. Rice suggests that one direction for additional research is exploration of the convergent and discriminant validation of attachment measures. It would be of interest, for instance, to determine if the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is measuring the same construct as the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). Discriminant validity could also be assessed. Many measures vary greatly, some measuring dependence, others intergenerational intimacy, and still others fusion. A study of discriminant validity could determine whether we can discern attachment from dependence or

emeshment.

Wilhite (1990) identifies difficulties in measuring attachment style. Weak support was found for the prediction that attachment style would be related to the amount of induced affect to experimental stimuli. One reason for the mixed results may have been lack of identification by the subjects with the stimuli target resulting in the failure to activate attachment-related anxiety. A second reason appears to be difficulties with the measurement and conceptualization of attachment style. The difficulties in measuring attachment style were demonstrated by intercorrelations between the three measure of attachment used in the study. All three measures were poorly correlated with each other. Correlations between the Attachment Experience Questionnaire (AEQ) adapted from the work of Mitchell (1981) and the two subscales of the SAT were very low, below .10. Measures of relationship between the Single Item Romantic Attachment Scale (SIRA; Hazan & Shaver, 1987) and the other measures of attachment were similarly low. In comparison, the correlation between the Attachment and Individuation subscales of a single instrument, the SAT, was -.43. Thus, different subscales from a single instrument measuring different constructs, although negatively related, were more highly correlated than different scales purporting to measure the same construct. Although the AEQ and SAT classified approximately 65% of those at the extremes of attachment status similarly, this group of subjects represented only 21% of the

total sample. A significant number of subjects were classified differently by the three attachment instruments. Thus, the three instruments do not appear to be measuring the same content, although each claims to be a measure of attachment style.

Examination of the sample indicated it was not different or unique from previous samples. Comparison of the present sample with previous studies using the SAT seemed to indicate the sample did not behave unusually on the instrument. Norman (1989) found Attachment and Individuation scores similar to those reported by Hansburg (1972). This study found results similar to both Norman and Hansburg. Thus, the SAT subscales appear to be operating as expected. Hazan and Shaver (1987) using the SIRA showed similar percentages of the three subtypes of attachment pattern to those found in this study. Therefore, the sample appears to be similar in response to the attachment instruments as in previous samples. Findings indicated attachment grouping , whether using a measure of experience (AEQ), a measure of affective response to separation situations (SAT), or a self-report of behavior in interpersonal relationships (SIRA) showed no relation to either induced affect or negative evaluation. This suggests the possibility that attachment conceptually contains several components which relate in different ways to behavior and affect.

O'Loughlin's (1991) literature review examined four different attachment measures: (1) the SAT, (2) the PSI, (3) the IPPA, and

(4) the Multi-Item Measure of Adult Attachment (MMAA:Hazan & Shaver,1987) and found indications of construct overlap. The purpose of the review was to investigate whether these tests were measuring the same or different aspects of attachment. Each of these measures was examined to identify the different instruments with which they have been used, such as scales of self-esteem or scales of college adjustment. The author assumed that if the attachment measures generally demonstrate relationships with the same types of instruments, then conclusions might be drawn regarding similarities or differences in their measurement of attachment. The areas examined involved instruments that assessed three broad categories: (1) general adjustment, (2) quality of relationships, and (3) family functioning.

For the SAT each of these categories was subdivided into three groups: (1) Style, referring to the overall characterization of the relationship, (2) System, referring to the psychological patterns subsumed in the style, and (3) Other, for those elements not captured by style and system. Family functioning appears to be the area which was most reflected in the literature and appeared to be measured best at the system level of the SAT. General adjustment was primarily associated with the system level as well. Relationship quality was measured best at the style level.

The PSI is subdivided into four categories: (1) conflictual independence, (2) functional independence, (3) emotional independence, and (4) attitudinal independence. The two broad

categories of general adjustment and family functioning were the most frequently represented in the literature on the PSI. Conflictual independence was most often related to measures of general adjustment, while attitudinal, emotional, and functional independence were equally related with family functioning. The broad category of relationship quality was least related to the PSI.

The IPPA was subdivided into three categories: (1) parent, (2) peer, and (3) style. It appears to be measuring the area of general adjustment and best reflects this in terms of attachment style.

The MMAA is divided into four categories, relationship characteristics, attachment history, mental model and loneliness. Attachment style is reflected in the category of relationship quality twice as often as it is in the other two categories.

Overall, relationship quality has the least support among the four instruments. In contrast, family functioning and general adjustment had the greatest support. Relationship quality seemed to be reflected best in terms of attachment style, while specific scales and systems appeared to measure general adjustment and family functioning best. Thus, there does appear to be a great deal overlap in measures, yet each also captures areas that are unique. Such supports the need for investigation of convergent and discriminant validity of these measures.

Separation-individuation

The separation-individuation measures are characterized by the same ambiguity identified in attachment measures. Two analyses, one empirical, the other theoretical illustrate this ambiguity.

Theoretically, Anderson and Sabatelli (1990) contribute conceptually by dimensionalizing the separation-individuation construct and evaluating measures used to assess these domains. Their conceptual model integrates individual and family systems dynamics. Individuation and differentiation are defined as separate yet related constructs which can be understood as both continuous processes and stage-specific (age-appropriate) indicators. Individuation is defined as a primarily intrapsychic process by which one comes to see oneself as separate and distinct within one's relational (familial, social, cultural) context. In contrast, differentiation involves continuous, ongoing demands to regulate the tension between personal autonomy and connectedness to significant others and thus requires continual negotiation and renegotiation.

The means to measure this complex process has only a limited number of measures and consequently, those instruments considered best find wide use. One of the two separation-individuation measures evaluated was the PSI, clearly one of the most widely used instruments, and represented in many of the empirical studies referred to in this paper. The authors point out that the PSI's subscales (functional, attitudinal, emotional, and conflictual

independence) show only a limited behavioral range eliminating the possibility of addressing the full range of behavior an adolescent might choose. The operationalization of the separation-individuation construct ignores the possibility that extreme manifestations of disconnectedness may be evidence of developmental maladjustment. Likewise, there is little room for the interpretation of a healthy connectedness or a range of connectedness that also admits individual differences in exercise of independence functionally and emotionally. Thus, the unit of analysis is the self in relation to others, where it is assumed that maturity is reflected in the individual's functional autonomy, establishment of a personal value system, and freedom from intense levels of emotional reactivity. Such an analysis suggests the need for greater precision in a broader sampling of behavior.

Rice, Cole, and Lapsley (1990) represent one of the first empirical steps toward understanding exactly what the various separation-individuation instruments measure. For the first time, combined multiple separation-individuation measures were used and the results factor analyzed. Data was collected on 240 subjects (138 males, 102 females) from first year English courses, introductory psychology courses, and one upperclass child development course. The subjects represented a diverse range of majors: 82 liberal arts, 69 business, 38 physical science, 17 engineering, 22 professional, and 12 undecided. Included among the eight measures were three adolescent separation-individuation

measures: (1) the Individuation subscale of the SAT, (2) the PSI, and (3) two subscales (Healthy Separation and Separation Anxiety) of the SITA.

Multiple measure of separation-individuation were included because previous results using these measures suggested that separation-individuation is multifaceted and that these instruments are assessing different dimensions of adolescent separation. Research with the PSI indicates that conflictual independence is negatively correlated with depression and emotional problems in college students and positively correlated with academic, emotional, and social adjustment. Other subscales, however, do not consistently correlate with indexes of adjustment. On one hand it appears that negative, angry, or conflicted emotional reactions to psychological separation may hinder the student's adjustment to college. On the other hand functional, emotional, and attitudinal independence from parents appear less important to college adjustment. Such may suggest that some domains of separation-individuation may be more than others to college adjustment. Further, item content and scale definitions of separation-individuation measures also suggest different dimensions are being tapped.

For this reason the three measures of separation-individuation were included for submission to factor analysis in the first part of the study to determine if these measures were actually tapping the same underlying construct. Observation of the correlation

matrix suggested different dimensions are indeed being measured. Some subscales correlated as expected, others did not. For example, Healthy Separation from the SITA did not correlate substantially with any of the other measures. Also, the Conflictual Independence subscale from the PSI did not correlate with the other subscales of the PSI. Finally, the pattern of intercorrelations suggested some ambiguity as to what the individuation measures were assessing since the median correlation among the individuation measures was only .10 (by reversing the sign of the SITA Separation Anxiety correlations to reflect healthy individuation).

More importantly, the results of the exploratory factor analysis yielded a two-factor solution as best accounting for the shared variance among the individuation measures using the scree-test criteria and eigenvalues greater than 1. The Healthy Separation subscale from the SITA was excluded from this analysis because of its poor correlation with all of the other measures (median r=.01) and because a preliminary exploratory factor analysis indicated that the subscale did not load unambiguously onto any particular factor.

Observation of the items on both factors yielded titles of Independence from Parents and Positive Separation Feelings. Three subscales from the PSI (functional, emotional, and attitudinal independence) loaded positively onto the first factor. The items on these scales appear to measure a general identification with

parents. Since they are scored to reflect separation from parents, it was labeled, Independence from Parents. This factor dovetails with the family functioning category of the O'Loughlin study. The Conflictual Independence and Individuation (SAT) subscales loaded positively on Factor Two, Positive Separation Feelings. The Separation Anxiety subscale from the SITA loaded negatively on Factor Two making it a bipolar scale. This factor resembles the general adjustment category of the O'Loughlin review. The correlation between factors was .04.

Thus, the results of the exploratory factor analysis indicated that the measures of separation-individuation were assessing two very different dimensions. One dimension reflected the degree to which the student is functionally, attitudinally, emotionally independent from parents and the other feelings associated with the separation experience.

Subsequent analysis using structural equation modeling confirmed the factor structure that emerged from the exploratory analysis. The discriminant validity of the manifest variable was also confirmed.

This analysis is not without its difficulties. First, the individuation subscale of the SAT (and along with the Self-esteem subscale) has the lowest test-retest correlations of any of the subscales (.61). Matched -half reliability also showed the Individuation subscale to be the lowest (.67). Black (1981) recommended an examination of the content of the Individuation

system since at one time it may reflect resourcefulness, but at other times defensive, withdrawn self-isolation. Further, he points out that if the sublimation scale is revised to eliminate ambiguity, the Individuation system might provide sufficient internal reliability. He also suggested that two distinct systems may be necessary to make the distinction between healthy and compulsive self-reliance.

These observations indicate that the individuation scale may not have been the most reliable instrument to choose for this factor analysis. The fact that it loaded clearly on one of the factors does suggest that it is clearly differentiated among these three subtests. Its internal inconsistency remains, however, and transfers its ambiguity to Factor Two. Consequently, identification of two factors in this study is only a preliminary step in teasing apart the multidimensional nature of separation-individuation. Only when these dimensions are identified and which instruments are measuring which dimensions can the dynamics of separation-individuation and attachment be better understood.

Psychometric and Theoretical Evaluation of the SAT, PSI, IPPA, and Sita

Construct validity is based upon correspondance between the theoretical assumptions upon which a test is constructed, the actual reality of the represented assumptions, and upon the tests psychometric properties. Four widely used instruments will be examined in detail to clarify their strength and weaknesses.

Difficulties within these instruments will be highlighted to demonstrate areas of inadequacy in their power to measure the constructs they purport to measure. Hopefully, such will suggest directions for refinement.

The Separation Anxiety Test

Theoretical Base and Rationale.

The SAT was developed by Hansburg out of the psychoanalytic tradition and heavily indebted to Mahler and Bowlby. In this view various kinds of separation between child and mother must take place in the process of growth if the child is to eventually function as an individual. Individuation occurs through an increasing, but relative autonomy that is expressed within the group living of family life. Pathological attachments between parents and children, whether of an intensely needful nature or hostile character, reduce individuation and encourage fusion reactions (Hansburg, 1980a). The ability to interact with other people and to need other people as resources is important not only for narcissistic gratification but also for ego development. Both separation and interdependency are essential experiences required for survival in civilized society.

Thus, there are two sides to this developmental aspect of life: separation-individuation and interdependency. The key question is, "How does one separate and develop individuality and at the same time maintain relationships and attachments?" The optimum for personal development appears to be a balance (within

wide limits) between identification and continuing object relations (Schafer, 1968). From his study Hansburg described a seesaw relationship or balance between an alternating drive for contact and individuation, depending upon the degree to which the individual experienced separation. Exaggerations on either side of this balance would suggest the presence of pathology. It is this balance between attachment and individuation that Hansburg attempts to capture with the SAT.

Thus, the theoretical foundations upon which the SAT is formulated posits a linear relationship between attachment and individuation with separation being the triggering mechanism affecting movement toward either attachment or individuation. The SAT uses twelve separation experiences to arrive at its primary scores in attachment, individuation, and the attachment-individuation balance. It is possible to tabulate six other systems, such as Painful Tension or Hostility, but these are secondary to the prime two systems and their balance. What is important to emphasize is that the SAT uses separation experiences to measure both attachment and individuation, a direct outgrowth of the theoretical base.

Construct Validity and Reliability.

In spite of its wide use only two studies have examined the SAT's reliability, Hansburg (1972) and Black (1981). Each of these will be examined in turn for inferences that can be drawn about construct validity.

Hansburg (1972) conducted the first study on the unrevised version of the SAT administered to 64 boys placed in residential child care services. Split-half reliabilities were obtained for each of the 16 potential responses that constitute the eight systems. They ranged from a low of .34 (Projection) to a high of .74 (Somatic Reaction). The consistency of total responses, odd versus even numbered pictures, was .885. These results suggested internal homogeneity and that the SAT appeared to be measuring something with reliability. Examination of the correlation table revealed that individuation was, as expected, negatively correlated with attachment. Also as expected, individuation was negatively correlated with each of the other five systems: painful tension, hostility, reality avoidance, impaired concentration, and identity stress. Unfortunately, this study was on the unrevised version and did not include one of the seventeen possible responses, adaptation, which is one of the three components of the individuation system (adaptation, well-being, sublimation). Also, the components of individuation, sublimation (.48) and well-being (.50) had lower consistency coefficients than the attachment components (rejection, .57; loneliness, .57; and empathy, .59). Thus, Hansburg's initial study indicates an overall reliability but with important deficiencies in the individuation subscale, namely lower reliability and the absence of a key component (adaptation) when the reliability testing was conducted. Such brings into question its internal reliability and by extension its construct

validity.

Black (1981) conducted a second reliability study which arrived at similar internal consistency results as Hansburg (.86). Matched-half reliability (Pearson r) correlations for each of the SAT systems exceeded .70 except for individuation, .67. Twelve of the seventeen response-mechanisms exceeded .50, except anger (.47), empathy (.41), well-being (.40), anxiety (.37), and sublimation (.34). Test-retest correlations were high for the total test (.84), above .70 for all systems except individuation (.61) and above .60 for all response-mechanisms except adaptation (.56), sublimation (.48), and somatic pain for males (.36). It is important to note that the individuation system and its components are repeatedly the lowest suggesting not only questionable reliability of the individuation system, but questionable construct validity. Black recommended an examination of the content of the individuation system. He suggested that revision of the sublimation response-mechanism to eliminate ambiguity and increase internal reliability. He also suggested that two distinct systems may be necessary to make the distinction between healthy and compulsive self-reliance (individuation), a distinction recognized by Hansburg but not accommodated in his instrument. Both Hansburg and Black suggest that individuation may be multifactorial, yet the instrument as constructed is not capable of assessing this probably multidimensionality. Thus, the Black study accentuates the questionable construct validity of the

individuation system.

One caveat regarding the lower reliability to the individuation system is important and suggests that its lower reliability is to be expected in light of the mild and strong stimuli presented to the client. The subscales which make up the individuation system are theoretically more responsive to mild stimuli than strong. This skewed response may account for the lower internal consistency in the test as a whole since both strong and mild stimuli are combined. A more accurate picture may be obtained by calculating the internal consistency of mild and strong pictures separately. Such may reveal higher individuation scores for mild than strong pictures. When blended the consistency of the individuation may be lowered, appropriately so. For the purposes of this paper, however, the lower internal consistency will be considered a liability and indicative of a lowered reliability.

Confusing the issue further, Wilhite (1990) obtained test-retest results that showed reliability of the individuation system (.85) to be much higher than that of attachment (.64). This was a virtual reversal of results found by Hansburg and Black. The findings may indicate that such measures of internal consistency may be stable within a given population (clinical for Hansburg, college for Wilhite) but not generalizable to other differing populations. Neither reliability or validity are given strong support by this flipflopping of reliability coefficients.

Investigation of construct validity was directly pursued by

Kroger (1986) in a factor analysis that attempted to validate Hansburg's theoretical systems. The resulting correlation matrix bore little resemblance to Hansburg's (1980a). Correlations of painful tension, hostility, reality avoidance, and impaired concentration with individuation were the only coefficients close to Hansburg's, making individuation the only system that approached replication of Hansburg's correlation matrix. The results of the factor analysis, however, obtained seven factors, only two of which even approximated Hansburg's systems: Attachment (a bipolar scale made up of rejection, anxiety, and loneliness at one pole and adaptation at the other) and hostility (anger, projection, and intrapunative response-mechanisms). The individuation factor did not emerge; its components, adaptation and sublimation, loaded respectively on Attachment and Hostility while well-being failed to load on any of the seven factors. From these conflicting results Kroger recommended a revision of the psychological systems. But such a dramatic step is premature in light of Kroger's insufficient subject pool (N=140), a weakness she recognizes. Unfortunately, the subject pool is so small as to invalidate the findings. The insertion of unities in the diagonal with principal factor analysis (common factor) combined with iteration can yield spuriously high results, that is, excessively high variance leading to numerous factors (Comrey, 1978). Such appears apparent from the factor pattern which displays seven factors, four of which have only one loading. These are hardly factors at all. In spite of the

inadequacies of the Kroger study, the correlation matrix still points to little support for the systems Hansburg theorized.

Another study (George, 1991) engaged a larger sample (N=747) to also validate Hansburg's theoretical systems and corroborate the findings of Kroger. Comparison of the correlation matrices yielded results closer to Kroger's than Hansburg's, but significantly departing from Hansburg. From the correlation matrix no system clearly emerged. Two factor analyses were conducted, first using all responses (17 variables) and second among the mild and strong responses (34 variables). In the first analysis only two factors emerged, separation distress and adaptation. In the second analysis three factors emerged, separation distress, distress avoidance, and adaptation. Adaptation was similar to the first factor analysis and separation distress and distress avoidance were partialed out from the original separation distress factor. None of the basic eight systems theoretically formulated by Hansburg were supported, although adaptation was corresponded closely the the Individuation system. Kroger's results were also without support. Rather a basic two or three factor division accounted for the eight systems.

In conclusion the SAT's major factors are separation distress (attachment) and adaptation (individuation), with a possible third, distress avoidance. These results are tentative, however, having been identified in only one study. Thus, although the SAT appears to be measuring some underlying construct, its identity is

not clear. Further, the reliability and validity of the currently measured test constructs appears indeterminant.

Item Analysis.

The Sat presents items to emphasize the examinee's projected affective experience. For each of the seventeen pictures the examinee is to circle as many of the seventeen possible responses the examinee considers appropriate. In one sense these seventeen responses are all different, but in another they are all the same. They are different in that the object of the subject and verb of each of the seventeen responses indicate one of seventeen different possible responses to the separation experience. For instance, in response to Picture 1 for males an individual may respond that the boy in the picture feels "that he will be much happier now", or "like curling up in a corner by himself", or "that he will do his best to get along". In the first case the focus is a projected emotional experience. In the last two projected courses of action are envisioned. These different response are set, however, within the affective domain. In this respect they are all the same. In all cases the subject and main verb are identical. Of particular import is the repeatedly used main verb, "feels", which forms the context of the entire test. Thus, the SAT is targeted to tap the affective domain.

The Psychological Separation Inventory

Theoretical Base and Rationale.

The PSI also emerged from psychoanalytic theory and

specifically from its separation-individuation construct (Paris, 1976), more generally referred to as psychological separation. In this view the individual's drive toward healthy personal adjustment is critically dependent on the ability to psychologically separate from parents and gain a sense of identity as a separate individual. From Mahler's (1968) viewpoint this entails the infant's ability to act independently of the mother and to develop a mental set as a separate person. Each of these tasks are developmentally interdependent. As these tasks intertwine and the infant acts and thinks independently the infant becomes less emotionally dependent on the mother. If the mother-infant relationship is a healthy one the reduction in emotional dependency will be gained smoothly and gradually. Thus, the separation-individuation phase of the first three years of life involves behavioral independence, cognitive differentiation, and emotional independence.

Blos (1979) proposed a second separation-individuation phase during adolescence. He suggested that there must be a successful resolution to both the first and second phases of separation-individuation for healthy psychological development. He described this second phase as removal of family dependencies through emotional disengagement from infantile objects. This change then alters relationships with parents.

Hoffman (1984) felt Blos's description of the second individuation phase incomplete and extrapolated from Mahler's first phase four dimensions of psychological separation during

adolescence: functional, attitudinal, emotional, and conflictual independence. Functional independence was a behavioral category indicating the ability to manage and direct one's own practical and personal affairs without the help of the mother or father. Attitudinal independence as a cognitive dimension encompassing the image of oneself as a being unique from the mother or father and having one's own set of beliefs, values, and attitudes. The emotional domain included two categories: emotional and conflictual independence. Emotional independence was defined as freedom from an excessive need for approval, closeness, togetherness, and emotional support from one's mother and father. Conflictual independence was defined as freedom from excessive guilt, anxiety, mistrust, responsibility, inhibitions, resentment, and anger in relation to the mother and father.

The theoretical emphasis of the PSI is clearly on separation and specifically on the quality of the separation when viewed from this multidimensional model of separation. The higher scores are indicative of greater independence and positive separation. Unlike the SAT which taps emotional elements directly and possible behavior indirectly through an emotional grid, the PSI attempts to tap specific behavioral, cognitive, and emotional elements. Also, unlike the SAT the PSI attempts to assess these dimensions differentially in relation to the mother and father. This distinction is made because differential separation from one parent as opposed to the other may have critical implications for personal

adjustment (Hoffman, 1984). The PSI also differs from the SAT in that it does not directly assess attachment or an attachment-individuation balance. It assumes such a balance is necessary based on theory. The degree of separation is emphasized. Thus, based on theory, these two tests may well tap very different aspects of separation, the PSI attempting to measure broader aspects of separation and the SAT the narrower, affective domain of both attachment and separation. In many ways the theory of the PSI and the four domains of independence it assesses appear to measure individuation when the scores are high and less individuation when the scores are low. Whether or not low independence is synonymous with attachment is not clear.

Construct Validity and Reliability.

The PSI is not a factor analytically derived inventory. Factor analysis was performed, however, to provide an empirical check on the conceptual distinction between the four dimensions. Confirmatory factor analysis was used with four factors emerging in accordance with Hoffman's conceptual scheme. Hoffman noted that the subject pool was small (N=150) and no claims could be made regarding construct independence on the basis of the factor analysis.

Estimates of internal consistency based on Cronbach's alpha ranged between .84 and .92. Intercorrelations between father and mother scales were highly correlated for the four domains (.71 to .95) indicating high common variance. The functional and emotional

independence scales were relatively highly correlated, yet distinct, suggesting the scales reflect related but distinct domains. Attitudinal independence exhibited a low positive correlation (.3 to .4) with both emotional and functional independence also suggesting a related but more separate domain. conflictual independence was a clearly discrete domain that showed almost no correlation with functional and emotional independence and a moderately negative correlation (-.33 to -.28) with attitudinal independence.

Test-retest reliability correlations obtained two to three weeks after the initial testing ranged from .49 to .94 for males and .70 to .96 for females. For both males and females mother-functional independence scales showed the greatest variation and mother conflictual independence the most stability. Thus, with the exception of the mother-functional independence scale for males, the PSI appears to measure a cluster of domains that are consistent over a relatively short period of time with some domains more stable than others.

Both internal correlation table and test-retest results suggest the PSI is assessing distinct and relatively stable domains. Although confirmatory factor analysis was based on a small subject pool, it corroborates the correlational findings.

Construct validity was directly tested in conjunction with the Adjective Check List (ACL; Gough & Heibron,1980) to test the prediction that the greater the psychological separation of males

and female adolescents the better their personal adjustment. Significant correlations were found supporting the prediction for males between conflictual independence from father and academic problems (-.29), conflictual independence from both mother and father and love relationships (-.25 and -.37), and emotional independence from both mother and father and academic problems (-.33 and -.32). For females significant correlations were found on conflictual independence from both mother and father with the ACL Personal Adjustment scale (.41 and .37) and love problems (-.38 and -.33). Emotional independence from father correlated significantly with love problems (-.28) and emotional independence from both mother and father correlated significantly with academic problems (-.30 and -.25). Thus, the prediction is supported for some components of psychological separation and not others, some measures of adjustment and not others. Contrary to prediction, correlations between the PSI mother and father attitudinal independence scales and the ACL Personal Adjustment scale were significantly negative for both males (-.26 and -.25) and females (-.24 and -.28). Mother and father attitudinal independence were also related to greater problems with love relationships for males (.28 and .30).

The construct validity of the PSI is only partially supported with the four different dimensions. This suggests a more complex relationship between individuation-separation than first expected. Like the SAT further clarification is required to understand the

constructs that are actually being measured in order to understand some of the unpredictable results.

Item Analysis.

The PSI presents items that are fitted to behavioral (functional independence), cognitive (attitudinal independence), and emotional (emotional and conflictual independence) domains. The wording of items, however, may not assist in tapping the targeted domain. For example, within the emotional domain two questions are: (1) After being with my mother/father for a vacation I find it hard to leave her/him and (2) I sometimes call home just to hear my mother's/father's voice. In these cases, emotional issues are tapped with wording that describes behavioral actions. In other cases, the wording clearly reflects the emotional domain. For instance, "When I don't write mother/father often enough I feel guilty." A similar confusion in wording is observed in the functional domain. "My mother's/father's wishes have influenced my selection of friends" appears to tap a cognitive as well as behavioral domain. Functional independence appears better addressed by the question, "I ask for my mother's/father's advise when I am planning my vacation time." The attitudinal independence scale which taps cognitive structures appears most consistent in wording. For example, "My beliefs regarding how to raise children are similar to my mother's/father's" and "My attitudes regarding national defense are similar to my mother's/father's."

Imprecision in wording questions may result in confusion of results that obtains affective responses to questions meant to address the cognitive domain. Consequently, examination of the wording of questions suggests that different dimensions may be tapped than those specified by the subtest designation. Unlike the SAT, the PSI does not set a context within which questions are answered. Although this is not necessarily "bad", it is unknown how such presentation affects validity of the subscales and the purported construct they measure.

Inventory of Parent and Peer Attachment

Theoretical Base and Rationale.

Attachment has been traditionally described as an affectional bond between an infant and caregiver, very often the mother. Adequate attachment relationships are beneficial because they provide the child with a secure base from which further exploration of the environment may be attempted. Further, attachment relationships form the core of "internal working models" which guide the emotional and cognitive development of the child and influence the child's understanding and participation in relationships throughout a lifetime (Bowlby, 1982).

Attachment theory originated in Bowlby's ethological studies of animal behavior. He suggested that certain systems (i.e. attachment system) were instinctual and contributed to the survival of the individual or species. The attachment system maintains its biological functions throughout life, but the behaviors fulfilling

those functions can change as the organism matures.

Attachment is an inclination to seek closeness; it is enduring and independent of situational circumstances. Out of attachment, attachment behavior arises which is the means by which closeness is achieved. Attachment behavior is elicited by stressful situations such as separation. The closeness that is sought may be physical or psychological and makes the individual feel more secure and safe. Bowlby concluded that human beings at any age are most well-adjusted when they have confidence in the accessibility and responsiveness of a trusted other. Attachment across the life-span may be inferred from a behavioral disposition to seek proximity with special others under conditions of stress or vulnerability. Thus, for a college student a call home may signify attachment behavior and for a child, hugging a father's leg. Despite such age-related changes in attachment behavior, expectations of attachment figures based on earlier experience are believed to affect an individual's style of relating to others throughout life.

Attachment appears to be multidimensional. Hinde (1982) suggested two dimensions: behavioral and affective/cognitive. The proximity seeking of infants suggests the behavioral dimension. With maturity "working models" are thought to develop and govern behavior.

The IPPA was developed to examine the potential multidimensional nature of the affective/cognitive component of

attachment in late adolescence. Armsden and Greenberg (1987) hypothesized two dimensions: (1) the positive affective/cognitive experience of trust in the accessibility and responsiveness of attachment figures and (2) the negative affective/cognitive experiences of anger and/or hopelessness resulting from unresponsive or inconsistently responsive attachment figures. Thus, the positive affective/cognitive dimension was measured in terms of trust of responsiveness of attachment figures and the negative affective/cognitive dimension in terms of some form of alienation from attachment figures.

Construct Validity and Reliability.

Two studies were conducted, the first to develop a reliable, multifactorial measure of adolescent attachment and the second to assess the validity of the instrument. The study was conducted on a sample of 179 subjects, between the ages of 16 to 20. In the first study factors were identified by the use of principle factor analysis with iteration and Varimax rotation. In the second study validity was determined by examining its relation to measures of psychological well-being, family environment, and support-seeking from significant others.

The sixty item questionnaire, developed on a five point Likert scale was factor analyzed twice, first showing discrimination between parent and peer loadings and second, discrimination on each parent and peer factor indicating three distinct factors. Items were designed to assess the adolescent's (1) trust that attachment

figures understand and respect the needs and desires of the adolescent, (2) perceptions that attachment figures were sensitive to the adolescent's emotional states, and (3) helpful with the adolescent's concerns. Anger (emotional detachment) from attachment figures was also assessed since these affective experiences are seem to be responses to actual or threatened disruption of an insecure attachment.

In the first factor analysis two factors emerged with loading patterns suggesting the appropriateness of separating items by parent and peer categories. Twenty-nine of 31 parent items had loading greater than .35 on Factor 1 and 21 of 29 peer items had loadings greater than .35 on Factor 2. A Second factor analysis was performed on the parent and peer items. Three factors emerged for both parent and peer categories. For the parent category, Factor 1 suggested themes of parental understanding, respect, and mutual trust, Factor 2, the extent and quality of verbal communication with parents, and Factor 3, feelings of alienation and isolation. For the peer category, Factor 1 suggested mutual trust, Factor 2, the perceived quality of communication, and Factor 3, alienation from friends, but with the recognition of the need to be closer to them. From these results final scales were compiled and submitted to factor analysis using Varimax rotation with the limit of three factors. Factor loading for both parent and peer categories ranged between .45 and .75. Cronbach's alpha indicated acceptable internal consistency on all six factors:

Parent Trust (.91), Parent Communication (.91), Parent Alienation (.86), Peer Trust (.91), Peer Communication (.87), and Peer Alienation (.72). The factor loadings suggest a partial confirmation of the notion of positive and negative affective/cognitive dimensions of attachment. The emergence of the communication dimension emerged unexpectedly, but the wording of the questions appears to have given the factor its identity. Some concern with the results must be recognized due to the small sample size and the forced loading of the final factors.

Pearson correlations between the six parent and peer scales were significant at the .01 level or less suggesting a lack of independence of some factors. Parent scales were more highly related to each other than to peer scales indicating some independence of these broad categories. The Trust and Communication factors, however, within both parent (r=.76) and peer (r=.76) categories were highly correlated suggesting a lack of independence.

Based on the internal consistency and factorial structure of the IPPA a second study was designed to assess the validity of the instrument by examining its relations to measures of psychological well-being, family environment, and support-seeking from significant others. First, in relation to family environment, parent attachment scores correlated positively and significantly with five of the six indices of family climate as evaluated by the Family Environment Scale (FES; Moos, 1974). In addition the Family

Self-Concept subscale of the Tennesse Self-concept Scale (TSCS; Fitts, 1965) was also significantly and positivley correlated indicating together with the FES convergent validity. Second, in regard to psychological well-being, hierarchical multiple regression analyses were performed between two measures of well-being and affective status. Parent attachment was significantly and positively related to both well-being measures and negatively and significantly related to affective depression/anxiety and resentment/alienation. Similarly, peer attachment was also significantly and positively related to both measures of well-being, although not to the same degree as parent attachment. Peer attachment was also significantly and negatively related to affective states of depression/anxiety, resentment/alienation, irritability/anger, and guilt. Thus, multiple regression procedures indicate a predictive validity for attachment factors.

Support seeking behaviors were tested by dividing the groups by high and low security and comparing support-seeking behavior during negative life changes. Findings indicated the low security group showed greater support-seeking from parents than the high security group as might be expected. No significant differences were found for support-seeking among peer group. Thus, results indicate that the more securely attached demonstrate less psychological symptomatology.

The IPPA shows substantial reliability and good validity. The domain, that of an affective/cognitive dimension of attachment,

presents some difficulties in that it is a composite category, unlike the PSI which attempts to distinguish between these dimensions. There is relatively low correlation between self-reported quality of relationships to parents and peers indicating independence of these dimensions, but relatively high correlation between Trust and Communication categories indicating dependence. The factor pattern does support an affective/cognitive dimension that taps positive and negative emotional experiences. It is not clear, however, how the cognitive and affective domains interrelate. Some inconsistencies make a clear pronouncement on these factors difficult. For instance, Question 7 on the parent section, "I feel it's no use letting my feelings show." loads positively and significantly on Communication along with Question 6, "I like to get my parent's point of view on things I'm concerned about." Observation suggests that Question 7 would load on Alienation, but it does not. Thus, the IPPA appears to need further clarification.

Item Analysis.

Although the IPPA purports to present items that tap the affective/cognitive domain, it does not always succeed. Affective/cognitive questions are clearly offered on each of the three factors: (1) Question 17, Communication: "I tell my parents about my problems and troubles,", (2) Question 1, Trust: "My parents respect my feelings.", and (3) Question 27, Alienation: "I feel that no one understands me." Some questions, however, seem to

be more behavioral or descriptive rather than cognitive or affective. For example, Question 15, "My parents have their own problems, so I don't bother them with mine" (Alienation) and Question 20, "My parents encourage me to talk about my difficulties" (Communication). In both these instances family behavior is described not just alienation or communication. The mixture of cognitive, affective, and behavioral elements may, in part, account for the high correlation between Trust and Communication. In any case, an additional element of behavior appears to be tapped, much like the functional independence scale of the PSI. Had a larger pool of question been available such a factor might have been extracted in the factor analysis.

The Separation-individuation Test of Adolescence

Theoretical Base and Rationale.

The SITA is based on psychoanalytic stage theory. The seven categories of the SITA follow the six stages of a young child's psychological separation and individuation from the mother identified by Mahler (Mahler, 1968): (1) autism, (2) symbiosis, (3) differentiation, (4) practicing, (5) rapprochement, and (6) consolidation of individuality and beginning of object constancy. Others have applied this developmental structure to the adolescent separation process. For instance, Blos (1967) refers to adolescence as a "second individuation process" in which the adolescent's attempts to overcome the regressive pull of childhood dependencies compete with the wish for reunion and fear of

engulfment during the rapprochement phase.

The purpose of the SITA was the development of an instrument that would measure resolutions to each of the separation-individuation phases as they might express themselves in adolescence. More specifically, it was hoped the SITA would serve three functions: (1) as an external criterion measure for studies attempting to objectively examine hypotheses concerning a relationship between separation-individuation phases and adolescent development, (2) as an index of construct validity for Mahler's sequential developments, and (3) as supplemental information in assessment of adolescent interpersonal relationships. Six basic dimensions of adolescent separation-individuation identifying fixation points for psychopathology or milestones of healthy progression were identified. Nurturance-symbiosis concerns individuals who have strong dependency needs, who anticipate gratification of those needs, and who associate positive feelings with this expectation. If active in adolescent life it was hypothesized to represent residual effects of the symbiotic phase. Engulfment Anxiety characterizes individuals who are especially fearful of interpersonal relationships and who view them as threatening to their sense of independence. Such was hypothesized to measure residual effects of the engulfment fear felt by the toddler during rapprochement that is experienced in adolescence. Separation Anxiety describes individuals with strong fears of losing emotional or physical contact with significant other people.

This was thought to represent residual effects of the intense separation anxiety felt by the toddler during rapprochement. Need Denial describes individuals who deny or avoid dependency needs. Such individuals may reject or fail to respond to closeness, friendship, or love. This was hypothesized to detect those whose use of defensiveness began during early phases of separation-individuation. Self-centeredness describes those who have a high degree of narcissism. Self-centeredness way hypothesized to assess residual effects of the practicing phase. Finally, healthy separation describes those individuals who have made significant progress toward resolution of conflicts connected with separation-individuation. This dimension was thought to represent individuals who have progressed successfully to the consolidation phase of separation-individuation during childhood and are likely to make successful steps in adolescence.

Construct Validity and Reliability.

Validation of the SITA followed Loevinger's (1957) model and involves three steps: theoretical-substantive, internal-structural, and external-criterion validation. The first addresses the extent to which items comprising the test derive their content from a specific theoretical framework. The second evaluates the internal properties of the test and includes both construct validity and reliability. The third concerns both concurrent and predictive validity.

Theoretical-substantive validity was achieved by distributing

the 119 test items covering the six domains to six clinical graduate students and two faculty members who were familiar with the theory. These raters then sorted the items into various dimensions. Items that were sorted into the same categories by six of the eight raters were considered to have theoretical-substantive validity. This procedure was completed three times until a group of 100 items covering the six dimensions were assembled. Four validity items were also added.

Internal structural validation was examined by factor analysis and point-biserial correlations between each of the test items and the six derived subscales. Factor analysis of 305 completed SITA questionnaires was conducted using principle components factor analysis with a predetermined six factors followed by Varimax rotation. Six factors were extracted, although not entirely like those hypothesized. Items from the theorized Healthy Separation category did not load significantly on any factor, with the exception of one question on Factor 4. Self-Centeredness (Factor 1), Need Denial (Factor 2), Nurturance-symbiosis (Factor 4), Engulfment Anxiety (Factor 5) were essentially intact. Six of the seven questions from Nurturance-symbiosis also loaded on Factor 6 giving two factors for nurturance-symbiosis. Furthermore, Factor 3 was mixed, with loadings from Separation Anxiety (six questions), Engulfment (4 questions), and Need Denial (one questions).

Thus, factor analysis discriminated six factors, but a

different six than theorized, although four were essentially intact. As a result Healthy Separation was eliminated and Nurturance-symbiosis was subdivided into two. The split on the Nurturance-symbiosis scale appears logical based on the items which define two aspects of this scale, dependency on a caretaker and self-object boundary diffusions. Factor 4 is aligned with self-object boundary diffusions and Factor 6 with caretaker dependency. Because Healthy Separation did not load significantly on any scale another factor analysis with seven forced factors was conducted. Results indicated that eight of the 13 Healthy Separation questions loaded significantly. For this reason seven factors were retained, but this does represent an additional factor unaccounted for by Mahler's theoretical system.

Following the factor analysis point-biserial correlations were conducted between each test item and the subscales. Any items were eliminated that were not correlated .35 or greater between an item and the scale on which it loaded or were correlated with any other scale than the one on which it loaded. On this basis, the test was reduced from 104 to 76 items.

External criterion validation was determined by comparing scores with the Millon Adolescent Personality Inventory (MAPI; Millon, Green, & Meagher, 1982) which offered mixed evidence for the external criterion. The MAPI was chosen because it targeted the same age group as the SITA and was constructed on the Loevinger model. Individuals took the MAPI and as a result of their two

point codes were divided into one of the five possible personality groups: (1) friendly-agreeable, (2) dependent-conforming, (3) anxious-moody, (4) angry-irritable, and (5) confident-outgoing. One-way analysis of variance (ANOVA) for each of the scales of the revised 76 item SITA was computed to determine if significantly differing scores were obtained by the various personality groups. One problem was validating a seven dimension test by one of five dimensions. The constructors of the SITA felt, however, that substantial validity would be evidenced since two of the SITA scales measure features of the separation-individuation process which are common to one dimension of the MAPI on which they were to be validated. The SITA Nurturance-symbiosis scale indicated significant discrimination between personality groups with the Friendly-agreeable scoring highest and the angry-irritable scoring the lowest. The Engulfment Anxiety scale indicated an overall significant difference between scores of the personality groups with the Angry-irritable group scoring the highest and the Confident-outgoing groups the lowest. The Self-centeredness scales also indicated a significant difference between personality groups. The Confident-outgoing group scored the highest and the anxious-moody group the lowest. The Separation Anxiety scale indicated significant differences between groups also. Here the Anxious -moody groups scored the highest and the Confident-outgoing groups the lowest. The Need Denial scale likewise discriminated significantly between personality groups with the Angry-irritable

scoring the highest and the Confident-outgoing scoring the lowest. Finally, the Healthy Separation scale also indicated significant differences between groups. The Confident-outgoing groups scored the highest and the Anxious-moody groups the lowest. Thus, results indicate unique and appropriate matches of Nurturance-symbiosis (SITA) with Friendly-agreeable (MAPI) and Separation Anxiety (SITA) with Anxious-moody (MAPI). The other four scales are not as clearly discriminated with both Self-centeredness and Healthy Separation identified with the Confident-outgoing scales of the MAPI. Also, the Engulfment Anxiety and Need denial of the SITA both matched with the Angry-irritable of the MAPI.

The internal-structural and external criteria evidence suggests that five of the seven subscales presently used have adequate validity. Self-centeredness, Need Denial, Engulfment Anxiety, Nurturance Seeking, and Symbiosis Seeking appear to have the greatest cumulative support. Separation Anxiety has mixed factorial and external-internal criterion support. Likewise, Healthy Separtion has some external validity and factorial validty on a seven factor basis, but appears to be the scale of most questionable validity. The final form of the scale actually has has eight subscales with Nurturance-symbiosis subdivided into three parts: Nurturance Seeking, Enmeshment, and Symbiosis Seeking. There is no avialable evidence support these chagnes and brings into further question the construct validity of the SITA.

Item Presentation.

The SITA presents item in cognitive, affective, and descriptive terms. Affectively framed items appear dominant in all of the subtests and include statements such as, "I worry about death a lot.", "I feel rebellious toward things my parents tell me to do.", and "I sometimes feel so powerful that it seems like there is no feat which is too difficult for me to conquer." Cognitive statements include "I believe that God looks over and protects me from danger." and "I don't see the point of most warm, affectionate relationships." "I am friendly with several different types of people." and "My teachers give me advice about my social life." illustrate descriptive statements. In some cases these categories are combined in one statement, such as, "When I think of the people that are most important to me I wish I could be with them more and closer to them emotionally." Thus, the SITA does not focus in predominantly emotional content like the SAT, nor does it try to necessarily discriminate between affective, cognitive, or behavioral activity as the PSI. It is closer to the IPPA which taps a dual affective/cognitive dimension simultaneously.

Summary and Conclusions

Two large issues confront investigations into attachment and separation-individuation. The first difficulty concerns the nature of these two constructs, that is, whether they are uni- or multidimensional. The second difficulty concerns the validity of the instrumentation currently used to measure aspects of attachment

and separation-individuation. Research findings and examination of the instrument's psychometric properties indicate weaknesses including lack of clarity in identifying the construct being assessed and ambiguity in precisely operationalizing the target construct.

The dimensionality of attachment and separation-individuation appears to have made a progression from a more unidimensional, linear understanding to a dynamic, interactive multidimensional model. Blos (1967, 1979) and Hansburg(1972, 1980) appear to have leaned toward a more linear representation. Bowlby (1969, 1973) emphasized attachment, but appears to imply a more multidimensional, interactive relationship between attachment and separation-individuation. Daniels (1990) has presented separation-individuation as a linear model that is embedded in attachment. Although the model is highly interactive, it is not quite a multidimensional model. Franz and White (1985) have put forward a clear two dimensional model within the developmental stage theory of Erikson. In their view attachment and separation-individuation for a double helix that spans the life cycle and interacts dynamically with life events. The multidimensional model had been recently advocated by Blass and Blatt (1990).

The instrumentality for measuring attachment and separation-individuation has helped to form a base of knowledge regarding these constructs, but research findings offer evidence that the object of measurement is not clear. The meta-analysis by Rice

(1990) analyzing attachment and adjustment found that, although innovative methods were used in assessing these constructs, multiple measures of attachment were rarely used so that no determination could be made whether the same or different constructs were being assessed. Wilhite (1990) found weak support for the expected prediction that attachment style would be related to the amount of induced affect from experimental stimuli. The three attachment measures Wilhite demonstrated a low correlation with each other. O'Loughlin (1991) found that although attachment measures capture unique areas an overlap of measurement does occur. Finally, Rice, Cole, and Lapsley (1990) did use multiple measures of separation-individuation for the first time and found overlap in the constructs measured. Using three measures they found two underlying factors common to the instruments.

The psychometric properties of four popularly used test of attachment and separation-individuation were examined and found to exhibit both strengths and weaknesses. The SAT developed out of Bowlby's attachment theory demonstrated good internal consistency, with the possible exception of the Individuation subscale. The SAT was derived theoretically and not factorially by statistical procedure. Factor analysis reduced the eight theorized systems to three, separation distress, distress avoidance, and adaptation. The PSI was not formed through factor analysis either and established its construct validity through criterion testing with the Adjective Checklist. A confirmatory factor analysis performed

after test construction indicated that no statements could be made regarding the independence of the four subscales. Internal consistency appears adequate, but high correlations between mother and father scales indicate high common variance. Test-retest reliability coefficients ranged from fair to good. The IPPA was formed with factor analysis and designed to measure the affective/cognitive aspects of attachment. The factor analysis suggests that the Alienation subscale is relatively independent. Trust and Communication in both parent and peer categories, however, are highly correlated suggesting a lack of independence. Internal consistency (Cronbach's alpha) was adequate. Finally, the SITA was constructed using factor analysis to examine six subscales theoretically based on resolution of Mahler's infant separation-individuation phases. Factor analysis obtained seven factors instead of six with the no significant loading for Healthy Separation unless the factor analysis was expanded to admit more factors.

Statement of Problem and Rationale

Examination of both empirical research and the psychometric properties of fours widely used tests of attachment and separation-individuation indicate construct ambiguity. Such ambiguity requires clarification if these tests are to be used with confidence. Particularly important is clarification of the constructs measured by each test and subtest, correspondence between the construct measured and the descriptive titles for each

test and subtest, and identification of differences, similarities and overlap of each test and subtest in measurement. Clarifying theses issues will offer greater theoretical and empirical validity than presently possessed.

Theoretical validity is conveyed by a tests descriptive titles. The general construct is usually identified by the test's major title and subdimensions of the construct by subtest titles. For example, the PSI is thought to measure the theoretical construct of psychological separation, hence the title Psychological Separation Inventory. The subscale titles (functional, emotional, conflictual, and attitudinal independence) are assumed to describe components of separation-individuation that contribute to the dynamic functioning the separation individuation process.

The empirical validity of these constructs are observed in how they function in research. Do the tests of separation similarly meassure that construct? Does the SAT and the PSI total scores correspond? What is their correlation? Also, do similar subscales obtain highly correlating scores? Conversely, do differing tests and differing subscales obtain low correlations?

A clear understanding of theoretical and empirical validity are crucial to utility. The researcher expects that similar test and subtest titles measure similar constructs and that differing titled subtests measure unique constructs, at least constructs that are significantly different from each other. This expectation

is not always justified and certainly does not appear so with regard to highly researched and validated intelligence tests (Anastasi, 1988). If such an assumption does not appear warrented with the intelligence tests which have been submitted to rigorous reliability and validity operations, it does not appear justifiable with the attachment and separation-individuation tests and inventories.

In order to clarify the construct ambiguity of separation-individuation and attachment and illustrate more precisely the nature of attachment and separation four widely used measures of these constructs will be submitted to factor analysis. With the exception of the research by Rice (1990) who submitted multiple measures of separation-individuation to factor analysis no studies have been conducted that have used multiple measures. No studies have used multiple measures of attachment. This study will examine multiple measures of attachment (IPPA, SAT) and separation-individuation (SAT, PSI, and SITA) combined with measures of autonomy and identity in an attempt to gain preliminary answers to the following questions:

(1) Are attachment and separation-individuation independent, that is, are they uni- or multidimensional constructs?

(2) What are these instruments measuring relative to each other?

(3) What common factors emerge?

(4) How do measures of identity and autonomy relate to

attachment and separation individuation?

METHOD

Subjects and Procedure

The subjects (N=358) for this study were male (N=102) and female (N=256) college students (18-15) from the University of North Texas (UNT). Data was collected during the summer and fall semesters of 1991. Participation in the study was voluntary, with subjects receiving course credit for involvement in the study where possible. Students were asked to participate in a study examining family relationships and personal growth. Volunteers completed a packet of pencil-and-paper measures at designated classrooms throughout the summer and fall semesters in the presence of research assistants. Each packet contained a letter of introduction with instructions, an Informed Consent form, and the instruments described below. Each packet required approximately one to one-and-one half hours to complete. To insure confidentiality and candid responding, subjects were asked not to include their names on any of the materials.

Instruments

The testing packet included the following paper-and-pencil self-report measures:

The Separation Anxiety Test (SAT)

The SAT (Hansburg, 1972,1980) is a structured, projective instrument in which subjects respond to twelve pictures of a child in different separation scenes. The scenes vary in intensity from

mild to strong. For example, a boy and his father stand at the mother's coffin or a girl and her family are moving to a new neighborhood. Subjects then complete sentence stems (i.e. "The child feels _____") by selecting responses from a list of possible statements. The assumption is that subjects will project their own reactions onto the child.

The reliability of the SAT is adequate for research purposes. Hansburg (1972) reported the split-half reliability for the total SAT to be .89. Black (1981) reported a matched-half reliability of .885.

Evidence of validity is limited to a few significant correlations between the SAT and therapists evaluations. Construct validity of Hansburg's eight theoretical systems which includes Individuation and Attachment is questionable. Factor analysis (George, 1991) does not support these systems. Three factors emerging from the factor analysis will be used instead: separation-distress, distress avoidance, and adaptation.

Psychological Separation Inventory (PSI)

This is an 138-item, self-report instrument containing four subscales measuring different aspects of psychological separation from parents. Functional independence (FI, 26 items) measures the subject's reported ability to manage and direct practical and personal affairs without parental help. Attitudinal independence (AI, 28 items) assesses the extent to which the subject reported having attitudes, values, and beliefs that were distinct from those

held by parents. Emotional independence (EI, 34 items) measures the degree to which the subject reports freedom from excessive need for parental approval, closeness, and support. Conflictual independence (CI, 50 items) assesses the level at which the subject reported freedom from excessive guilt, mistrust, resentment, and anger in relation to parents. One half of the items pertain to the subject's relationship with the mother and the other half to the relationship with the father. Subjects rate the degree to which each item pertained to them on a five-point Likert scale ranging from "not at all true of me" to "very much true of me". Higher scores reflect greater psychological separation from parents. Hoffman (1984) reported Cronbach alpha reliability coefficients ranging from .84 to .92 for each of the subscales. PSI subscale scores have been positively correlated with college student reports of satisfaction in their academic progress and in their love relationships (Hoffman, 1984). Responses are summed to obtain scores on each of the subscales for both mother and father. These are then summed for total subscale scores. The total scores will be used in this analysis.

Inventory of Parent and Peer Attachment (IPPA)

The IPPA assesses three broad dimensions of attachment: degree of mutual trust, quality of communication, and extent of anger and alienation. The IPPA is a self-report measure using a 5-point Likert-type response format, and is composed of 25 items in each of the mother, father, and peer sections. Three separate

attachment scores are yielded. For the purposes of this study, however, the mother and father attachment scores will be totaled and the peer scale disregarded since total parent scores will be used with the PSI. The mother and father scales have demonstrated good internal consistency (Cronbach alphas of .87 and .89 respectively; Armsden & Greenberg, 1989). Evidence for the construct validity of the measure can be inferred from its clear three factor structure, predictable relations between scores on the IPPA and scores on measures of family cohesion, depression, self-concept, loneliness, life satisfaction, and affective status (Armsden & Greenberg, 1987,1989). The IPPA was also found to be unrelated to socioeconomic status and ethnicity (Armsden & Greenberg,1987, 1989).

Separation-Individuation Test of Adolescence (SITA)

The SITA assesses eight dimensions extrapolated from Mahler's separation-individuation stages: Nurturance Seeking, Symbiosis Seeking, Enmeshment, Engulfment Anxiety, Separation Anxiety, Need Denial, Self-Centeredness, and Heathy Separation. The SITA is a self report measure using a 5-point, Likert-type rating scale. Cronbach's alpha and test-retest internal consistency statistics are unavailable, but the SITA was developed using factor analysis and point-biserial correlations to establish internal validity. Evidence of construct validity is moderate based upon use of factor analysis in development. Criterion validity appears relatively strong through comparison with the Millon Adolescent Personality

Inventory (Millon, Green, & Meagher, 1982).

Erikson Psychosocial Stage Inventory (EPSI)

The EPSI (Rosenthal, Gurney, and Moore, 1981) assesses the first six of Erikson's psychosocial stages. The six subscales are each composed of 12 items, half of which reflect successful and half unsuccessful resolution of the "crisis" of the stage. The items are randomly ordered and presented in a questionnaire format suitable for group or individual administration to respondents about 13 years of age and above. The time required to take the inventory is approximately 20 minutes. Subjects are asked to respond top one of five possible answers scaled in a Likert-type format from "almost always true" (5) to "hardly ever true" (1). Scores on each subscale are used to yield a profile of scores. Only the Autonomy and Identity subscales were used in this study. The reliability of is reported (Rosenthal, Gurney, & Moore, 1981) to be adequate but Cronbach alphas appeared to be moderate (Autonomy, .62; Identity, .71). Construct validty was determined by comparison to the Psychosocial Maturity Inventory (PSM; Greenberger & Sorenson, 1974) which showed high correlations with relevent scales. In addition age difference scores were obtained from the test sample and indicated expected maturational differences between the younger and older subjects.

Statistical Analysis

The results from the various questionnaires were subjected to factor analysis using the Statistical Analysis System (SAS).

Principal factor (common factor) analysis with iteration using squared multiple correlation (SMC) as prior communalities was used (Tinsley & Tinsley, 1987). Multiple decision-markers, scree plot, eigenvalue, and proportional criteria were employed to extract significant factors. Once the number of factors was determined they were rotated to a Varimax (orthogonal) solution followed by a Promax rotation (oblique) rotation to gain greater factor clarity.

To achieve the greatest stability possible with resultant factors this study met three criteria: absolute sample size, subject to variable ratio, and post analysis variable saturation.

The first criterion, overly simplified but powerful, is simply an adequate absolute sample size. Generally, the larger the sample size the more generalizable results than those from small samples. As the number of observations increases, the reliability of the obtained correlations goes up. With this in mind Comrey (1973) established general guidelines for samples of adequate size to ensure stability of results. The adequacy of sample size can be roughly estimated by the following scale: 50-very poor; 100-poor; 200-fair; 300-good; 500-very good; 1,000-excellent. This sample of 358 ranges between the good and very good markers and registers as an adequate sample that will provide stable results.

The second criterion is the subject-variable ratio requirement. The rule of thumb is that ten subjects, five at a minimum, are required for every variable analyzed. This study evaluates eleven variables giving a variable-subject ratio of

11:358 or 1:32.54, approximately 33 subjects per variable. This criterion is most important for smaller samples. As the sample size increases it becomes less important. In samples of more than 300 this ration is less critical. Kass and Tinsley (1979) advocate the use of 5 to 10 subjects per analyzed variable up to a total of about 300 subjects.

Although meeting this rule of thumb criteria Arrindell and van der Ende (1985) have not found subject-variable ratio to have any significant effect on factor stability. Absolute sample size can have a dertermining effect depending on the sample size and other factors, but this is not necessarily essential to stability. A ratio of 1.3 respondents per variable yielded a stable factor solution on a seventy-six item questionnaire and a total sample of 78 subjects (a ratio of 3.9 subjects per item) yielded satisfactory factor stability on a twenty item questionnaire. Such results suggest greater flexibility in the number of items required for factor analysis than either rule of thumb rule suggests.

Guadagnoli and Velicer (1988) also found that subject-variable ratio was not as critical in stability of factors as factor saturation (the magnitude of loadings on the factor) and absolute sample size. Component saturation was the major factor in determining comparability between sample and population factor patterns. At the lower factor saturation levels (loadings at .40), the effects of sample size and number of variables per factor were more evident and important. A good match to the population pattern

was attained across all conditions when the sample factor pattern was well defined (loadings at .80). Sample factor patterns possessing moderate factor saturation (loadings at .60) provided a good fit to the population pattern across conditions when sample size was greater than or equal to 150 subjects. Even at the low, weakly defined loadings (.40) a good match with sample and population was achieved when the sample size was in a range of 300 to 400 subjects. Thus, factor saturation must be of prime consideration in relation to the absolute size of the sample.

Where a priori estimation of saturation level is difficult post analysis evaluation of factor saturation can help confirm or disconfirm the stability of results. Such a post analysis was conducted in this study having used the subject-variable ratio and absolute sample size to establish a viable framework for sample collection and prospective factor stability. This analysis will adhere to these post-analysis guidelines suggested by Guadagnoli and Velicer:

(1) If a factor possesses four or more variables with saturation above .60, the pattern may be interpreted whatever sample size is used.

(2) If a factor pattern is composed of many variables (10 to 12) but low saturation (.40) the solution should be accurate at all but the lowest sample sizes (N<150).

(3) If a factor possess only a few variables and low loadings the factor should not be interpreted unless the sample size is 300

or more observations. Replication is strongly suggested if these conditions occur when the sample size is fewer than 300 observations.

This sample of 358 meets the last criteria suggesting that even low factor loadings will attain stability. These criteria are helpful, however, in understanding the relative strength of stability of the resultant factors. Thus, a number of variable loadings and high saturation would suggest a significant level of stability.

RESULTS

Description of the Sample

The sample consisted of 358 undergraduate and graduate students enrolled at the University of North Texas (UNT). All were enrolled int psychology classes. The sample consisted of 102 males (28.5% of the total sample) and 256 females (71.5% of the total sample). Ages ranged from 18 to 25. Eighty-eight (24.5%) were freshman, 87 (24.3%) were sophomores, 68 (19.0%) were juniors, 107 (29.9%) were seniors, 7 (2.0%) were graduate students, and 1 (.3%) was a special student. The sample was predominantly single (337, 94.2%), with most in long-term relationships (153, 42.7%) or actively dating (112, 31.3%). The remaining single subjects (72, 20.1%) indicated they were not actively dating. Thirteen subjects (3.6%) were currently married, four (1.1%) separated, and four (1.1%) divorced. One hundred fifty-seven (43.9%) reported living with another person off-campus, 98 (27.4%) in the residence hall,

47 (13.1%) living alone off-campus, and 56 (15.6%) with one or both parents at the parents home. A majority of the subjects (256, 71.6%) reported that more than half their living expenses were

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Insert Table 1 about here

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supplied by others. Eighty-two (28.5%) indicated that less than half of the expenses were supplied by others. One hundred twenty-nine reported not working at all, while 146 (40.7%) reported working 24 hours a week or less. Eighty-three (23.2%) reported working 26 hours or more per week. The ethnic mixture was predominantly Caucasian (257, 71.8%) with 32 African-Americans (8.9%), 33 native Americans (9.2%), 20 Hispanic (5.6%), 11 Asian (3.1%), and 5 Other (1.4%).

Family demographic data indicated a majority (202, 56.6%) of parents were married and living together and approximately one-third (124,.34.4%) o_ the sample had divorced parents. One or both parents of twenty subjects (5.3%) had died. One hundred forty-eight (42.4%) described a very or extremely close relationship with the father, 111 (31.8%) a somewhat close relationship, and 90 (25.8%) a relationship not very close at all or nonexistent. In contrast 266 (74.3%) described a close relationship with the mother, 68 (19%) a somewhat close relationship, and only 23 (6.7%)

Insert Table 2 about here

a relationship not very close at all or nonexistent. Two hundred twenty-four (66.1%) reported the father's occupation as professional or managerial, 95 (26.5%) as sales or trained worker, only 14 (4.1%) as laborer, and 11 (3.2%) as not working outside the home. One hundred sixty-eight (47.3%) reported the mother's occupation as professional or managerial, 106 (29.7%) as sales or trained worker, only 10 (2.8%) as laborer, and 73 (20.4%) as not working outside the home. Two hundred sixty-three (74.9%) reported their father having one year of college or more and 232 (65%) their mother having one year of college or more.

Three hundred twenty-six (91%) identified one or more individuals in their lives as attachment figures, a "special person in their lives. Interestingly, 137 (39%) identified their attachment relationship with the person with whom they were romantically involved. Ninety-two (26.2%) identified a friend as their attachment figure, 58 (16.5%) identified the mother, 21 (6>)%) identified another relative, and only 16 (4.6%) identified

Insert Table 3 about here

the father. Three hundred twenty-four (90.5%) were comfortable or very comfortable with their respective attachment figures. A

majority classified themselves as totally or mostly independent (216, 60.4%), 116 (32.4%) as somewhat independent, and only 26 (7.3%) as a little or not independent at all. Two hundred forty-two (67.6%) described themselves as comfortable or very comfortable with their independence, 79 (22.1%) as somewhat comfortable, and only 37 (10.3%) as not very or not at all comfortable.

Description of Measures

Five dependent measures were used in the present study. The SAT measured both attachment and separation-individuation. The IPPA focused on attachment while the PSI and SITA primarily targeted separation-individuation. The EPSI contained measures of identity and autonomy for purposes of comparison of these constructs with attachment and separation-individuation. Table 4 presents means, standard deviations, and ranges for the dependent measures for the entire sample.

Insert Table 4 about here

Major Findings

The data were analyzed using principal factor analysis (common factor) from the Statistical Analysis System (SAS). Squared multiple correlations were used as prior communalities with 14 iterations until the convergence criterion was reached. Factors were extracted with the combined decision-markers: scree plot, eigenvalues, and proportion of the variance. Extracted factors

were submitted to Varimax (orthogonal) rotation which was followed by Promax (oblique) rotation to further simplify loadings.

Analysis of the Correlation Matrix

The correlation matrix contained nine significant subscale correlations .53 or above. All other correlations ranged .36 or lower.

Insert Table 5 about here

The IPPA, exclusively measuring attachment, correlated negatively with PSI functional independence (FI) -.550, attitudinal independence (AI) -.555, emotional independence (EI) -.538, but negatively with conflictual independence (CI) .536. The CI subscale has been shown to correlate in the opposite direction of the other subscales (Rice, Cole & Lapsley, 1990). Within the PSI the FI correlated positively (.772) with the EI subscale and AI (.576), AI with EI (.571), and none of the subscales with CI. These findings replicate the results of Rice, Cole, and Lapsley (1990). Distress Avoidance of the SAT correlated positively with Separation Distress (.551) also of the SAT. Neither correlated with the SAT Adaptation subscale which might be expected in that The Attachment System generally correlated negatively with the Individuation system (Black, 1981). The Individuation system closely corresponds to Adaption and the Distress Factors are made up of the items of the Attachment system. The identity subscale of the EPSI

correlated positively with the autonomy subscale (.765) and no other scale. But both Identity (.352) and Autonomy (.330) correlated moderately with the Healthy Separation from the SITA. The correlation of Adaptation of the SAT was low for all scales with the highest reaching .218 for the EPSI Identity subscale.

The low correlation of the separation-individuation measures (Adaptation,SAT; Healthy Separation, SITA) suggest the they are measuring very different aspects of the separation-individuation construct. The relatively stronger correlation of Healthy Separation with Identity and Autonomy suggests the potential of a more robust relationship between the constructs these measures represent.

The recorrelations of the attachment measures (IPPA; Distress Avoidance, SAT; Separation Distress, SAT) suggest very different domains are being assessed. Virtually no relationship exits between the IPPA and Distress Avoidance (-.052) and Separation Distress (-.006).

Factor Analysis

Factor Extraction

Using the multiple criteria recommendation of (Tinsley and Tinsley,1987), three criteria, scree plot, eigenvalue, and proportion of variance, were used to extract factors. The scree plot suggested four potential factors with the most obvious portion of the scree beginning at the fifth factor. On the basis of the eigenvalue (.4893) the fourth factor represented only 4.45% of the

variance. The first three factors represent 24%, 17%, and 9% of the variance respectively. Thus, on the basis of eigenvalue and the amount of variance represented the fourth factor is not considered a solid factor. Further, the proportion of the variance of the fourth factor represents only .09 of the total variance while factors one, two and three represent .49, .36, and .17 of the total variance. Thus, on the basis of the proportion and eigenvalue results three factors were retained.

Fourteen iterations satisfied the convergence criterion yielding a final total communality of 5.714 representing 51.9% of the total variance in the first three factors. The use of squared multiple correlations in the diagonal to minimize error variance decreases the amount of total variance explained than if unities had been placed in the diagonals as in principal components analysis. The results represent an acceptable amount of variance explained. Following iteration the first three factors respectively account for 22.7%, 17.2%, and 12% of the explainable variance (51.9%).

Factor Loadings and Factor Identity

Three factors with high saturation loadings emerged from the Varimax rotation. Two factors were bipolar and one unipolar.

Insert Table 6 about here

Factor 1, represented 22.7% of the variance, was bipolar and

had high positive loadings on three separation-individuation subscales, FI (84), EI (83), and AI (67). The attachment measure (IPPA) loaded negatively, but with high saturation (-76). These four loadings accounted for 97.3% of the variance on this factor. Examinations of these scales and their loadings suggest that this factor represents a connectedness to or independence from parents continuum since all of these subscales present items relative to independence from or connectedness (attachment) to parents. Further, although the PSI subscales come from an instrument that purportedly measures separation-individuation broadly, the emphasis appears to be on independence rather than separation or individuation. The negative loading of the attachment measure appears to support this interpretation. Further, the subscale names, that is independence subscales, of the PSI may be a better label identifying the constructs measured than the overall title of the test (psychological separation). Thus, Factor 1 appears to be a connectedness continuum with independence at one pole and dependence at the other and is named, Connectededness to Parents.

Factor 3, representing 12% of the variance, was also bipolar and had positive loadings of moderate saturation on Separation Distress (62) and Distress Avoidance (63). Conflictual Independence also loaded negatively with a moderate saturation (-55). These three loadings represented 81.6% of the variance on this factor. Examination of the subscales indicate significant affective content. Both subscales from the SAT are composed of items that

begin with the stem "The boy/girl in the picture feels____". The affective domain of both these scales embraces distress that is either avoided or experienced because of loss or the threat of loss. The Conflictual Independence subscale of the PSI also emphasizes affective content, although on the more restricted framework of parent-child relations. The higher the score on this scale the greater the freedom from conflict in parent-child relations. The negative loading suggests a range of emotional experience from the presence distress to the absence of conflict. Thus, Factor 3 can be described as a continuum of affective experience tethered by distress at one extreme and nondistress at the other. It is named Level of Distress.

Factor 2, representing 17.2% of the variance, was unipolar and had high saturated loadings on two variables, Identity (87) and Autonomy (86). These two variables represent 79% of the variance on factor two. The loading of only two variables on this factor makes identification more difficult, however, one point of commonality is that these two subscales have to do with the self. In particular the autonomy and the identity of the individual. Of the three factors this comes closest to the idea of the individuated self. Although, Healthy Separation (SITA) did not load significantly on this factor (39) if fell only .026 short of the significance criteria (.416). Healthy Separation loaded -11 on Factor 1 and only 5 on Factor 3. Such indicates that the character of this factor is toward a sense of self marked by autonomy.

This interpretation is supported further by the following Promax rotation. The target matrix for the Procrustean Transformation identified Healthy Separation (SITA) and Adaptation (SAT) along with Autonomy and Identity of the EPSI as variables expected to load on Factor 2. Although upon rotation only Autonomy and Identity were retained, the loading for Healthy Separation rose to 41 and Adaptation to 22. All other loadings were 13 or below. Thus, Factor 2 is named the Individuated Self.

Two variables, Healthy Separation and Adaptation did not load significantly on any factor but as previously discussed loaded on Factor 2. Their loadings on Factor 1, Healthy Separation (-11) and Adaptation (-7), and Factor 2, Healthy Separation (5) and Adaptation (-4) represent a virtually uncorrelated relationship. It is possible that other variables must be entered to find a suitable domain.

The Promax rotation simplified the statistical result by increasing the heaviest factor loadings and decreasing the lowest. But no change was made in the loadings or the significance of the original variables loading on each factor.

Factor Stability

Post analysis potency of variables suggests that the extracted factors are stable. The absolute loadings of four variable on Factor 1 (Connectedness to Parents) ranged from .76 to .84 and meet Guadagnoli and Velicer's first criterion of high saturation loadings of four or more variables. These high saturations

indicate excellent stability especially when combined with the sample size.

Factor Two (Individuated Self) also displayed high factor loadings of .87 and .86. Although highly saturated, only two variables loaded on this scale. Stability of this factor does not appear as great as Factor 1. The third criterion for stability is that where there are low loadings of only a few variables then the factors should not be interpreted unless the sample size is greater than 300. Factor two meets the absolute sample size test and goes beyond it in that the loadings are not low but highly saturated. Such suggests good stability of Factor 2 although not as great as Factor 1.

Factor 3 (Level of Distress) is similar to Factor 2 in stability with some differences but which suggest good stability. Three variables load instead of just two as in Factor 2, but the loadings are moderate (.63, .62, and .55). Criterion 3 is again reached in that fewer than four variables load and a sample size exceeding 300 is analyzed. The criterion is exceeded in that the loadings are not low, but of moderate saturation. Good stability is supported.

Each of the three factors demonstrates good to excellent stability. Absolute sample size combined with high (Factor 1 and Factor 2) and moderate (Factor 3) saturations offer confidence in factor stability.

DISCUSSION

The purpose of this study was to investigate to the nature of separation-individuation and attachment using four widely used instruments. To achieve this purposes two broad areas were explored: (1) the dimensionality of attachment and separation-individuation and (2) the comparative functioning of multiple instruments purporting to measure the separation-individuation and attachment constructs.

The dimensionality of separation-individuation and attachment has been theorized to be both uni- and multidimensional. The unipolar position views these two constructs as poles on a continuum, attachment at one pole and separation-individuation at the other. The multidimensional view conceives these constructs as separate domains which potentially interact or at least exert influence on each other.

The comparative functioning of multiple measures of separation-individuation and attachment is important because these measures are usually used in isolation, yet purport to measure the same or closely similar aspects of these constructs. Yet such an assumption is only partially justified in light of empirical findings and internal investigation of the instruments. Knowing what these instruments measure relative to each other not only offers the prospect of understanding these measures, but also understanding the common or unique domains relative to these instruments.

The following statements capture the basic conclusions of the study. Strong support is tendered for the multidimensional view of separation-individuation and attachment. Each construct appears to be distinct yet related to and influencing the other. Furthermore, the relationship is more complex than these two constructs alone as suggested by others (Hansburg, 1972; Bowen, 1976; Josselson. 1980) Bowen, 1976). Two constructs appear to underlay both attachment and separation-individuation, connectedness to parents (an independence-dependence continuum) and level of distress (presence or absence of distress). Furthermore, Connectedness to Parents (independence-dependence) appears to be a construct independent of autonomy and separation-individuation. Thus, the instruments appear to measure similar constructs, but not necessarily in the manner theorized. For instance, both the PSI and IPPA appear to measure a connectedness to parents, but at opposite poles of a linear dimension. Such is in contrast with theory that view attachment and separation-individuation as independent dimensions and the PSI and IPPA assessing two distinct dimensions.

These general conclusions were attained in answering four specific questions:

(1) Are attachment and separation-individuation uni- or multidimensional constructs?

(2) What are these instruments measuring relative to each other?

(3) What common factors emerge?

(4) How do measures of identity and autonomy relate to attachment and separation-individuation?

Each of these questions are interrelated and will not be discussed in order, but at appropriate points in discussion of the findings. The discussion will begin with an individual analysis of the emergent three factors (Connectedness to Parents, Level of Distress, and Sense of Self) and proceed to address aspects of each question as development proceeds.

The Character of Factor 1: Connectedness to Parents

Connectedness to Parents, Factor 1, representing the highest amount of total variance (22.7%) appears to be an independence-dependence continuum. Factor 1 is bipolar, surprisingly composed at one extreme of an attachment measure (IPPA) and at the other of three subscales of a separation-individuation measure (PSI). The loadings of each of the subscales are highly saturated with positive loadings from functional independence (84), emotional independence (83), and attitudinal independence (67) and negative loading from father-mother attachment (-76). Thus, on this factor these subscales account for 97.3% of the common variance.

At first glance, this might appear to be support for a unidimensional interpretation of attachment and separation-individuation, but a closer look suggests otherwise. Rather, this domain appears to stress the level of connectedness of an adolescent to parents. The subscale labels of the PSI are functional, attitudinal, and emotional independence and appear to

provide superior nomenclature for the test than the overall test title, Psychological Separation (-individuation) Inventory. Thus, the PSI appear to assess the level of psychological separation-individuation by specifically tapping into a mixture of adolescent affective, cognitive, and functional independence. In contrast, The IPPA gauges its measure of attachment by assessing levels of trust, communication, and alienation. Again, affective, behavioral (functional), and cognitive dimensions in relation to parent connected are tapped. In both cases the underlying factor appears to be connectedness to parents.

Thus, from Factor 1, rather than a unidimensional, dependent relationship between attachment and separation-individuation a linear continuum indicates the level of connectedness to parents which appears to be related to independence from parents. This is not to say that separation-individuation and attachment are not independent domains in some respects, but that the measures used in this study that have often presupposed independent dimensions are actually measuring the same underlying construct, Connectedness to Parents. Thus, these instruments appear to measure a linear construct (Figure 1) which may be part of a larger separation-individuation and attachment relationship.

Insert Figure 1 about here

Surprisingly, the PSI and IPPA load on the same factor at polar ends with similar multiple experiential indicators (cognition, emotion, and behavior). If these subscales were actually measuring separation-individuation and attachment these results would counter some current theorists who stress the probable independence of attachment and separation-individuation (Franz & White, 1985; Daniels, 1990). Franz and White (1985) speak of the interactive effect of attachment of separation-individuation. Daniels (1990) of a linear understanding of separation-individuation that is embedded within attachment relationships. These results suggest their conceptualization may be faulty, namely, that separation-individuation and attachment may be fundamentally related in a linear way with respect to connectedness to parents. The results also suggest that Hansburg's (1972) linear representation with a balance between separation-individuation and attachment may be closer to reality.

Caution is required, however, in that these results are based on the particular instruments used in this study and do not propose to be exhaustive regarding conceptualization of these constructs. Furthermore, the initial analysis indicates that the IPPA and PSI do not appear to be measuring the separate domains of attachment and separation-individuation, but polar opposites of a more restricted linear construct, Connectedness to Parents.

The actual nature of Factor 1, Connectedness to Parents is unclear. It may be assessing a number of constructs: (1)

independence-dependence, (2) detachment-enmeshment, or (3) some yet unidentified construct such as a family closeness-distance continuum.

Ryan and Lynch (1989) some helpful discriminations between independence, detachment and autonomy is discussing the character of Factor 1. Autonomy refers to self-governance and self-regulation in contrast to being controlled by external forces or compulsions. On the other hand, independence concerns self-reliance, the ability to care for oneself in contrast to dependence in which an individual relies on another for satisfaction of needs. An individual can be dependent on another without necessarily being controlled or lacking autonomy. Independence and autonomy are not synonymous nor are autonomy and dependence mutually exclusive. Finally, detachment describes an individual's withdrawing from the family, normally to adopt new attachments or social bonds. Detachment may be a necessary, but not sufficient step toward independence and autonomy. It may be an intermediate step toward these possible states. Detachment may also entail a loss and separation in which a dependent person is severed from necessary attachments. Such detachment may block instead of mediate progress toward independence and autonomy.

Although, the findings are by no means conclusive, the results suggest that Factor 1, Connectedness to Parents, is assessing a closeness-distence or detachment-enmeshment continuum rather than an independence-dependence continuum.

Some evidence is present for an independence-dependence continuum and against the detachment-enmeshment continuum in that the items composing the PSI and IPPA encompass a limited behavioral spectrum which does not include the more dysfunctional behaviors characteristic of detachment or enmeshment. The PSI in particular has been criticized for its lack of behavioral breadth (Anderson & Sabatelli, 1990) and its consequent limitations in assessment. The preponderance of evidence does not point toward independence-dependence, but to family distance-closeness.

Correlations with relational self-report questions in the demographic section of the questionnaire point in the direction of a family distance-closeness continuum. First, three of the PSI subscales (FI,EI, and AI) are, as expected, negatively correlated to relationship with mother (FI, -.36; EI, -.39, and AI, -.32) and relationship with father (FI, -.37; EI, -.44; AI, -.36). Such could suggest either independence-dependence or family closeness-distance. Independence-dependence is not supported as strongly as family distance-closeness, however, in that the correlations between a self-report perception of independence and the PSI subscales were lower than for the attachment questions with FI at .25, EI at .18, and AI virtually nonexistent (.05). If the PSI subscales were assessing independence a stronger correlation would have been expected in relation to self-perceived independence. Thus, the PSI subscales for independence correlated to a greater extent with relationship to mother and father than self-perceived

independence suggesting family closeness-distance rather than independence-dependence.

Second, correlations between the IPPA and these demographic attachment questions obtained results in the expected direction.The IPPA correlated positively to relationship with mother (.46) and relationship to father (.55). Also, the IPPA showed virtually no relationship (-.03) to the self-report perception of independence suggesting that this admittedly rough measure of self-perceived independence was entirely distinct from the IPPA in contrast to the other PSI subscales (FI, EI, and AI) which were moderately related in the expected direction. In fact, self-perceived independence shows a stronger relationship between autonomy (.31) and identity (.28) than any of the PSI subscales. This relationship suggests that family closeness-distance is being assessed and not independence-dependence.

Recalling the distinctions between autonomy (self-governance) and independence (self-reliance) and the stronger correlations between self-perceived independence and autonomy than self-perceived independence and the PSI subscales suggests that what the PSI subscales are measuring are less like independence than the names of these subscales suggest. In addition, the stronger relationship between the PSI subscales and relationship to mother and father and the IPPA than self-perceived independence suggest family closeness-distance is measured.

The quality of the distance or closeness is not clearly

indicated by these scales, but the addition of the attitudinal subscale suggests some elements of detachment are involved. The AI scale has been characterized as an identity component of the PSI. It is highly cognitive and composed of items that indicate the rejection of parental beliefs and values. Such could be a sign of independence or of detachment (withdrawal from family). In that AI shows virtually no correlation (-.03) with self-perceived independence, detachment may be the flavor of the closeness-distance continuum of Factor 1, but this conclusion is highly speculative.

Thus, Factor 1 appears to be a family relatedness domain between parents and adolescent. This appears to be supported by the distinctions between the PSI, parentally-oriented relationship questions and self-perceived independence. At this juncture this parental connectedness appears to be a distance-closeness continuum with possible detachment influence rather than an independence-dependence domain.

This finding coincides with the factor results of Rice, Cole, and Lapsley (1990) who identified one of their two factors as Independence from Parents. Also using the PSI, functional, emotional, and attitudinal independence loaded with together with remarkably similar results. Respectively, the results for FI were .84 compared to .85, for EI, .83 compared to .81, and for AI, both were .67. This study's findings replicate theirs suggesting stability within the college population and extend their findings

conceptually with the additional loading of the IPPA, attachment measure. Their factor tapped one end of familial relationships while Factor I on this study suggests a continuum of connectedness within family relationships that is somewhat distinct from perceptions of individual independence and attachment.

These results offer implications for conceptualization of independence-dependence constructs in terms of assessment and family systems. First, scales need to assess a broad spectrum of behavior. Anderson & Sabatelli (1990) point out this deficiency in the PSI. Daniels' conceptualization of separation-individuation is founded on the differences between healthy separation-individuation (independence) and unhealthy separation-individuation (detachment/alienation). Second, both PSI and IPPA loadings on a Connectedness to Parents factor suggest the importance to including family systems theory within conceptualizations and assessments of individual developmental theory of separation-individuation. This is further supported by the differential correlations between the PSI, IPPA and individual questions on attachment and independence.

The first implication is that the continuum of Factor 1 fails to assess the full range of behavior. Independence and dependence may have a healthy or unhealthy quality. An individual may be excessively, insufficiently, or appropriately dependent or independent. In both cases a healthy dependence or independence is bracketed by unhealthy extremes (see Figure 2). Healthy dependence and independence may be a key

Insert Figure 2 about here

component which correspond to Hansburg's (1972) balance of separation-individuation and attachment. Movement into either extreme represents an imbalance that portends pathology similar to Daniels' (1990) therapeutic and nontherapeutic extremes.

The extremes become very difficult to understand in terms of attachment and separation-individuation. Hypodependence and hyperindependence may look alike or even be superimposed on each other. Similarly, hyperdependence and hypoindependence may be apparently alike but also share differences. It is at this junction that attachment and separation-individuation become difficult to tease apart, yet it is this very imbalance in their relationship that is important to distinguish. Hansburg (1972) attempted to distinguish these constructs by his eight systems and the attachment-individuation balance. His difficulty was just that presented here, the confounding of attachment and separation-individuation by their apparent similitude.

In terms of attachment and separation-individuation the relationship might be pictured similarly to that of independence and dependence. Attachment may be pictured as a healthy dimension bracketed by unhealthy extremes. Underattachment might be called detachment and overattachment, enmeshment. Similarly, Overseparation, might be called alienation and underseparation as

entanglement (see Figure 3). In both cases the extremes are still

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Insert Figure 3 about here

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confused because hypoattachment (detachment) - hyperindependence (alienation) and hyperattachment (enmeshment) - hypoindependence (entanglement) appear very much alike. And they may in that they represent an imbalance. But the question is, "Where is the imbalance?". It appears unprofitable to identify an imbalance in the separation-individuation and attachment constructs. They appear inherently confounded. One solution to this problem may be the use of the more restricted Parent Connectedness construct in combination with family systems theory.

Some family theorists (Sabatelli & Mazor, 1985; Anderson & Sabatelli, 1990) have stressed the importance of distinguishing between separation-individuation and differentiation. Distinguishing these two constructs may offer clarification of the quality of the Connectedness to Parents (independence-dependence on parents continuum) factor. Separation- individuation is defined as primarily an intrapsychic, subjective process referring to the relative degree of psychological distance an individual experiences from the parental family. Differentiation is understood as a property of the family system in which the interpersonal distances are regulated within the family and the family's adaptability to interpersonal change.

This distinction suggests a confounding of these dimensions in light of the character of Parent Connectedness. Both interpersonal (family) distances and intrapersonal (subjective dependence-independence) may be confounded. By separating these dimensions out the quality of the Connectedness to Parents may be identified and offer greater explanatory power in understanding attachment and separation-individuation. Family systems has traditionally been interested in distinguishing enmeshment within family systems and provide a great deal of clinical experience in the more dysfunctional aspects of family systems (Boszormenyi-Nagy & Spark, 1973; Bowen, 1976; Minuchin, 1974). The incorporation of measures assessing the hypoindependence and hyperdependence may help separate out family systems constructs currently confounding findings in separation-individuation and attachment research.

In summary, the character of Factor 1, Connectedness to Parents, appears to be represent a domain of interpersonal connectedness to parents, a continuum ranging from closeness to distance. Individual independence-dependence appears to be a domain distinct from familial connectedness. Thus, the results imply the need for clarification of independence and dependence within the familial and extrafamilial contexts. The integration of family system constructs (i.e. enmeshment-differentiation) offer theoretical promise of distinguishing these constructs.

The Character of Factor 3: Level of Distress

The character of Factor 3, Level of Distress, appears to be

a continuum of distress. Like Factor 1 the third factor is bipolar, composed at one extreme by an attachment measure (SAT) and at the other by a separation-individuation instrument (PSI). The SAT subscales composed the high distress end of the factor. The SAT subscales were not the original systems theorized by Hansburg (1972) but factor analytically derived subscales (George, 1991) of the SAT: Separation Distress and Distress Avoidance. They are composed of those items on the SAT that represent emotionally involved attachment, usually within the family. The one scale of the PSI, Conflictual Independence, loads negatively on this factor and represents the absence of conflict or distress. Factor 3 is perhaps the most clearly identified of the factors and represents a level of distress continuum from high distress to its absence. This factor appears to be affectively intense in comparison to Factor 1 which appears to be more cognitively biased. Like Factor 1 the third factor represents an interpersonal environment with parents. Factor 3 like Factor 1 also appears to represent a component usually associated with the attachment and separation-individuation experience, the presence of absence of affective distress.

The relationship of Separation Distress and Distress Avoidance to the IPPA was not entirely expected and requires some explanation. The correlation of the IPPA was low and negative to Separation Distress (-.006) and Distress Avoidance (-.05). According to Hansburg distress caused by separation experience

would trigger attachment behavior and a higher positive correlation might be expected between the IPPA and the SAT distress factors. This relationship is not observed in these results. A partial explanation may lay in the nature of how attachment was conceptualized. For the IPPA attachment was framed in terms of established parental trust, communication, and alienation. These dimensions were tapped through questions that mixed cognitive, affective, and behavioral dimensions. This contrasts with the SAT which is set in an affective context. Thus, different domains of attachment appear to be tapped the one emphasizing separation distress within the family and the other ongoing familial functioning. The SAT stresses the breakup of structure, the IPPA functioning within structure. The SAT focuses on the loss of a secure base while the IPPA assumes some form of secure base. Thus, the SAT factors do appear to measure an affective component of attachment quite distinct from that of the IPPA.

This relationship is further supported by the positive correlation between conflictual independence and the IPPA (.53). Conflictual independence appears to tap into the absence of family conflict and in this sense would logically correlate with the presence of a secure base (IPPA). This positive correlation may be the result of similar lines of measurement approached from different perspectives, The PSI from the absence of conflict and the IPPA from the presence of trust and communication. The absence of conflict may also signify the presence of positive emotional

bonds and may suggest that conflictual independence and positive parental bonding represented by trust and communication are closely linked. From this perspective the CI and IPPA may tap into family health. This tentative conclusion finds some speculative support in the correlations between Separation Distress of the SAT with FI (-.23) and EI (-.23) which may indicate an inverse relationship between separation distress and distance within the family, that is, the greater the distress the more enmeshed. Further, the negative correlation of Distress Avoidance (-.29) with CI and low correlations with both FI and EI suggest possible conflictual dependence is tapped by Distress Avoidance. In both cases the lack of family health is implied. This, is only a possible reconciliation, however, and these results do not offer any final conclusions. The interpretation is viable, however, and does not negate theory, but does point to the need for a means of clarification of the character of this distress continuum.

What does emerge with Factor 3, is a family distress continuum, ranging from the presence to the absence of distress, in which the character of the distress cannot be clearly identified. The conflictual independence subscale suggests a level of family distress may be tapped or on the more positive side a level of family health. The SAT subscales suggest distress related to individual responses to specific family separation experiences. Such may connote more a style of responding. Also, both scales may tap into family problems. Thus, though it is clear family

distress is assessed, the quality of that distress remains ambiguous.

These results imply the importance of including family systems theory for an understanding of the attachment and separation-individuation constructs. Factor 3 does not clearly distinguish the nature of distress or lack of distress. For instance, distress can be both overt and covert. A family may seem to conflictually free, yet be laden with significant covert distress, a result of personal denial and collusion to keep the "family secret". In addition, the absence of distress does not necessarily indicate the presence of positive affective experience. Family system approach may offer constructs and instruments that can clarify the nature of distress.

Some Implications of the Linkage Between Factor 1 and Factor 2

Connectedness to Parents and Level of Distress are both bipolar factors composed of scales from both attachment and separation-individuation instruments. Both factors also represent continuums within the familial context. Each differs in content, Factor 1 being more diffuse with cognitive, behavioral, attitudinal aspects and Factor 2, more affectively laden.

Together, these two factors join elements often associated with attachment literature: affective distress and connectedness to parents. In that both factors are relatively independent that may be presented graphically as two axes of a geometric grid (see Figure 4). Each quadrant of the grid represents a degree of

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Insert Figure 4 about here

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independence or dependence relative to distress or its absence. Quadrant 4 represents an arena of low distress and high individuation. Generally, the prediction might be made that the lower the distress the higher the level of independence. Such a grid might be helpful in a clinical assessment of an individual's healthy or unhealthy attachment. For instance, should an individual attain low distress and high dependence hypotheses might be generated as to the cause since a higher level of independence would be suggested by the low distress. Similarly, high distress and high independence might suggest a "cutting off" or detachment in an adolescent when stronger attachment behaviors would be expected. Thus, the grid appears to represent two domains that can be used to assess both attachment and separation-individuation concerns.

These two domains are insufficient in themselves, however, to distinguish healthy and unhealthy separation-individuation and attachment. What is needed is some measure representing family health and dis-ease. The insertion of a third grid line, such as differentiation, and making a three-dimensional model might offer the needed discrimination (see Figure 5).

Insert Figure 5 about here

These three constructs used in tandem offer the possibility of teasing out some of the finer but fundamental distinctions on the nature of attachment and separation-individuation. But in fact, this grid says more about interpersonal connections and by extension attachments than it does about the quality of separation-individuation. Using this grid separation-individuation will be understood in terms of distress (presence to absence), connected to parents (independent to dependent), and family system (enmeshed to differentiated). It is here the emergence of Factor 2, Sense of Self, offers further clarification.

The Character of Factor 2: Sense of Self

The emergence of Factor 2, Sense of Self, offers the clearest evidence that separation-individuation is an independent dimension apart from attachment. This sole unipolar factor loading only with items relating to the self and subscales from separation-individuating instruments represented 17.2% of the total variance. This factor best approaches the construct of individuation, but demonstrates much greater complexity than previous measures attempted to assess.

The significant factor loadings are from the Autonomy and Identity subscales of the EPSI. Autonomy did not load on the Factor 1, and suggests that the perception of the autonomy of self

is different from the perception of connectedness to parents. The one construct is interpersonal the other intrapersonal and suggests an anchoring within the self as opposed to negotiation with external interpersonal forces. Likewise, identity suggests the formation of a certain solidity of the self and that the process of individuation has reached a certain stage of stability. Josselson (1980) asserts these constructs are reciprocally interdependent with individuation.

Interestingly, the other two higher loadings on this factor were Healthy Separation (.39) from the SITA and Adaptation (.39, individuation) from the SAT. Healthy Separation was on the threshold of significance and Adaptation had its highest loading on this factor. Both these scales had virtually no relationship with either of the other factors.

The correlations of these subscales with the individual's perception of independence supported these findings. Perceived independence correlated positively with Autonomy (.30), Identity (.28), Healthy Separation (.005), and Adaptation (.01), although the relationship with Healthy Separation and Adaptation was virtually nonexistent. Although each of these four factors had their most significant loadings on Factor 2, Sense of Self, Autonomy and Identity make one distinct pair and Healthy Separation and Adaptation another in the way they relate to both Factor 2 and self-perceived independence.

Autonomy (.26) and Identity (.28) also correlated positively

with the IPPA as did Healthy Separation (.19) and Adaptation (.09), although not to the same degree. Together these relationships may again suggest that separation-individuation and attachment are not either/or constructs, but are interlinked in complex ways. Blustein et al (1990), Rice (1990), Daniels (1990) all support the conception that separation-individuation are intimately related.

Two possibilities are implied by these loadings. First, these subscales which are used to measure separation-individuation relate most strongly to the identity and autonomy subscales supporting Josselson's conception of their relatedness. Such suggests a higher degree of complexity to separation-individuation than assessed by the instruments evaluated in this study which do not include such measures. Second, the loadings of the SITA and SAT were lower than those of Identity and Autonomy suggesting some difference between the constructs measured by these instruments. One significant difference is that the SAT subscales are formed by questions in an interpersonal context and both SITA and SAT have a heavier affective component than the EPSI scales. Thus, there may be a division within separation-individuation between perception of the self and positive feelings of the self relative to the interpersonal separation experience(see figure 6). The second component would parallel one of the factors found by Rice, Cole, and Lapsley (1990), Positive Separation Feelings. The implications of these possible constructs invites investigation.

These findings suggest that separation-individuation is a

distinct dimension made up of multiple domains. Although distinct from attachment, interrelatedness is observed between the attachment and separation-individuation measures used assessing two underlying domains, connectedness to parents and level of distress.

Conclusions and Recommendations

Attachment and separation-individuation appear to be multidimensional constructs which in certain domains show significant interrelatedness. Two domains, connectedness to parents, and level of distress appear to capture those elements of attachment and separation-individuation represented by the multiple instruments used in this study. A third domain, Sense of Self, appears to capture those elements distinctly related to separation-individuation.

Interrelatedness between these separation-individuation and attachment is demonstrated in the formation of two factors (Connectedness to Parents and Level of Distress) from parts of instruments each measuring aspects of the separation-individuation and attachment constructs. Connectedness to Parents is formed from the PSI functional, attitudinal and emotional subscales on one pole and the IPPA at the other. The SAT separation distress and avoidance of distress factors and the PSI conflictual independence subscale forms the poles of the Level of Distress factor. Finally, Factor 2, Sense of Self, forms an independent separation-individuation factor. Autonomy and Identity load significantly on this factor and relate strongly to Healthy Separation stands on the

threshold of significance. Similarly, although not to the same degree, the SAT Adaptation factor (individuation) finds its strongest relationship to this factor. Both Healthy Separation and Adaptation are virtually unrelated to the other two factors.

The preceding conclusions are not without limitation. Certain characteristics of the study limit generalizability. First, only college students, aged 18-25, were included. The applicability of these findings to younger or older individuals, or to those not in college, is questionable. The sample also included significantly more females than males and the impact of gender impacted these results must be considered. Second, this study is fundamentally correlational and subject to the limitations of correlational investigation. Relationships among the instrument's subscales were targeted and appropriate for factor analysis, but it must be stressed that causal conclusions cannot be reached. Third, factor analysis by its very nature is highly subjective. Although steeped in mathematics, the math is based on statistical theory which in turn is based on assumptions foremost of which is the assumption of factorial causation, that is, that the observed variables are linear combination of underlying and hypothetical causal factors (Kim & Mueller, 1990). Fourth, although this study is based on multiple measures of separation-individuation and attachment, the instruments included are far from exhaustive and represent only a portion of the potential measures of these constructs. Consequently, this study limits itself to those

constructs measured by the instruments. Areas of separation-individuation and attachment potentially go untapped simply because these instruments assess only limited areas of the constructs existing in reality.

The analysis of these instruments, the major findings of this study, and its inherent limitations do offer directions for potentially fruitful future research:

(1) The complexity of the separation-individuation construct requires the development of an instrument which will assess its complexity. Results suggest that emphasis be placed on the assessing two dimensions: perception of self and positive feelings. Perception of self appears to involve subconstructs of identity, autonomy, and individuation. Positive feelings appear to result from attribution about self and other and related to adaptability to the environment.

(2) The interrelationship of separation-individuation and attachment requires the development of an instrument that assesses this relationship at its most significant junctures. These points of contact appear to be the domains of connectedness with parents (independence-dependence) and level of distress. A measure of family health (enmeshment-differentiation) offers the possibility of significantly increasing the explanatory power of such an instrument by further clarifying the quality of the independence-dependence continuum.

(3) The relationship of connectedness to family and

extrafamilial independence requires clarification. Results indicate that the level of independence perceived within the family context may be quite different from that perceived outside the family. To gain a true picture of individuation both these dimensions require evaluation.

(4) Limitations in precision and breadth of behavior sampled require the development of instruments which precisely sample the entire spectrum of attachment and separation-individuation behavior. Item analysis in this study revealed imprecision of question wording that in visual inspection seem to confound cognitive, affective, and behavioral domains. Further, the units of analysis of many of the scales fail to sample a wide domain of behavior (Anderson & Sabatelli, 1990) relevant to these constructs which further limits and confounds results.

(5) The introduction and synthesis of family systems theory and individual developmental theory (Sabatelli and Mazor, 1985) is reiterated and reinforced.

(6) The development of more definitive methods of investigation that permit causal analysis between experimental groups, and longitudinal studies which permit investigation of intraindividual change over times are of prime importance to truly understand the dynamics of these complex and fundamental constructs.

SUMMARY

The study of separation-individuation and attachment emerged

from the investigations of psychoanalytic theorists. Initially these constructs were considered synthetically, but gradually diverged and examined each construct in isolation of the other in relationship to various criterion variables. More recently, research and theory have returned to a synthetic analysis considering the reciprocal relationship of these constructs and their cumulative joint effects.

A review of the literature indicates ambiguous results using current measures of attachment and separation-individuation. The first difficulty concerns confusion in the nature of these two constructs, that is, whether they represent a unidimensional, linear construct or a multidimensional one. The second difficulty concerns the validity of instrumentation currently used to measure aspects of attachment and separation-individuation.

A sample of college students completed a self-report questionnaire including multiple measures of attachment and separation-individuation with the purpose of clarifying the relationship of these instruments. This relationship provided the basis for speculation about the relationship of these constructs.

The emergence of three factors indicated a complex relationship between attachment and separation-individuation. Subscales of both attachment and separation-individuation instruments formed two of the factors. These domains of parental connectedness and distress appear predominantly, but not exclusively oriented to attachment. Elements of separation-

individuation are present, namely independence and lack of distress. It is noted that further clarification is probable with the addition of the differentiation-enmeshment construct of family systems theory. Finally, a distinct separation-individuation factor emerged indicating attachment and this construct were in all likelihood distinct. Separation-individuation was itself a complex construct composed of multiple subscales needing further clarification.

The findings suggest the need for other instrumentation which can precisely identify and distinguish the degree of independence-dependence and its quality. Including a distress and differentiation measures which precisely tapped affective experience and familial relationships appears to offer the best hope for assessing these domains. It is also suggested that another instrument tapping a wider range of subconstructs subsumed in separation-individuation also be developed.

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Table 1

Individual Subject Demographic Information

Area	Mean	Standard Deviation	Range
Age	20.54	2.01	18-25
Grade Point Average	2.86	.57	.8-4.0

Question	Number	Percentage
Class		
Freshman	88	24.6%
Sophomore	87	24.3%
Junior	68	19.0%
Senior	107	29.9%
Graduate Student	7	2.0%
Other (Special Student)	1	.3%
Race		
African American	32	8.9%
Native American	33	9.2%
Caucasian	257	71.8%
Asian	11	3.1%
Hispanic	20	5.6%
Other	5	1.4%
Religious Affiliation		
Protestant	122	34.3%
Catholic	68	19.1%
Jewish	5	1.4%
Islam	3	.8%
Eastern Religions	3	.8%
None	51	14.3%
Other (Cults, Witch, etc.)	104	29.2%
Current Living Situation		
With both parents at parent's home	37	10.3%
With one parent at parent's home	19	5.3%
Alone in house/apartment	47	13.1%
With other(s) in house/apartment	157	43.9%
In residence hall	98	27.4%
Amount of time at work each week		
More than 35 hours a week	21	5.9%
25-35 hours	62	17.3%
15-24 hours	100	27.9%
Less than 15 hours	46	12.8%
Not employed	129	36.0%

Table 2

Family and Parental Demographic Information

Question	Number	Percentage
My parents are:		
Married, living together	202	56.6%
Married, living apart	12	3.4%
Divorced, not remarried	24	6.7%
Divorced, one remarried	57	6.0%
Divorced, both remarried	42	11.8%
Both parents deceased	1	.3%
Mother deceased	3	8%
Father deceased	16	4.5%
Closeness to father:		
Extremely	46	13.2%
Very	102	29.2%
Somewhat	111	31.8%
Not very	60	17.2%
Not at all	30	8.6%
Closeness to mother:		
Extremely	136	38.0%
Very	130	36.3%
Somewhat	68	19.0%
Not very	19	5.3%
Not at all	5	1.4%
Father's occupation:		
Professional	158	46.6%
Managerial	66	19.5%
Sales	35	10.3%
Trained worker	55	16.2%
Laborer	14	4.1%
Does not work outside home	11	3.2%
Mother's occupation:		
Professional	112	31.4%
Managerial	56	15.7%
Sales	27	7.6%
Trained worker	79	22.1%
Laborer	10	2.8%
Does not work outside home	73	20.4%

Education Level in Years	Mean	Standard Deviation	Range
Father's Education	15.05	2.79	5-20
Mother's Education	14.05	2.43	9-20

Table 3

Demographic Information On Attachment Relationships & Independence

Question	Number	Percentage
Presence of Attachment Figure:		
No one fits this description	30	8.4%
More than one person	154	43.0%
I can't identify one person	172	48.0%
I don't understand what this means	2	.6%
Relationship to Attachment Figure:		
Mother	58	16.5%
Father	16	4.6%
Friend	92	26.2%
Relative	21	6.0%
Husband or Wife	12	3.4%
Romantic Relationship	137	39.0%
Other	15	4.3%
Level of Importance of Attachment Figure:		
Very Important	288	81.8%
Important	47	13.4%
Somewhat Important	14	4.0%
Not very Important	1	.3%
Not at all Important	2	.6%
Level of Comfort with Attachment Figure:		
Very Comfortable	221	63.0%
Comfortable	103	29.3%
Somewhat comfortable	19	5.4%
Not very comfortable	7	2.0%
Not at all comfortable	1	.3%
Level of Independence:		
Totally independent	41	11.5%
Mostly independent	175	48.9%
Somewhat independent	116	32.4%
A little independent	24	6.7%
Not at all independent	2	.6%
Comfort with Independence:		
Very comfortable	90	25.1%
Comfortable	152	42.5%
Somewhat comfortable	79	22.1%
Not very comfortable	33	9.2%
Not at all comfortable	4	1.1%

Table 4

Means, Standard Deviations, and Rnages of the Dependent Measures

Scale	Mean	SD	Range	Possible Range
Psychological Separation Inventory				
FI	70.09	19.23	10-104	0-104
EI	86.36	25.83	16-136	0-136
AI	56.98	23.19	0-111	0-112
CI	151.98	29.04	37-200	0-200
IPPA	175.33	32.84	70-244	50-300
Erikson Psychosocial Stage Inventory				
AUT	46.32	5.81	30-59	12-60
IDN	45.75	7.49	21-60	12-60
Separation-Individuation Test of Adolescence				
HSP	39.82	4.46	26-50	10-50
Separation Anxiety Test				
SPD	35.36	15.63	3-86	0-192
AVD	5.01	5.20	0-36	0-108
ADP	7.92	4.30	0-20	0-48

Note:

FI = Functional Independence
EI = Emotional Independence
AI = Attitudinal Independence
CI = Conflictual Independence
IPPA = Inventory of Parent and Peer Attachment
AUT = Autonomy
IDN = Identity
HSP = Healthy Separation
SPD = Separation Distress
AVD = Distress Avoidance
ADP = Adaptation

Table 5

Correlation Coefficient Matrix

	HSP	AUT	IDN	SPD	AVD	ADP	FI	EI	AI	CI	IPPA
HSP	1.0	.33	.35	.06	-.07	.11	-.15	-.09	-.16	-.04	.19
AUT		1.0	.77*	-.16	-.05	.19	.06	.06	-.17	.29	.26
IDN			1.0	-.09	-.11	.22	-.02	-.00	-.24	.27	.29
SPD				1.0	.55*	.03	-.23	-.23	-.14	-.21	-.01
AVD					1.0	-.11	-.13	-.15	-.03	-.29	-.05
ADP						1.0	-.08	-.06	-.08	.05	.09
FI							1.0	.77*	.57*	.09	-.55*
EI								1.0	.57*	.09	-.54*
AI									1.0	-.11	-.56*
CI										1.0	.54*
IPPA											1.0

* Indicates the correlation is above .40.

Note:

HSP = Healthy Separation
AUT = Autonomy
IDN = Identity
SPD = Separation Distress
AVD = Distress Avoidance
ADP = Adpatation
FI = Functional Independence
EI = Emotional Independence
AI = Attitudinal Independence
CI = Conflictual Independence
IPPA= Inventory of Parent and Peer Attachment

Table 6

Factor Extraction and Loadings

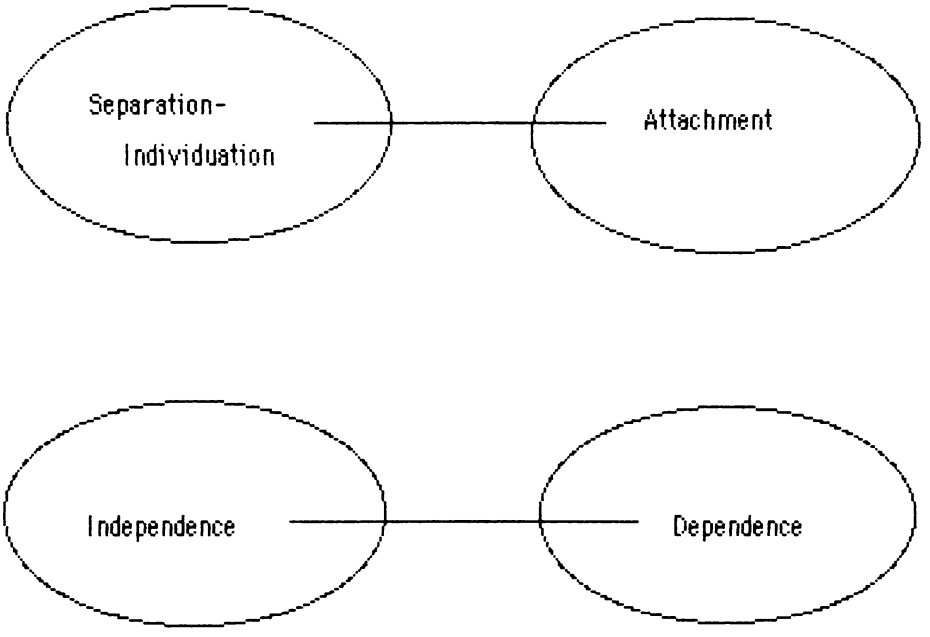
	Factor 1	Factor 2	Factor 3
FI	84*	-1	-20
EI	83*	2	-20
AI	67*	-24	-2
IPPA	-76*	29	-34
IDN	-4	87*	-13
AUT	4	86*	-15
HSP	-11	39	5
ADP	-7	22	-4
AVD	-7	0	63*
SPD	-19	-1	62*
CI	-12	24	-55*

* Indicates significant factor loadings above .416

Note:

FI = Functional Independence
EI = Emotional Independence
AI = Attitudinal Independence
CI = Conflictual Independence
IDN = Identity
AUT = Autonomy
IPPA = Inventory of Parent and Peer Attachment
HSP = Healthy Separation
SPD = Separation Distress
AVD = Distress Avoidance
ADP = Adaptation

Unidimensional Model of Separation-individuation and Attachment



Factor 1: Connectedness to Parents

Figure Caption

Figure 1. A comparison of the unidimensional Separation-individuation Model and Factor 1, Connectedness to Parents, a linear independence-dependence continuum

Expanded model of the Independence-Dependence Continuum

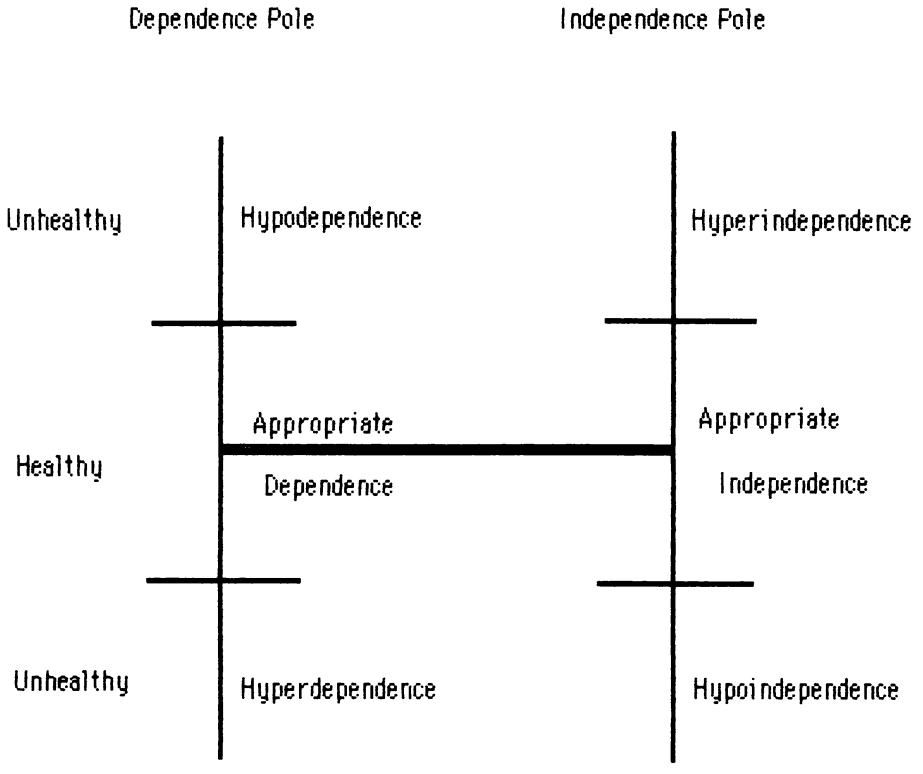
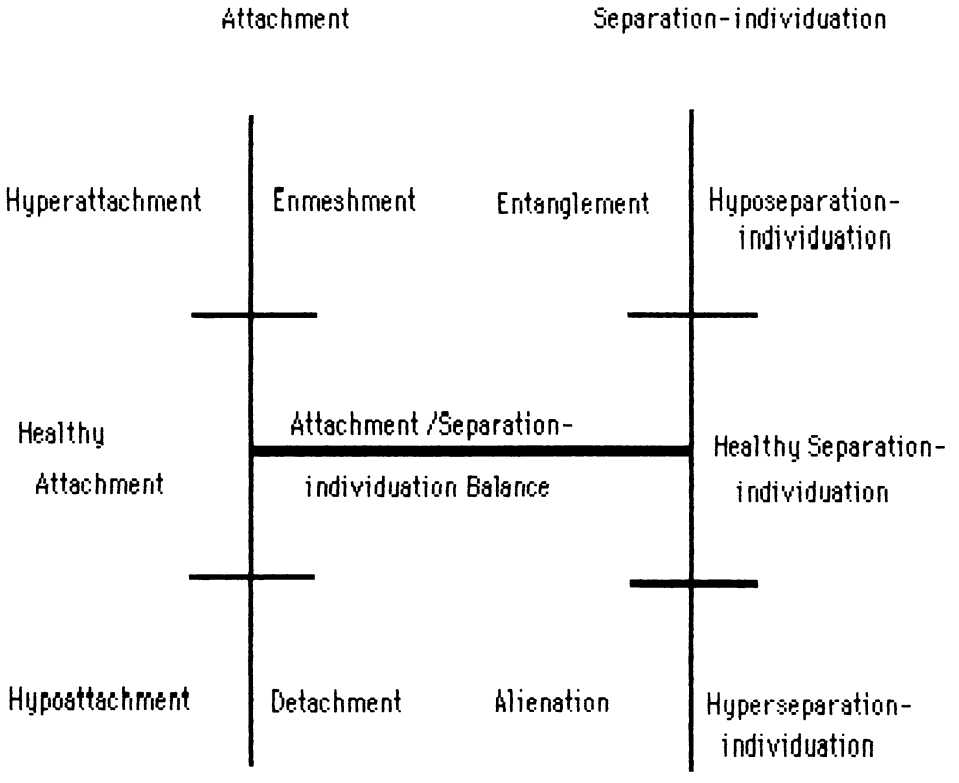


Figure Caption

Figure 2: The poles of the Indpendence-Dependence Continuum are expanded to show the potential breadth of behavior and the similarity of behaviors in the unhealthy segments of the continuum.

Theorized Attachment and Separation-individuation Relationship



Factor Caption

Figure 3: The expanded continuum of attachment and separation-individuation compared to illustrate the confounding at the extremes of the continuum.

Level of Distress and Independence-Dependence Continuum Grid

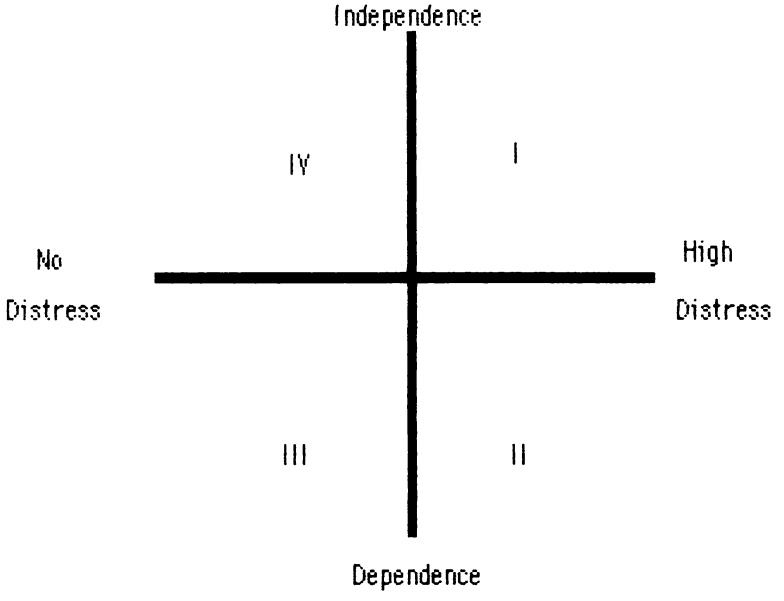


Figure Caption

Figure 4: The interactive effect of the level of distress and independence-dependence continuum assistance in clarifying the quality of independence or dependence.

Three Domain Grid: Distress, Independence-dependence, and Differentiation

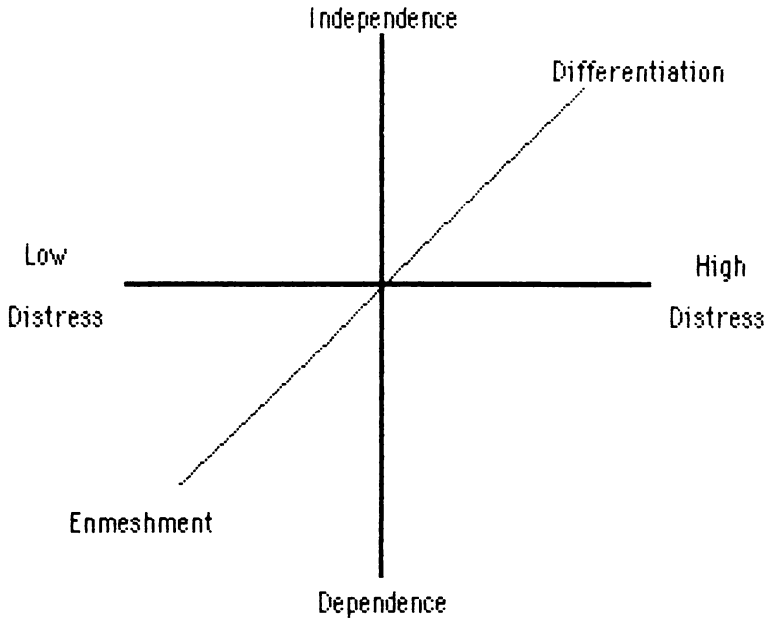


Figure Caption

Figure 5: The addition of family systems differentiation-enmeshment offers the potential of greater clarification of the independence-dependence continuum in the three dimensional grid.

Model of Separation-individuation

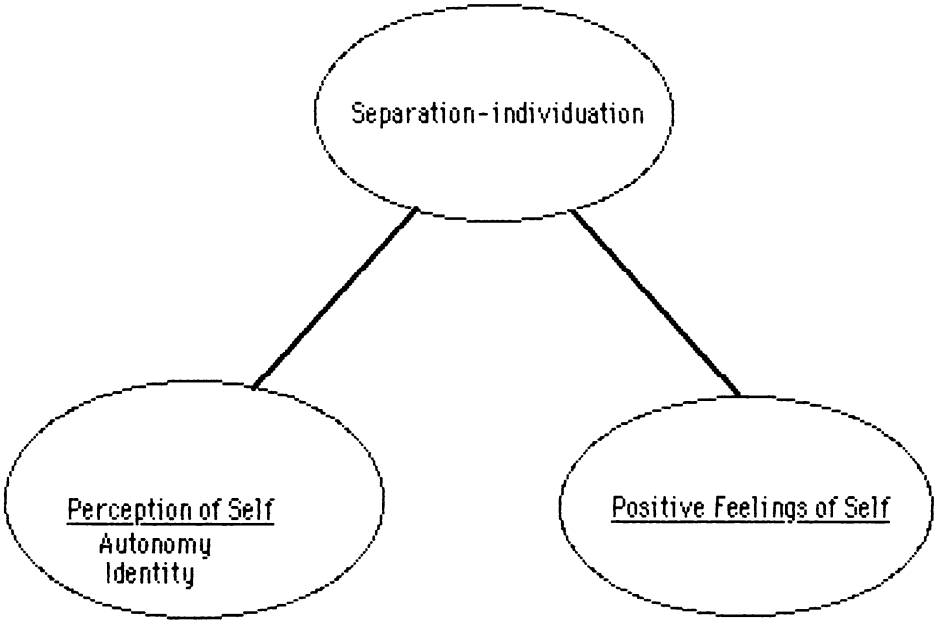


Figure Caption

Figure 6: Two part model of separation-individuation composed of perception of self (autonomy, identity, and possible other subconstructs) and positive feelings about self (including feelings in response to adaptation to the environment).