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## Separation-Individuation and Identity in College-Aged Twins

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SEPARATION-INDIVIDUATION AND IDENTITY  
IN COLLEGE-AGED TWINS

by

CYNTHIA SCHROEDER

A Dissertation Submitted to the Faculty of the Graduate  
School of Loyola University of Chicago in Partial  
Fulfillment of the Requirements for the Degree of  
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port, assistance, and caring sustained her throughout this lengthy undertaking.

## VITA

The author, Cynthia L. Schroeder, is the daughter of Carl J. Schroeder and Lucille M. (Van Heest) Schroeder. She was born on July 11, 1959 in Taipei, Taiwan.

Her elementary education was obtained at Morrison Academy in Taichung, Taiwan; Lincoln Elementary School in New Brunswick, New Jersey; and Western Avenue Elementary School in Flossmoor, Illinois. She also attended Flossmoor Junior High School and Ottawa Hills High School in Grand Rapids, Michigan.

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## CHAPTER I

### INTRODUCTION

Twin births have long been of interest to researchers involved in the study of human development. Most often, twinship has been viewed as an ideal context in which to investigate the relative contributions of heredity versus environment in a variety of human characteristics such as IQ, schizophrenia, and specific personality traits. For this reason the bulk of twin research has been geared toward the study of genetic inheritance. In spite of this rather prolific body of research involving twins, relatively little scientific attention has been paid to the impact of this unique developmental context on the twins themselves; "these studies have been on twins, not of them" (Siemon, 1980, p. 388). As Farber (1981) pointed out, despite years of research we still lack an adequate conceptualization of the psychological development of twins.

Those authors who have begun to examine twinship as a developmental context have focused on a key area of personality development: the consolidation of a sense of oneself as an autonomous individual. Information derived from clinical interviews has led to wide acceptance of the view that twins experience significant difficulty in identity development. The purpose of the present study was to explore in a more objective manner the extent to which twinship is associated with intensified struggles in this area of personality development.

## CHAPTER II

### LITERATURE REVIEW

The personality characteristics of twins have been measured for many years with a wide range of personality and temperament scales. A rather complex picture of twin personality development has emerged from this research. Despite a vast amount of literature indicating that twin pairs, particularly identical twins, are very similar to each other for genetic reasons, researchers have become increasingly impressed by the impact of environmental factors on twin personality development. Clear, stable distinctions between co-twins in personality style have been discovered. It appears that within the family environment a variety of factors contribute to the delineation of a distinct personality or role for each twin.

Far less clear, however, is the extent to which these environmental forces also help twins to consolidate an internal sense of identity and autonomy. Many investigators have expressed the view that difficulties in the development of a separate, autonomous sense of self are inherent in the twinship situation. This particular psychological issue is the focus of the current investigation. In order to provide a background for more specific questions in this area, the information gleaned from research on genetic vs. environmental influences on twin personality development will first be summarized. Psychoanalytic views of the

psychological aspects of twinship will then be discussed, followed by a formulation of specific hypotheses for the present study.

### Conclusions of Genetic Studies

Researchers have accumulated a great deal of evidence for a genetic component in certain personality characteristics. However, the support for heritability of such traits has been less clear and consistent than that obtained in studies of IQ. The dimension of sociability, or extraversion, has probably yielded the strongest evidence of a genetic component. Scarr (1969) studied a large sample of twin girls and found social introversion-extraversion to be highly heritable, with monozygotic twins significantly more alike than dizygotic twins. Similar results have been reported by other investigators who have measured sociability in twins using a variety of instruments and age groups (Buss, Plomin, & Willerman, 1973; Cohen, Dibble, & Grawe, 1977; Floderus-Myrhed, 1980; Freedman & Keller, 1963; Matheny, Dolan, & Wilson, 1976; Plomin & Rowe, 1977; Torgerson, 1982; Torgerson & Kringlen, 1979; Wilson, Brown, & Matheny, 1971).

Higher concordance rates for monozygotic than dizygotic twins have also been reported for a number of other characteristics. Among the dimensions for which at least moderate genetic influences have been found are the following: activity level (Goldsmith & Gottesman, 1981; Matheny & Dolan, 1980; Plomin & Rowe, 1977; Rutter, Korn, & Birch, 1963; Torgerson, 1982); emotionality (Cohen, et al., 1977; Matheny, Wilson, Dolan, & Krantz, 1981; Plomin & Rowe, 1977); task persistence (Freedman & Keller, 1963; Goldsmith & Gottesman, 1981; Matheny, 1980; Plomin &

Rowe, 1977); and sex-role behaviors (Elizabeth & Green, 1984). Furthermore, a higher concordance in the overall profiles of temperament characteristics shown by monozygotic twins as compared to dizygotic twins has been found (Matheny, 1984; Matheny & Dolan, 1980). In addition, Basit (1972) reported a much greater similarity in the Rorschach profiles of identical twins than fraternal twins.

Despite these findings, though, some inconsistencies have emerged. For example, Buss, et al. (1973) reported that on three of the four dimensions studied, heritabilities tended to be higher for boys than for girls. Other researchers have also reported gender differences in heritabilities (Elizabeth & Green, 1984; Gottesman, 1963; Loehlin & Nichols, 1976), a finding which merits further study. A number of contradictions have also emerged between various studies assessing similar characteristics. For instance, Wilson, Brown, and Matheny (1971) found vegetative functions such as food preferences and aversions to be highly concordant, suggesting an "enduring genetic influence" (p. 1395). In contrast, Plomin and Rowe (1977) found that reaction to food "is a clear example of a behavior for which individual differences show no genetic influence" (p. 111). These and many other inconsistencies among twin studies of personality indicate that the evidence for heritability is quite variable and complex.

It is also clear from this research that environmental factors play an important role in twin personality development. Evidence for environmental influences comes from several sources. First, as noted by Ainslie (1985), concordance rates tend not to rise above 60% for many

personality variables which have been described as genetically determined, leaving considerable room for environmental factors. It might also be argued, however, that considering the 50% to 90% range in reliability for many personality tests, a 60% concordance rate is fairly high and would support the genetic hypothesis.

Secondly, in many cases the differences between monozygotic and dizygotic twins in concordance rates are too large to fit the genetic hypothesis (Loehlin, 1986). This has led many researchers to conclude that environmental factors are operative even when genetic evidence is clear.

Further evidence for environmental contribution is found in a number of longitudinal studies reporting a decrease in personality concordance between twins over time (Buss, et al., 1973; Dworkin, Burke, Maher, & Gottesman, 1977; Wilson, et al., 1971). These investigators argued that the relative genetic contribution to a variety of traits is diminished with increasing age, while environmental forces play an increasingly important role.

#### Environmental Factors and Twin Differentiation

The importance of environmental influences on twin personality development has been further underscored by many researchers who have reported reliable differences between co-twins in certain traits. These differences emerged in spite of the overall high degree of similarity between co-twins. Investigators from the longitudinal Louisville Twin Study (Matheny, et al., 1981; Wilson, et al., 1971) found that mothers identified behavioral differences in their twins within the first year

of life (e.g., in temper, attention span, sociability), and that these differences were highly stable over time. Smith (1976), who studied his identical twin sons, described early differences in their temperament which became increasingly pronounced in later life. Similarly, in their longitudinal studies of monozygotic twins, Allen, Pollin, and Hoffer (1971) and Allen, Greenspan and Pollin (1976) documented personality differences which appeared within the first year of life, based on objective observer ratings as well as parent reports. These personality dimensions included independence, emotionality, sociability, curiosity, and activity. Data from another group of longitudinal twin studies also suggest important intertwin distinctions identifiable by objective assessments and parent reports (Cohen, et al. 1972; Dibble & Cohen, 1981; Frank & Cohen, 1980). In addition, Ainslie (1985) interviewed twin pairs and found many important differences in sociability, dominance, and areas of interest and achievement.

These personality differences between twins have frequently been attributed to such factors as discordant perinatal experiences, constitutional differences, and varying intrafamilial relationships. Allen, et al. (1976), for instance, highlighted the impact of parental perceptions of twins. These authors described parents as discerning even small, subtle intertwin differences and attaching exaggerated significance to them, thereby initiating a different role for each child which becomes gradually reinforced. Frank and Cohen (1980) stated that "personality differences in older twins may be traced to early, unpredictable physiologic differences (e.g., in birth weight), transitory discre-

pancies in skills, and differential identifications and interactions with mothers and fathers" (p. 471).

Differential parent identifications as a source of differentiation between twins has also been suggested by Ainslie (1985). In his interviews with adult twins, he noticed varying types of differential attachments to parents. In some pairs each twin was primarily identified with a separate parent, while in other pairs both twins were identified with the same parent but in a qualitatively different way. A similar phenomenon was observed by Lytton (1980), who reported that a substantial subset of his twin sample showed divided attachments, with one twin gravitating toward each parent. Interestingly, a study by Minde, Corter, and Goldberg (1984) suggests that a differential maternal attachment may actually be advantageous. These authors studied maternal-child interaction and attachment in a sample of newborn twins. Differential maternal treatment of twins was observed within ten days after birth in most of the mothers, who typically preferred the more robust, responsive twin. However, assessments at one year showed that the most insecurely attached infants were those whose mothers had shown no initial preference, while securely attached twins tended to have mothers who had shown an early preference, whether stable or shifting between twins. The authors concluded that "the seemingly natural tendency to develop a preference may be associated with or even be a prerequisite for a later secure attachment in twins" (p.174). The authors further speculated that the lack of initial preference may indicate a general maternal withdrawal from her infants.



Issues related to competition and rivalry between co-twins were also identified by Ainslie (1985) as factors contributing to the emergence of differences between twins. In his study he observed a great deal of concern about competition, and there was a tendency for twins to find separate areas of interest and achievement in order to avoid direct competition with each other. These findings fit nicely with studies reporting higher concordance in a variety of traits among monozygotic twins raised apart than those raised together (Farber, 1981; Langinvainio, Kaprio, Koskenvuo, & Lonngvist, 1984; Vandenberg & Johnson, 1968). This pattern has led many researchers to conclude that when twins are raised together, environmental factors cause greater differentiation between co-twins, despite their genetic similarities.

It is thus quite clear, to summarize the twin research on heritability of personality characteristics, that co-twins tend to be very much alike, with identicals significantly more similar than fraternal. Nevertheless, the data also indicate that even monozygotic twins are different in identifiable (though subtle) ways, and that these differences are perceived by twins and their families as very meaningful. Furthermore, researchers have often associated these personality differences with early perinatal discrepancies between twins as well as differential relationships with parents.

### Psychoanalytic Concepts of Twinship

Most of the literature which has addressed the unique psychological issues experienced by twins themselves has been in the form of case studies of psychotherapeutic work with twins, primarily from a psychoanalytic perspective. These authors have consistently emphasized difficulties in the area of ego identity development, particularly involving self-other differentiation and establishment of firm ego boundaries. Siemon (1980), for instance, has stated that "there are factors in the social environment and within the twin unit itself which lead to fused and confused concepts of self" (p. 388).

One process which has been theorized to influence twin ego development is that of intertwin identification (Leonard, 1961), in which twins identify with each other rather than with an adult. Because of this strong identification, twins must achieve psychological separation not only from their mothers but also from their co-twins, a factor which greatly complicates their ego development. This phenomenon is thought to be facilitated by the tendency of twins to spend a great deal of time together rather than with an adult, by the difficulty of mothers in identifying simultaneously with two infants, and by the similarity of the twins in age and appearance. While some authors (Fiegelson, 1983; Leonard, 1961; Siemon, 1980) have held that identical twins who are more physically alike than fraternal twins are more susceptible to intertwin identification, Ainslie (1985) has argued that zygosity and physical similarity are far less significant than the continual presence of two infants at the same developmental stage. Furthermore, several investi-

gators have reported issues related to identity confusion in dizygotic, even opposite-sex twins (Glenn, 1966; Orr, 1941).

Joseph and Tabor (1961) suggested that along with intertwin identification may occur the "twinning reaction," or a psychological fusion between self and twin. Distinctions between oneself and one's twin are described as blurred and diffuse. Burlingham (1952), for example, described a two-year-old twin named Bill who referred to his co-twin as "other one Bill," and when he saw his own reflection in the mirror while urinating said "other one Bill do wee-wee." This self-other fusion has also been described as a view of oneself as part of a unit rather than as a separate individual. Ortmeyer (1970) has termed this phenomenon the "we-self" of twins, in which the two function as one self-system.

In contrast to other writers (e.g., Ackerman, 1975) who have suggested that each twin serves as a mirror image or identical copy of the other's traits, Ortmeyer (1970) argues that each twin complements the other in personality characteristics, with one providing certain attributes for the other. In this way the pair functions together as a complete personality (e.g., one twin may verbalize affect for both, while the other serves as a problem-solver). Similarly, Burlingham (1952) observed that twins sometimes appear as two sides of the same personality which would add up to a well-balanced whole. This arrangement, as Ortmeyer points out, would leave each individual underdeveloped in certain areas of functioning, causing difficulties when the twins were not together.

Such an underdevelopment in certain areas of functioning due to

twinship has in fact been stressed by many writers. Leonard (1961) suggested that because of the strong intertwin identification and the associated reduction in time spent interacting with adults, twins experience delays in important ego functions such as language. Speech and language delays in twins have frequently been reported (Conway, Lytton, & Pysh, 1980; Day, 1932; Luria & Yudovitch, 1959; Mittler, 1970, 1971; Record, McKeown, & Edwards, 1970).

These verbal delays have been attributed to patterns of parent-child interaction experienced by twins (Conway, Lytton, & Pysh, 1980; Lytton, 1980; Lytton, Conway, & Suave, 1977). In a group of studies involving home observations, interviews, and language assessments, these authors found that in addition to language immaturity, twins showed fewer verbal interactions with parents and received fewer demonstrations of parental affection than did nontwins. Specifically, twins initiated less speech toward their parents than did single children, and there was a trend for parents to initiate less speech toward twins than nontwins (Lytton, 1980). The authors concluded that environmental rather than perinatal factors contribute to twin language delays. It was further suggested that the reduced parent-child interaction was at least partly related to the closely knit intertwin relationship.

Further support for environmental contribution to twin language delays comes from Record, et al. (1970) who found that twins who were raised as single children demonstrated verbal IQ scores much more similar to those of nontwins. It should also be noted that the persistence of twin verbal deficits has been questioned by Wilson (1975), who found

that by the age of six years, twins no longer scored lower than nontwins in verbal IQ.

An additional perspective on delayed ego development in twins is offered by Ainslie (1979, 1985), who proposes that the developmental context of twinship alters the psychological experiences of twins, particularly at certain phases of separation-individuation as conceptualized by Mahler, Pine, and Bergman (1975). Ainslie suggests that due to the constant presence of another infant, twins encounter stress points at two of Mahler's developmental phases: the "normal symbiotic phase" and "rapprochement."

The early symbiotic tie between infants and their mothers is theoretically important to the child's sense of security and a beginning awareness of self versus nonself. The mother-child relationship, though, is altered in many ways by the presence of two babies, and Ainslie argues that it is much more difficult for mothers to respond empathically and consistently to two infants who differ in certain physiological and temperamental characteristics. As a result, there may be poorer reciprocity and synchrony in mother-twin interactions. These factors may contribute to potential disruption in twins' early symbiotic relationships with their mothers, a disruption which could then influence subsequent phases of development.

The second stress point proposed by Ainslie (1985) involves the rapprochement phase, described by Mahler as occurring between 15 and 24 months, a time when issues of separateness and autonomy intensify. A successful resolution of this crisis is said to be reflected in the con-

solidation of a cohesive sense of self as separate from others (Mahler, et al., 1975). Ainslie suggests that twinship complicates this process largely because of the increasing involvement of twins with each other during this age span. The soothing function of the constantly-present twin (Joseph, 1961) may dilute the anxiety which normally serves to propel children to draw upon their mothers' resources for help in gaining autonomy. Ainslie hypothesizes that the danger for twins lies in using the intertwin bond to maintain a sense of symbiosis at a time when they should be working toward greater autonomy and individuation.

Twin language delays are attributed by Ainslie (1985) to these rapprochement difficulties, "since this is the juncture during which language emerges as a functional process for the child" (p.76). Rapprochement may be made more stressful for twins by their lessened amount of verbal interaction with parents (Lytton, 1980) as well as their close intertwin relationship.

Due to these complications in the separation-individuation process of twins, Ainslie (1985) argues that twinship presents an altered developmental context which "gives the psychological organization of most twins certain common characteristics...issues concerning self and object confusion, separation anxiety, and role complementarity" (p. 77). Ainslie further contends that these struggles are most clearly apparent in the frequently-reported difficulty of twins in consolidating a cohesive sense of identity (Burlingham, 1952; Joseph & Tabor, 1961; Leonard, 1961; Ortmeyer, 1970; Siemon, 1980). As illustrations of a tenuously organized sense of self, Ainslie describes verbalizations made by twins

in his study of the feeling that one's self can be lost or threatened in certain situations, feelings of anxiety when separated from one's twin or when required to function autonomously, and experiences of highly rigid role differentiation between co-twins. Similarly, Siemon (1980) contends that tendencies toward separation anxiety, dependency, and competitiveness can occur as a result of the fragile self-identity and diffuse ego boundaries in twins.

Authors have varied in the extent to which these issues are seen as necessarily detrimental to all twins. At one extreme is Siemon (1980), who states rather straightforwardly that "without the individuation experience of most children, twins reach adulthood without satisfactory ego and social development to function independently" (p. 390). In contrast, Ainslie (1985) takes the position that twinship should be viewed as a specific developmental circumstance which is associated with certain psychological characteristics; however, these characteristics are not necessarily maladaptive or pathological.

Ainslie and others (e.g., Leonard, 1961) have suggested that the extent to which twinship contributes to psychopathology depends upon many factors, especially the interplay between the children, with their unique characteristics, and their parents, including parental reactions to twinship in general. Socioeconomic variables and cultural attitudes may affect the reactions of parents to having twins (Leonard, 1961). Allen, Greenspan, and Pollin (1976) observed that "parents who valued individuality tended to emphasize differences between the twins, while parents who placed greater importance on fairness and equality tended to

deny differences and to emphasize similarities of the twins" (p. 66). These authors further reported that parents who valued individuality appeared to develop a distinctive and different relationship with each child. Perhaps parents who are able to relate to each twin as a unique, separate individual may in turn facilitate their children's ability to see themselves as separate individuals.

An additional viewpoint is offered by Frank and Cohen (1980), who found that "the development of distinctive individual personalities was favored when each twin was linked more closely to a different parent" (p. 480). Frank and Cohen refer to Kolb (1961) who called this pattern "everted" identification. Kolb described the pattern as characterized by a deemphasized intertwin bond and a sense of self which is based more on the individual and less on the twin unit. It thus appears that although twins are clearly at risk for identity difficulties, there may be a variety of family-related variables which can mediate the effects of twinship on personality development, especially those factors which lessen the intensity and exclusivity of the intertwin relationship.

The literature stresses that it is this high level of co-twin intimacy, in addition to the constant physical proximity of twins, which poses a threat to the development of autonomy and individuation. The close, exclusive bond between twins may encourage them to strongly identify with each other rather than with a parent, and to view themselves as a unit rather than as separate individuals. As a result, the internal motivation to strive for autonomy may be markedly reduced in twins.

Although these theoretical contributions from the psychoanalytic



literature are certainly interesting and intuitively appealing, the ideas have not been adequately tested. The majority of theorists appear to have based their conclusions primarily upon isolated case studies, clinical interviews with small samples of twins, or personal experience as a twin (e.g., Siemon, 1980). A much larger sample (26 twins) was employed in Ainslie's (1985) study; however, his research method, which relied upon semistructured interviews, was highly qualitative and subjective. A few authors have studied longitudinally the personality development of twins (e.g., Cohen, et al. 1972). Even this highly valuable perspective, though, has been limited by small sample sizes and the use of relatively subjective measures such as clinical interviews and behavioral observations. For this reason the theoretical concepts regarding the problematic separation-individuation process in twins have not been objectively evaluated. The present study was therefore designed to test in a more objective, empirical fashion the argument that twins experience more difficulty than nontwins in the area of identity development.

#### Summary and Hypotheses

In light of the variety of complications inherent in their early psychosocial development, twins can clearly be considered at risk for delays in the separation-individuation process and therefore in the consolidation of an autonomous sense of self. Moreover, these difficulties appear to be directly related to the closely enmeshed nature of the intertwin relationship, which may interfere with the motivation to develop autonomous, independent functioning. The current study was designed to examine these issues in a more objective manner, rather than

relying solely upon descriptive data from clinical interviews with twins.

In order to compare the functioning of twins with nontwins in these developmental issues, several self-report questionnaires were used. Progress in the area of separation-individuation was measured using the Separation-Individuation Test of Adolescence (Levine, 1986). Two measures were used to assess the consolidation of identity: The Extended Objective Measure of Ego Identity Status (Grotevant & Adams, 1984) and the Erikson Psychosocial Stage Inventory (Rosenthal, Gurney, & Moore, 1981). In addition, the level of intimacy between the subject and his/her mother, father, and a sibling (either twin or nontwin) was assessed using a set of questions designed by Crockett, Losoff, and Petersen (1984).

The author expected that twins would evidence delays when compared to nontwins in separation-individuation and identity development. It was further expected that these delays would be attributable to a higher level of intimacy between co-twins than between regular siblings. In addition, given the reportedly higher similarities in physical and temperamental characteristics between identical twins relative to fraternal twins, it was expected that identicals would report a higher level of co-twin intimacy. Furthermore, identicals were expected to evidence more pronounced identity delays than would fraternal twins, presumably due to the greater intensity of their twinship bond. Based on this reasoning, the author's specific hypotheses were as follows:

1. There will be a significant difference in sibling intimacy lev-

els between twins and nontwins, with twins scoring higher than nontwins.

2. There will be a significant difference between twins and nontwins on each of the following measures, with twins scoring lower than nontwins:

- a) the Healthy Separation scale of the SITA;
- b) the Identity Achievement subscales of the EOMEIS (in each domain);
- c) the Identity subscale of the EPSI.

3. Given that twins score lower on the above measures, these differences will be related to differences in reported intimacy levels.

4. There will be a significant difference between identical and fraternal twins in sibling intimacy level, with identicals scoring higher than fraternal twins. There will also be a significant difference between identicals and fraternal twins on each identity and separation-individuation measure, with identicals scoring lower than fraternal twins.

## CHAPTER III

### METHOD

#### Subjects

Participants were undergraduate students recruited from five universities in a midwestern metropolitan area. The twin group consisted of 30 individuals (not twin pairs) who were raised as part of an identical or fraternal twinship. The comparison group consisted of 30 undergraduates who had at least one sibling with an age difference of three years or less.

Twins were recruited by advertising in school newspapers, posting notices on campus, and announcing the study in psychology classes. Nontwin participants were recruited by asking twins to recommend a friend; however, since approximately 20 did not produce a recommendation, additional control subjects were recruited through psychology classes at the various schools.

Subjects ranged in age from 18 to 25 years. The mean age for the twin group was 20.47 (SD = 2.01); and the mean age for nontwins was 19.70 (SD = 1.60). These means were not significantly different:  $t(58) = 1.63, p > .05$ . The twin group consisted of 27 females and three males while the nontwin group consisted of 26 females and four males.

The ethnic background of the subjects was as follows: the twin group was 83% White, 10% Black, and 7% Hispanic; the nontwin group was

67% White, 13% Black, 17% Hispanic, and 3% Asian. Crosstabulation of ethnicity by sibling type indicated no significant difference between groups: Chi square (3,  $N = 60$ ) = 2.98,  $p > .05$ .

Table One presents the number of subjects in each maternal income level by sibling type; Table Two presents the number of subjects in each paternal income level by sibling type. Crosstabulation of maternal income level by sibling type yielded Chi square (6,  $N = 60$ ) = 7.13,  $p > .05$ . Similarly, for paternal income level by sibling type, Chi square (6,  $N = 60$ ) = 6.27,  $p > .05$ .

Socioeconomic index scores were obtained for both mothers and fathers of all subjects using the coding scheme presented by Stevens and Cho (1985). For the twin group the mean maternal socioeconomic index score was 29.47 ( $SD = 28.17$ ); and for fathers the mean was 45.37 ( $SD = 29.80$ ). For the nontwin group the mean maternal socioeconomic index score was 25.70 ( $SD = 21.62$ ); and for fathers the mean was 36.83 ( $SD = 22.06$ ). Comparisons of these means using  $t$ -tests revealed no significant differences between groups: for maternal index score,  $t$  (58) = 0.58; for paternal index score,  $t$  (58) = 1.26.

#### Procedure

Most subjects were administered the questionnaires in individual or group sessions on school campuses. The measures required 45 to 60 minutes to complete and were administered in the following order: SITA, intimacy ratings, EPSI, EOMEIS, demographic data form. A few participants were mailed the questionnaires because it was not possible to administer them in person. In some cases a twin brought his/her co-twin

Table 1

Tabulation of Maternal Income Level by Sibling Type

<u>Income Level</u>	<u>Sibling Type</u>	
	<u>Twin</u>	<u>Nontwin</u>
None	6	7
<10,000	8	3
10-20,000	6	8
20-30,000	5	8
30-40,000	4	1
40-50,000	0	2
>50,000	1	1

Table 2

Tabulation of Paternal Income Level by Sibling Type

---

	Sibling Type	
	<u>Twin</u>	<u>Nontwin</u>
<u>Income Level</u>		
None	2	1
<10,000	2	1
10-20,000	2	3
20-30,000	5	8
30-40,000	4	8
40-50,000	4	5
>50,000	11	4

---

into the study despite being informed that this was not needed. The data on these extra co-twins were collected but not included in this study.

### Measures

#### Separation-Individuation Test of Adolescence (SITA)

Developed by Levine, Green, and Millon (1986), this self-report questionnaire was designed to identify "key dynamics of Mahler's separation-individuation model with reference both to fixation points for psychopathology and milestones signifying healthy progression" (p. 125). The SITA yields scores on eight scales, each representing a "basic dimension of adolescent separation-individuation" (p. 125):

1. Separation Anxiety
2. Engulfment Anxiety
3. Self-Centeredness
4. Dependency Denial
5. Nurturance Seeking
6. Enmeshment Seeking
7. Symbiosis Seeking
8. Healthy Separation

Levine, Green, and Millon (1986) established theoretical-substantive validation for the SITA by providing an initial pool of items to a panel of clinical graduate students and faculty members familiar with Mahler's theoretical concepts. This panel sorted items into corresponding scale dimensions; an item sorted correctly by six of the eight panel members was considered to have adequate substantive validity.



Internal-structural validity was examined by performing a factor analysis of data obtained from a college sample, (Levine et al., 1986). Test items were factored by the method of principal components and rotated to a Varimax criterion. In addition, point-biserial correlations between each test item and the above scale dimensions were computed. Any item which did not correspond strongly with its intended scale or which showed a secondary correlation with another scale was eliminated.

Levine et al. (1986) demonstrated external criterion validation by classifying subjects according to personality types, based on the Millon Adolescent Personality Inventory. One-way analyses of variance were then computed for each SITA scale, showing that various personality groups obtained significantly different scores on the SITA. A copy of the SITA is presented in Appendix A.

#### Extended Objective Measure of Ego Identity Status (EOMEIS)

This measure is a modification of Marcia's (1966,1980) interview technique of identity assessment. Drawing upon Erikson's (1956, 1968) theoretical formulation of ego development, Marcia identified two psychosocial criteria for determining one's degree of ego identity achievement: 1) presence or absence of a crisis period; and 2) presence or absence of relatively enduring life commitments.

In accordance with these criteria, Marcia established four categories of identity status. "Identity achieved" individuals have made personal commitments after experiencing a period of exploration and crisis. Those who are currently in a state of active exploration and are aware

of an identity crisis, but have not yet made commitments, are in the "moratorium" category. In contrast, "identity foreclosed" subjects verbalize stable commitments with little prior exploration or crisis. These commitments are thought to represent an uncritical acceptance of the values and standards of parents or other important figures. The fourth category are the "identity diffused" individuals who have not yet recognized a crisis period, appear disinterested in meaningful exploration, and have not yet made firm personal commitments.

In an attempt to provide a more easily administered and scored self-report instrument to assess Marcia's four identity statuses with better established reliability and validity, Adams, et al. (1979, 1983) developed the Objective Measure of Ego Identity Status (OMEIS). An extended version of the OMEIS was later developed (Grotevant & Adams, 1984) in order to allow for assessment of interpersonal aspects of identity which had been formulated by Grotevant, Thorbecke, and Meyer (1982). Thus, the extended version of the questionnaire (EOMEIS) allows for categorization of ideological, interpersonal, and total identity status. The interpersonal scale consists of four new domains: friendship, dating, sex roles, and recreation. The ideological scale contains a new domain of philosophical lifestyle in addition to the earlier domains of occupation, politics, and religion.

Two parallel studies by Grotevant and Adams (1984) demonstrated acceptable reliability and validity for the EOMEIS, with the exception of the concurrent validity of the Interpersonal scale. In order to improve the assessment ability of this scale, revisions were made to the

EOMEIS (Bennion & Adams, 1986). Face validity of the new items was established by nine trained undergraduates who judged with 94.4% agreement the status category tapped by each item.

Bennion and Adams (1986) estimated the internal consistency of the revised EOMEIS, finding alphas ranging from .58 to .80 for all subscales of the ideological and interpersonal measures. Convergent validity estimates for the revised EOMEIS showed a significant degree of shared variance between subscales measuring similar interpersonal and ideological content (Bennion & Adams, 1986). No significant correlation was found between Ideological and Interpersonal scale scores and Crowne-Marlowe Social Desirability Scale scores.

Predictive validity was assessed by correlating EOMEIS subscales with measures of self-acceptance, intimacy, and three dimensions of authoritarianism. Results showed that, as predicted, identity achievement was positively correlated with reported intimacy levels, while diffusion, moratorium, and foreclosure were negatively correlated. In addition, authoritarianism was positively correlated with foreclosure but negatively correlated with diffusion. A copy of the EOMEIS is presented in Appendix B.

#### Erikson Psychosocial Stage Inventory (EPSI)

The Erikson Psychosocial Stage Inventory (EPSI) was developed by Rosenthal, Gurney, and Moore (1981) in order to examine among adolescents the first six stages of Erikson's theory of ego development. These authors pointed out that although many researchers have focused specifically on the fifth stage (identity versus identity confusion),

there has been relatively little exploration of adolescent identity within the broader context of lifespan psychosocial development. The EPSI is designed to assess each of Erikson's core conflicts from infancy through early adulthood, including the identity crisis which is central to his theory. Rosenthal, et al. (1981) stated that "each stage represents a critical period of conflict and possible crisis for the emergence of an ego quality such as trust, initiative, or identity" (p. 526).

Each subscale of the EPSI corresponds to a psychosocial stage, as follows:

1. Trust
2. Autonomy
3. Initiative
4. Industry
5. Identity
6. Intimacy

Of the 12 items in each subscale, half represent a successful resolution of the specified crisis and half represent an unsuccessful resolution. Responses are based on a 5-point Likert scale ranging from "almost always true" to "hardly ever true." The EPSI yields a profile of scores rather than an overall psychosocial rating, "because the notion of a unitary concept of maturity is inconsistent with Erikson's theory" (Rosenthal, et al., 1981).

In a pilot study, Rosenthal, et al. presented an initial version of the EPSI to a sample of 97 high school students. Test items which

failed to show adequate item-total correlations for each subscale were then eliminated. In a subsequent study, the authors administered the EPSI to a sample of 622 adolescents.

Alpha reliability coefficients were computed for each subscale in both samples. For the pilot sample, alpha coefficients ranged from .73 to .81; for the larger sample, alphas ranged from .57 to .75. Interscale correlations were moderate and significant, as expected by the authors.

Construct validity was examined using the Psychosocial Maturity Inventory (PSM) Form D (Greenberger and Sorenson, 1974). Correlations between subscales of the EPSI and the PSM showed varying levels of similarity. Two subscales showing low levels of correlation were the EPSI Trust versus the PSM Enlightened Trust and the EPSI Identity versus the PSM Social Commitment. Rosenthal, et al. concluded that these subscales measure substantially different constructs, despite their similar names.

A comparison between the EPSI scores of younger and older adolescents revealed that as predicted by Erikson's theory, older adolescents scored significantly higher on each of the six subscales. The authors concluded that the data from these samples indicate acceptable levels of reliability and validity for the EPSI. A copy of the EPSI is presented in Appendix C.

### Intimacy Ratings

Levels of intimacy in regard to mother, father, and sibling (twin or closest-aged sibling) were evaluated using a set of questions formulated by Crockett, Losoff, and Petersen (1984; these authors credit J.P.

Hill per personal communication). These questions were designed to assess the level of intimacy reported in regard to a significant person. Various aspects of the relationship are explored, including the amount of time spent together and the degree to which the individual feels understood by, shares inner feelings with, and wants to be like the other. A copy of these questions is presented in Appendix D.

#### Demographic Data Form

Information was obtained regarding the participant's age, sex, ethnicity, religion, year in college, type of sibling relationship, and degree of physical similarity between self and sibling. Data regarding socioeconomic status included parental job titles, income, and levels of education as well as the number of family members living in the home. Participants also identified their primary childhood caregivers. A copy of the Demographic Data Form is presented in Appendix E.

## CHAPTER IV

### RESULTS

#### Twin vs. Nontwin Analyses

The means and standard deviations of all dependent variables by sibling type are presented in Table Three. Comparisons were made of the mean scores of twins vs. nontwins on all separation-individuation and identity subscales. Since the hypotheses predicted that group differences would appear in a specific direction, one-tailed  $t$  tests were employed.

Hypothesis One predicted that twins would report significantly higher sibling intimacy levels on the intimacy questionnaire than would nontwins. The mean sibling intimacy rating for twins was 48.90 ( $SD = 13.43$ ), while the mean for nontwins was 38.23 ( $SD = 9.63$ ). A one-tailed  $t$  -test revealed a significant difference between the groups in the predicted direction,  $t(58) = 3.54$ ,  $p < .0005$ . Thus, Hypothesis One was strongly supported.

Hypothesis Two predicted that twins would score lower than nontwins in five specified scales related to separation-individuation and identity development. Results of these comparisons, using one-tailed  $t$  -tests, were as follows:

1. On the Healthy Separation scale of the SITA, the mean score for twins was 37.73 ( $SD = 4.25$ ), and for nontwins it was 39.53 ( $SD = 3.69$ ).

Table 3

Means and Standard Deviations of Dependent Variables by Sibling Type

	Sibling Type			
	Twin		Nontwin	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<u>Dependent Variables</u>				
SITA				
Separation Anxiety	31.50	6.35	28.04	5.99
Engulfment Anxiety	29.37	9.21	29.75	8.13
Self-Centeredness	32.19	7.30	32.13	6.02
Dependency Denial	19.76	5.36	20.64	3.76
Nurturance Seeking	30.48	6.98	30.81	6.35
Enmeshment Seeking	30.00	5.82	29.80	5.12
Symbiosis Seeking	32.19	5.01	32.29	4.45
Healthy Separation	37.73	4.25	39.53	3.69
EOMEIS				
Ideological				
Achievement	33.63	6.11	33.87	6.69
Moratorium	28.97	7.19	24.87	5.89
Diffusion	22.47	6.83	22.97	5.54
Foreclosure	19.90	7.93	20.33	6.43
Interpersonal				
Achievement	32.77	8.05	33.73	4.80
Moratorium	26.67	7.82	26.93	3.76
Diffusion	21.63	7.09	21.40	5.67
Foreclosure	18.47	7.61	17.13	6.35
EOMEIS				
Total				
Achievement	65.33	9.70	67.60	10.03
Moratorium	54.70	11.56	51.80	8.18
Diffusion	43.17	10.63	44.37	8.62
Foreclosure	37.97	14.90	37.47	11.43

(continued)



Table 3 (continued)

	Sibling Type			
	Twin		Nontwin	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<b>EPSI</b>				
Trust	40.43	6.94	42.17	7.14
Autonomy	43.97	6.79	47.37	6.53
Initiative	43.73	6.30	44.33	5.52
Industry	47.23	6.63	48.30	5.57
Identity	42.60	7.77	44.97	7.16
Intimacy	44.63	5.70	46.40	5.78

The  $t$  -test showed a significant difference between groups in the predicted direction,  $t(58) = -1.75$ ,  $p < .04$ .

2. On the Ideological Achievement subscale of the EOMEIS, the mean score for twins was 33.63 ( $SD = 6.11$ ), and for nontwins the mean was 33.87 ( $SD = 6.69$ ). A  $t$  -test yielded a nonsignificant  $t(58) = -0.14$ .

3. On the Interpersonal Achievement subscale of the EOMEIS, the mean score for twins was 32.77 ( $SD = 8.05$ ); the mean for nontwins was 33.73 ( $SD = 4.80$ ). Although in the predicted direction, this difference was not statistically significant,  $t(58) = -0.56$ .

4. On the Total Achievement subscale of the EOMEIS, twins achieved a mean score of 65.33 ( $SD = 9.70$ ); nontwins achieved a mean of 67.60 ( $SD = 10.03$ ). Although this difference was again in the predicted direction, it was not statistically significant,  $t(58) = -0.89$ .

5. On the Identity scale of the EPSI, twins achieved a mean score of 42.60 ( $SD = 7.77$ ); and nontwins achieved a mean of 44.97 ( $SD = 7.16$ ). Although the difference was in the predicted direction, the  $t$  -test indicated it was nonsignificant,  $t(58) = -1.23$ .

These results therefore provided partial support for the second hypothesis. As predicted, twins scored lower than nontwins on all five measures, but only one difference (Healthy Separation) was statistically significant.

Hypothesis Three predicted that any significant difference obtained between twins and nontwins on the above measures would be related to the difference between groups in sibling intimacy level.



This hypothesis was tested for the Healthy Separation scale of the SITA using analysis of covariance. This analysis of Healthy Separation by sibling type, with reported sibling intimacy level as a covariant, resulted in  $F(1,57) = 2.49$ ,  $p > .05$ , for the effect of sibling type and  $F(1,57) = 0.00$ ,  $p > .05$ , for the effect of sibling intimacy. This indicates that the difference in Healthy Separation is due to sibling type and is not affected by sibling intimacy level.

In addition to the above findings, several additional significant results emerged during the data analysis even though no specific hypotheses had been made in their regard. First, on the Separation Anxiety subscale of the SITA the mean score for twins was 31.50 ( $SD = 6.35$ ), whereas for nontwins the mean was 28.04 ( $SD = 5.99$ ). A  $t$ -test comparing these means yielded a significant difference between groups,  $t(58) = 2.17$ ,  $p < .03$ , with twins reporting a higher level of anxiety than nontwins.

Secondly, on the Ideological Moratorium subscale of the EOMEIS, twins obtained a mean score of 28.97 ( $SD = 7.19$ ), while for nontwins the mean was 24.87 ( $SD = 5.89$ ). These means were found to be significantly different,  $t(58) = 2.41$ ,  $p < .02$ , with twins scoring higher in ideological identity moratorium.

Finally, on the Autonomy subscale of the EPSI, the mean score for twins was 43.97 ( $SD = 6.79$ ) whereas for nontwins the mean was 47.37 ( $SD = 6.53$ ). A  $t$ -test revealed a significant difference,  $t(58) = -1.98$ ,  $p < .05$ , with twins scoring lower than nontwins in autonomy.

In order to test for a relationship between each of these three

measures and sibling closeness, scores on Separation Anxiety, Ideological Moratorium, and Autonomy were correlated with sibling intimacy scores. The correlation coefficients were as follows:  $-.01$  for Separation Anxiety,  $.24$  for Ideological Moratorium, and  $-.07$  for Autonomy. All of these values were nonsignificant. As in the case of Healthy Separation, these measures showed no relationship to level of sibling intimacy.

It was noted that the overall pattern of findings, including all of the subscales, was generally consistent with the original prediction that twins would demonstrate lower levels of identity achievement and separation-individuation than would nontwins. Although some results were not statistically significant, the group means differed in the expected direction for 18 of 25 subscales. (The Dependency Denial subscale of the SITA was omitted from this evaluation because the theoretical basis for hypothesizing a difference between groups was much less clear than for other scales.) In order to estimate the probability of obtaining this pattern of results, a sign test was performed. This test indicated that the probability of finding 18 out of 25 analyses occurring in the predicted direction was  $.01$ . This probability is therefore small enough to suggest a significant difference between twins and nontwins as tapped by these measures.

#### Summary of Twin-Nontwin Analyses

The results of the twin vs. nontwin analyses strongly supported the first hypothesis: sibling intimacy levels were significantly higher for twins than for nontwins. The second hypothesis was partially sup-

ported: twins scored significantly lower than nontwins on the Healthy Separation scale. However, on the other four measures, the difference between groups was not significant even though it was in the predicted direction. No support was found for the third hypothesis: the difference between groups in Healthy Separation was not significantly related to the difference in sibling intimacy levels. Thus, sibling intimacy did not appear to affect healthy separation.

There also emerged several additional findings which are generally consistent with the initial expectation that twins would demonstrate lower levels of separation-individuation and identity achievement. In comparison to nontwins, twins showed significantly higher levels of separation anxiety and ideological moratorium as well as a lower level of autonomy. Furthermore, when the overall pattern of scores across all subtests was examined, it was found that there were many more results in the predicted direction (with twins scoring lower than nontwins) than would be expected by chance. This provided additional support for the primary hypothesis of twin-nontwin differences in identity development.

#### Identical vs. Fraternal Analyses

Within the twin group there were 15 identical twins and 15 fraternal twins. Although these subgroups are small, exploratory comparisons were made between the twinship types. The means and standard deviations of all dependent variables by twinship type are presented in Table Four.

Hypothesis Four predicted several differences between identical and fraternal twins. First, identicals were expected to score significantly higher than fraternal twins on the sibling intimacy questionnaire.

Table 4

Means and Standard Deviations of Dependent Variables by  
Twinship Type

	Twinship Type			
	Identical		Fraternal	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<u>Dependent Variables</u>				
SITA				
Separation Anxiety	29.67	4.16	33.33	7.69
Engulfment Anxiety	27.67	8.39	31.07	9.96
Self-Centeredness	32.07	6.33	32.31	8.38
Dependency Denial	19.74	4.42	19.77	6.32
Nurturance Seeking	27.43	5.69	33.52	6.98
Enmeshment Seeking	28.87	5.76	31.13	5.85
Symbiosis Seeking	30.29	3.35	34.09	5.75
Healthy Separation	37.67	3.06	37.80	5.30
EOMEIS				
Ideological				
Achievement	33.60	5.07	33.67	7.19
Moratorium	28.07	7.63	29.87	6.88
Diffusion	19.67	6.41	25.27	6.23
Foreclosure	18.20	7.11	21.60	8.57
Interpersonal				
Achievement	32.93	8.84	32.60	7.48
Moratorium	28.00	9.39	25.33	5.89
Diffusion	22.67	7.56	20.60	6.71
Foreclosure	17.93	7.54	19.00	7.91
EOMEIS				
Total				
Achievement	64.40	7.57	66.27	11.65
Moratorium	54.20	12.43	55.20	11.04
Diffusion	40.47	10.06	45.87	10.84
Foreclosure	35.33	13.71	40.60	16.04

(continued)

Table 4 (continued)

	Twinship Type			
	Identical		Fraternal	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
EPISI				
Trust	40.33	6.57	40.53	7.52
Autonomy	44.60	6.98	43.33	6.79
Initiative	43.87	6.55	43.60	6.27
Industry	47.87	5.93	46.60	7.42
Identity	42.87	7.16	42.33	8.58
Intimacy	44.87	5.04	44.40	6.47

The mean score for identicals was 50.20 ( $SD = 15.24$ ); the mean for fraternal was 47.60 ( $SD = 11.73$ ). A one-tailed  $t$  -test indicated that the difference was not significant,  $t(28) = 0.52$ , although it was in the predicted direction.

Hypothesis Four also predicted that identicals would score lower than fraternal on each of five separation-individuation measures. The results of these comparisons using one-tailed  $t$  -tests were as follows:

1. On the Healthy Separation scale of the SITA, identicals obtained a mean score of 37.67 ( $SD = 3.06$ ); fraternal obtained a mean of 37.80 ( $SD = 5.30$ ). A statistical comparison yielded a nonsignificant  $t(28) = -0.08$ .

2. On the Ideological Achievement subscale of the EOMEIS, the mean score for identicals was 33.60 ( $SD = 5.07$ ); the mean for fraternal was 33.67 ( $SD = 7.19$ ). The difference was not significant,  $t(28) = -0.03$ .

3. On the Interpersonal Achievement subscale of the EOMEIS, the mean score for identicals was 32.93 ( $SD = 8.84$ ); for fraternal the mean was 32.60 ( $SD = 7.48$ ). The  $t$  -test showed a nonsignificant  $t(28) = 0.11$ .

4. On the Total Achievement subscale of the EOMEIS, identicals obtained a mean score of 64.40 ( $SD = 7.57$ ); fraternal obtained a mean of 66.27 ( $SD = 11.65$ ). This comparison yielded a nonsignificant  $t(28) = -0.52$ .

5. On the Identity scale of the EPSI, the mean for identicals was 42.87 ( $SD = 7.16$ ); the mean for fraternal was 42.33 ( $SD = 8.58$ ). These



means were not significantly different,  $t(28) = .18$ .

Thus, neither part of Hypothesis Four was supported, although the sibling intimacy levels were in the predicted direction, with identicals reporting slightly more sibling closeness than fraternal.

In addition to these results, there were three unexpected, statistically significant differences between identicals and fraternal which were contrary to initial predictions. First, on the Nurturant Seeking scale of the SITA, the mean for identicals was 27.43 ( $SD = 5.70$ ); the mean for fraternal was 33.52 ( $SD = 6.98$ ). A  $t$ -test revealed a significant difference,  $t(28) = -2.62$ ,  $p < .01$ .

Also, on the Symbiosis Seeking scale of the SITA, identicals obtained a mean score of 30.29 ( $SD = 5.76$ ); fraternal obtained a mean of 34.09 ( $SD = 5.75$ ). This difference was statistically significant,  $t(28) = -2.22$ ,  $p < .04$ .

In addition, on the Ideological Diffusion subscale of the EOMEIS, the mean for identicals was 19.67 ( $SD = 6.41$ ); the mean for fraternal was 25.27 ( $SD = 6.28$ ). This comparison yielded a significant  $t(28) = -2.43$ ,  $p < .02$ . Similarly, there was a trend for identicals to score lower than fraternal on the Total Diffusion Scale. The means were 40.47 ( $SD = 10.06$ ) and 45.87 ( $SD = 10.84$ ), respectively;  $t(28) = -1.41$ ,  $p < .08$ .

An examination of the differences in group means across all of the subscales revealed that the means differed in the opposite direction than expected (though not always significantly) for 19 out of 25 tests. In order to estimate the probability of obtaining this number of tests

in the direction contrary to prediction, a sign test was performed. This probability was found to be .01; therefore it appears highly unlikely that this pattern of differences occurred by chance.

#### Summary of Identical-Fraternal Analyses

The results of identical vs. fraternal twin analyses failed to provide support for the hypothesis that in comparison to fraternal twins, identical twins would score higher in sibling intimacy and lower in separation-individuation and identity achievement. Moreover, the results of these exploratory analyses suggested that, contrary to expectation, fraternal twins may actually score higher than identicals in scales reflecting difficulty in identity achievement and separation-individuation. Fraternal twins scored significantly higher than identicals on the Nurturance Seeking, Symbiosis Seeking, and Ideological Diffusion scales. Furthermore, the overall number of tests in which fraternal twins scored lower than identicals was found to be significant, in that there was a very low probability of that number occurring by chance.

## CHAPTER V

### DISCUSSION

The present study examined the question of whether twins experience more difficulty than nontwins in the development of an internal sense of self as an autonomous individual. This study was designed to evaluate these issues in a more objective, reliable manner than that of previous studies, which were more qualitative in nature. The responses of twins and nontwins on several questionnaires were compared, in order to test the hypotheses that, as compared to nontwins, twins would report a higher level of sibling intimacy and lower levels of separation-individuation and identity achievement. Comparisons were also made between the responses of identical and fraternal twins on these measures.

#### Identity Development in Twins

The first prediction for this study was that twins would report a high level of intimacy with their co-twins, as compared to the intimacy level between regular siblings. This hypothesis was based upon a wide range of literature reporting a very close, even enmeshed twinship bond (Ainslie, 1985; Leonard, 1961). The results of this study strongly supported this hypothesis. On the intimacy questionnaire, twins reported a much closer relationship within the twinship than did nontwins with their closest-aged siblings. This overall intimacy score included spending more time together (in person or by telephone) as well as feel-

ing understood by and wanting to "be like" the other person. Therefore it is clear that in addition to feeling very close to each other, twins also tended to identify with each other to a greater degree than did nontwin siblings. This finding is consistent with the writings of Joseph and Tabor (1961) and Leonard (1961), who described the process of intertwin identification as a key component of the twinship bond. The corollary theoretical concept, that twins become psychologically fused or enmeshed with each other, was not directly addressed by the intimacy questionnaire. However, these results clearly demonstrated that the twinship relationship is emotionally distinct from other sibling relationships in a quantifiable way.

The second major hypothesis for this investigation was that twins would score lower than nontwins on a variety of measures related to separation-individuation and identity development. Considering the general consensus within the twin literature that twins consistently express marked difficulty in consolidating a cohesive identity, it was reasoned that these difficulties should also be found when measured by objective questionnaires.

The results of the present study provided modest support for this hypothesis. Twins did score significantly lower than nontwins in healthy separation and autonomy. Also consistent with this hypothesis were the findings that twins showed significantly higher levels of separation anxiety and moratorium status in ideological identity. These results all suggested that twins were faring more poorly than nontwins in their progress toward psychological individuation. Thus there was

objective support for the theoretical speculation that the experience of twinship leads to distinct difficulty in the areas of separation and autonomy (Ainslie, 1985; Siemon, 1980).

However, these results should be interpreted with caution. Although these analyses were statistically significant, there is a higher chance of obtaining significant findings when multiple tests are performed. In addition, twins did not score significantly lower than nontwins in four identity scales (EPSI Identity scale; EOMEIS Ideological, Interpersonal, and Total Achievement subscales) even though the means were in the predicted direction. It is also important to note that norms have not been established for the measures used in this study. As a result, one cannot conclude that the lower scores of twins on certain scales indicate a pathological level of difficulty in these areas.

Nevertheless, an evaluation of the overall pattern of results, in which the group means were in the predicted direction for most of the measures, showed that these findings as a whole indicate a significant difference between twins and nontwins. When given a variety of measures, twins exhibited a pattern reflecting more anxiety and less confidence related to seeing themselves as independent persons. This pattern is certainly consistent with previous investigators (Ainslie, 1985; Ortmeier, 1970; Siemon, 1980) suggesting that twins arrive at young adulthood feeling less ready than do nontwins to function as independent selves.

The data obtained in this study also support Ainslie's (1985)

argument that the salient factor involved in twin identity problems is the proximity of two children of the same age at each developmental stage, rather than their genetic and physical similarity. Exploratory comparisons of identical and fraternal twins showed no significant difference in the level of twinship intimacy reported. Furthermore, contrary to prediction, fraternal twins scored significantly higher than identicals on the nurturance seeking, symbiosis seeking, and identity diffusion scales. In fact, fraternal twins demonstrated an overall pattern of scores indicating generally lower levels of separation-individuation and identity formation across a variety of subscales.

Since these findings were drawn from a small number (15) of each twinship type, any conclusions must be considered tentative. However, it appears that fraternal twins do not find the individuation process much easier than identicals, despite the advantage of obvious physical, and sometimes gender, differences. This conclusion is supported by previous reports (Ainslie, 1985; Glenn, 1966; Orr, 1941) on the presence of identity confusion in fraternal twins. The experience of having a constantly present twin, as Ainslie (1985) proposed, apparently is as problematic for fraternal twins as for identicals.

The preliminary evidence that fraternal twins may actually demonstrate more difficulty than identicals in various aspects of separation-individuation indicates that this issue merits further study with larger groups of each twinship type. It is possible that identical twins, who have little external basis for differentiating themselves, receive greater family encouragement for actively choosing separate roles and

interests. In this way, perhaps family factors assist identical twins to achieve a slightly better resolution of these issues than is the case with fraternal twins. This idea is consistent with the literature regarding environmental influences on personality in identical twins. For example, several studies have suggested that identical twins raised apart are more similar in a variety of traits than are those raised together (Farber, 1981; Langinvainio, et al., 1984; Vandenberg & Johnson, 1968). Apparently, the presence of two identical children within the same family leads to an environment which emphasizes differentiation between the twins. Ainslie (1985), though, has argued that such processes of differentiation occur among all twins, not just identicals. Thus, the question of whether intertwin differentiation is more pronounced between identicals (due to their physical similarity) clearly needs to be further investigated.

The present study also examined whether a relationship could be demonstrated between sibling intimacy level and scores on identity or separation-individuation scales. Based on the theoretical argument that twins' psychological enmeshment leads to a lack of individuation and autonomy (Ainslie, 1985; Joseph & Tabor, 1961), it was predicted that in the current investigation, the sibling intimacy measure would be statistically related to identity and separation scales. No support was found for this hypothesis. There was no evidence of a relationship between sibling intimacy level and the twin-nontwin differences in healthy separation, autonomy, separation anxiety, or identity moratorium status. It is quite possible that the intimacy scale used in this study did not

adequately measure the complex features of the twinship bond which are relevant to this issue. Alternatively, it is also possible that the connections between these variables are so complicated that a direct relationship between intimacy and individuation is not appropriate. That is, intimacy may not necessarily preclude identity development. Instead, some other aspect of twin psychology may be contributing more significantly to identity difficulties, such as a lack of other close relationships, or parent-twin interaction patterns. Perhaps future research utilizing different methods of assessing the intertwin relationship can better evaluate the effect of twin closeness on the ability to develop an autonomous self.

The present study did not find significant differences between twins and nontwins on those instruments designed to measure specifically identity achievement. Rather, the clearest differences were found in scales associated with separation-individuation: autonomy, separation anxiety, and healthy separation. Perhaps the identity questionnaires employed in this study simply were not sensitive enough to the specific identity issues crucial to twins. Clearly the EOMEIS focuses on the cognitive decision-making processes involved in identity formation; e.g. "It took me a while to figure it out, but now I really know what I want for a career." It may be that the difficulties experienced by twins do not keep them from making such cognitive decisions, but rather that twins remain emotionally affected in unique ways; e.g., "Being alone is a very scary idea for me" (SITA Separation Anxiety scale).

It can be further argued that the scales on which twins differed



most from nontwins involved issues from an earlier developmental stage than most Eriksonian identity measures are designed to tap. In Erikson's psychosocial theory, the autonomy conflict occurs much earlier than the identity conflict. Given that twins in this study scored significantly lower than nontwins on the autonomy scale but not on the identity scale, it may be that these earlier psychosocial issues remain most relevant to twins, even at a later age when they are faced with additional psychosocial tasks. This conclusion would also be consistent with Ainslie's (1985) placement of the crucial stress points for twins as occurring within the early separation-individuation process as outlined by Mahler et al. (1975). It appears that twins continue to struggle with these primary emotional issues even while dealing with other developmental milestones.

Assuming that the central issues for twins are associated with the early development of an autonomous self, how do these issues affect the lives of twins? The results of the current study suggest that twins are able to deal with other developmental tasks such as establishing productivity and choosing their lifestyle, belief system, and career direction. Nevertheless, twins seem to remain emotionally affected by their twinship in that they tend to experience greater anxiety about independent functioning. Most likely, twins vary widely in their ability to tolerate the anxiety brought about by separation experiences and to work toward a resolution of these identity issues. Many twins may need the help of their families to facilitate the process of individuation. The family may very well serve to mediate the risk for psychopathology and

the level of emotional stress experienced by twins.

#### Limitations and Directions for Future Research

Several limitations need to be kept in mind while considering the results of this investigation. First, the sample was selective in that only college students were included. It is possible that students differ from nonstudents in some respects which may be relevant to personality development. This sample was also selective in the respect that very few males volunteered to participate. It cannot be assumed that male twins resemble female twins in identity development or in the nature of their intertwin relationship, especially in light of twin research indicating that gender is an important factor in personality heritability (Buss, et al., 1973; Elizabeth & Green, 1984; Gottesman, 1963; Loehlin & Nichols, 1976). Furthermore, males and females may differ in their experience of autonomy, even within the early stages of the mother-infant relationship (Chodorow, 1978). Therefore, the results of the current study are relevant primarily to the experiences of female twins, and should not be generalized to twinship as a whole. It is hoped that the psychological development of male twins will be investigated in future research.

In addition, the use of a fairly wide age range in this study (18-25 years) may have increased the likelihood that identity and separation issues were no longer as salient to all participants. It is quite possible that for adolescents these issues tend to be most acutely experienced prior to the age of 21. As a result, group differences might have been more pronounced earlier in the subjects' lives. How-

ever, this speculation is inconsistent with the observation that subjects' scores were not grouped toward the upper end of the identity or separation scales. Instead, the range of scores was at a moderate level, suggesting that there was not a ceiling effect due to the age of the sample.

This investigation was also limited by its methodology. The theoretical concepts of identity and separation-individuation are difficult to measure, and there is little agreement within the literature about which assessment approach is most effective. The present study employed self-report questionnaires, each of which carries its own validity and reliability limitations as well as inviting the possibility of bias on the part of the respondent. This methodology also reduced the scope of information which could be gained from the research. It was not possible, for instance, to examine whether certain twin pairs are more psychologically separate than others, whether mediating factors can be identified, or whether one twin tends to be more individuated and independent than the other. However, the purpose of the current study was to evaluate identity-related issues in a more objective manner than had previously been done. It was therefore necessary to limit the technique in order to make a particular contribution to the twin literature.

Much remains to be examined in the search for a better understanding of the psychological development of twins. It is clear that twins experience a unique and complicated psychosocial environment. However, the extent to which their related difficulty with individuation can be considered more pathological than experienced by nontwins is not at all

clear. The lack of normative data for the measures used in the present study precluded a determination of whether the degree of difficulty shown by twins exceeded the average range on these scales. It is possible that while twins struggle more intensely than nontwins with the process of separation-individuation, their overall degree of difficulty may actually be smaller than has been assumed by many clinical theorists. This issue needs to be addressed in future research utilizing measures with adequate norms.

The complex relationship patterns which develop within the families of twins also need to be further explored. For example, the reactions of both parents to having twin children, and the adjustment of the family system as a whole, are as important to investigate as the intertwin relationship itself. In addition, very little is known about the experiences of twins during later developmental stages, such as marriage and parenthood. For instance, what effects does twinship have on one's later functioning as a spouse or parent? These variables are by nature rich and multidimensional, and therefore require a variety of research approaches, both objective and subjective.

#### Summary

The results of this study suggested that twins may differ from nontwins in certain characteristics related to the development of an autonomous sense of self. However, these group differences were less pronounced than expected, and failed to show a relationship to the intensity of the intertwin bond. Further research needs to be done in order to more clearly investigate these issues and to pinpoint the fac-

tors contributing to identity difficulties in twins. An integrative, multifaceted approach will yield much more valuable information about the social-emotional development of twins, and therefore increase and enrich our understanding of human development.

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APPENDIX A

## SEPARATION-INDIVIDUATION TEST OF ADOLESCENCE

Directions: Listed below are a number of statements which describe various feelings, attitudes, and behaviors that people have. Read each statement and then mark on your answer sheet:

- (a) if the statement is always true for you or you strongly agree with it,
- (b) if the statement is usually true for you or you generally agree with it,
- (c) if the statement is sometimes true for you or you slightly agree with it,
- (d) if the statement is hardly ever true for you or you generally disagree with it.
- (e) if the statement is never true for you or you strongly disagree with it.

Please answer all of the questions. If you have difficulty answering a particular question, choose the response which is closest to your feelings on that item, even though you may not feel strongly one way or another.

1. Sometimes my parents are so overprotective I feel smothered.
2. I sometimes feel so powerful that it seems like there is no feat which is too difficult for me to conquer.
3. Being alone is a very scary idea for me.

4. Often I do not understand what people want out of a close relationship with me.
5. I enjoy being by myself or with others approximately the same.
6. I can't wait for the day that I can live on my own and am free from my parents.
7. Sometimes it seems that people really want to hurt me.
8. I worry about death a lot.
9. Most parents are overcontrolling and do not really want their children to grow up.
10. Sometimes I think how nice it was to be a young child when someone else took care of my needs.
11. I am friendly with several different types of people.
12. I do not see the point of most warm, affectionate relationships.
13. I particularly enjoy looking at my own body in the mirror.
14. One of my parents knows me so well they almost always know what I am thinking.
15. If I told someone about the troubles I have, they would probably not understand.
16. I do best when I am by myself and do not have other

people around to bother me.

17. Even when I am close to another person, I feel I can be myself.

18. Usually when I am doing something with my friends, I act like a leader.

19. I feel lonely when I am away from my parents for an extended period of time.

20. During the past 10 years I have not slept more than 3 hours per night at any time.

21. Most people are basically worried about their own good and do not care about helping other people.

22. I feel so comfortable with one of my friends that I can tell him/her anything I feel.

23. I frequently worry about being rejected by my friends.

24. My friends and I have some common interests and some differences.

25. I do not feel that love has much of a place in my life.

26. I frequently worry about breaking up with my boy/girlfriend.

27. My parents seem much more concerned about their own plans than they do about mine.

28. Even with my good friends I could not count on them to

be there if I really needed them.

29. I feel that other people interfere with my ability "to do my own thing."

30. Being close to someone else is uncomfortable.

31. Although my best friend does things I do not like, I still care about him/her a great deal.

32. Considering most of the people I know, I find myself comparatively better off.

33. I often feel rebellious toward things my parents tell me to do.

34. I am comfortable with some degree of conflict in my close relationships.

35. Sometimes I feel very sad about having to say goodbye to a teacher I really like.

36. Sometimes I amaze myself with my own capabilities and talents.

37. I think about some of my friends when I am alone because I miss them.

38. My life is fulfilled without having best friends.

39. Although I am like my close friends in some ways, we are also different from each other in other ways.



40. I am quite worried that there might be a nuclear war in the next decade that would destroy much of this world.
41. My friendships tend to be of the "best-friend" kind.
42. I feel dominated by my boyfriend/girlfriend.
43. I feel that other people admire me and look up to me.
44. One of my friends knows me so well I feel he/she can practically read my mind.
45. Friendship is not worth the effort it takes.
46. While I like to get along well with my friends, if I disagree with something they are doing, I usually feel free to say so.
47. I have a habit of switching from one close relationship to another.
48. The teacher's opinion of me as a person is very important to me.
49. My parents seem very uninterested in what's going on with me.
50. I know some of my friends so well, it seems like I can read their minds.
51. I feel overpowered or controlled by people around me.
52. When I am with a group of friends, I sometimes act like

the leader and at other times more like a follower.

53. I think it is silly when people cry at the end of an emotional movie.

54. With my favorite teacher, I can share some of my most personal fears and concerns.

55. I believe that God looks over and protects me from danger.

56. It sometimes seems that my parents wish they had not ever had me.

57. I do not really need anyone.

58. It is quite a struggle for me to be a person independent from my parents.

59. I had many fears of monsters and/or ghosts when I was younger.

60. I am quite worried about the possibility of one of my parents dying.

61. When I think of the people that are most important to me I wish I could be with them more and be closer to them emotionally.

62. I feel particularly comfortable when I am doing things with a group of friends together, rather than by myself.

63. It is hard for me to really trust anyone.
64. One of my favorite teachers is amazingly similar to me in personality.
65. Even when they do not say it, I can sometimes tell that people admire me by the look in their eyes.
66. I do not really love anyone.
67. My parents keep close tabs on my whereabouts.
68. In school, I have a special relationship with one teacher that goes further than the average teacher-student bond.
69. I feel my parents' rules restrict my freedom too much.
70. I have not seen the sun shine for over a year now.
71. People sometimes seem amazed by my own abilities.
72. When I am truly friendly with someone, it is usually the case that they know both my good parts and my bad parts.
73. Eating delicious food is one of the greatest pleasures in my life.
74. I feel that the degree to which I satisfy the needs of my friends and they satisfy my needs is approximately equal.

75. There is a certain sense of oneness that I feel with other people.
76. I see dependency as a sign of weakness.
77. When I hope somebody will do something for me, I often find myself disappointed.
78. No one seems to understand me.
79. Before I go to sleep at night, I sometimes feel lonely and wish there were someone around to talk to or just to be with.
80. If I let myself get close to someone else I would probably get burned.
81. There is a sense of interconnectedness that links people of all kinds together.
82. God knows my life; I will go where he leads me.
83. Other people are easily impressed by me.
84. Sometimes it seems my parents really hate me.
85. I have no living relatives on this earth at the present time.
86. As long as I do not depend on anyone, I can't get hurt.
87. Knowing that other people find my physical appearance

attractive is very pleasing to me.

88. I often sense admiration from those around me.

89. At home, I seem to be "in the way" a lot.

90. The idea of going to a large party where I could not know anyone is a scary one for me.

91. I feel special, compared to other people.

92. In my group of friends I am often the center of attention.

93. I preferred the younger years of life when I could rely more on my parents for guidance to get along.

94. I usually get positive "vibes" from other people regarding how they feel about me.

95. I do not have much of a need for close friendships with others.

96. I worry about being disapproved of by my teachers.

97. Other people seem to be impressed by my capabilities.

98. I would like to always live in the same town as my parents and siblings so we could spend a lot of time together.

99. My teachers give me advice about my social life.

100. I like parties best when my close friends are there

and there is an intimate atmosphere.

101. My personal plans are more important than my relationships.

102. I am greatly looking forward to getting out from under the rule of my parents.

103. I would get upset if I found out my teacher was mad at me or disappointed in me.

APPENDIX B

## EXTENDED OBJECTIVE MEASURE OF EGO IDENTITY STATUS

Read each item and indicate to what degree it reflects your own thoughts and feelings. If a statement has more than one part, please indicate your reaction to the statement as a whole. Indicate your answer on the answer sheet by choosing one of the following responses.

A = strongly agree

B = moderately agree

C = agree

D = moderately disagree

E = strongly disagree

1. I have not chosen the occupation I really want to get into, and I am just working at whatever is available until something better comes along.

2. When it comes to religion I just have not found anything that appeals and I do not really feel the need to look.

3. My ideas about men's and women's roles are identical to my parents'. What has worked for them will obviously work for me.



4. There is no single "lifestyle" which appeals to me more than another.
5. There are a lot of different kinds of people. I am still exploring the many possibilities to find the right kind of friends for me.
6. I sometimes join in recreational activities when asked, but I rarely try anything on my own.
7. I have not really thought about a "dating style." I am not too concerned whether I date or not.
8. Politics is something that I can never be too sure about because things change so fast. But I do think it is important to know what I can politically stand for and believe in.
9. I'm still trying to decide how capable I am as a person and what jobs will be right for me.
10. I do not give religion much thought and it does not bother me one way or the other.
11. There are so many ways to divide responsibilities in marriage, I am trying to decide what will work for me.
12. I am looking for an acceptable perspective for my own "life style" view, but have not really found it yet.

13. There are many reasons for friendship, but I choose my close friends on the basis of certain values and similarities that I've decided on.

14. While I don't have one recreational activity I'm really committed to, I'm experiencing numerous leisure outlets to identify one I can truly enjoy.

15. Based on past experiences, I've chosen the type of dating relationship I want now.

16. I have not really considered politics. It just doesn't excite me much.

17. I might have thought about a lot of different jobs, but there's never really been any question since my parents said what they wanted.

18. A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe.

19. I've never really seriously considered men's and women's roles in marriage. It just doesn't seem to concern me.

20. After considerable thought I've developed my own individual viewpoint of what is for me an ideal "life style" and don't believe anyone will be likely to change my

perspective.

21. My parents know what's best for me in terms of how to choose my friends.

22. I've chosen one or more recreational activities to engage in regularly from lots of things and I'm satisfied with those choices.

23. I don't think about dating much. I just kind of take it as it comes.

24. I guess I'm pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.

25. I'm really not interested in finding the right job, any job will do. I just seem to flow with what is available.

26. I'm not sure what religion means to me. I'd like to make up my mind but I'm not done looking yet.

27. My ideas about men's and women's roles have come right from my parents and family. I haven't seen any need to look further.

28. My own views on a desirable life style were taught to me by my parents and I don't see any need to question what they taught me.

29. I don't have any real close friends, and I don't think I'm looking for one right now.

30. Sometimes I join in leisure activities, but I really don't see a need to look for a particular activity to do regularly.

31. I'm trying out different types of dating relationships. I just haven't decided what is best for me.

32. There are so many different political parties and ideals. I can't decide which to follow until I figure it all out.

33. It took me a while to figure it out, but now I really know what I want for a career.

34. Religion is confusing to me right now. I keep changing my views on what is right and wrong for me.

35. I've spent some time thinking about men's and women's roles in marriage and I've decided what will work best for me.

36. In finding an acceptable viewpoint to life itself, I find myself engaging in a lot of discussions with others and some self exploration.

37. I only pick friends my parents would approve of.

38. I've always liked doing the same recreational activities my parents do and haven't ever seriously considered anything else.

39. I only go out with the type of people my parents expect me to date.

40. I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe.

41. My parents decided a long time ago what I should go into for employment and I'm following through with their plans.

42. I've gone through a period of serious questions about faith and can now say I understand what I believe in as an individual.

43. I've been thinking about the roles that husbands and wives play a lot these days, and I'm trying to make a final decision.

44. My parents' views on life are good enough for me, I don't need anything else.

45. I've had many different friendships and now I have a clear idea of what I look for in a friend.

46. After trying a lot of different recreational activities I've found one or more I really enjoy doing by myself or with others.

47. My preferences about dating are still in the process of developing. I haven't fully decided yet.

48. I'm not sure about my political beliefs, but I'm trying to figure out what I can truly believe in.

49. It took me a long time to decide but now I know for sure what direction to move in for a career.

50. I attend the same church as my family has always attended. I've never really questioned why.

51. There are many ways that married couples can divide up family responsibilities. I've thought about lots of ways, and now I know exactly how I want it to happen for me.

52. I guess I just kind of enjoy life in general, and I don't see myself living by any particular viewpoint to life.

53. I don't have any close friends. I just like to hang around with the crowd.

54. I've been experiencing a variety of recreational activities in hopes of finding one or more I can really enjoy for some time to come.

55. I've dated different types of people and know exactly what my own "unwritten rules" for dating are and who I will date.

56. I really have never been involved in politics enough to have made a firm stand one way or the other.

57. I just can't decide what to do for an occupation. There are so many that have possibilities.

58. I've never really questioned my religion. If it's right for my parents it must be right for me.

59. Opinions on men's and women's roles seem so varied that I don't think much about it.

60. After a lot of self-examination I have established a very definite view on what my own life style will be.

61. I really don't know what kind of friend is best for me. I'm trying to figure out exactly what friendship means to me.

62. All of my recreational preferences I got from my parents and I haven't really tried anything else.

63. I date only people my parents would approve of.

64. My folks have always had their own political and moral beliefs about issues like abortion and mercy killing and

I've always gone along accepting what they have.



APPENDIX C

## ERIKSON PSYCHOSOCIAL STAGE INVENTORY

Read each item and indicate to what degree the statement is true for you. Choose one of the following responses and mark the corresponding number in the answer space.

5 = almost always true

4 = usually true

3 = sometimes true

2 = usually not true

1 = hardly ever true

1. I am able to take things as they come.
2. I can't make sense of my life.
3. I wish I had more self-control.
4. I get embarrassed when someone begins to tell me personal things.
5. I can't make up my mind about things.
6. I change my opinion of myself a lot.
7. I am able to be first with new ideas.
8. I'm never going to get on in this world.

9. I'm ready to get involved with a special person.
10. I've got a clear idea of what I want to be.
11. I feel mixed up.
12. I find the world a very confusing place.
13. I know when to please myself and when to please others.
14. The important things in life are clear to me.
15. I don't seem to be able to achieve my ambitions.
16. I don't seem to have the ability that most others have got.
17. I've got it together.
18. I know what kind of person I am.
19. I worry about losing control of my feelings.
20. I have few doubts about myself.
21. I rely on other people to give me ideas.
22. I don't enjoy working.
23. I think I must be basically bad.
24. Other people understand me.

25. I'm a hard worker.
26. I feel guilty about many things.
27. I'm warm and friendly.
28. I really believe in myself.
29. I can't decide what I want to do with my life.
30. It's important to me to be completely open with my friends.
31. I find that good things never last long.
32. I feel I am a useful person to have around.
33. I keep what I really think and feel to myself.
34. I'm an energetic person who does lots of things.
35. I'm trying hard to achieve my goals.
36. Things and people usually turn out well for me.
37. I have a strong sense of what it means to be female/male.
38. I think the world and people in it are basically good.
39. I am ashamed of myself.
40. I'm good at my work.

41. I think it's crazy to get too involved with people.
42. People are out to get me.
43. I like myself and am proud of what I stand for.
44. I don't really know what I'm on about.
45. I can't stand lazy people.
46. I can stop myself from doing things I shouldn't be doing.
47. I find myself expecting the worst to happen.
48. I care deeply for others.
49. I find I have to keep up a front when I'm with people.
50. I find myself denying things even though they are true.
51. I don't really feel involved.
52. I waste a lot of my time messing around.
53. I'm as good as other people.
54. I like to make my own choices.
55. I don't feel confident of my judgment.
56. I'm basically a loner.

57. I cope very well.
58. I'm not much good at things that need brains or skill.
59. I have a close physical and emotional relationship with another person.
60. I stick with things until they're finished.
61. I'm a follower rather than a leader.
62. I can stand on my own two feet.
63. I find it hard to make up my mind.
64. I trust people.
65. I like my freedom and don't want to be tied down.
66. I like new adventures.
67. I prefer not to show too much of myself to others.
68. I don't get things finished.
69. I like finding out about new things or places.
70. I don't get much done.
71. Being alone with other people makes me feel uncomfortable.
72. I find it easy to make close friends.

APPENDIX D

## INTIMACY RATINGS

Please answer the following questions about your parents. If you have more than one mother or father, please answer them about which ever parent you feel closest to and write who it is.

Please answer the next six questions using the following ratings: 1-never; 2-monthly; 3-weekly; 4-almost everyday; 5-everyday; 6-more than once a day.

How often do you spend time with your mother...

1. At home--the two of you doing something together?
2. At home with other family members?
3. At other places or on the phone?

How often do you spend time with your father...

4. At home--the two of you doing something together?
5. At home--with other family members?
6. At other places or on the phone?

Please answer the following using these response ratings: 1-not at all; 2-a little; 3-some; 4-a lot; 5-very much.

How much...



7. Do you go to your mother for advice?
8. Do you want to be like your mother?
9. Does your mother understand what you're really like?
10. Do you share your inner feelings with your mother?
11. Is your mother important to you?
12. Do you go to your father for advice?
13. Do you want to be like your father?
14. Does your father understand what you're really like?
15. Do you share your inner feelings with your father?
16. Is your father important to you?
17. How satisfied are you with the relationship you have with your mother?
18. How satisfied are you with the relationship you have with your father?

Think of the brother or sister who is closest to you in age (regular sibling or twin). Please circle the number which best answers each question below. Remember that your response will be kept confidential. Please use the following ratings: 1-never; 2-monthly; 3-weekly; 4-almost every day; 5-everyday; 6-more than once a day.

How often do you spend time with this brother or sister...

1. At home--the two of you doing something together?
2. At home--with other family members?
3. On the way to or from school?
4. During school or school activities?
5. At organized non-school events? (such as the Y, church groups)
6. At other places? (such as outdoors, or on the phone)

Please answer using the following ratings: 1-not at all; 2-a little; 3-some; 4-a lot; 5-very much.

How much...

7. Do you go to this brother or sister for advice?
8. Do you want to be like him/her?
9. Does he/she accept you no matter what you do?
10. Does he/she understand what you're really like?
11. Do you share your inner feelings with him/her?
12. Does he/she come to you for advice?
13. Is he/she important to you?

14. How satisfied are you with the relationship you have with him/her?

15. Is this a brother or a sister? (circle one)

16. How old is he/she? \_\_ (Write age in)

17. Is this a (1) full brother or full sister; (2) half brother or half sister; (3) step brother or step sister; (4) identical twin; (5) fraternal twin. (Circle one)

APPENDIX E

## DEMOGRAPHIC DATA FORM

1. Age:\_\_\_      2. Sex:\_\_\_Female \_\_\_Male
  
3. Ethnicity: \_\_\_White \_\_\_Black \_\_\_Hispanic \_\_\_Asian  
\_\_\_Other (specify)
  
4. Year in college: \_\_\_Senior \_\_\_Junior \_\_\_Sophomore \_\_\_Freshman  
\_\_\_Other
  
5. Residence: \_\_\_On campus \_\_\_Off campus(not with family)  
\_\_\_With family
  
6. Religious identification: \_\_\_Catholic \_\_\_Protestant \_\_\_Jewish  
\_\_\_Other(specify) \_\_\_None
  
7. List all family members and ages:
  
  
8. Information about parents:  
  
Mother: Age\_\_ Ethnicity\_\_\_ Religion\_\_\_ Highest level  
education\_\_ Job title\_\_\_\_\_
  
- Father: Age\_\_ Ethnicity\_\_\_ Religion\_\_\_ Highest level  
education\_\_\_ Job title\_\_\_\_\_

Salary: (check one):    Mother                  Father

<\$10,000

\$10 to 20,000

20 to 30,000

30 to 40,000

40 to 50,000

> \$50,000

9. Who was your primary caregiver during your preschool years?

mother  father  daycare  stepmother  stepfather

babysitter  Other (specify)

10. Who was your primary caregiver during your elementary years?

mother  father  daycare  stepmother  stepfather  babysitter

Other (specify)

11. Does the sibling closest to you in age attend the same college as you do?

yes  no

12. How similar are you to this sibling in physical

appearance?

not at all    a lot    a little    some    virtually  
identical

APPROVAL SHEET

The dissertation submitted by Cynthia Schroeder has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

April 17, 1989  
Date

Deborah L. Holmes  
Director's Signature