THE ROLE OF RUNNING IN FEMALE
SEPARATION-INDIVIDUATION

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Amy Horne, M.S.
Denton, Texas
December, 1983

The present research investigated the relationship between separation-individuation issues and the motoric activity of running in adult female development. Literature on sex roles and sociocultural factors was presented. Previous research on physical activity and mental health was reviewed. Psychodynamic formulations provided the framework for exploring and understanding a woman's involvement in running. Measuring instruments tapped concepts related to independence and separateness.

Subjects were 90 women. They were categorized into three running groups according to fitness level (high mileage runner, low mileage runner, and nonrunner), and into two age groups (Life Stage 1, aged 17 to 22, and Life Stage 2, aged 23 to 40). Participants filled out a questionnaire which included (a) informed consent form, (b) Personal Data Sheet and Physical Activity Participation Questionnaire, (c) Identity vis-à-vis Mother Questionnaire (Craiknopol, 1980), (d) Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1974), (e) The Adult Nowicki-Strickland Internal-External Control Scale (Nowicki & Duke, 1973), and (f) Adjective Check List (Gough & Heilbrun, 1965).
A multivariate discriminant function analysis produced one statistically significant function in which runners, compared to nonrunners, were higher on symbiosis and distancing, and were more masculine and internal. Three by two analyses of variance were utilized to further guide interpretation of the discriminant function analysis. On the runner factor, significant results were found in the expected direction for masculinity, locus of control, and self-confidence. On the age factor, results were consistent with previous research. No interaction effects were found and there were no differences between the high mileage runner and low mileage runner.

The expected findings on the personality variables were interpreted as reflecting a runner's perception of herself as effective in controlling the environment in an adaptive manner. The higher symbiotic and distancing scores for the runner were not predicted. These findings suggest that the runner is struggling with body boundary issues that are rooted in the symbiotic phase of development. However, future research is needed to address causal relationships.
# TABLE OF CONTENTS

## LIST OF TABLES

v

## THE ROLE OF RUNNING IN FEMALE SEPARATION-INDIVIDUATION

### Introduction

1

- Separation-Individuation: A Psychodynamic Developmental Theory
- Female Developmental Issues
- Psychodynamics of Running: A Theoretical Perspective
- Statement of the Problem
- Hypotheses

### Method

91

- Subjects
- Measuring Instruments
- Procedure
- Data Analysis

### Results

99

- Description of the Sample
- Hypothesis I: Comparison of Runners and Nonrunners
- Hypothesis II: Comparison of Groups on Identity vis-à-vis Mother
- Hypothesis III: Comparison of Groups on Personality Variables
  - Hypothesis IIIA: Locus of Control
  - Hypothesis IIIB: Masculinity
  - Hypothesis IIIC: Self-confidence
- Comparison between the Low Mileage Runner and the High Mileage Runner

### Discussion

119

- Summary of the Results
- Theoretical and Empirical Considerations in Interpretation of the Results
- Suggestions and Directions for Further Research
LIST OF TABLES

Table | Page
-----|-----
1. Demographic Characteristics of Sample in Percentages | 100
2. Canonical Discriminant Function on Runner Groups | 106
3. Group Means and Standard Deviations for each IVM-20 Scale | 109
4. ANOVA Summary for each IVM-20 Scale | 110
5. Locus of Control | 113
6. Masculinity and Femininity | 114
7. Self-Confidence | 117
8. Comparison Between Low Mileage Runner and High Mileage Runner on Running and Running-Related Behaviors | 119
Mastery of personal locomotion has been a key factor in human psychological growth and development. The first independent step has been referred to as a "milestone" in development because this act brings about the child's first sharp sense of the uniqueness and separateness of his/her body and person (Fraiberg, 1959). Concepts of body image are one of the cornerstones of early psychodynamic theory. Freud conceived of body image as fundamental to the development of ego structure. More recently object relations theorists and ego psychologists (e.g., Blanck & Blanck, 1974, 1979; Mahler, Pine, & Bergman, 1975) have recognized the importance of motility in the developmental process of separation-individuation. Specifically, locomotion signifies the individual's investment in pursuing autonomous functioning.

Separation-individuation is a lifelong process that requires achieving and maintaining a delicate balance between autonomy and relating to others. Growing-up involves a gradual separation from the normal state of human symbiosis, of "oneness" with mother, a process which is much slower in the emotional and psychic area than in
the physical one (Winestine, 1973). Bodily and intra-psychic separation go through gradual steps of the separation-individuation process and reverberate throughout the life cycle. Partial recapitulations and derivatives of earlier separation-individuation processes occur at new developmental phases as individuals strive to satisfy both libidinal and aggressive drives.

Whether cultural or innate, there are sex differences in the separation-individuation process. The realization of separateness appears to be more complicated for females than males (Edward, Ruskin, & Turrini, 1981). In early childhood, the motoric activities of females are less than those of males (Mahler et al., 1975). Additionally, the developmental tasks for the female require both differentiation and identification with the primary love object, the mother (Lerner, 1980). Societal norms regarding physical activity and the phenomenon of the "Cinderella Complex" (Dowling, 1981) also impact the resolution of the dependence/independence conflict for females.

Over the past decade, researchers have suggested that a positive relationship exists between physical activity and mental health (e.g., Folkins & Sime, 1981; Morgan, 1979). A somatopsychic perspective (Harris, 1973) postulates the theory that bodily activity and functioning influence behavior. This study will examine patterns of human growth and development within the context of physical
activity. Specifically, the focus of this investigation is the relationship between the physical activity of running and the developmental process of separation-individuation in adult women.

Three areas of theory and research are reviewed to provide background information for this study. First, the psychodynamic developmental theory of separation-individuation is addressed. Within this lifelong process, bodily activity is examined as providing the individual with a sense of separateness. Secondly, sex differences and cultural differences are discussed within the context of the female developmental processes. The third area of concern to this study is the relationship between physical activity and mental health. Psychodynamic formulations provide the framework for exploring the role of running, a primitive form of motility, in adult female development.

Separation-Individuation: A Psychodynamic Developmental Theory

Early psychoanalytic theory of development, beginning with Freud, emphasizes the importance of early childhood experiences in human growth. The basic premise of his theory is that present behavior is organized by past experiences which are multidetermined by such influences as innate endowment and environmental factors. More recently, Margaret Mahler's theory of the
separation-individuation process has broadened the psychodynamic developmental paradigm.

Two Freudian concepts provide the framework for Mahler's conceptualization of the developmental process: (a) that the human being is at first absolutely and remains later on relatively dependent on mother, and (b) as a result, object relationship is the single most reliable factor by which the level of mental health may be determined (Winestine, 1973). Other theorists have affirmed the significance of infantile experiences and concur that while the most rapid and fundamental features of structuralization occur in the early years of life, one's unfolding of self potentialities in relation to self and to others is a developmental process that continues throughout the life cycle (Blanck & Blanck, 1974; Shor & Sanville, 1978). Additionally, derivatives of these earlier processes remain active as the vicissitudes of separation-individuation are revisited and reworked in the context of each successive stage of growth. Development proceeds through a series of progressions and regressions, for inherent in each new step of independent functioning is a minimal threat of object loss. As such, each increment of structural individuation results in a corresponding decrease in dependency on external others (Winestine, 1973).

For the past three decades, Mahler and her colleagues have systematically observed children and their parents,
utilizing a "free-floating psychoanalytic observation" and a predetermined experimental design (Edward et al., 1981; Mahler et al., 1975) to study the normal developmental sequence, which they refer to as the "psychological birth of the individual." The basic tenet of Mahler's formulation is that major aspects of the individual's intrapsychic and behavioral life are organized around the process of separation-individuation. Separation-individuation involves progression along two complementary developmental tracks. Separation refers to the child's movement from a symbiotic fusion with the mother, and individuation consists of the steps that lead to the child's assumptions of his/her own unique characteristics. Thus, the individual seeks to establish

- a sense of separateness from, and relation to,
- a world of reality, particularly with regard to
- the experience of one's own body and to the
- principal representative of the world as the
- infant experiences it, the primary love object.

(Mahler et al., 1975, p. 3)

The principle psychological achievements of the separation-individuation process occur during the "separation-individuation phase" or the period from about the fourth or fifth month to the thirtieth or thirty-sixth month of life. Mahler's work details this complex developmental sequence which consists of four subphases:
differentiation, practicing, rapprochement, and "on-the-way to object constancy" or separation-individuation proper. The use of "on-the-way" acknowledges the lifelong aspect and continuing nature of the developmental process. Assuming that the infant is born unto and experiences an "average expectable environment" (Hartmann, 1939/1958), two phases precede the separation-individuation phase: normal autism and symbiosis.

During the autistic phase, the infant is objectless and the primary goal is homeostasis. Although this phase is characterized by a "relative absence of cathexis of external stimuli" (Mahler et al., 1975, p. 43), the infant displays a "fleeting responsivity" to external stimuli. This response provides the link between the infant's existence within an autistic orbit and the capacity to attach to an object and continue the later developmental tasks of separation-individuation.

The normal symbiosis phase usually begins at approximately 2 months of life when the child becomes dimly aware of a need-satisfying object. According to Mahler et al. (1975),

the essential feature of symbiosis is hallucinatory or delusional somatopsychic omnipotent fusion with the representation of the mother and, in particular, the delusion of a common boundary between two physically separate individuals. (p. 45)
Additionally, during this phase libidinal and aggressive drives are undifferentiated. The principle psychological achievement of this phase is cathexis of the mother.

An understanding of the developmental tasks within each of the subphases of the separation-individuation phase provides a meaningful context for examining the formation of (or lack of) discrete identity, separateness, and individuality. According to Mahler et al. (1975), "separation" or "separateness" refers to the "intrapsychic achievement of a sense of separateness from mother, and through that, from the world at large" (p. 8). She is not referring to a physical separateness, but rather to the notion of being a separate person. "Identity" refers to the awareness of a "sense of being, of entity . . . not a sense of who I am but that I am" (p. 8). As such, identity is the earliest step in the process of the unfolding of individuality. The intrapsychic process of separation-individuation has two intertwined, but not always commensurate, developmental paths. Individuation involves the evolution of intrapsychic autonomy, perception, memory, cognition, reality testing. Separation is comprised of differentiation, distancing, boundary formation, and disengagement from mother. Optimal progression occurs when awareness of bodily separation or differentiation from mother parallels the development of the autonomous ego functions which serve individuation.
Throughout the life cycle the integration of these two tracks involves progressions as well as regressions. Mahler has measured this developmental process through observation of the child's affectomotility.

Differentiation, the first subphase of separation-individuation, begins at approximately 4 to 5 months of age. It is during this subphase that the individual is "hatched" from the symbiotic orbit: the infant displays alertness, persistence, and goal-directedness. Behavioral manifestations of the first tentative steps toward separating from the mother are displayed as the infant gains motoric control over his/her body and breaks away, in a bodily sense, from the dual unity. It is during this subphase that the development of body image begins.

The practicing subphase has been analyzed in two parts by Mahler and her associates. The early practicing phase is characterized by the infant's ability to move physically away from the mother, through crawling, paddling, and climbing, but the child is still holding on. The practicing period proper is characterized by free, upright locomotion. During this period, from approximately 10 to 16 or 18 months of age, three interrelated, yet discriminable, developments contribute to the child's first steps toward separation-individuation. Awareness of separateness and individuation is observed in the child by the rapid body differentiation from mother, the establishment of
a specific bond with her, and the growth and functioning of the autonomous ego apparatuses in close proximity to the mother. The expanding locomotor capacity during the early practicing subphase widens the infant's world as s/he has a more active role in determining closeness and distance to mother as well as greater exposure to a broader segment of reality and the environment beyond mother. Toddlers at this stage invest much libido in their own autonomous functions and their expanding reality testing. Thus the central feature of this subphase is the "elated investment in the exercise of the autonomous functions, especially motility, to the near exclusion of apparent interest in the mother at times" (Mahler et al., 1975, p. 69). The infant employs motor skills to "mother self" as s/he finds new activities and interests which take the child away from or towards her (Shor & Sanville, 1978). Thus, the investment in autonomous functions are of greater significance than the development of motor skills per se during the practicing period. As the child develops autonomous functions, the "love affair with the world" (Greenacre, 1957) begins, as does the practicing period proper. Specifically, the achievement of upright locomotion signifies the toddler's greatest step in human individuation. Libidinal cathexis shifts to the service of the rapidly growing autonomous ego and its functions, the child seems intoxicated with his/her faculties, with the
greatness of his/her own world, and "narcissism is at its peak!" (p. 71). The practicing period proper is characterized mainly by the child's narcissistic investment in his/her own functions, his/her own body, and objects of his/her expanding "reality" (p. 71).

According to Mahler et al., and other object relations theorists, the importance of walking for the emotional, psychological, and cognitive development of the child cannot be overestimated. Associated with upright movement is not only increased body exhilaration and sensory responsiveness, but also an enormous increase in reality discovery and testing of the environment which is within the child's control and mastery (Greenacre, 1968). Thus, the attainment of active free locomotion impacts both tracks of the separation-individuation process. Identity formation proceeds as the child asserts his/her individuality as well as his/her separateness from mother. Additionally, at approximately one year, the beginnings of the growth-promoting features of the aggressive drive are evidenced and serve to sharpen the delineation between self and others (Blanck & Blanck, 1974; Jacobson, 1964).

Following the normal developmental course, at approximately 18 months, the child proceeds to the third subphase of separation-individuation, that of rapprochement. While individuation progresses very rapidly and the toddler exercises it to the limit, during rapprochement s/he also
becomes more aware of being a separate person and employs methods to resist and undo the actual separateness from mother. Although the child makes greater use of physical separateness, growing cognitive faculties, and increasing differentiation of emotional experiences, increased separation anxiety may be observed during this phase as the child displays active approach behavior toward the mother. The toddler gradually realizes that the symbiotic status quo cannot be restored, that parental omnipotence is a delusion, and that s/he must relinquish, painfully at times, his/her own delusions of grandeur and magical mastery experienced during the practicing period. This developmental crossroad is termed the "rapprochement crisis" (Mahler et al., 1975).

Mahler's observational data revealed three subdivisions of the rapprochement period: (a) beginning rapprochement, (b) the rapprochement crisis, and (c) individual solutions of this crisis that resulted in personality characteristics with which the child proceeds into the fourth subphase of separation-individuation. The subdivisions are viewed within the context of the toddler's further development of object relations, moods, psychosexual and aggressive trends, and cognitive development.

The beginning of the rapprochement subphase is signified by the changing quality of the child's
relationship with mother. The child becomes aware of his/her separateness from mother and hence, that mother, too, is a separate person with wishes that may not coincide with the child's. The toddler's elated preoccupation with locomotion shifts to a greater emotional investment in sharing objects, words, gestures, etc. with mother. The main source of pleasure for the child has become social interaction. Concomitant with this changing dyadic relationship is the important development of goal-directed anger and the potential for aggression. This parallels the anal phase of psychosexual development which is characterized by jealousy, envy, etc.

During early rapprochement, the children exhibited increased activity and restlessness with the mother's extended absence. Mahler interprets this hyperactivity as an early defense activity against awareness of the painful affect of sadness. The more passive "low-keyedness" of the practicing period appears to develop into a more active stance of coping with feelings of loss associated with separation.

The rapprochement crisis begins around 18-20 months and is characterized by the rapidly alternating demands for closeness and for autonomy. Mahler's term for this indecisive behavioral sequence is "ambitendency" and concomitantly the toddler usually displays rapid mood swings. The range of affects experienced by the child who
is exercising growing autonomy becomes increasingly differentiated. During this period, the toddler begins to deal with affects of sadness, anger, disappointment in mother, as well as realization of his/her own limitations, vulnerabilities, and relative helplessness. Additionally, it is believed that the child begins to develop empathy during this phase.

During the period of the acute rapprochement crisis, toddlers often displayed separation reactions as they would actively cling upon the mother when she was leaving the child. These reactions were accompanied by a depressive mood and an initial inability to become involved in play activities.

The struggles observed in the individual child are of different degrees and variations and are influenced by the progression through the earlier stages. It is during this phase, however, that the roots of many uniquely human problems and dilemmas are crystallized. For most, these problems are never completely resolved and continue to impact one's relations to self, others, and the environment throughout life.

By the age of 21 months, there is a general diminishing of the rapprochement struggle as the child finds the optimal distance from mother. The growing individuation of the toddler is exhibited in the development of various functions which seems to provide the child with a greater
sense of mastery and the ability to control the environment: language development includes the pronoun "I," the internalization process and beginnings of superego development are observed, and progress in the ability to use play for mastery, as well as symbolic play to express wishes is evidenced. The vicissitudes of the individualization process at this phase are characterized by the integration of the individual child's total personality and the realization of separateness, whereby, each person has evolved a unique solution in relations to significant others. The summation of the solution of many maturational tasks for the individual child occurs during the last part of the rapprochement subphase prior to the consolidation of individuation which occurs in the fourth subphase of separation-individuation.

The beginning of gender identity has its roots in the rapprochement subphase. Mahler's observations indicated that the maturational task of becoming a separate individual seemed to be more difficult for girls than for boys. Whether sex differences are innate or culturally determined, or both, is currently unanswerable; more importantly, it is noted that mothers feel differently about the bodies of girl babies than those of boys, compounding the nature-nurture issue and the resultant object relatedness. In general, boys seem to be more motor-minded than girls and girls appear more cuddly and
less resistant to physical affection than boys, even beyond differentiation. These differences in early behavioral patterns are compounded by the discovery of anatomical sex differences. For the girl, this discovery often results in behaviors that indicate anxiety, anger, and defiance at what she sees is lacking. Recall that the affect of envy is also emerging during this subphase, and thus, appropriately she may experience "penis envy." Intrapsychically, the girl may blame this imperfection on the mother and the ambivalence in the mother-child dyad may be exacerbated. Comparatively, boys are better able to turn to the outside world, including to father as someone with whom to identify, or to their own bodies for pleasure and satisfaction. Thus, while boys continue to proceed toward increased separateness and individuation, girls may be thrown back into an ambivalent relationship with the mother. Consequently, the issues of the rapprochement crises reverberate throughout the life cycle of each individual.

The fourth subphase of the separation-individuation process is unlike the other phases because it is open-ended at the older end. There are two major tasks of this developmental phase: (a) the achievement of a definite, and in certain aspects, lifelong individuality, and (b) the attainment of a certain degree of object constancy (Mahler et al., 1975).
Emotional object constancy is dependent upon the gradual internalization of a constant, positively cathected, inner image of the mother (Hartmann, 1952; Mahler et al., 1975). As in the practicing period, the toddler is gradually able to accept separation from the mother. Concomitantly, as object constancy is established intrapsychically the toddler begins to attain a stable sense of entity as self boundaries are defined. Also, at approximately 3 years, there is primitive consolidation of gender identity. This is a complex and multidetermined process and may be adversely or optimally influenced by other developmental factors, the prevailing ego state, and the environmental affective response at the time.

The achievement of individuality is observed within the context of the child's increasing development of complex cognitive functions. Verbal communication replaces other modes of communication. Play involves more fantasy and becomes more purposeful and constructive. Reality testing is more evident as the toddler's observations of the environment are more detailed and a sense of time begins to develop. The establishment of mental representations of the self as distinctly different from those of the object lays the foundation for self-identity formation.

Accordingly, the principle conditions for mental health in preoedipal development rely on the attained and continuing ability for the child to retain self-esteem in
the context of relative libidinal object constancy. The inner structures of a unified self-image and emotional object constancy have their inception during this subphase and represent the beginning of this ongoing developmental process. Threats to the stability of these structures occur as the child is confronted with drive maturation and the struggle of toilet training (anal phase) as well as the continuing awareness of anatomical sexual differences (phallic phase) which may result in a narcissistic blow in girls and castration anxiety in boys. The resolution of these struggles may foster or hinder progress toward self-identity and individuality as well as toward affective object constancy. Furthermore, the alternations of progressive and regressive steps in the lifelong individuation process will be impacted by the resolution, or partial resolution in some individuals, of each of these phases.

Mahler (cited in Winestine, 1973, p. 138) states that "the entire life cycle constitutes a more or less successful process of distancing from and introjection of the lost symbiotic mother." Since Mahler's presentation of her findings regarding the separation-individuation process, other object relations theorists and ego psychologists have elaborated and extended her developmental formulations as they relate to the notion of "on-the-way" to achievement of self and object
Karpel (1976) views the struggle for individuation as a fundamental organizing principle of human growth and conceptualizes the process as one that is worked through in interpersonal relationships as the individual moves from a state of fusion to individuated relating with others. Various biological and life stages, such as adolescence, young adulthood, and the middle years, evidence derivatives of earlier processes at work as well as transformations of earlier conflicts (Edward et al., 1981; Winestine, 1973). Thus, while the separation-individuation process is clearly a lifelong endeavor for each individual, later developments beyond the separation-individuation phase proper must be viewed within the context of both life stage and environmental factors. The extension of separation-individuation theory into adult development involves recognition that although the fundamental developmental issues of childhood continue to influence later growth stages, the conflicts of childhood appear in an altered form in adulthood. Whereas, the actual formation of the psychic structure occurs in childhood, the focus in adulthood is on the continuing evolution of this structure and its use. With any individual at any life stage, however, there is an ongoing reciprocal relationship with one's environment. Thus, both the child and the adult are dependent on the environment to some extent for continuing growth (Colarusso & Nemiroff, 1979; Winestine, 1973).
The way in which the first round of separation-individuation was experienced and the level of those accomplishments sets the stage for future growth. Transitions along the life-cycle require changes in status, role, ego functioning, and sometimes, even bodily appearance, all of these having potential consequences for the sense of self and the nature of one's relationships with objects. Often, transitions are accompanied by changes in physical environment, separation from familiar persons, places, and things, even new styles of dress and grooming that impact the bodily self. Where self and object constancy have been more firmly established during the first three years, a person will have greater independence from the environment and wider latitude such that normal transitional tasks will be more easily undertaken and s/he will possess greater strength to deal with unusual stresses that are universal. Mastery of the "average exceptable" developmental tasks usually results in an individual with an expanded feeling of self, and deepens and strengthens existing capacities as well as promoting new growth. However, it is likely that throughout the life cycle most individuals retain a degree of vulnerability as well as a need for reaffirmation from new (and old) love objects (Edward et al., 1981; Settlage, 1977).
Whether or not physiological changes and/or new life tasks will strengthen or deplete the individual's resources depends on the current level of development and maturation, the nature of the tasks confronted, and the synchronicity among these three factors. To the degree that the challenge revives former conflicts, the reworking of these issues and their mastery will depend on the ego strength and self-integration already achieved and the existing environmental circumstances (Edward et al., 1981). As Erikson (1964) has pointed out, each new stage is a turning point, and, as such may not only be a time of increased vulnerability but may also be a period of heightened potential.

From the viewpoint of separation-individuation, several goals are to be achieved in the progression from infancy to adulthood. These include the stepwise attainment of increasing physical and psychological separation from the original love objects, the correlated representation of these objects in psychic structure, and the intrapsychic rearrangement of these object relationships during adolescence, also referred to as the second individuation by Blos (1979). According to Settlage (cited in Winestine, 1973), intrapsychic restructuring may take place before and after adolescence as well. Major factors which encourage changes within the psychic structure are (a) the biologically predetermined progression through the
psychosexual stages including the maturation of the sexual and aggressive drive, (b) the gradual process of shifting from the family of origin to the family of procreation, and (c) the changing technological and sociocultural conditions. Hence, the interplay of self and object-relatedness, environmental and cultural forces in the developmental process of separation-individuation is evidenced.

Within the framework of separation-individuation, minimal attention has been given to the role of drives in the progression toward self and object constancy. Mahler has suggested that the innate force toward individuation might be regarded as an aspect of the early aggressive drive, but according to Edward et al. (1981) her more recent writings do not reflect the current reconsideration of the drive theory (Blanck & Blanck, 1979). Ego psychologists G. and R. Blanck (1979) in accord with Freud's (1937/1964) later theory on drives, postulate that the aggressive drive undoes connections while the libidinal drive establishes greater unities, and that the two drives working together foster growth and serve to maintain separation and individuation. An integral part of this drive theory is the distinction between drives and affects. Thus, aggression as a drive is not to be equated with the affects of anger, rage, and hostility. As Spitz (1965) states,
Indeed, by far the largest and most important part of the aggressive drive serves as the motor of every movement, of all activity, big and small, and ultimately of life itself. (p. 106)

Another object relations theorist, Horner (1979), supports this conceptualization and refers to aggression as the energy of the organism that is used to reach a goal, with no inherent good or bad properties. Blanck and Blanck (1974) question the previously held position that drive-taming is desirable, suggesting that perhaps affect attenuation is the more appropriate task.

Over and over again, particularly in early developmental phases, libido will seek connection and aggression will seek and maintain separation and individuation. Jacobson (1964) pursues the notion that aggression serves separation-individuation and identity formation. She proposes that instinctual strivings charged with aggressive energy change in aim at the pivotal point in development when ambition begins to replace the narcissistic, magical attempt to control the yet undifferentiated object. Elaboration of this point suggests that the aggressive drive fuels ambition, separation, individuation, and autonomy-seeking behaviors. At this stage of development, in an "average expectable environment," the child engages in the process of internalization whereby s/he copes more effectively with distancing needs while maintaining
connection. Through modification of ego structures and acquisition of characteristics of the object, the demands of both drives are met. Implicit in the concept and developmental process of differentiation is the assumption that undoing one type of connection gives way to reestablishment of connection at a more advanced developmental level and with an increased degree of structuralization and internalization. Therefore, both drives power the developmental thrust by transferring qualities of the object to the self representations (Blanck & Blanck, 1979; Jacobson, 1964).

In adolescence, or the second individuation process (Blos, 1979), the separating needs are served by still another temporary phase-dominant aggressive thrust, which is followed by libidinally powered search for connection with a new, contemporary object, usually a peer (Blanck & Blanck, 1979). It is during adolescence that the child emerges from the family-of-origin into the adult world. The goal of individuation during adolescence is to achieve a considerable degree of secondary autonomy of ego functions in relation to drives and, concomitantly, a degree of individual autonomy in relation to other persons (Settlage, cited in Winestine, 1973). To achieve this goal the adolescent not only undergoes intrapsychic, structural changes but also reinvests the libidinal energy that connected him/her with parental figures into peer
relationships. The achievement of self-regulation, as opposed to parental regulation, is crucial in the relationship between individuation as an intrapsychic process and the attainment of individual autonomy. As these functions of regulation become internalized, the individual achieves the capacity to regulate self-esteem, manage affective fluctuations in response to stress, and mobilize autonomous resources to meet adaptive demands (Blos, 1979; Mullins, 1982; Winestine, 1973). It is during this second individuation phase, however, that the individual experiences increased vulnerability as psychic restructuring takes place. Blos views this as regression in service of the ego and considers the temporary internal instability of the structures essential to the adolescent individuation process. The developmental tasks inherent in adolescence reflect how the separation-individuation process continually affects the acquisition of adequate resources for the attainment of self-confidence and healthy independence.

Practicing, in the Mahlerian sense, and play are developmental precursors of the latency child's need for and desire to study and to create, and of the adult's need to work. Work and other activities are a source of prestige for the mature adult, bolstering self-image and enhancing ego functioning by providing avenues for the fulfillment of potential and experience of mastery.
Consolidation of ego identity beyond adolescence involves "related repetitive cycles of activation of one's internalized object relations" (Kernberg, 1980). Knowledge gained about one's personality functioning throughout time derives from significant reactivated object relations, and during adulthood, particularly middle age, reconciliation of one's knowledge regarding limitations is part of ego identity consolidation, and knowledge about the future is derived from the past.

Various psychodynamic theorists address the process of separation-individuation in adulthood (e.g., Colarusso & Nemiroff, 1979; Edward et al., 1981; Neugarten, 1973; Sternschein, 1973; Winestine, 1973). Neugarten (1973) cautions that the psychological complexities perceived in the adult cannot be explained adequately by straightforward extrapolation from childhood development; rather the significant issues of separation and individuation need to be viewed within successively different contexts. As noted earlier, both the child and the adult engage in a reciprocal relationship with environmental influences and are continually attempting to achieve a balance between the desire to be separate and the desire to belong. However, the conflicts of adult development reflect residuals of earlier processes as well as involve new transformations of these issues due to the greater complexity of both the intrapsychic structure and interpersonal relationships.
The period of maturity and the process of aging are never free from separations and loss (Fleming, cited in Sternschein, 1973). Sternschein (1973) stresses that separation anxiety is an essential force that propels a person along the path of object finding and object relating, and toward a dynamically responsive self-concept, defined as an individuated, well-differentiated, but not unmodifiable self-image. Developmental progression makes demands on the individual's capacity to adapt to experiences of loss, and self- and object-images and their mental representations continue to be modifiable particularly at critical affect-laden junctures such as puberty, adolescent disengagement, parenthood, and retirement.

From Neugarten's (1973) observations of "normal" or less distressed adults, she concurs that separation-individuation is a lifelong process. This gradual process catalyzes the organization of the ego and affects the acquisition of an independent differentiated self-system and sense of self, with its resources of self-confidence and healthy independence, as individuals interact with significant others at various periods in the life cycle.

Neugarten (1973) suggests that issues of separation be approached in a social-psychological context as loss has constructive as well as destructive potential. Life
events need to be viewed according to the point in time when they occur in order to assess their impact on adaptation. Individuals have a time perspective and a concept of the appropriate timing for major events in life, and one important determinant of health, both psychological and physical, is having a sense of the predictable life cycle. Often new life events constitute a separation or a loss and the timing of the occurrence is of critical importance. Age periods within adult development bring anticipated changes in family, work, and health which may produce new stresses, but also provide occasions for self-enrichment and for extension of capacities for coping that signify a new level of individuation. Therefore, according to Neugarten (1973) the tasks of adaptation are related to the timing of life events in the sociopsychological context, and the issues of separation and individuation should be perceived and interpreted within this framework.

Female Developmental Issues

The negotiation of separation-individuation issues must take into account both intrapsychic and cultural factors which are inextricably interwoven, mutually reinforcing, and difficult to separate from each other (Lerner, 1980). As stated earlier, the child's earliest physical, social, and emotional environment is encapsulated in the relationship with the maternal figure (Blanck & Blanck, 1974; Crastnopol, 1980; Mahler et al., 1975).
But, in the ongoing interactions with mother, the developmental tasks become different for the girl child than for the boy child after the mother is perceived as separate and not part of self (Chodorow, 1978; Dinnerstein, 1976; Freud, 1931/1974). Concomitantly, socialization inputs from parents and the culture impact the sexes differently as each person attempts mastery of maturational tasks and the development of an autonomous sense of self. Within the context of the processes of both separation-individuation and sex-role socialization, this section will examine the development of gender identity, body image concepts, and personality formation in females.

According to Lerner (1980), the task of declaring one's separateness and difference from mother is a relatively more difficult and complex task for the female than the male. This sex difference in the development of autonomy is a result of the fact that the girl must differentiate and separate herself from a maternal figure with whom she is to identify, whereas the boy must differentiate himself from a maternal figure whose qualities and behaviors he is taught to repudiate within himself so he may become more "masculine." As such, the sex difference in separation-individuation may be conceptualized as a developmental struggle for females to assimilate "sameness" while for males the task is to assert "difference" (Lerner, 1980). The relationship
with mother carries significant implications for the daughter concerning her gender identity and sense of self as well as possibly her sex-role identity (Crastnopol, 1980).

Mahler's observational studies have demonstrated differences between the vicissitudes of rapprochement as experienced by male and female children. While both sexes appear elated during the practicing subphase and respond to the increasing awareness of their vulnerability and continued dependence with a relatively more sobered mood state as they enter the next subphase, girls seemed to be more prone to a depressed mood than did boys. Male children tended to counteract the abrupt deflation of the practicing period with greater motor activity. Whether this difference in mood and motor activity, as well as the observation that boys were more resistant to physical affection, is related to intrinsic or extrinsic factors was not ascertainable by Mahler. However, her work does suggest that motor capacities may be influenced by maternal attitudes. Balint (1959) has suggested that for females, venophilic, or clinging tendencies, are fostered while philobatic, or freely moving tendencies, are encouraged in boys. Hence, girls seek connectedness and boys seek self-sufficiency. This observation has implications for later development particularly with regard to body image concept, mastery of the environment,
and formation of personality style. Chodorow (1978) suggests that similar capacities are likely to be fostered in both sexes if mothers respond similarly to their sons and daughters.

In the face of separateness from mother, boys displayed heightened sensitivity and soberness and concern about her intrusions on their autonomy, but continued to confidently pursue motor and perceptual-cognitive tasks. The active exercise of separation from and reunion with mother by moving away behavior was more prominent in boys than girls (Edward et al., 1981; Mahler et al., 1975). Overall, boys appeared to separate with less stress, seemingly able to turn to the outside or to their own bodies for pleasure and satisfaction. Additionally, boys moved toward father for identification, while girls appeared to be more demanding of closeness with mother (Edward et al., 1981; Mahler et al., 1975). The realization of separateness from mother is more complicated for girls and Mahler has attributed this to their lesser degree of motor-mindedness as well as to their earlier awareness and response to anatomical differences.

According to various authors, the child discovers anatomical sex differences between the sixteenth and twenty-first month (Edward et al., 1981; Mahler et al., 1975; Symonds, 1977) and core gender identity, or the sense of being male or female, is established at this time. Symonds
(1977) suggests, contrary to most previous beliefs, that what is called masculinity and femininity is not inherited but learned from the environment. The newborn's mind is sexually undifferentiated as either male or female. Culturally prescribed notions of masculinity and femininity are coded into separate and coherent systems such that very early the child learns to inhibit nonself gender behavior. By the time the individual reaches adulthood, behavior patterns are usually according to the proper sex role as deviations cause anxiety (Money, 1976; Symonds, 1977).

According to Mahler's observations, the discovery of anatomical differences for the girl confronts her with the realization that she lacks a "possession" and her range of behavior often suggests anger, envy, and anxiety following this observation. Girls also appeared to blame the maternal figure. The experienced disappointment often led to clinging, dependent, and coercively demanding behavior.

The importance of the mother-daughter relationship is reflected in the developmental processes of separation and identification. Identification with the mother is the basis for feminine gender identity. According to Jacobson (1964), sexual identity is part of one's personal identity. As such, the discovery and acceptance of this sexual identity demonstrates the child's renunciation of symbiotic wishes (Blanck & Blanck, 1974).
Although issues of identification and separation are intertwined within the context of the developing mother-daughter relationship, as well as the overall socialization process, an examination of the intrapsychic determinants of separation-individuation is central to the understanding of feminine developmental issues. The child's attempts to express and to assert differences from mother are primary to the struggle for individuation. These attempts to separate through the assertion of differences are seen in a variety of behavioral expressions throughout life. Active locomotion symbolizes that the toddler is an individual entity physically separate and different from mother. Assertions of difference may take on hostile components as adolescents violate unwritten family rules regarding such areas as dress. Whatever the behavior and its emotional counterpart, children attempt to assert autonomy and independence from parental figures. When the parent responds to such assertions of differences as a threatened "loss" of the child or a disloyalty to the bond between them, the child may respond with passivity, conformity, and helplessness to restore and preserve the threatened object relation (Masterson, 1976).

Although sex-role socialization does indeed reinforce dependent, rather than autonomous solutions for girls (e.g., Frieze, Parsons, Johnson, Ruble, & Zellman, 1978; Kaplan & Bean, 1976), intrapsychically the girl has the
more complex task of assimilating "sameness" to mother concurrently as she is attempting to separate and declare self as different from mother. Contrastingly, for boys the task is singular: assimilation of difference. Culturally, as well, boys have more "permission" to be separate and different, and the bipolar definitions of femininity and masculinity offer mother special help in encouraging this process (Lerner, 1980). Additionally, the male struggle for individuation is enhanced, rather than confused, by awareness of anatomical differences at this life stage. On the other side of the coin, girls are typically given less "permission" from mother to assert separateness and difference. Similarities in anatomical structure, the developmental task of differentiation, and the masculine-feminine polarity all combine to predispose the mother to respond to the girl's display of "differences" as rejection or disloyalty. If this is the case, then a girl's assumption of "feminine" qualities such as passivity, conformity, and indirect expressions of anger may be a small price to pay in order not to threaten the allegiance with mother, who may be unconsciously perceived as too fragile to withstand the girl's developing autonomy (Lerner, 1980). This suggests that cultural scripts inherent in the concept of femininity are manifested within the issue of separation
anxiety and an unconscious bond precipitates passing on stereotypes regarding passivity, dependency, etc. to the next generation.

Crastnopol (1980) views identity formation as a result of the early mother-daughter dyad as well as a reflection of this relationship as an ongoing developmental process. She examined women's perceptions of their relationship with mother within the context of separation-individuation and developed four distinct identity descriptions that reflect women's personality development. These identity descriptions are considered adult versions of Mahler's phases. The symbiotic description refers to the woman involved in an intense, interdependent relationship with the mother. The daughter may feel incomplete without the mother; mother is seen idealistically as evidenced by positive feelings and the denial of negative or ambivalent feelings. Any real differences between mother and daughter are denied as the daughter totally identifies with the maternal figure similar to Mahler's concept of a "dual entity."

Women described as having a distancing stance toward mother portrayed the opposite feelings and attitudes of those in symbiotic relationships. Distancing women manifested hostility toward and almost a total rejection of the maternal figure. The overt behavior appeared to be independent and self-reliant and is viewed as a defense
against underlying hurt and anxiety. Since most of these women experienced little warmth or nurturance from mother as a child, adolescent, and young adult, this identity stance is considered an adult version of the result of a deficiency in the earlier symbiotic attachment.

Practicing women experienced ambivalent feelings in relation to mother and exhibited both a desire for independence and fear of its consequences. These women can be described as vacillating between symbiosis and individuation. This process serves to de-idealize mother and consequently feelings of anger, depression and disappointment arise which often create tension between the two women. Similar to the practicing and rapprochement toddler who demonstrates elation over separateness from mother as well as a desire to return to her when anxiety ensues (Mahler et al., 1975), the woman who takes a practicing stance in relation to mother may be participating in the struggle that paves the way for a more comfortable autonomy.

Individuated women were described as comfortably separate and different from mother and still experienced involvement with her. Ambivalent feelings toward mother seemed to be integrated and a realistic view of self and mother was present. The bond between mother and daughter is characterized by attitudes of mutual respect and appreciation along with feelings of anger and disappointment. This identity stance corresponds to Mahler's
separation-individuation subphase when the child achieves a sense of self as differentiated from mother as well as a loving bond with her.

Crastnopol (1980) compared women in two life stage groups in her application of the separation-individuation process as it interacts with female personality development. Using a scale that measured the four aspects of a woman's "identity vis-à-vis mother," she found that the younger women, aged 17-22 years, manifested higher symbiotic scores with lower distancing and individuated scores than was found in the older life stage group of women, aged 23-40 years.

Additionally, Crastnopol found personality variables that were related to each of these identity descriptions. The symbiotic identity was characterized by succorance, nurturance, dominance, and a strong sense of ego strength as well as low autonomy. The distancing identity was positively associated with autonomy, low self-esteem, a weak sense of ego identity, and external locus of control. They were negatively related to succorance and nurturance. The practicing stance was positively related to low self-esteem, a weak sense of ego identity, and external locus of control. The individuated women were positively associated with dominance, autonomy, high self-esteem, and an internal locus of control. Those with an individuated stance, however, were lower with respect to ego identity than symbiosis. This suggests that symbiosis, because of
its concomitant parental harmony, might enhance a woman's sense of identity. Crastnopol (1980) believes that there is a significant relationship between a woman's identity vis-à-vis mother and her overall personality development and that the conflicting urges for dependency and autonomy within this relationship have a formative influence on adult maturation. Thus, although one would expect a woman to progress from symbiosis to practicing autonomy before achieving an individuated sense of self as an adult, there is no guarantee that this level of separation-individuation will evolve during one's lifetime.

Lerner (1980) examines the expression of anger and aggression in females and postulates that this personality dimension relates to intrapsychic and cultural factors. She acknowledges that while management of anger and aggression presents intrapsychic difficulties for both sexes, conspicuous differences exist and have been documented by clinical and experimental research. Simply stated, males display greater aggressivity while females inhibit the direct expression of anger and aggression. The feminine socialization process reinforces the cultural definition of the healthy "feminine woman" as one who is devoid of anger and aggressiveness (Bernardez-Bonesatti, 1976). Furthermore, research indicates that girls are raised in a manner that restricts their freedom to express anger and aggression as well as inhibits their capacity for competitive and
self-assertive behavior (Gornick & Moran, 1971; Kaplan & Bean, 1976). Lerner postulates that cultural pressures alone have not maintained the myth of the feminine woman as devoid of aggressive behavior; instead she asserts that both sexes share deep intrapsychic fears of female anger. Based on diagnostic testing and intensive clinical work, Lerner cites two intrapsychic determinants which are central in understanding woman's fear of their own anger: fears of omnipotent destructiveness and separation-individuation difficulties in the mother-daughter relationship.

A number of writers have addressed the fears of omnipotent destructiveness and suggest that the primitive anxieties regarding unmodulated rage is more powerful and inhibiting in females (Bernardez-Bonesatti, 1976, 1978; Lederer, 1968; Lerner, 1974, 1980). The infant's world is primarily matriarchal where power and authority are held by the maternal figure. She gratifies impulses but also forbids their expression. Most importantly, however, is her position as the primary object of the child's dependency. So, as the child moves from the experience of a fused, undifferentiated symbiosis towards increasing individuation, separation, and autonomy, the struggle between regressive dependent wishes and more independent strivings is with mother. A consequence of this struggle is that aggression is generated toward the object of one's dependency. At this point, the child relies heavily on
primitive projection and thus the maternal image that persists in the unconscious of even the most "rational" adult is that of a possessive, angry, all-powerful "bad mother" who restricts her child's autonomy, freedom, and growth (Lerner, 1980).

Identification with this image of mother confronts the girl child with a dilemma. Hence, the girl/woman may defensively shift to a self experience of being "castrated" and reassuringly helpless, masking the opposite. Obviously, anatomical differences support the notion of "castrated" not "castrating" and ultimately suggest devaluation of female genitals (Bernardez-Bonesatti, 1976, 1978; Lerner, 1980). This has implications for body image concept which will be discussed later. Frightening fantasies about women's omnipotent destructiveness are not always based on an actual "bad" mother, yet in cultures where parenting is not shared, it follows that irrational anxieties about female anger and power are an inevitable consequence of the child's matriarchal world (Dinnerstein, 1976; Lerner, 1980). Additionally, cultural stereotypes encourage women to feign weakness and are paradoxical warnings of how hurtful and destructive the "weaker sex" might be to men.

Lerner points out that the experience of anger involves feeling separate, different, and alone. As a result of separation-individuation issues as well as
cultural pressures, women are afraid of loss of connection and the expression of anger is contaminated or nullified by often accompanying fears, guilt, and sorrow. Expressing "hurt" rather than direct anger brings the object closer whether mother, friend, or spouse, and emphasizes relational "we" rather than autonomous "I."

The feeling of separateness stirs separation anxiety and an unconscious fear of object loss, which is independent of the fears of the destructive effects of aggression. Lerner (1980) states that women who are mobilized to re-establish the connection may express this desire through crying, self-criticism, hurt or depression. The separation anxiety stems from the phenomenological experience of lacking an attachment to an object and of being "all on one's own," and is not unique to the expression of anger, but is also felt during periods of intellectual and creative achievement. Some women do find this "aloneness" exhilarating or at least tolerable, while others experience it as dangerous and threatening to the bond with mother (or perhaps other significant others in later life). For the female, it is as if she believes mother would be emptied out and depleted if her daughter should feel whole and complete unto herself, apart from the relational context. At the root of the problem is the girl child's special difficulty attaining an adequate degree of separation and autonomy from her mother. Thus,
for the daughter that unconsciously experiences moves toward autonomy as dangerous, as if to be separate and complete without mother constitutes a disloyal betrayal of the relationship between them, the daughter may choose to sacrifice her own growth and avoid independent functioning in order to preserve an unconscious tie with mother.

Women have been taught that their value, if not their identity, rests largely on their loving and being loved, on the relational "we." Many women have not achieved the degree of autonomous functioning that would permit them to stand separate and alone in the experience of their anger and aggression, in having an original idea, in entertaining a critical or innovative thought, or in tolerating the competition necessary to achieve success in the professional world. Lerner believes that these acts may unconsciously be experienced as violating an unconscious oath to mother to avoid autonomous functioning and that replications of this experience with the maternal figure is often evidenced in other relationships. For example, the husband may thwart his wife's attempts to change and grow, and/or she may perceive him that way, believing that her moves toward autonomy signify disloyalty and threaten the security of that relationship. To experience autonomy is to experience one's essential aloneness and to recognize that each individual determines his/her own choices, decides own risks, and assumes primary
responsibility for one's own growth and development. Perhaps, because of unresolved separation-individuation conflicts and/or cultural influences it is easier, particularly for females, to direct energy towards seeking love and approval from others, and thus, preserve forever the fantasy that another individual can complete and fulfill as the nursing mother does her child (Lerner, 1980).

This formulation corroborates what other writers from both the psychodynamic and psychosociological perspective have proposed regarding female development. In terms of Blanck and Blanck's (1979) reconsideration of the drive theory, satisfaction of the libidinal drive appears to be encouraged in females while the aggressive drive and attempts at autonomous mastery are thwarted.

In the Cinderella Complex, Dowling (1981) integrates much of the clinical and experimental evidence regarding the conflict between independence and dependence for females in today's society and she refers to this as the ambivalence between being "behind" someone versus the ambition to succeed on one's own (p. 38). She reiterates the findings of various authors (e.g., Douvan & Adelson, 1966; Hoffman, 1972; Kagan & Moss, 1962; Maccoby & Jacklin, 1974) that while girls are trained into dependency, boys are trained out of it. From infancy, she notes that girls are not encouraged in their
exploratory behavior as they are believed to be more "fragile" than boys (Hoffman, 1972) and that girls are usually overprotected and overhelped (Maccoby & Jacklin, 1974), while boys are rewarded for independent behavior (Bardwick, 1971). The overhelping inhibits the girl child's attempts to test her limitations and as a result, she may experience insufficient stress and frustration at a young age. Mastery requires the ability to tolerate frustration and if the parent protects the child from this experience, autonomy and growth are thwarted (Hoffman, 1972). Independence results from learning that one can achieve by oneself, can rely upon one's own abilities and can trust one's own judgment, yet girls are consistently reinforced that they need others to help them succeed in meeting challenges of life (Bardwick, 1971). Additionally, girls are brought up to believe that to take care of oneself and to be assertive and straightforward is "unfeminine." Instead, females look to others to provide a definition of self and who they are.

This feminine pattern of dependency and passivity is well-documented (e.g., Deutsch, 1944; Dowling, 1981; Kagan & Moss, 1962; Maccoby & Jacklin, 1974), and once established in infancy continues to be systematically supported through childhood within the environment and the subsequent internalizations. The nonchallenging, non-assertive, nonconfronting stance of the "good girl" is
reinforced with good grades at school, the approval of parents and teachers, and the affection of peers. But Dowling (1981) proceeds that at puberty the American female experiences a developmental crossroad, as adolescence signifies what Bardwick and Douvan refer to as "the first crisis in femininity" (Dowling, 1981, p. 115). Girls are faced with what Dowling believes is the central problem of femininity in today's culture: the conflict between dependence and independence. The major developmental task becomes one of achieving "successful" relationships with others as the female continues to depend on others for her main source of self-esteem. Oftentimes, the task of developing in the area of achievement or gaining success in personal pursuits is sacrificed in favor of social acceptance (Dowling, 1981). Although not exactly parallel, this interpretation echoes the toddler's struggle to differentiate from mother and experience self as separate, yet preserve the attachment for fear of object loss. For females, though, cultural influences encourage "successful" relationships over "successful" achievements. Hoffman (1972) summarizes the developmental sequence that leads girls to become adults who rely on excessive support from others:

Since the little girl has a) less encouragement for independence, b) more parental protectiveness,
c) less cognitive and social pressure for establishing an identity separate from Mother, and d) less mother-child conflict, which highlights this separation, she engages in less independent exploration of her environment. As a result, she does not develop skills in coping with her environment nor confidence in her ability to do so. She continues to be dependent upon adults for solving her problems, and because of this she needs her affective ties with adults. (Cited in Dowling, 1981, p. 111)

Dowling refers to this as the "wish to be saved" (p. 26), and she proclaims that in order to overcome the dependency needs that are rooted in childhood a woman must first recognize the hidden fear of independence. She views "freedom" as the opposite of dependency, and postulates that "springing free" involves gaining knowledge about one's own limitations and assets, and thus experiencing and coping with the anxiety as well as the excitement intrinsic to the growth process. According to Dowling the conflict between wanting to be free and wanting to be enclosed is insidious because conflict allows a person to stay in limbo. She refers to two drives, one expansive and one restrictive and points out, in accordance with Horney (1950), that vacillation between these two results in inertia and indecisiveness, in an "Energy Leak."

When
this conflict is worked through the individual is better able to use her energies more constructively for self-assertion and for cooperation in establishing good relationships. Thus, as an individual, particularly a woman, begins to discover that she seeks and fears independence and dependence, and engages life's possibilities to determine her own strengths and weaknesses, it is at this point that she begins to define her sense of self as a separate individual. Confidence and trust in self derives from a realistic evaluation of limits and abilities just as the accomplishment of separation leads to an increased self-esteem and sense of identity. Although cultural and intrapsychic processes often inhibit females from developing a more differentiated self, many opportunities exist for women to begin to engage life straightforwardly, to come to know and accept self as alone as well as in relation to others.

This study will specifically address the physical activity of running as symbolizing an act of self-definition. While other activities and interests may increase the possibility of developing and maintaining sense of self, running has been chosen because it is a motoric activity, it involves discovery of one's physical capabilities, and it is an individual rather than a group pursuit. The specific literature on female involvement in physical activity will be covered in the
next section. Additionally, the concept of body image as it relates to identity is an important aspect of female development.

According to Fisher and Cleveland (1968) body image is a term that refers to "the body as a psychological experience, and focuses on the individual's feelings and attitudes toward his (or her) own body" (p. x). Body image is concerned with a person's subjective experiences with his/her body and the manner in which such experiences are organized. In the past 15 years, the body as a psychological object has begun to assume greater recognition compared to "classical psychology." Freud (1927/1961) did, however, integrate the concept of body image into his theoretical system as another means of describing how the initially undifferentiated organism develops an organizational structure. Freud conceived of body image as the original framework for the development of ego structure and as such, body image concepts are one of the cornerstones of the psychoanalytic system. Fenichel (1945) elaborated and summarized the unique role of the body in terms of development:

In the development of reality the conception of one's body plays a very special role... One's own body becomes something apart from the rest of the world and thus the discerning of self from nonself is made possible. The sum of the mental
representations of the body and its organs, the so-called body image, constitutes the idea of I and is of basic importance for the further formation of the ego. (pp. 35-36)

As the child discovers that s/he is capable of self-gratification, there results a first impression of identity and autonomy (Hoffer, 1952; Linn, 1955). Body ego, or the corporeal self, exists only when differentiation between self and object representations is well advanced. The awareness of one's body and its utility in furthering independence is evidenced in the importance placed on auto-erotic activity in attainment of identity (Blanck & Blanck, 1974; Spitz, 1965). The body is valued by the child as it becomes a source of self-feelings and a source of pleasure (Fraiberg, 1959). According to these psychoanalytically oriented theorists, control of the ego or self is first established through control of the body. As the individual matures, the functioning of the three main erogenous zones (Freud, 1938) become integrated into a total body scheme (Fisher & Cleveland, 1968). Accordingly, a "good" body feeling precedes a "good" or adequate degree of ego awareness. Studies with schizophrenic patients, both children (Bettelheim, 1950) and adults (Cutner, 1953), have pointed to the importance of developing a firm anchor in the nature of a well-defined and integrated body image as
prerequisite to the development of a mature and integrated ego structure.

Fisher and Cleveland (1968) suggest two primary reasons for the relatively intimate linkage of the body as an object with the central internalized systems that constitute the framework of an individual's personality. First, the body is one of the chief participants in early relationships that are prototypes of a number of basic introjects. Again the relationship between the caretaker and the child influences identity formation, in this case body identity. Secondly, the body as an object is unique in the perceptual field and represents the space where I or self resides. The body visibly demarcates the spatial area which is identified with the sense of individuality that grows out of the organization of internalized systems. Theoretically, then, the body is linked to both the libidinal drive and the aggressive drive as formulated by Blanck and Blanck (1974) in that one's concept of body image appears to derive from the mother-child relationship as well as to symbolize the individual's movement toward separateness and sense of identity. As Fisher and Cleveland (1968) state:

From a knowledge of how a person has organized his [her] perceptions of his [her] body one has access to some of his [her] basic feelings about him [her] self as a separate person. An individual's body is the one area in his [her] experiential field which
uniquely belongs to him [her] and is the corporeal representation of his "base of operations" in the world. (p. 345)

In discussing the development and structure of the secondary autonomy of the ego as it relates to maturation during adolescence, Blos (1979) states that a clear and stable body image exerts an essential influence on how one grasps the world around him/her.

Concepts of body image have implications for personality formation and are significant in influencing how one conducts self particularly in terms of such characteristics as strength, solidarity, and fragility. For example, studies have shown that definiteness of boundaries is linked with the ability to be an independent person who has definite goals, definite standards, and forceful, striving ways of approaching tasks. Additionally, Fisher and Cleveland (1968) review numerous studies which demonstrated that individuals with the more clearly articulated boundaries deal with stress more efficiently as they appear to have greater feelings of operating from a protected base and possess achievement and goal-oriented traits. Hence, a clear sense of one's body boundaries facilitates mastery of difficulties. Conversely, ego distortion implies body image distortion (Blanck & Blanck, 1974).

The body as an object in one's personal world has been studied by Secord and Jourard (1952) in terms of body
cathexis. Body cathexis is the "degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body" (p. 343). Their most significant result is that the body and the self tend to be cathected to the same degree, thus feelings about the self tend to be commensurate with valuation of the body. Additionally, they found that negative feelings about the body are associated with feelings of insecurity involving self.

Some sex differences regarding body image have been suggested. Secord and Jourard (1952) hypothesize that, because of the cultural emphasis on the female body, women are more likely than men to develop anxiety about their body. Their datum is consistent with this formulation as women were more highly cathected, both negatively and positively, to their body than men. Fisher (1964) also found sex differences in body perception and reports that females experience body boundaries as more definite and articulated than men because of their increased awareness and attention toward their bodies. On the one hand they suggest that increased body awareness, which is positively related to boundary definiteness, is an expression of individuation and differentiation. Yet, in relation to their legs, women demonstrated more uncertainty and anxiety than men. Fisher offers the theory that cultural influences encourage females to feel
that mobility and movement have potentially dangerous consequences and consequently passivity is encouraged in females while mobility is encouraged in males.

More recently, Moulton (1981) reports that the major psychological problems of her women patients stem from the early inhibition of all assertion and sometimes of all physical activity as this was considered dangerous or unfeminine. Dowling (1981) elaborates that the overhelping of girls teaches them not to "tire" themselves out, physically or otherwise. The excessive overprotection that females experience in early childhood appears to have implications for body image concept such that females experience themselves as weak and unable to use their bodies effectively. It follows that a woman's anxiety regarding her body is related to not having the experience of testing one's physical limitations in childhood (or thereafter) and hence not experiencing a sense of mastery due to overcoming physical frustration and challenges.

An interpersonal psychoanalyst, Clara Thompson (1950, 1964) emphasizes the interaction of social and biological factors in personality development and presents within her theory the notion that a woman's inner life is related to her experience of her body. Consequently, if body concept is commensurate with self-concept, and a female has not been encouraged to experience her bodily limitations through physical activity, the development and integration of ego
structures must in some manner be affected such that psychological growth, trust in self, and autonomy are inhibited.

The importance of social and cultural values in the development of a "feminine personality" has been addressed by numerous writers. Sex-role development is embedded within the mother-daughter relationship as well as in the larger context of the socialization process. The mother is the central figure in the girl's feminine development. Through identification with mother, the girl acquires standards of sex-role behaviors (Fraiberg, 1959). Thus, the issues involved in the separation-individuation process are an integral part of establishing a sense of autonomy; for the female this implies establishing and maintaining a combination of "separateness" and "sameness" in relation to mother.

While the relationship with mother serves as the foundation for the development of sex-role behavior, sociocultural stereotypes regarding femininity and masculinity impact a female's sense of identity. Stereotypically, "big girls" are made of such qualities as:

Dependence, passivity, fragility, low pain tolerance, nonaggression, noncompetitiveness, interpersonal orientation, empathy, sensitivity, nurturance, etc. (Bardwick & Douvan, 1971, p. 225)

According to Kagan and Moss (1962), the most stable and
predictable personality traits in females are passivity and a dependent orientation. Research on sex differences in personality strongly supports the stereotype that males are more aggressive than females (Frieze et al., 1978; Maccoby & Jacklin, 1974). While this finding appears to be consistent, Frieze et al. make the distinction between physical, overt aggression and nonphysical aggression. Research evidence, however, is inconsistent with regard to nonphysical aggression. Because there is no demonstrated difference in the aggressive drive between males and females and aggression is culturally defined as unfeminine, Frieze et al. (1978) suggest that females display aggression in an indirect manner while males are more overt in their aggressive behavior.

Contrary to stereotypic conceptions, research does not consistently demonstrate that females are more dependent than males. Most studies have measured the dependency-related behaviors of suggestibility and conformity. Results demonstrated a developmental pattern whereby no sex differences were consistently found in young children, but older females were higher than males on these dependency related traits suggesting that girls learn to conform to sex-role expectations. Many of these differences, however, may be due to observers generalizing from stereotypes or to factors in the experimental situation that bias the results (Frieze et al., 1978).
and thus, the implications are limited for extending such findings to interpersonal interactions and how a woman functions in relation to her environment.

Sex differences in self-concept stereotypically have categorized males as more self-confident than females. Self-concept, or the way one thinks about or evaluates oneself, is affected by aspects such as physical attributes, athletic abilities, intellectual capacity, personality traits, and perceptions of how others view oneself. Most scales that measure self-concept refer to a global feeling of satisfaction or dissatisfaction with oneself and differences in self-concept on these measures refer to level of negative or positive self-evaluation. Results of studies comparing males and females show no significant differences on generalized measures of self-concept. However, in areas of achievement-related competence it has been established that females perceive themselves as less competent than males. Females have, relative to men, negative evaluations of their abilities, performance, and likelihood of future success (Crandall, 1969; Frieze et al., 1978; Maccoby & Jacklin, 1974). More recent research, however, has suggested that perception of sex orientation of the task is an important variable in performance (Ryan, 1978). Thus, if a female perceives the task as biased toward her sex, or sex-appropriate, then expectations and performance will be enhanced, at least on the
initial trial. Furthermore, choice of activities may be influenced by perceived task orientation.

Sex-role stereotypes and the socialization process have implications for women in achievement-related situations. There is evidence that competition is more difficult for females than for males (Lenney, 1977). Lenney suggests that this finding is a result of less self-confidence in females in their own abilities as well as their increased need for verbal support and external validation. This may ultimately stem from the developmental process whereby the girl child is not encouraged to separate from the maternal figure such that she develops confidence in her abilities or a sense of self-definition.

The impact of cultural shaping on the sexes is addressed by Maccoby and Jacklin (1974) in their review of sex differences. Part of the stereotype of "maleness" is the "greater power of the male to control his own destiny" (p. 157). Conversely, females tend to view themselves as less in control of their lives and are characterized more as "externalizers." In studies that investigate how the sexes perceive themselves, a greater sense of personal strength and potency emerges among males during the grade school years. In studies using the locus of control dimension, the sexes do not differ consistently through high school, but in college, women are found to be more external than men (Maccoby & Jacklin,
1974). These findings may be interpreted as demonstrating the influence of cultural shaping through the years on the development of one's self-perceptions.

Bardwick and Douvan (1971) trace the sex differences from infancy to adulthood in the socialization process. They report that comparisons between boys and girls in infancy reveal that girls are less active physically, display less overt physical aggression, have less genital sexuality, and display greater verbal, perceptual, and cognitive skills. Girls' characteristic behaviors are usually less disturbing to parents, require less restraining, and their earlier maturation of verbal, perceptual and cognitive skills enables females to anticipate environmental demands and conform their behavior to adult expectations more so than males do. Thus, while girls are encouraged and reinforced for manipulating the world to supply their emotional needs, boys are experiencing prohibitions for their behavior. The girls' identity and self-esteem become reliant on other people's acceptance and love and they continue to use the skills of others instead of evolving their own.

The boy's impulsivity and sexuality are enormous pleasures independent of anyone else's response and these pleasures are central to development of early identity. The negative sanctions from adults against masturbation, exploration, and physical aggression threaten these
obvious pleasures as well as self-integrity. Thus, the boy is pressured by his own impulses and society's demands to give up depending primarily on the responses of others for feelings of self-esteem, and he turns to achievements in the outer world and begins to value self for these accomplishments. Girls' characteristic responses and cultural values reinforce conformist, compliant behavior as they continue to rely on others for self-definition and affirmation. Boys are often pressured to give up "childish" behavior early because parents perceive these as feminine, and thus they must earn their masculinity early. Until puberty, femininity is a verbal label, an attribute that does not have to be earned. Consequently, there is a significant delay in the girl's search for identity, development of autonomy, and an internal criteria for self-esteem.

Bardwick and Douvan (1971) suggest that sex differences in infancy and childhood are enlarged through the socialization process. In particular, they cite evidence which reveals significant correlations over the life span for aggression in males and passivity in females, while passivity and dependency in males, and aggression in females, show no consistency (Kagan & Moss, 1962). These psychological attributes appear to remain constant or change depending on whether individual inclinations threaten cultural stereotypes of masculinity and
femininity. Specifically, aggression in males is permitted and encouraged and the form is socialized; dependence and passivity in girls is permitted and encouraged and the form is altered.

Until puberty, both sexes are rewarded for achievement, especially academic successes. Girls and boys are permitted to compete scholastically and athletically without negative consequences. The girl who is rewarded most likely evolves a self-concept associated with being able to successfully compete and cope. As long as friends, parents, and teachers reward her, the prepubertal girl will also feel normally feminine, although questions regarding femininity at this age are usually not critically important in self-evaluation. With the onset of puberty, however, the physical changes are accompanied by changing definitions of femininity and qualities that are closer to the stereotype. Behaviors that were previously rewarded, particularly successful competing, are often perceived negatively, as unfeminine (Horner, 1969). Femininity becomes an attribute that must be earned and the girl's often ambivalent feelings regarding her body make this task crucially difficult (Bardwick & Douvan, 1971). The body is no longer perceived as stable and secure because of the occurring physical changes (Ivey & Bardwick, 1968). The young, adolescent girl begins the task of developing a feminine self-concept that accepts
the physiological functions as well as an increased awareness of her sexuality. Concomitantly, she is faced with alterations in cultural demands. Socialization emphasizes heterosexual and relationship success rather than competition within achievement-related spheres.

Thus, for a long time, even the girls who are competitive, verbally aggressive, and independent can feel normal, but with the onset of puberty the female must come to terms with, and find pleasure in, her physical femininity and psychological "femininity" (Bardwick & Douvan, 1971, p. 230). This developmental "crisis," for most girls, cues earlier patterns of defining self through others and characteristically the most rewarding achievement task becomes the establishment of successful heterosexual relationships (Coleman, 1961). Additionally, personal qualities, such as independence, aggression, and competitive achievement, that threaten heterosexual relationships are largely given up during the adolescent years. Thus, the difficulties with establishment of autonomy and separateness that the young girl experiences in relation to mother are reinforced by society via heterosexual relationships. The loss of love remains the gravest source of injury for many females and, predictably, she will not gamble with this critical source of self-esteem (Deutsch, 1944; Douvan & Adelson, 1966).
Unless in early life the girl displayed the activity, aggression, or sexuality exhibited by boys, and consequently experienced significant parental prohibitions, there is little likelihood that she will develop independent sources of esteem that refer back to herself. Instead, she will remain dependent on others for feelings of affirmation and self-worth. This concept is closely linked with the lack of overt aggression and anger displayed by females that Lerner (1980) discusses in terms of attaining a sense of separateness and that is further enhanced by the socialization process.

According to Bardwick and Douvan (1971), a girl's search for her feminine identity is a complex and subtle process that is delayed relative to a boy's attainment of a masculine identity. This is because her sexuality is internal, inaccessible, and diffuse, because she feels ambivalent toward the functions of her mature reproductive system, because she is not punished for her impulsivity, because she is encouraged to remain dependent.

(p. 232)

Furthermore, she becomes aware that the culture values attributes of masculinity more highly than those of femininity (Broverman, Broverman, Clarkson, Rosenkrantz, & Vogel, 1970), and thus, achieving a successful feminine identity involves many complicating factors.
Although the socialization model is slowly changing, sex-role stereotypes persist because of cultural lag. Additionally, masculinity and femininity appear to be aspects of self which are clearly tied to these roles. More recently, Spence and Helmreich (1978) suggest that a distinction be made between sex-role behavior and masculine or feminine personality attributes. Sex-role behaviors refer to acts which society expects or considers appropriate for members of either sex, whereas masculinity and femininity are considered relatively stable internal dispositions. Although these traits are considered more characteristic of one sex than the other, they do not necessarily correlate with sex-role behavior normally attributed to members of a particular gender. Crastnopol (1980) suggests that these two personality dimensions are closely related to developmental issues of symbiosis and separation-individuation since masculinity might well contribute to separation-individuation tendencies while femininity might promote symbiotic tendencies. In her study on separation-individuation in a woman's identity, she developed a scale which measured a woman's perception of herself-in-relation-to-mother and categorized subjects as individuated, practicing, distancing, or symbiotic. The trait-relationship findings reflected correlations between masculinity and individuated subjects, and between high femininity and high symbiotic/low distancing subjects.
The practicing stance did not correlate significantly with either masculinity or femininity.

Other researchers in the area of sex-roles have looked at the relationship between the dimensions of femininity and masculinity and other aspects of personality structure. The concept of androgeny, which refers to a type of personality that blends masculinity with femininity, agentic with communal concerns, instrumental with expressive behavior was also considered (Bem, 1976; Spence & Helmreich, 1978). Bem (1976) suggests that androgynous persons are comfortable and capable in both instrumental and expressive spheres, while more sex-typed persons are more limited to behaviors consistent with traditional sex-roles. Other studies (Berzins, Welling, & Wetter, 1978; Kelley & Worell, 1977; Spence & Helmreich, 1978; Woods, 1975) found that masculine women were the most independent and defensive, and feminine women were the most dependent and nondefensive. Furthermore, masculine and androgynous women had the highest self-esteem and were more invested in athletics, scientific interests, and cultural or literary pursuits than other women. The researchers interpreted their results as suggesting that the higher a female's masculinity score, the more well-adjusted, competent, and secure she would be, and concluded that masculinity per se, rather than androgeny, is often the most salient predictor of differences among women in sex-role research.
Development in adulthood is an ongoing, dynamic process. The degree of health or psychopathology an individual brings to adulthood influences both the environment chosen to live in and one's response to it. The fundamental issues of childhood continue as central aspects of adult life in an altered form (Colarusso & Nemiroff, 1979). Within the context of psychodynamic developmental theory, the nature of the activities an individual chooses to engage in may be viewed as involving both the conflict and conflict-free spheres of ego functioning (Blanck & Blanck, 1974, 1979; Hartmann, 1939/1958). Adult development focuses on the continuing "evolution" of the existing psychic structure (as formed in childhood), and its "use" (Colarusso & Nemiroff, 1979). Therefore, chosen activities might be considered as manifestations of earlier processes and an attempt to resolve separation-individuation issues as well as to provide a realistic source of self-esteem. Freud (1915/1967) placed great emphasis on the influence of the body in mental development, and other theorists concur that growth in adulthood, as in childhood, is deeply influenced by the body and physical changes (Colarusso & Nemiroff, 1979). Within the context of psychodynamic theory, this section will examine the relationship between involvement in physical activity and developmental issues in adult women.
A brief review of the theory and research on the relationship between physical fitness training and mental health will provide the information necessary for integrating the demonstrated psychological benefits within the developmental process of separation-individuation. Additionally, relevant information on female participation in athletics will be presented.

In recent years, participation in chronic physical exercise has become increasingly popular and much research describing the psychological benefits of improved levels of fitness has emerged from a variety of settings. The psychological benefits of fitness training, particularly running (or jogging), have been propagandized by the press, and the issue has been optimistically addressed by physical educators, psychologists, exercise physiologists, rehabilitation counselors, psychiatrists, and physicians. A critical review of the research reveals, however, that more true experimental research is needed. Most attempts to explain the psychological effects of physical fitness training have been piecemeal and the research has been largely atheoretical, with speculations about the processes underlying the assumed benefits emphasizing either physiological or psychological points of view (Folkins & Sime, 1981). This study is not an attempt to provide an overall theoretical framework within which further research on physical activity and mental health might be undertaken;
instead the focus of this study is to examine how a woman's involvement in running, and the consequent physiological and psychological benefits might enhance her development of a sense of identity and of autonomy, the view of herself as a separate and self-defined entity. A review of the research on psychological benefits of physical fitness training will highlight the psychological gains that have been associated with running.

For many centuries the importance of exercise in the maintenance of physical and mental health has been recognized. The Greek saying mens sana in corpore sano—a sound mind in a sound body—represents the historically traditional ideal and offers implications for the development of more integrated and healthy behavior. Systematic research on the psychological benefits of running has been inhibited until recently by the lack of conceptual links between mind and body (Folkins & Sime, 1981). Harris (1973) has proposed a "somatopsychic" rationale for one's involvement in physical activity and sport which states that bodily activity and function influence behavior. While this perspective offers a framework for causation which may generate hypotheses regarding the effects of exercise, it does not address the complex question of how changes in fitness level affect psychological variables.

Before considering the psychological aspects of physical activity, several terms require definition.
According to exercise physiologists and other health educators, physical fitness is synonymous with cardiovascular fitness. Muscle strength, body flexibility, proper weight, and nutrition, as well as absence of disease, illness or injury, do not constitute fitness. The condition of an individual's cardiovascular system determines the level of fitness; participation in an aerobic exercise program of sufficient frequency, intensity, and duration is necessary to develop and maintain cardiovascular fitness (American College of Sports Medicine, 1976).

Aerobic exercise is defined by Cooper (1972) as the type of exercise that demands great amounts of oxygen and forces the body to process and deliver it to the tissue cells, where it combines with nutrients to produce energy. Aerobic exercise strengthens the cardiovascular system so an individual can sustain a pace over a long period of time without building oxygen debt. Cooper claims that jogging (running) is the quickest and most beneficial aerobic exercise. Moreover, he has formulated a "point system" for measuring the values of various aerobic exercise based on the amount of oxygen required to perform the exercise. Points are earned according to the type of exercise, duration, and effort expended. (Running earns more points than other forms of aerobic exercise in a shorter period of time.) On the basis of continuing
studies, Cooper (1972) specifies the amount of points per week (24) required of a woman to achieve and maintain a satisfactory level of fitness. It is at this point that the individual is getting adequate endurance exercise to produce certain beneficial physiological changes which he refers to as the "training effect." While it is conceptually naive to distinguish between physical and mental health, most studies have tended to emphasize either the physiological or psychological viewpoint. And although the focus of this study is on intrapsychic developmental processes, a summary of the research findings concerning the relationship between physical activity and mental health offers implications for understanding the nature of running as a chosen aerobic activity as well as a manifestation of the separation-individuation process.

Improvements in cardiovascular functioning following training has been associated with reports of an increased sense of well-being (Buffone, 1980; Ismail & Trachtman, 1973). Research concerning the physiological alterations suggests a physical basis for the well-being phenomenon and future investigations are continuing to examine this area (e.g., Folkins & Sime, 1981; Hannaford, 1982).

Within the psychological realm, the relationship of variables such as perception, body image, self-concept, mood, and social adjustment to physical activity have been
examined. Additionally, running has been advanced as a treatment for a variety of psychological maladies. Most of the studies examine differences on psychological variables between fit and unfit groups, and normal and abnormal groups, instead of measuring psychological changes related to physical fitness changes. Moreover, the majority of reviewed studies do not document fitness effects. Although the interpretation of the psychological data is limited because of the lack of rigorous designs, the information gained from this research regarding psychological benefits, as well as the pitfalls to avoid in future studies, have been incorporated in the proposed study.

The research with the greatest payoff in the area of personality focuses on fitness training and the dependent measure of self-concept. In general, researchers assume a "self-as-object" meaning for self, referring to a person's attitudes and evaluations of their self such as body traits and abilities (Folkins & Sime, 1981). Berg and Smallwood (1974) maintain that a person's self-concept is intimately tied to the way in which the body is perceived. Changes in the body that result from fitness training might reasonably be expected to alter one's body image, which is highly correlated with, and is expected to radiate self-concept (Zion, 1965), and affect (Goldberg & Folkins, 1974). In fact, research studies on a variety of
populations have demonstrated that when fitness effects are documented, an improvement in self-concept does occur (e.g., Collingwood & Willett, 1971; Hanson & Nedde, 1974; Hilyer & Mitchell, 1979). Since self-concept and body image are of crucial importance in relation to an individual's intrapersonal and interpersonal spheres of functioning, then ultimately, involvement in a physical fitness program would be expected to have an effect on intrapsychic developmental processes.

In general, the research relating physical activity to affect suggests that fitness training is associated with positive changes in mood states. Furthermore, this improvement seems to be more pronounced with subjects who are psychologically more distressed or physically unfit at the outset (deVries, 1968; Folkins & Amsterdam, 1977; Folkins & Sime, 1981). The "feeling better" sensation which accompanies regular physical activity is a universally accepted benefit of exercise (Morgan, 1974) and has been widely documented by investigators (e.g., Morgan, 1969; Morgan & Pollack, 1978). These findings are consistent with the notion of unity of mind and body, and the somatopsychic perspective.

Much of the research on the relationship between affect and physical activity has focused on the stress emotions, especially anxiety (Folkins & Sime, 1981). Additionally, depression has also been studied to some
extent, and in fact, running programs have been used as an effective treatment modality for depressive patients (Blue, 1979; Griest, Klein, Eichens, Farris, Gurman, & Morgan, 1981). It seems logical that a fitness program would produce positive effects in relation to an individual's capacity to effectively deal with anxiety and decrease depression, as physical exertion, in the form of running, represents an active, assertive, and competing response to these emotions. Although most studies do not meet the rigorous requirements of a true experimental design (Campbell & Stanley, 1963), and there is a lack of causal relationship, the significant positive findings have been impressive (Folkins & Sime, 1981). For example, significant improvements in anxiety and depression accompanied gains in physical fitness for women, but not men, in a jogging program (Folkins, Lynch, & Gardner, 1972), and for adult males with a high coronary risk factor (Folkins, 1976). Perhaps, as suggested earlier, these groups do represent the more distressed and unfit. If this is the case, then females in general, may attain greater benefits due to their lesser degree of "health," both physical and psychological. The role of the socialization process as presented earlier may be linked to this postulation, and if the view of the totality of mind and body is accepted, then running may provide an avenue for females to develop in a more integrated and healthy fashion.
Based on their study using running as a treatment for moderate depression, Griest et al. (1981) offer several hypotheses to partially explain the beneficial effects of this type of physical activity. They suggest that "individuals who become independent runners develop a sense of success and mastery of what they correctly perceive as a difficult skill" (p. 18), and learn that they have the capacity to change themselves such that they experience an improved body image and increased self-acceptance. They propose that this sense of mastery and new, positive self-image that stems from competence at running generalizes to other areas of an individual's life. Additionally, for some individuals, running provides a distraction from minor but annoying physical symptoms of depression, and substitutes real bodily sensations, as well as a positive "habit," in place of more "neurotic" defenses. Running also provided a reliable and acceptable means for releasing anger, aggression, and anxiety (Griest et al., 1981). Although these psychological benefits of running are not substantiated by hard data, on an intuitive level it appears that running may encourage the development of a more internalized sense of control, as well as an increased sense of autonomy and trust in oneself.

Basic personality structures of people do not seem to change as a result of improved physical fitness (Tillman, 1965). Folkins et al. (1972) suggest instead that
indices of psychological health or fitness, which refers to the quality of adjustment in everyday functioning, be emphasized, and they postulate that an individual may gain fitness (or lose it) psychologically as well as physically. Measures of psychological fitness might include scales which tap an individual's self-concept or self-esteem, locus of control, and general sense-of-well-being.

George Sheehan (1981), a noted runner and physician, has stated that "there is no place for a bodiless psychiatry or psychology" (p. 190). In a recent article, Leer (1980) examined patterns of human growth and development in terms of the relationship between physical and mental health. He proposed that physical activity, by its very nature, may be adaptive and therefore, may easily lend itself to the process of altering maladaptive and restricted ego functioning. Moreover, the physical activity of running provides for a psychological experience serving to reawaken people's sense of body awareness and fundamental mastery over themselves and their environment. (p. 20)

The reexperiencing of the primitive developmental achievement of running may in fact be regression in service of the ego and the subsequent restructuring process may result in increased emotional self-mastery.

As outlined earlier, psychodynamic theorists such as Freud, Fenichel, Mahler, Blanck and Blanck, and Jacobsen,
have provided ample evidence concerning the major role mastery of personal locomotion plays in human growth and development. While Freud focused attention on infantile sexual feelings aroused by rhythmic exercise, Fenichel (1945) relates ego development to mastery of motor skills and views achievement of the developmental task of walking as providing the foundation for the child's independence. Descriptions of childhood growth and development lend credence to the proposition that when experiencing rhythmic repetitions, stimulation of the deep muscles, and continued moderate stress—or during prolonged running—the individual may reexperience his/her earliest sexual feelings, as well as success or failure at developmental tasks (Leer, 1980).

Altshul (1978, 1981) further suggests that the psychosexual stages of development are represented by different running paces. He maintains that slow running relates to the oral stage, as it promotes a fantasy state similar to a more passive floating sensation. Running at moderate speed is associated with attention to bodily processes and is characteristic of anal phase development. Fast running promotes feelings of aggressiveness and competition, and this may relate more to the phallic stage. From a psychoanalytic perspective, he believes that the act of running produces psychologically ameliorative effects by fostering the formation and elaboration of
fantasies that involve both unconscious and conscious representations. Running serves as an organizer of these fantasies such that the theme is motivated by the need to work out unresolved conflicts deriving from the corresponding phase of development. Recognizing the centrally significant role that motility plays in human development, he postulates that the sense of emotional well-being reported by regular distance runners is associated with these ego-integrative effects of running. Additionally, he believes that running may serve many intrapsychic uses including defensive, adaptive, instinct-gratifying, and metaphorical, and therefore, may enhance ego development.

As reviewed earlier, in terms of object relations, Mahler et al. (1975) describe the significance of motility in the process of separation-individuation. Sacks (1981) proposes that perhaps the runner recaptures the early childhood practicing period experience of mastering the upright posture and walking, and the accompanying feelings of elation, self-efficacy, and invincibility. Sheehan's (1978) description of his running experience captures this aspect and is as follows:

Like most distance runners I am still a child. . . . Like most children I think I control my life. I believe myself to be independent. I am certain I have been placed on this earth to enjoy myself, the best of all possible worlds, a world made for
running and racing, where nothing but good can happen. (p. 211)

If the runner proceeds along this developmental continuum, it is suggested that perhaps the individual begins to reexperience other stages of the separation-individuation process and that the struggle to become an autonomous and separate individual may be manifested through the activity of running. For example, the individual who begins to test physical limitations through running longer distances and with greater intensity, may in fact be resolving or reworking issues that represent residuals of the rapprochement period. Further integration of the derivatives of earlier processes through running may engender generalized feelings of mastery and competence. Therefore, the person will experience a greater sense of identity and autonomy that will be exhibited through increased satisfaction in interpersonal and intrapsychic spheres.

As psychoanalysts, Perry and Sachs (1981) suggest that people run for unconscious reasons. They emphasize the play aspects of running utilizing a psychodynamic approach. An essential ingredient of play, according to Huizinga (1950), is its lack of utility in the real world; the central reason for the activity is to please oneself. Perry and Sachs suggest further that running has a unique quality not found in other sorts of play and may have
meaning beyond simply moving. In accordance with object relations theorists such as Mahler and Winnicott, they propose that developmentally running represents separation from oneness with mother and that the movement allows the individual to play out the struggle between mastery and limitations. So, by asserting oneself through physical exertion, an individual becomes involved in the continuing struggle to accept his or her limitations. Even in races where as many as 15,000 people participate, Perry and Sachs (1981) propose that running provides the individual with an arena to create one's own private game. The act of running is innate and requires no new learning and no influence from others, thus rendering the activity more meaningful personally. The individual can set his/her own goals, draw the boundary lines, and create the game clock such that one has the illusion of controlling time. In essence, the movements, goals, space, and time come from within. Hence, the human experience of mastery and the struggle to accept one's limitation are encapsulated in the activity of running. Fritz Schreiber, a runner for 70 years, sums up his experience as follows:

Running is a melody of my life, of all my life; to sweat out anger, to concentrate on the tasks of life, to feel the pleasure and delight of loneliness and freedom, to be all of a human being. (Griest et al., 1981, p. 22)
As reviewed earlier, the toddler takes the greatest step in human individuation when s/he walks freely with upright posture (Mahler et al., 1975). Furthermore, the sex differences observed by Mahler and her colleagues revealed that the little girl's lesser degree of motor-mindedness compounds the realization of separateness while the little boy's active and aggressive strivings seem to help him maintain the buoyancy of body-ego feelings, belief in his body strength and pleasure of functioning.

These observations are reminiscent of Robbins' (1977) findings in a study of assertiveness in women before and after a self-defense course. She believes that the poor self-image often found among women is brought about partially by females being culturally and psychologically restricted in their motor functions as well as in the development of other tools for coping with stress. She found that after completing a self-defense course, wherein development of motor skills and personal physical strength was emphasized, females exhibited significant increases in assertiveness that generalized to other areas of their lives. Assertiveness refers to the ability to take action on behalf of oneself and Robbins proposes that this characteristic is not encouraged in females relative to males. She states that females lack "independence and mastery training" (p. 8), that they often depend on others to direct their activities and for self-esteem, and that
this powerlessness is evident in a psychological, as well as a bodily sense. This formulation is congruent with earlier reported findings that females are relatively less psychologically and physically healthy (Folkins et al., 1972).

Developmental and socialization processes inhibit the female from developing and exploring her physical limitations. Instead, it is expected that women will be passive, passing up active sports which might strengthen them and make them more muscular (Robbins, 1977). The new female participation in sports has been controversial. Historically, women that choose to participate in sports have placed themselves outside of the social mainstream and have risked their femininity in a culture that espouses the "Amazon myth" (Hart, 1971; Rohrbaugh, 1979). Participation in athletics has been described as a crucial learning experience, a way to develop self-confidence and a feeling of mastery over the environment. Recently, more and more females are beginning to enter this arena and are seizing the opportunity "to develop their physical strength, to experience the strength and beauty of their own bodies, to feel the exhilaration of competition and victory" (Rohrbaugh, 1979, p. 369). In general, studies have shown that participation in sports appears to enhance a sense of well-being and fosters development of self-confidence and identity (e.g., Snyder & Kivlin, 1975;
Vincent, 1976). In a study comparing athletic with non-athletic college women, the athletes were more "self-actualized" in that they were less dependent on the opinions of others, held more growth-enhancing values, were more flexible in applying those values, and were more sensitive to their own needs and feelings (Ibrahim & Morrison, 1976).

Snyder and Spreitzer (1978) suggest that serious involvement in any activity may be the key to increased self-confidence and a sense of well-being, and that the specific content and apparently feminine nature of the activity may not be important. Many others, however, argue that there is something uniquely valuable about athletic involvement, particularly competition, whereby an individual experiences a sense of mastery and accomplishment that impacts other areas of life. Feminists, in particular, view sports as a training ground for female assertiveness and defiance of sex-role stereotypes (Diamant, 1979; Heide, 1978; Rohrbaugh, 1979).

The sport of running is unique because of its relationship to mastery of early developmental tasks. Running provides an avenue for the individual to express one's natural being, to explore the eternal conflict between human power and frailty, to explore unknown areas and capabilities. For females, the testing of one's limits, particularly in the physical realm, is of crucial
importance in light of both separation-individuation and socialization processes. According to Oglesby (1981), the women who run have overcome elemental social and psychological obstacles in order to incorporate this activity into their lives. Furthermore, the running experience provides women with the opportunity for defining and extending their personal limits. When a woman begins to run, she makes a significant statement regarding her motivation to change life's patterns. As an expression of self, running encourages the person to integrate physical and psychological aspects and for women, in particular, this is associated with the realization that "we, too, are physical beings" (Ullyot, 1980, p. 42). Joan Ullyot, a world-class marathoner and physician, believes that for women running is associated with a "whole new way of looking at ourselves, our potential . . . the world around us changes as we become runners" (p. 42).

Although no empirical evidence exists as yet regarding this observation, it seems logical, based upon the importance of locomotion and motility in the development of a sense of autonomy and independence, that running might be associated, in a growth enhancing way, with the lifelong process of separation-individuation. Since for females the differentiating from mother and achieving a sense of identity as a separate person involves
more complex intrapsychic and interpersonal processes than for males, running may be a significant manifestation of a woman's continued struggle to become individuated. While no causal relationship is being suggested, it is possible that a woman chooses to become involved in this activity because of an unconscious motivation to resolve past conflicts as well as to more fully express her aggressive drive (as defined by Blanck and Blanck, 1974, 1979).

Through running, as a woman increases her physical strength and awareness of her body, it is proposed that, in general, she will experience corresponding gains in self-confidence and emotional strength. Thus, a cycle ensues in which the woman's strivings for independence and autonomy are fostered through her choice to run and in the act of running itself.

According to Ullyot (1980), the activity of running offers new freedom, an opportunity for self-exploration, and enjoyment in physical involvement. She believes that all running leads to introspection and more self-knowledge, and that even if a person runs with a partner or in a group, they are moving by themselves, thinking their own thoughts, and getting to know their bodies in a new way. Moreover, she postulates that a man may not acquire this knowledge because he may already have taken time for himself all his life and/or have a clear concept of who he is; whereas for the female, the physical accomplishment of
running has a profound impact on her psychological growth. Previous assumptions about one's capabilities are challenged and the concomitant increase in internal energy and self-confidence is accompanied by a "mood of exploration and assertiveness" (p. 163). Thus, in the process of testing her physical limitations, the woman who runs appears to develop more self-assertion and independence which pervades her sense of identity and fosters a more positive self-concept. Additionally, running may indeed heal the mind/body dichotomy and for females, this is of special significance because "women have been systematically encouraged to divorce their identities from their bodies and in doing so they have been divorced from the most basic sense of power" (Diamant, 1979, p. 25).

Furthermore, when a person is divorced from this very primary sense of power, a sort of ruptured identity is created, a psychological instability, and there is a primary disconnection with the world. This view is congruent with the holistic approach and supports the relationship between psychological and physical fitness.

A paucity of data exists on the psychological characteristics of the female distance runner. Although not specific to running, Snyder and Spreitzer (1978) demonstrated a positive relationship between female participation in sports and measures of self-identity. In a study on female distance runners, Harris and
Jennings (1977) found that females who classified themselves as more masculine or androgynous on the Personality Attribute Questionnaire (Spence, Helmreich, & Stapp, 1974) had the highest self-esteem. This is contrary to the traditional view whereby females who perceive themselves as being more closely aligned with typical masculine behaviors have lower self-esteem. These results might be interpreted as demonstrating that female distance runners evidence more instrumental behaviors, and thus, may function more independently and have increased self-esteem. Results from a survey in Runner's World (Shangold, 1981) revealed that the female who is attracted to the goal-oriented activity of distance running is driven to goal-oriented achievements in intellectual areas as well, suggesting that the activity of running may be associated with personality characteristics in women that reflect development of a sense of separateness and attainment of self-identity.

In the study by Folkins et al. (1972) females and males participated in a jogging program and were compared to persons participating in a nonaerobic sport class. Results showed significant improvements on psychological fitness measures for the females in the jogging program. These results were interpreted cautiously, however, because the females were the less psychologically fit at the outset and previous data shows that the more unfit individuals
demonstrate greater gains in physical and psychological fitness. The implications of these results for the proposed study are numerous. If females are more "unfit" psychologically and physically, then they have more to gain compared to males. The review of the literature on sex-role socialization, as well as the separation-individuation process, implies that females are less "healthy" or "fit" mentally and physically, and therefore would evidence significant improvements. Females are cut-off from their bodies, their sexuality and physicality at a young age, and concurrently, are not encouraged to challenge their limitations. Perhaps, the woman who chooses to run is motivated by a heretofore buried aggressive drive (Blanck & Blanck, 1974) or she is attempting to "spring free" (Dowling, 1981). Perhaps she is struggling to resolve separation-individuation issues and has chosen running as the road to reexperience the practicing period. Further intrapsychic and interpersonal growth may encourage her to test out her limitations, suggesting a partial recapitulation of the processes evidenced in the rapprochement period, and in her running this may be reflected in an increase in the intensity and duration of her involvement. Perhaps, the act of running and the accompanying experiences of both pain and pleasure are regressions in service of the ego, such that the resultant restructuring reveals a more individuated and autonomous individual.
This study will examine these developmental issues and attempt to determine the role running plays in the process of separation-individuation for women.

**Statement of the Problem**

In the study, an attempt is made to understand a woman's involvement in the motoric activity of running within the context of psychodynamic developmental theory. Theoretical and empirical evidence is presented for the crucial role of motility in human psychological growth and development. The existing literature on female developmental issues is reviewed emphasizing the impact of the separation-individuation and socialization processes. The developmental task of defining self as a separate individual for the female involves differentiating and separating from the maternal figure, as well as concurrently integrating a sense of "sameness." Intrapsychically and interpersonally this is a complex task which is concomitantly influenced by cultural stereotypes of the female as dependent, passive, and weak. In contrast, males are encouraged to separate and define their limitations in an independent, active, and instrumental manner.

The challenge for the present study was the integration of the separation-individuation issues inherent in the female developmental process with the body of literature demonstrating the positive relationship between
psychological and physical fitness. The concept that locomotion signifies an individual's investment in pursuing autonomous functioning provides the basis for investigating a woman's involvement in the physical activity of running and her psychological development.

It is suggested that when a woman chooses to begin running she is taking additional steps toward defining herself as an independent and autonomous person and that running is a manifestation of her struggle to resolve separation-individuation issues. Thus, one might characterize the beginning runner or "hobby" runner as exhibiting a recapitulation of the practicing period (Mahler et al., 1975). The woman who pursues running for "performance" reasons as well as to stay physically healthy and fit usually becomes more committed to testing her limitations and determining her physical capabilities. Hence, she might be viewed as attempting to resolve issues that are more likely derivatives of the rapprochement period or Mahler's (Mahler et al., 1975) next subphase of on-the-way to object constancy. It appears that involvement in this form of locomotion may encourage a shift from the "symbiotic orbit" in an adult form to more autonomous, individuated functioning. Within the framework of psychodynamic theory, running may provide additional fulfillment of the aggressive drive, as defined by Blanck and Blanck (1974, 1979), and the associated
psychological fitness may reflect what Jacobsen (1964) refers to as the growth promoting features of this drive.

Through commitment to a running program and in the act of running itself, it is proposed that a woman gains awareness of her body and physical capabilities as well as feelings of mastery. It is suggested that her definition of self will reflect this knowledge of her physical limitations, and that the realization of strength in heretofore untested areas will generalize to other spheres of functioning. Hence, one would expect increased self-confidence and self-esteem. Trust in one's capabilities might also be observed in a more internal locus of control. Furthermore, since running is an individualized sport which requires a certain degree of self-discipline, it is suggested that compared to the general population of women, the female runner will display more instrumental and autonomous personality traits. As such, running may facilitate the developmental tasks of the separation-individuation process and encourage the female to challenge the stereotypic feminine behaviors which prohibit her active growth in becoming a fully functioning, independent, and separate individual.

The purpose of the present study was to investigate the relationship between the developmental process of separation-individuation in adult women and the motoric activity of running. Using several personality scales and
an inventory that measures adult female development in accordance with Mahler's stages, women who run were compared to women who do not run. Within the group of runners, women were classified as either low mileage runners or high mileage runners to reflect the theoretical differentiation between a practicing stance and the result of testing of one's limitations. The literature reviewed provides the basis for the formulation of the following hypotheses.

**Hypotheses**

**Hypothesis I.** The self-reported personality variables and a women's identity vis-à-vis mother will be correlated such that the nonrunner and runner differ in a consistent manner in relation to the concepts of separateness and independence.

**Hypothesis II.** Women who run will differ from women who do not run in their identity vis-à-vis mother. Based on the concept that locomotion encourages the shift from the "symbiotic orbit" to more autonomous, individuated functioning, it was hypothesized that runners would have higher individuated scores than nonrunners. Also, higher practicing scores will characterize the runner groups, particularly the low mileage runners.

**Hypothesis III.** Women runners will differ significantly from the women nonrunners on the following personality variables: locus of control, self-confidence,
masculinity/instrumental traits. This hypothesis was tested using the Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE; Nowicki & Duke, 1974), the Adjective Check List (ACL; Gough & Heilbrun, 1965), and the Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978). These instruments are described in greater detail in a subsequent section.

**Hypothesis IIIA.** Women runners will have a greater sense of control over their own lives and will be less defined by others as compared to women nonrunners. The runner's greater awareness of her body, physical capacities, and limitations will be reflected in a more "internal" locus of control. Nonrunners will have higher scores on the locus of control scale (ANS-IE) since it is keyed in the external direction.

**Hypothesis IIIB.** Runners will perceive themselves as more instrumental in effecting their environment and will have higher scores on the masculinity scale (M scale of the PAQ) than nonrunners.

**Hypothesis IIIC.** Greater knowledge of physical limitations, increased body awareness, and mastery experience on a physical task will be associated with greater self-confidence in runners compared to nonrunners.
Method

Subjects

Subjects were 90 women, aged 17 to 40 years, who agreed to participate and met the criteria for inclusion in this study. Subjects were categorized into six groups: three groups were based on commitment to running, and within each of these groups, subjects were divided into two groups according to their age to control for maturational factors.

The commitment to running groups were determined by average weekly mileage and running history such that subjects were divided into three groups: nonrunners (NR), low mileage runners (LMR), and high mileage runners (HMR). Subjects in the LMR and HMR groups met the criteria necessary for maintenance of cardiovascular fitness as defined by Cooper (1972) and the American College of Sports Medicine (1976). Nonrunners were not involved in running or other aerobic activities that establish and maintain cardiovascular fitness. The distinction between the HMR and LMR groups was based on commitment to running as measured by duration, or time spent involved in the activity. Additionally, a physiological basis exists for this distinction which related to testing of one's (physical) limitations (Patton, 1982).

The low mileage group includes subjects who (a) run at least 6 miles per week and less than 20 miles per week,
(b) have never run over 20 miles per week, and (c) have been running for at least 6 weeks, three times per week. The high mileage group includes subjects who (a) run at least 30 miles per week, (b) have been running at this level for at least 4 weeks or have run consistently 30 miles per week for a 4 week period in the past, and (c) have been running for at least 6 weeks, three times per week.

The age range of the subjects is 17-40 years so that accurate comparisons between the present sample and Crastnopol's (1980) population may be made. Thus, participants aged 17-22 years were classified in Life Stage 1, while those aged 23-40 years were classified in Life Stage 2. In accordance with Crastnopol's criteria, subjects also indicated that their primary maternal figure is still alive.

Subjects were invited to participate by verbal and posted announcements at various locations in San Diego, California and the Dallas-Fort Worth area of Texas. Women were solicited from undergraduate and graduate classes at North Texas State University in Denton, Texas and from undergraduate classes at Mesa College in San Diego. Volunteers from the San Diego Marathon Clinic, from road races, running trails and tracks, and from direct person-to-person contact were also subjects in this study.
Of the over 200 questionnaires that were distributed to potential subjects, 137 women returned the questionnaires. Participants were classified as a subject if they met the above stated criteria for nonrunner, low mileage runner, or high mileage runner, and they were rejected if they did not meet this criteria. Additionally, participants were excluded if they did not meet the age criterion or if their primary maternal figure was no longer alive.

Of those 90 women that met the criteria for being classified as a subject, 42 subjects were between the ages of 17 and 22 years and 48 subjects were aged 23 to 40 years. Within the younger age group, there were 14 nonrunners, 10 low mileage runners, and 18 high mileage runners. Within the older age group, there were 16 nonrunners, 18 low mileage runners, and 14 high mileage runners.

**Measuring Instruments**

**Personal Data Sheet (Appendix B) and Physical Activity Participation Questionnaire (Appendix C).** These were administered to obtain relevant information on various demographic variables and commitment to a running program. Questions were included about age, educational level and vocational status, race, socioeconomic background, mileage run per week (past history and currently), participation in races, and running history.
Identity vis-à-vis Mother Questionnaire (IVM-20). Designed by Crastnopol (1980), this instrument measures separation-individuation issues as modified to apply to adult development. The inventory consists of four scales: (a) Individuated (Ind), (b) Practicing (Prac), (c) Distancing (Dist), and (d) Symbiotic (Sym). Each scale contains 20 items that are rated on a four-point scale (A = Quite False, B = Somewhat False, C = Somewhat True, D = Quite True). Both false responses (A and B) are weighted 0, C is weighted 1, and D is weighted 2. The weights are summed across the 20 items of each scale to obtain the four scale totals, and thus yield the four scores (Ind, Prac, Dist, Sym). The internal consistency reliability coefficients for each scale are as follows: Ind (.68 to .61); Prac (.80 to .76); Sym (.88 to .89) and Dist (.92 to .92). These four scales were shown to relate to age such that two Life Stages were distinguished, Life Stage 1 applied to ages 17-22 years, and Life Stage 2 applied to ages 23-40 years. Life Stage was significantly related to the IVM-20 scores independent of their relationships with the demographic variables (Crastnopol, 1980).

The Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE). The ANS-IE (Nowicki & Duke, 1974) is a locus of control scale developed for noncollege as well as college adults. The ANS-IE consists of 40 items which are answered either yes or no. The construction of
the items for this scale was based on Rotter's (1966) definition of the locus of control dimension. A higher score on this scale indicates a more external locus of control orientation, or the belief that reinforcements in one's life are not under personal control. A lower score reflects a more internal locus of control orientation and characterizes individuals who believe that reinforcements are contingent upon their own behavior, capacities, and attitudes. Compared to the Rotter Internal-External Locus of Control Scale (1966), the ANS-IE uses language appropriate for noncollege as well as college adults, is easier to understand and read, and is not confounded by social desirability. The ANS-IE compares favorably to the Rotter in predicting behavior on the basis of social learning theory and the conception of expectancies. Split-half reliabilities for the ANS-IE indicate satisfactory internal consistency and ranged from .74 to .86. This may be an underestimate of the internal consistency since the items are not arranged according to difficulty.

**Personal Attributes Questionnaire (PAQ).** The short form of the PAQ (Spence et al., 1974) was used to assess masculinity and femininity. This instrument consists of 24 bipolar items describing personal characteristics on which subjects rate themselves on a five-point scale. The questionnaire is divided into three eight-item scales: Masculinity (M), Femininity (F), and
Masculinity-Femininity (M-F). Items are scored from 0 to 4, and a total score for each scale is obtained by summing the eight-item scores. Since only the M and F Scales are used for describing a woman's sex-role characteristics, scores for the M-F Scale were not included in this study. The items are considered to be socially desirable for both sexes, but higher scores on M items are more characteristic of males while higher scores on F items are more characteristic of females. The PAQ is designed to measure one aspect of sex-role identity: the presence of instrumental (or masculine) and expressive (or feminine) personality traits. Internal consistency reliability coefficients of .85 for the M Scale and .82 for the F Scale have been reported. Extensive data on the construct validity of the PAQ are available by the authors (Spence & Helmreich, 1978).

Adjective Check List (ACL). The ACL (Gough & Heilbrun, 1965) contains a list of 300 adjectives and may be scored for 24 scales. Three scales are response set scales, five scales were developed empirically, and the remaining 15 scales were prepared on a rational or content basis reflecting the influence of Murray's (cited in Gough & Heilbrun, 1965) classification of personality needs. The mean for test-retest reliability coefficients is .54 with a standard deviation of .19; the reliability coefficients for some scales (such as self-confidence) are high, while
others do show rather low reliability over time. The advantage of using this type of measure is that the diversity of behaviors covered results in flexibility and the possibility of discovering new and unsuspected relationships. Recognizing the reliability problem, Gough (1960) points out gains in reliability through alteration of the response procedure would only be attained at the cost of sacrificing the simplicity and naturalness of the technique, which are two of its greatest values as a measuring instrument.

Three scales that related to the focus of this study were used; the Self-confidence scale, which was developed empirically, and two of the Need scales, the Autonomy scale and the Succorance scale. Interpretation of the Self-confidence scale stresses a sense of dominance. The high scorer is "assertive, affiliative, outgoing, persistent, an actionist" whereas the low scorer is a much less effective person who "has difficulty in mobilizing . . . and taking action" (Gough & Heilbrun, 1965, p. 8). Autonomy is defined as "to act independently of others or of social values and expectations" and high scorers on the Autonomy scale are characterized as "independent, autonomous . . . assertive, and self-willed" (p. 10). The low scorer on the Autonomy scale "hesitates to take the initiative, preferring to wait and follow the dictates of others" (p. 10). Succorance is
defined as "to solicit sympathy, affection or emotional support from others" (p. 11). The high scorer on the Succorance scale is "dependent on others, seeks support, and expects to find it" (p. 11). Conversely, the low scorer on this scale is "independent, resourceful, and self-sufficient" (p. 11).

Procedure

After reading an informed consent form (Appendix A) and agreeing to participate in the study, women were asked to answer questionnaires. These were administered in groups or individually depending on the nature of the contact with the subject. All participants were informed that their answers were confidential, that they might choose not to complete any or all of the items, and that their continued participation signified their consent to be a subject. Additionally, subjects received feedback on the results of the study if they were interested.

Data Analysis

The data were analyzed using the "Statistical Package for the Social Sciences" (SPSS; Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). A multivariate discriminant function analysis was performed to control for pairwise error. The various main effects and interactions were examined using analyses of variance techniques. Due to the exploratory nature of the study, univariate analysis of separate dependent
variables were employed to guide interpretation as well as to address specific hypotheses.

Results

Description of the Sample

Demographic characteristics of the 90 subjects in this study are summarized in Table 1. The percentages for each of the variables are presented for the three groups of runners in Life Stage 1 (17-22 years old) and in Life Stage 2 (23-40 years old). One-way analyses of variance for each Life Stage across running groups showed no significant differences with respect to age in either the younger group or older group of women. The mean age for the women in Life Stage 1 was 19.26 years and the mean age for the women in Life Stage 2 was 30.10 years.

The demographic differences between younger and older women are consistent with what one would expect from women in these age groups. A greater percentage of the older women have more years of education, are more often employed in full time jobs, and have a larger income compared to the younger subjects. About half of the younger women are employed, and almost all of these subjects have positions as sales, clerical, or service workers. A greater percentage of older women are employed and most of these subjects are professionals or business executives. Although more of those employed in the older nonrunner group are service workers (43%), compared to the
Table 1

Demographic Characteristics of Sample in Percentages

<table>
<thead>
<tr>
<th></th>
<th>Life Stage 1</th>
<th></th>
<th>Life Stage 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NR (N=14)</td>
<td>LMR (N=10)</td>
<td>HMR (N=18)</td>
<td>NR (N=16)</td>
</tr>
<tr>
<td>Mean Age</td>
<td>19.14</td>
<td>18.90</td>
<td>19.56</td>
<td>30.19</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2 years college</td>
<td>78.6</td>
<td>80.0</td>
<td>61.1</td>
<td>18.8</td>
</tr>
<tr>
<td>2 or more years</td>
<td>21.4</td>
<td>20.0</td>
<td>33.3</td>
<td>18.8</td>
</tr>
<tr>
<td>College graduate</td>
<td>0.0</td>
<td>0.0</td>
<td>5.6</td>
<td>12.5</td>
</tr>
<tr>
<td>College beyond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Other formal training</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>12.5</td>
</tr>
<tr>
<td>beyond high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>85.7</td>
<td>100.0</td>
<td>88.9</td>
<td>6.3</td>
</tr>
<tr>
<td>Married</td>
<td>7.1</td>
<td>0.0</td>
<td>11.1</td>
<td>56.3</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>25.0</td>
</tr>
</tbody>
</table>
Table 1 (Continued)

<table>
<thead>
<tr>
<th>Marital Status (Continued)</th>
<th>Life Stage 1</th>
<th></th>
<th>Life Stage 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NR (N=14)</td>
<td>LMR (N=10)</td>
<td>HMR (N=18)</td>
<td>NR (N=16)</td>
</tr>
<tr>
<td>Widowed</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cohabitating</td>
<td>7.1</td>
<td>0.0</td>
<td>0.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Religious Affiliation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>21.4</td>
<td>30.0</td>
<td>11.1</td>
<td>37.5</td>
</tr>
<tr>
<td>Catholic</td>
<td>42.9</td>
<td>60.0</td>
<td>38.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Jewish</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>35.7</td>
<td>10.0</td>
<td>44.4</td>
<td>6.3</td>
</tr>
<tr>
<td>None</td>
<td>0.0</td>
<td>0.0</td>
<td>5.6</td>
<td>31.3</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $8,000</td>
<td>64.3 b</td>
<td>70.0</td>
<td>94.4</td>
<td>6.3</td>
</tr>
<tr>
<td>$8,000 to $15,000</td>
<td>14.3</td>
<td>20.0</td>
<td>5.6</td>
<td>25.0</td>
</tr>
<tr>
<td>$15,000 to $25,000</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>37.5</td>
</tr>
<tr>
<td>$25,000 to $40,000</td>
<td>0.0</td>
<td>10.0</td>
<td>0.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Over $40,000</td>
<td>7.1</td>
<td>0.0</td>
<td>0.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Race</td>
<td>Life Stage 1</td>
<td>Life Stage 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NR (N=14)</td>
<td>LMR (N=10)</td>
<td>HMR (N=18)</td>
<td>NR (N=16)</td>
</tr>
<tr>
<td>Black</td>
<td>28.6</td>
<td>10.0</td>
<td>5.6</td>
<td>6.3</td>
</tr>
<tr>
<td>White</td>
<td>50.0</td>
<td>70.0</td>
<td>94.4</td>
<td>75.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>21.4</td>
<td>20.0</td>
<td>0.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Other</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>12.6</td>
</tr>
</tbody>
</table>

**Vocational Status**

<table>
<thead>
<tr>
<th></th>
<th>Life Stage 1</th>
<th>Life Stage 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No paid employment</td>
<td>42.9</td>
<td>50.0</td>
<td>61.1</td>
</tr>
<tr>
<td>Part-time employment</td>
<td>7.1</td>
<td>10.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Employment and student</td>
<td>42.9</td>
<td>30.0</td>
<td>22.2</td>
</tr>
<tr>
<td>Full-time employment</td>
<td>7.1</td>
<td>10.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Table 1 (Continued)

<table>
<thead>
<tr>
<th>Occupation (if employed)</th>
<th>Life Stage 1</th>
<th></th>
<th>Life Stage 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NR (N=14)</td>
<td>LMR (N=10)</td>
<td>HMR (N=18)</td>
<td>NR (N=16)</td>
</tr>
<tr>
<td>Professional; business executive</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>31.3</td>
</tr>
<tr>
<td>Manager; administrator; proprietor</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Sales; clerical; service worker</td>
<td>57.1</td>
<td>40.0</td>
<td>27.8</td>
<td>43.8</td>
</tr>
<tr>
<td>Trained worker</td>
<td>0.0</td>
<td>0.0</td>
<td>5.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Trainee; intern</td>
<td>0.0</td>
<td>10.0</td>
<td>5.6</td>
<td>0.0</td>
</tr>
<tr>
<td>No response to question</td>
<td>42.9</td>
<td>50.0</td>
<td>61.1</td>
<td>18.8</td>
</tr>
</tbody>
</table>

*Missing data from one subject.

*Missing data from two subjects.
other women in Life Stage 2, almost one-third (31.3%) of the older nonrunners are professionals and business executives.

Whereas most of Life Stage 1 subjects are single, more of Life Stage 2 subjects are married. The greatest percentage of nonrunners and low mileage runners are married, while 50% of high mileage runners are single and 42.9% are married in Life Stage 2. Compared to other groups, the older nonrunner has the most divorced women (25%). The religious affiliation of the subjects is varied. For each of the groups, Catholics and Protestants made up at least 50% of the sample. Similarly, at least 50% of the subjects in each group are white.

Hypothesis I: Comparison of Runners and Nonrunners

Hypothesis I predicted that runners and nonrunners would differ in a consistent manner in relation to the concepts of separateness and independence. To test this hypothesis, a multivariate discriminant function analysis was run. This analysis was utilized to limit the true alpha level to .05 for this hypothesis. The alternative, which would be univariate analyses of variance for each dependent measure, would result in high risk of a Type I error. The 10 variables included in this analysis were four scores from the IVM-20, individuation, distancing, practicing, and symbiosis; the locus of control score from the ANS-IE; the Masculinity and Femininity scores from the
PAQ; and three scores from the ACL, Self-confidence, Autonomy, and Succorance. These variables were chosen as the best to characterize a definition of separation-individuation.

Table 2 summarizes the results of the multivariate discriminant function analysis. Data from one HMR subject were missing resulting in an overall N of 89 for this analysis. One statistically significant function was produced (canonical correlation = .44, lambda = .78, chi square = 21.58, df = 8, p = .0057). The second function produced by this analysis does not significantly contribute information regarding group differences (chi square = 3.37, df = 3, p = .34). Thus, interpretation of the results is based on Function 1. Taken together as a set, the variables in this function significantly discriminate runners from nonrunners. Four variables were isolated in a stepwise procedure as primarily contributing to the detection of group differences. These variables are masculinity, symbiosis, distancing, and locus of control. Table 2 summarizes the loading of each of these variables on the discriminant function and the three centroid values for the three running groups. Analyses of variance used to make comparisons among groups on the discriminant function scores revealed no significant difference between the high mileage runner (HMR) and low mileage runner (LMR) groups. Both of these groups were
Table 2
Canonical Discriminant Function on Runner Groups

<table>
<thead>
<tr>
<th>Function</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalue</td>
<td>0.2377</td>
<td>0.0402</td>
</tr>
<tr>
<td>Percentage of Variance</td>
<td>85.54</td>
<td>14.46</td>
</tr>
<tr>
<td>Canonical Correlation</td>
<td>0.4382</td>
<td>0.1965</td>
</tr>
</tbody>
</table>

| After Function | 0 | 1 |
| Wilks Lambda   | 0.7768 | 0.9614 |
| Chi Squared    | 21.60 | 3.37 |
| D.F.           | 8 | 3 |
| Significance   | 0.0057 | 0.3384 |

Standardized Canonical Discriminant Function Coefficients for Function 1

- Masculinity (PAQ) 0.6971
- Symbiosis (IVM) 0.6920
- Distancing (IVM) 0.5606
- Locus of Control (ANS-IE) -0.4662

Group Centroids for Function 1

- Nonrunner (NR) -0.634
- Low Mileage Runner (LMR) 0.375
- High Mileage Runner (HMR) 0.267
significantly different from the nonrunner (NR) group as can be seen in Table 2 (LMR vs. NR: $F(4, 83) = 3.76, p = .0094$; HMR vs. NR: $F(4, 83) = 4.27, p = .0034$). The table indicates that women who do run scored higher on masculinity, symbiosis, and distancing, and they scored lower on locus of control. Thus, runners are characterized by more instrumental traits and a more internal locus of control than the nonrunners. Additionally, the runner is more symbiotic and more distanced in identity vis-à-vis mother than the nonrunner. The runner and the nonrunner systematically differ in their sense of separateness as well as in their relationship with the external environment. Because of the exploratory nature of this study, interpretation of the relation of the discriminant function to the groups was guided by the results of the univariate analyses.

<table>
<thead>
<tr>
<th>Pairs of Groups</th>
<th>$F$ Statistic</th>
<th>D.F.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMR vs. HMR</td>
<td>0.86</td>
<td>83</td>
<td>0.4906</td>
</tr>
<tr>
<td>LMR vs. NR</td>
<td>3.59</td>
<td>83</td>
<td>0.0094*</td>
</tr>
<tr>
<td>HMR vs. NR</td>
<td>4.27</td>
<td>83</td>
<td>0.0034*</td>
</tr>
</tbody>
</table>

$^a_{N} = 89.$

*$p \leq .01.$
of variance that were utilized in testing Hypotheses II and III.

**Hypothesis II: Comparison of Groups on Identity vis-à-vis Mother**

This hypothesis predicted that women who run would differ from women who do not run in their identity vis-à-vis mother. Specifically, it was hypothesized that runners would score higher on the individuated and practicing scales than nonrunners, and that low mileage runners would be particularly high in practicing. Three by two analyses of variance (runner by age) on each of the identity vis-à-vis mother scales were used to test this hypothesis. Tables 3 and 4 summarize the results. Although the symbiosis and distancing scales did significantly contribute to the discriminant function, no differences were found between running groups on any of the four scales when these scales were statistically analyzed in isolation from the other variables. Hence, the contribution of these scales to the understanding of differences between groups must be viewed within the context of their association with the other variables in this study.

In accordance with Crastnopol's (1980) findings and with what developmental theorists predict, significant differences between women in Life Stage 1 and women in Life Stage 2 were found. Women in the older age group were more individuated than the women in the younger age group.
Table 3

Group Means and Standard Deviations for each IVM-20 Scale

<table>
<thead>
<tr>
<th></th>
<th>NR</th>
<th>LMR</th>
<th>HMR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individuation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Stage 1</td>
<td>18.29</td>
<td>18.30</td>
<td>16.83</td>
</tr>
<tr>
<td></td>
<td>3.43</td>
<td>4.69</td>
<td>6.24</td>
</tr>
<tr>
<td>Life Stage 2</td>
<td>20.31</td>
<td>19.50</td>
<td>20.64</td>
</tr>
<tr>
<td></td>
<td>4.84</td>
<td>5.47</td>
<td>4.70</td>
</tr>
<tr>
<td><strong>Distancing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Stage 1</td>
<td>6.14</td>
<td>3.30</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>5.67</td>
<td>5.38</td>
<td>7.99</td>
</tr>
<tr>
<td>Life Stage 2</td>
<td>12.44</td>
<td>14.89</td>
<td>8.64</td>
</tr>
<tr>
<td></td>
<td>10.37</td>
<td>10.52</td>
<td>7.17</td>
</tr>
<tr>
<td><strong>Practicing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Stage 1</td>
<td>11.43</td>
<td>8.90</td>
<td>7.22</td>
</tr>
<tr>
<td></td>
<td>6.41</td>
<td>5.15</td>
<td>5.13</td>
</tr>
<tr>
<td>Life Stage 2</td>
<td>9.31</td>
<td>8.89</td>
<td>8.21</td>
</tr>
<tr>
<td></td>
<td>6.22</td>
<td>5.91</td>
<td>5.81</td>
</tr>
<tr>
<td><strong>Symbiosis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Stage 1</td>
<td>12.93</td>
<td>19.20</td>
<td>18.61</td>
</tr>
<tr>
<td></td>
<td>8.14</td>
<td>8.87</td>
<td>9.52</td>
</tr>
<tr>
<td>Life Stage 2</td>
<td>6.19</td>
<td>8.33</td>
<td>9.71</td>
</tr>
<tr>
<td></td>
<td>6.23</td>
<td>9.81</td>
<td>7.72</td>
</tr>
</tbody>
</table>

a\(_N = 90\).
Table 4
ANOVA Summary for Each IVM-20 Scale

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individuation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,326.90</td>
<td>89</td>
<td>26.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>7.28</td>
<td>2</td>
<td>3.64</td>
<td>0.14</td>
<td>0.868</td>
</tr>
<tr>
<td>Age</td>
<td>128.29</td>
<td>1</td>
<td>128.29</td>
<td>4.99</td>
<td>0.028*</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>25.93</td>
<td>2</td>
<td>12.96</td>
<td>0.50</td>
<td>0.606</td>
</tr>
<tr>
<td>Residual</td>
<td>2,160.60</td>
<td>84</td>
<td>25.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Distancing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7,465.05</td>
<td>89</td>
<td>83.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>127.61</td>
<td>2</td>
<td>63.81</td>
<td>0.91</td>
<td>0.409</td>
</tr>
<tr>
<td>Age</td>
<td>1,036.11</td>
<td>1</td>
<td>1,036.11</td>
<td>14.69</td>
<td>0.000**</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>227.62</td>
<td>2</td>
<td>113.81</td>
<td>1.61</td>
<td>0.205</td>
</tr>
<tr>
<td>Residual</td>
<td>5,924.67</td>
<td>84</td>
<td>70.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Practicing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,980.45</td>
<td>89</td>
<td>33.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>110.43</td>
<td>2</td>
<td>55.21</td>
<td>1.64</td>
<td>0.200</td>
</tr>
<tr>
<td>Age</td>
<td>2.98</td>
<td>1</td>
<td>2.98</td>
<td>0.09</td>
<td>0.767</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>38.20</td>
<td>2</td>
<td>19.10</td>
<td>0.57</td>
<td>0.570</td>
</tr>
<tr>
<td>Residual</td>
<td>2,831.00</td>
<td>84</td>
<td>33.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 (Continued)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbiosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8,273.01</td>
<td>89</td>
<td>92.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>362.92</td>
<td>2</td>
<td>181.46</td>
<td>2.50</td>
<td>0.088</td>
</tr>
<tr>
<td>Age</td>
<td>1,662.65</td>
<td>1</td>
<td>1,662.65</td>
<td>22.89</td>
<td>0.000**</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>59.10</td>
<td>2</td>
<td>29.55</td>
<td>0.41</td>
<td>0.667</td>
</tr>
<tr>
<td>Residual</td>
<td>6,101.98</td>
<td>84</td>
<td>72.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.

**P < .001.

(F (2,84) = 4.99, P = .028). Life Stage 2 women also scored higher on distancing than Life Stage 1 women (F (2,84) = 14.69, P < .0001). On the symbiosis scale, younger women scored significantly higher than older women (F (2,84) = 22.89, P < .0001). No significant differences were found on the practicing scale. This pattern of Life Stage differences is consistent with Crastonopol's findings. There was no significant interaction between the runner group factor and the age factor on any of the scales.

Hypothesis III: Comparison of Groups on Personality Variables

To test the several subhypotheses concerning personality variables and to guide interpretation of the
multivariate discriminant function analysis, three by two analyses of variance (runner by age) were performed on each of the dependent variables. Post hoc comparisons were utilized to further analyze differences between runner groups.

**Hypothesis IIIA: Locus of Control**

The hypothesis that runners would be more internal than nonrunners was supported by the data ($F(2,82) = 3.15$, $p = .048$). Table 5 illustrates the means and standard deviations for each of the groups and summarizes the ANOVA. The measuring instrument, the ANS-IE, is keyed such that higher scores represent a more external locus of control. While the a priori comparison among groups (ANOVA) revealed a significant difference, the a posteriori contrast test (Newman-Keuls) did not distinguish the running groups further. No significant differences between age groups were predicted and no significant differences were found. Also, no interaction effects were significant on the locus of control dimension.

**Hypothesis IIIB: Masculinity**

This hypothesis predicted that runners would be higher than nonrunners on masculinity as measured by the M scale of the PAQ. A three by two analysis of variance (runner by age) showed a significant main effect for runner groups ($F(2,82) = 5.09$, $p = .008$), no main effect for age group, and no interaction effects. As may be seen in Table 6,
Table 5
Locus of Control

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,440.89</td>
<td>87</td>
<td>16.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>100.07</td>
<td>2</td>
<td>50.04</td>
<td>3.15</td>
<td>0.048*</td>
</tr>
<tr>
<td>Age</td>
<td>3.85</td>
<td>1</td>
<td>3.85</td>
<td>0.24</td>
<td>0.624</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>36.12</td>
<td>2</td>
<td>18.06</td>
<td>1.76</td>
<td>0.130</td>
</tr>
<tr>
<td>Residual</td>
<td>1,301.29</td>
<td>82</td>
<td>15.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ n = 88. \]
\[ *p < .05. \]

the low mileage runner and high mileage runner groups at both Life Stages scored higher on masculinity than the non-runner groups. A Neuman-Keuls procedure revealed that the two runner groups, HMR and LMR, did not have significantly different means from each other, but these two groups did have significantly different means from the nonrunner group.
Table 6
Masculinity and Femininity\textsuperscript{a}

<table>
<thead>
<tr>
<th></th>
<th>NR</th>
<th>LMR</th>
<th>HMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Stage 1 M</td>
<td>19.50</td>
<td>22.10</td>
<td>22.83</td>
</tr>
<tr>
<td>SD</td>
<td>4.93</td>
<td>2.77</td>
<td>4.08</td>
</tr>
<tr>
<td>Life Stage 2 M</td>
<td>19.38</td>
<td>21.72</td>
<td>22.57</td>
</tr>
<tr>
<td>SD</td>
<td>3.30</td>
<td>3.85</td>
<td>3.90</td>
</tr>
</tbody>
</table>

ANOVA Summary Table

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,048.72</td>
<td>87</td>
<td>16.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>155.44</td>
<td>2</td>
<td>77.72</td>
<td>5.09</td>
<td>0.008*</td>
</tr>
<tr>
<td>Age</td>
<td>0.51</td>
<td>1</td>
<td>0.51</td>
<td>0.03</td>
<td>0.856</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>0.62</td>
<td>2</td>
<td>0.31</td>
<td>0.02</td>
<td>0.980</td>
</tr>
<tr>
<td>Residual</td>
<td>1,251.16</td>
<td>82</td>
<td>15.26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Femininity
Group Means and Standard Deviations

<table>
<thead>
<tr>
<th></th>
<th>NR</th>
<th>LMR</th>
<th>HMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Stage 1 M</td>
<td>23.21</td>
<td>22.70</td>
<td>21.94</td>
</tr>
<tr>
<td>SD</td>
<td>4.71</td>
<td>3.56</td>
<td>2.71</td>
</tr>
</tbody>
</table>
Table 6 (Continued)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>960.07</td>
<td>87</td>
<td>11.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>22.33</td>
<td>2</td>
<td>11.17</td>
<td>0.99</td>
<td>0.38</td>
</tr>
<tr>
<td>Age</td>
<td>0.13</td>
<td>1</td>
<td>0.13</td>
<td>0.01</td>
<td>0.92</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>8.35</td>
<td>2</td>
<td>4.17</td>
<td>0.37</td>
<td>0.69</td>
</tr>
<tr>
<td>Residual</td>
<td>928.70</td>
<td>82</td>
<td>11.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aN = 88.

*P ≤ .01.

(P ≤ .05). Thus, the data supported the hypothesis that runners perceive themselves as having more masculine or instrumental traits than their nonrunner counterparts. It will be recalled that this variable contributed significantly to the discriminant function.

Additionally, the data from the F scale, a measure of femininity or expressive traits, was statistically analyzed. The ANOVA yielded no main effects for either
the runner group or age group factors, and no significant interaction effects (see Table 6). No hypothesis was made regarding this variable.

Hypothesis IIIC: Self-confidence

It was hypothesized that runners would score higher than nonrunners on self-confidence as measured by the ACL Self-confidence scale. The three by two analysis of variance (runner by age) showed a main effect for the runner group factor ($F(2,82) = 6.62, p = .002$).

A Newman-Keul's procedure was utilized to make post hoc comparisons on the runner group factor. Similar to the results for masculinity, and as may be seen from the means in Table 7, differences between groups on the Self-confidence scale resulted from significant differences between the nonrunner and the runner ($p \leq .05$). For this scale, no differences were found between the age groups and there were no interaction effects. Support for the hypothesis that runners are more self-confident than nonrunners was demonstrated by the ANOVA. This variable, however, did not add significantly to the discriminant function.

In addition to the Self-confidence scale, two other scales from the ACL were incorporated into the data analyses. Since the nature of this study was exploratory, the Autonomy and Succorance scales were included to elicit
Table 7

Self-Confidencea

<table>
<thead>
<tr>
<th></th>
<th>NR</th>
<th>LMR</th>
<th>HMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-confidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Stage 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>5.50</td>
<td>12.60</td>
<td>9.59</td>
</tr>
<tr>
<td>SD</td>
<td>5.36</td>
<td>5.23</td>
<td>5.53</td>
</tr>
<tr>
<td>Life Stage 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>7.50</td>
<td>11.06</td>
<td>12.29</td>
</tr>
<tr>
<td>SD</td>
<td>6.69</td>
<td>6.34</td>
<td>4.01</td>
</tr>
</tbody>
</table>

ANOVA Summary Table

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3,206.07</td>
<td>87</td>
<td>36.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runner</td>
<td>430.64</td>
<td>2</td>
<td>215.32</td>
<td>6.62</td>
<td>0.002*</td>
</tr>
<tr>
<td>Age</td>
<td>33.02</td>
<td>1</td>
<td>33.02</td>
<td>1.02</td>
<td>0.317</td>
</tr>
<tr>
<td>Runner by Age</td>
<td>72.65</td>
<td>2</td>
<td>36.33</td>
<td>1.12</td>
<td>0.33</td>
</tr>
<tr>
<td>Residual</td>
<td>2,667.08</td>
<td>82</td>
<td>32.53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aN = 88.

*P ≤ .01.

more information regarding the construct of independence. The ANOVAs utilized to compare groups on these variables revealed no significant findings nor did either of these
scales contribute significantly to the results of the multivariate discriminant function analysis.

**Comparison between the Low Mileage Runner and the High Mileage Runner**

Subjects who ran, the HMR and the LMR, responded to the items concerning running on the Physical Activity Participation Questionnaire. The answers to several of these questions were used to categorize runners, according to the previously outlined criteria, into either the high mileage running group or the low mileage running group. Table 8 has been included to further illustrate the similarities and differences in running and running-related behavior for these two groups of subjects. As would be expected, the HMR subjects spend more time running during the week than the LMR subjects. The high mileage runner runs more days per week, for longer periods of time, and hence, runs more miles per week than the low mileage runner. Also, the high mileage runners, on the average, run at a faster pace per mile than the low mileage runners. Furthermore, a greater percentage of the HMR group compared to those in the LMR group have raced. While all running subjects participate in the physical activity for health reasons, more of the high mileage runners than the low mileage runners run for performance reasons as well.
Table 8

Comparison Between Low Mileage Runner$^a$ and High Mileage Runner$^b$ on Running and Running-Related Behaviors

<table>
<thead>
<tr>
<th>Days per Week (mileage per week)</th>
<th>LMR</th>
<th>HMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Stage 1 M</td>
<td>4.70 (11.0)</td>
<td>5.94 (43.22)</td>
</tr>
<tr>
<td>Life Stage 2 M</td>
<td>3.78 (12.72)</td>
<td>5.71 (38.21)</td>
</tr>
</tbody>
</table>

Have you ever Raced?

<table>
<thead>
<tr>
<th></th>
<th>Life Stage 1</th>
<th>2</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>40.0%</td>
<td>44.4%</td>
<td>100.0%</td>
<td>92.9%</td>
</tr>
<tr>
<td>No</td>
<td>60.0%</td>
<td>55.6%</td>
<td>0.0%</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

Commitment to Running

<table>
<thead>
<tr>
<th></th>
<th>Life Stage 1</th>
<th>2</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>80.0%</td>
<td>55.6%</td>
<td>5.6%</td>
<td>21.4%</td>
</tr>
<tr>
<td>Health and Performance</td>
<td>20.0%</td>
<td>44.4%</td>
<td>94.4%</td>
<td>78.6%</td>
</tr>
</tbody>
</table>

$a_N = 28.$

$b_N = 32.$

Discussion

Summary of the Results

This study was designed to investigate the relationship between the developmental process of separation-individuation in adult women and the physical activity of running. Women who run, as defined by criteria that
measure commitment to a running program and fitness level, were compared to women who do not run. Measures which tap personality variables related to concepts of autonomy and a woman's identity vis-à-vis her relationship with mother were utilized in this study to examine the similarities and differences between these groups of women.

The women who participated in this study met certain criteria which were based on classification variables that were used to develop the IVM-20 (Crastnopol, 1980) in addition to level of physical fitness. There are advantages and limitations to defining the groups in this manner. With regard to the level of physical fitness, it was necessary to attempt to control for cardiovascular fitness in the HMR and LMR compared to the NR because of previous research on psychological correlates of physical fitness (i.e., Polkins & Sime, 1981). Women who do not run, but who do participate in other activities that result in cardiovascular fitness, such as bicycling or swimming, were not included in the sample. Thus, any generalizations from the results of this study apply to women that maintain physical fitness through running or are not physically active to the degree that they meet the criteria for the NR group. Some ideas for further research address the role of other physical activities. Subjects for this study were also selected on the basis of certain characteristics such that adequate comparisons
on the IVM-20 would be possible. Hence, the sample reflects a bias toward women from well-educated, middle-class backgrounds. Additionally, subjects were restricted to women aged 17 to 40 years whose maternal figure was still living. The following discussion applies to women of similar backgrounds to those in the sample population.

The results of this study support the general hypothesis that there would be consistent differences between runners and nonrunners in the identity vis-à-vis mother as well as in personality characteristics which reflect constructs related to one's view of self as separate and independent. Briefly, the differences between runners and nonrunners were in the predicted direction for the personality characteristics of masculinity and locus of control, and to a lesser extent, self-confidence. The findings with regard to identity vis-à-vis relationship to mother, however, were unexpected. In comparison to women nonrunners, women runners scored higher on both symbiosis and distancing. Interpretation of these results within the context of psychodynamic developmental theory requires a re-examination of the role of the motoric activity of running and its relationship to adult female developmental issues.

Although the multivariate statistical analysis produced a function that consists of a set of variables, which are associated with each other such that as a set
they discriminate between runners and nonrunners, the following interpretation of the results will initially focus on each of these variables in isolation for the sake of clarity. An integration of the findings will be presented following discussion of the variables in isolation. Additionally, significant findings from the univariate analyses will be addressed if appropriate to the discussion. Since no significant differences were found between the HMR and the LMR, "runner" refers to both of these groups unless otherwise stated. The design of the study is such that causal statements about the direction of the relationship between variables are not applicable; rather findings are interpreted as representing similarities and differences between runners and nonrunners. Speculations are offered, but further research is needed to determine if running "caused" the differences or if the type of woman who chooses to run is different from the one who does not.

Women runners were found to have more masculine traits compared to women nonrunners. According to Spence and Helmreich (1978), the authors of the questionnaire (PAQ) used to measure this scale, masculinity refers to instrumental and agentic characteristics. Femininity refers to expressive and communal characteristics (Spence & Helmreich, 1978), and no differences were found between runners and nonrunners on this scale. Although these traits are usually seen as
positive for both males and females, males usually score higher on masculinity while females score higher on femininity. That runners perceive themselves as more instrumental and agentic than nonrunners, and equally expressive, suggests that the woman runner may have more behavioral adaptability with regard to sex-roles. Furthermore, the runner may see herself as a more active agent within the environment. Other sex-role research has found that masculine women have higher self-esteem and they are more independent and defensive (i.e., Berzins et al., 1978; Kelly & Worell, 1977; Spence & Helmreich, 1978). These results have been interpreted by other researchers as suggesting that the higher a woman's masculinity, the more well-adjusted, competent and secure she would be. Within this context, the higher masculinity scores of the runners in this study may be viewed as supporting the hypothesis that runners are more independent and effective than nonrunners. The relationship between high masculinity and defensiveness in other research suggests that within the context of this study, running may be serving a possible defensive function. A greater understanding of the concept of masculinity and its association to the differences which characterize runners and nonrunners will be addressed following the discussion of the other variables that contributed to the function.
The finding that runners are more internal on the locus of control dimension dovetails with the higher masculinity. A woman with an internal locus of control perceives herself as having more control over her life than one who has an external locus of control. In general, internals are viewed as having a greater sense of competence and mastery over the environment. Intuitively, it makes sense that the runners would be higher in instrumental traits as well as have a more internal locus of control because the commitment to a running program requires a sense of active discipline/dedication. The runner must be her own agent and be in control of herself at a basic physical level to engage in the activity of running. Fate, chance, or powerful others will not enable the runner to place one foot in front of the other to complete a mile, or a marathon. This study shows that the runner experiences more internal control and perceives herself with more instrumental traits than the nonrunner, and the data suggest that these characteristics extend to a woman's view of herself in general, beyond the track or running courses. Whether or not running caused this internality and instrumentality, or these women who choose to run do so because they have these characteristics, is beyond the scope of this investigation.

The two other variables which contributed significantly to the discriminant function, and thus characterize the
differences between the runner and nonrunner along with locus of control and masculinity, are symbiosis and distancing. The runner is higher on both symbiosis and distancing compared to the nonrunner. The inventory utilized to measure these characteristics, the Identity vis-à-vis Mother Questionnaire (IVM-20), was developed to differentiate various types of female identity formation in adulthood within the context of the mother-daughter relationship (Crastnopol, 1980). The questionnaire was based on separation-individuation theory as it was modified to apply to adult developmental issues. In order to adequately discuss the results, a summary of the four scales is provided. Each of the scales contains items which describe various thoughts, feelings, and attitudes which a woman might have about herself and the relationship with her mother. The "Individuated" (Ind) scale reflects a relationship in which the daughter feels comfortably separate from as well as intimate with her mother. The "Practicing" (Prac) scale reflects an ambivalent relationship between mother and daughter in which the woman is uncertain about how independent she can be or she wishes to be. The "Symbiotic" (Sym) scale reflects an extremely close mother-daughter bond in which the daughter may experience herself as an extension of mother. The "Distancing" (Dist) scale reflects a mother-daughter relationship in which the
daughter avoids emotional contact with mother and feels alienated from her (Crastnopol, 1980).

The finding that women runners are more symbiotic as well as more distanced from mother than women nonrunners suggests that runners have developmental difficulties related to boundary issues. The symbiotic woman "is involved in an intensely interdependent relationship with her mother. The enmeshment is so strong that the woman feels almost incomplete without her mother" (Crastnopol, 1980, pp. 50-51). The mother is idealized by the daughter. The daughter has unrealistically favorable feelings toward the mother and denies or represses negative and ambivalent feelings. Real differences which exist between the two women are ignored by the daughter. Thus, the symbiotic identity vis-à-vis mother is the adult version of the symbiosis between mother and infant which Mahler refers to as the "dual unity" (Mahler et al., 1975).

According to Crastnopol, the Dist scale was intended to convey the extremely hostile attitudes and feelings of a woman who has not had an adequate symbiotic bond with her mother during her adolescent and adult life. The distancing woman might be described as "counter-symbiotic" because she has reacted to the absence of warm relatedness by rejecting her mother almost completely. (Crastnopol, 1980, pp. 52-53)
The woman who scores high on distancing may adopt a fiercely independent stance in an effort to salvage some gratification from the mother-daughter relationship. She may seem to be as "healthfully self-reliant as the individuated woman" (p. 52), but the distancing woman's apparent self-direction is her defense against underlying hurt and anxiety. Crastnopol posits that the distancing identity vis-à-vis mother is the adult analogue of the results of a severe deficiency in the early symbiosis between mother and infant.

On the surface, the symbiotic and distancing identities appear to be at opposite ends of the continuum with the symbiotic woman wanting to merge with her mother (or other objects), while the distancing woman is "counter-symbiotic" and is actively striving to appear "fiercely independent" from mother (and others). Perhaps, though, the runner is seeking closeness and intimacy, but fears of merger and lack of a sense of clear boundaries propel her toward distancing herself to assure her that she will not be swallowed up by (m)other. Hence, the results suggest that the runner's primary developmental issues appear to be rooted in the symbiotic phase. It is possible that the runners have either experienced a severe deficiency during this phase, as Crastnopol suggests characterizes the distancing identity, or that they were overbonded as infants. Moreover, the possibility exists that both of
these interactional styles may contribute to difficulties with maintaining a clear sense of boundaries. The long-term effects of receiving too much or too little as an infant usually result in developmental arrests at the same stage, and the residuals continue to be manifest throughout one's life.

Taken together, the results suggest that the woman runner is searching for clear boundaries. She is relying on herself, à la the internal locus of control, and her body, the most primitive source of gratification, to actively pursue a mastery experience. The question often arises as to whether the runner is "running away from" or "running to." The more distanced and symbiotic identities suggest that she may be doing both, and this identity pattern reflects her ambivalence concerning the separation-individuation process. Mastery of the ambivalence conflict has been addressed extensively in the psychoanalytic literature (e.g., Freud, 1938; Guntrip, 1969; Mahler et al., 1975; Searles, 1965).

Altschul (1978, 1981) has suggested that running may enhance ego development by serving many intrapsychic uses including defensive, adaptive, instinct gratifying, and metaphorical. The results of this study suggest that running may indeed serve a variety of functions for the woman runner. Response to the question "Why do you run?" included such statements as: "I feel better about myself,"
"To cope with stress," "Feel good, control weight, compete, self-image, social, sleep better," "Sense of accomplishment," "Physical and mental health," "Enjoy feeling of running and being in touch with my body," "For the health of it!" When asked "Why do you race?" runners answered with such responses as: "I like to go all out, push myself further than I think I can go," "I love competition and to reach personal goals," "I enjoy testing myself and measuring improvement. I like to explore what my limits are and how to expand them." Although anecdotal, these comments along with the "harder" data lead to the speculation that running may be an adaptive defense for the female runner. She may use running to gain a sense of control and strength so that she may actively confront developmental issues that are central to the separation-individuation process, and are clearly related to her intrapersonal and interpersonal functioning. This interpretation is speculation and further research may clarify any causal relationship between running and separation-individuation issues as they relate to women.

Results from the univariate analyses addressed each of the dependent variables with regard to the age factor and the running group factor. Significant differences among the runner groups were also found on the measure for self-confidence. A post hoc comparison revealed that the HMR and LMR groups were different from the NR group, such
that the runners had higher self-confidence scores than the nonrunners. Although interpretation of this finding is limited because the strength of the association of self-confidence to the function is not significant, the statistically significant higher self-confidence for runners is indicative of more than chance differences. According to the authors of the scale used to measure this variable, it will be recalled that a high scorer is "assertive, affiliative, outgoing, persistent, an actionist" (Gough & Heilbrun, 1965, p. 8) whereas a "low-scoring person is a much less effective person in the everyday sense of the word--[he] has difficulty in mobilizing [himself] and taking action" (p. 8). Furthermore, this scale stresses the concept of dominance. It is suggested that this scale may have tapped the runner's persistence, assertiveness, and action-oriented tendencies that contributed more heavily to the instruments utilized to measure masculinity and locus of control and hence, self-confidence did not contribute significant new information to the function.

On the other hand, the findings may also be interpreted as indicating greater self-confidence in runners as compared with nonrunners.

Other significant results pertain to the age factor and a woman's identity vis-à-vis mother. The data supported the hypothesis that maturational differences would be reflected in different identity stances for Life Stage 1
than for Life Stage 2. The results of this research are the same as what Crastnopol (1980) found in her study. That is, the Life Stage 2 women were more individuated and the Life Stage 1 women were more symbiotic. Also, Life Stage 2 women had higher distancing scores. Since there were no interaction effects on these variables, the interpretation of the results from the discriminant analysis differentiating runner and nonrunner supercedes the age factor effects. Furthermore, this study was designed primarily to explore differences between runners and nonrunners.

It was expected that runners would have higher individuated and practicing scores than nonrunners. The data did not support this hypothesis. With regard to the Individuation scale, it must be noted that this scale has the lowest internal consistency reliability estimate of the four scales. Crastnopol (1980) suggests methods for rectifying the problems with the Individuation scale, but at present no other better measure exists. While further research may clarify the issue, for the purpose of this discussion it seems plausible that the results of no differences among runner groups on the Individuation scale are not interpretable either way due to the nature of the measure.

No significant differences between the HMR and LMR groups were found. It was predicted that these two groups would differ, particularly with respect to the practicing
identity. Crastnopol implies that the practicing identity "echoes the behavior of the practicing or rapprochement toddler who tests her newfound autonomy, becomes anxious as she experiences her separateness, and finally returns to mother for nurturance and soothing" (Crastnopol, 1980, p. 52). Based on separation-individuation theory, it was hypothesized that the low mileage runner would reflect the adult analogue of the practicing identity. In their work on psychoanalytic theory of adult development, Colarusso and Nemiroff (1979) propose, among other principles, that fundamental issues of childhood continue to be central in adulthood, but that they may be in a different form. It is suggested that the importance of locomotion for the practicing toddler may be represented more symbolically for the practicing adult. Separation-individuation is a lifelong process and the continued working through of issues central to the practicing phase may or may not be manifested in motility. Furthermore, the results of this study suggest that runners have developmental arrests that appear to be more central to and rooted in the symbiotic phase. Although the Practicing scale had lower reliability estimates than the Symbiotic or Distancing scales, an interpretation of the results on the practicing identity beyond psychometric difficulties may offer greater understanding of the female developmental process. Furthermore, an evaluation of the psychometric properties of the IVM-20 reveals that although
The viability of the Individuation scale may be limited, the Practicing, Symbiotic, and Distancing scales do appear to contribute to the understanding of adult female development (Crastnopol, 1980).

Theoretical and Empirical Considerations in Interpretation of the Results

This study examined the role of the physical activity of running within the context of separation-individuation theory for adult females. The concept of "identity vis-à-vis mother" was utilized to understand a woman's perception of her relationship with mother. Identity vis-à-vis mother is a trait-relationship construct in that it combines the idea that personality is within the individual and is a function of interpersonal interactions. Hence, a woman's identity vis-à-vis mother has implications for her view of herself in relation to self, others, and the environment. This identity is crucial to the ongoing self-defining process. Crastnopol (1980) suggests that this identity acknowledges the importance of current relationships between adult women and their mothers as central to the developmental process in adult women.

The theoretical background for this study provided the stage for exploring the role of running in adult female development. The hypotheses predicted that women runners would reflect a more individuated identity vis-à-vis mother than nonrunners and that the practicing identity would be
particularly characteristic of the low mileage runner. Furthermore, based on the integration of the literature on developmental processes in females, sex-roles, and physical activity and mental health, it was also predicted that compared to nonrunners, runners would evidence more self-confidence, more instrumental traits, and a more internal locus of control. From a psychodynamic viewpoint, locomotion represents an individual's investment in autonomous functioning. Psychoanalytic theorists stress that control of ego or self is first established through control of body. Socioculturally, the female that chooses to gain mastery over her environment through control of her body is taking an active and independent step which contrasts with the sex-role stereotypes of passivity and dependence.

The hypotheses regarding locus of control, masculinity, and self-confidence were supported by the data, although the strength of the finding regarding self-confidence is less impressive. Several interpretations of these results are offered. At a more concrete level, locus of control and masculinity may be more related to the act of running than the concept of self-confidence. A runner literally relies on an instrumental behavior and an internal locus of control to run. Since this investigation did not encompass causal relationships between groups and characteristics, it is possible that women who choose to run are internals and more masculine before they begin to run, or that these
women at least perceive themselves as having these traits to a stronger degree than the women nonrunners do. Future research of a longitudinal nature might provide the answer to this question. Another explanation for these results may lie in the psychometric properties of the measures. Although the ACL is frequently used in research, the ANS-IE and the PAQ do have greater reliability coefficients. In designing the study, one of the difficulties encountered was finding an adequate measure of self-confidence or self-esteem that had a relatively short administration time. It was hoped that the self-confidence measure would reflect, to some degree, a woman's self-image. Furthermore, from a measure of self-image, inferences regarding body image might be addressed. This jump, however, seems too wide and suggestions for future studies include the area of body image. In light of the findings regarding identity vis-à-vis mother, a measure which taps body boundaries might reveal interesting findings about women who run compared to their nonrunning counterparts.

Adult women runners did reflect differences from adult women nonrunners in their identity vis-à-vis mother, but these differences were not as hypothesized. As a group, the runners' identity vis-à-vis mother was more symbiotic and more distanced than the nonrunners. Practicing and individuated identity stances did not discriminate runners and nonrunners at a significant level. Theorists that
have addressed the process of separation-individuation in adulthood provide the basis for interpretation of these unexpected results.

The mother-child relationship is the matrix from which identity formation develops. In order to achieve true object-relatedness, as contrasted with symbiosis, the mutual ambivalence in the mother-child relationship must be faced, accepted, and integrated into each person's concept of self and others (Searles, 1965). Individuals who have insufficient gratification in symbiosis may display a longing for what has been missed during this stage of development. Based on these early experiences, they may continue to remain highly vulnerable throughout their lives to unattunement with significant objects, and to separation and loss. The individuals who experienced a prolongation of the symbiotic attachment during infancy may disengage themselves defensively to escape the feared enveloping attachment. The ambivalent conflict between approach and avoidance is acted out in the child by either extreme shadowing and excessive wooing of mother or by darting away from her and extreme negativism (Mahler, et al., 1975).

In the adult, residuals of the symbiotic period will most likely be manifested in significant relationships and one would expect struggles to be reflected in an approach-avoidance pattern. The more symbiotic and distanced
identities suggest that not only is the mother-daughter dyad characterized by this ambivalence, but also that relationships with significant others involve a similar struggle. Thus, unmet symbiotic needs appear to result in a heightened ambivalence between the desire to seek connection and to seek autonomy. A longing to regain symbiotic closeness is accompanied by the consequent fear of the "longed-for but dreaded merger" (Edward et al., 1981, p. 59), and this, in turn leads to increased distancing as a defense. Within this theoretical context, it is speculated that running may be linked to past developmental conflicts. Similar to an individual's choice of occupation and of involvement in activities, running may be interpreted as a woman's mechanism for achieving functional autonomy as well as her attempt to rework the original conflict. As such, running may be a compensatory defensive effort to resolve the ambivalence. Future research might compare the defensive styles of runners with other groups to clarify the function of running in an individual's underlying characterological style.

Colarusso and Nemiroff (1979) suggest that although the fundamental issues of childhood continue to be central during adulthood, later developments beyond the separation-individuation phase proper must be viewed within the context of environmental factors as well. The interplay of self and object-relatedness, environmental and cultural
forces in the lifelong developmental process of separation-individuation cannot be ignored. Furthermore, Neugarten (1973) has cautioned that the psychological complexities perceived in the adult are not explained adequately by straightforward extrapolation from childhood development. The significant issues of separation and individuation must be viewed within different contexts. Adults continue to seek to maintain a balance between autonomy and relating to others. The conflicts of adult development reflect the residuals of childhood issues as well as new transformations of these issues due to the greater complexity of intrapsychic structures, interpersonal relationships, and environmental factors.

The results of this study may be interpreted as exemplifying what Neugarten (1973) cautions against. The lack of evidence that low mileage runners, or runners as a group, reflect a practicing identity vis-à-vis mother lends credence to the idea that adult separation-individuation issues are not adequately explained by straightforward extrapolations from childhood development. On the other hand, it is possible that women runners and nonrunners were equally working through issues related to the practicing subphase, since the stages do reverberate throughout one's lifetime. Ego psychologists support the idea that separation-individuation is a lifelong process in which individuals continue to work on all phases.
However, the findings that the runners were more symbiotic and more distanced than the nonrunners were quite unexpected and provide for interesting speculations. The issue of body boundaries has already been discussed as a possible interpretation of these results.

Interpretation of the identity vis-à-vis mother findings with regard to the runners may be viewed within the context of psychopathology and/or healthy adjustment. It appears that the runner may be struggling not only with self-definition a la body boundaries, but also in the realm of interpersonal relationships. If one views relationship with mother as the model upon which other relationships are based, and transformations of self-object representations occur, then the results of higher symbiosis and higher distancing suggest that the runner is experiencing some conflict with regard to her overall self-image and her attitudes about herself-in-relation-to-mother (and other objects). Many questions arise from this interpretation. Is the conflict "healthy" and a necessary one to work through? Would the runner have had high distancing and high symbiotic scores before beginning running? Or did running encourage this pattern? Has the nonrunner dealt with and resolved issues related to these phases of separation-individuation? Once again, the lack of directionality inherent in this study makes these questions
impossible to answer at present. They do, however, elicit numerous suggestions for the direction for future research.

Suggestions and Directions for Further Research

The present research focused on the relationship between the female developmental process in adulthood and the physical activity of running. Further research within this area is necessary before any statements regarding causality and the direction of the significant relationships among variables may be determined. A longitudinal study, as opposed to a cross-sectional design like this one, would greatly enhance the understanding of adult identity formation and the influence of the mother-child dyad on this process and on other relationships. Further investigations using the physical activity of running might also be longitudinal. Women who are just beginning to engage in running as a physical activity, or ideally even before they decide to run, could be followed through various levels of commitment to a running program and changes, or lack of changes, in their view of self and their identity vis-à-vis mother might be documented. Additionally, a group of women that begin a running program and then drop out would make for interesting comparisons. Also, it is suggested that women of different backgrounds be included in future research. Comparisons might also be made, perhaps first using a cross-sectional design, among woman athletes in other sports, i.e., aerobic vs.
nonaerobic, individual vs. group. Similarly, if mastery of one's environment is a central factor, then women in other achievement spheres might be compared to the woman runner, or athlete.

The body boundary issue for runners has been suggested for further investigation in the foregoing discussion. It would be intriguing to compare Rorschach protocols of runners and nonrunners on the Barrier and Penetrations scores, which are related to the body-image boundary concept (Fisher & Cleveland, 1958). Also, other measures which more clearly reflect the connection between body image and self-image might be utilized.

It would also be of considerable interest to compare males and females, and particularly male and female runners, within the context of adult development and separation-individuation issues. To date, however, no inventory exists to measure a son's identity vis-à-vis mother. A daughter's relationship to her father may be as important, or more so, for some females than the mother-daughter dyad. Therefore, exploration of the father-daughter relationship and its impact on women runners might also be fruitful. Even more revealing would be the combination of both parental influences on female adult development. Within the familial sphere, one may also want to look at birth order and sibling relationships.
Through personal communication with a well-known running therapist and researcher in this area of investigation, Thaddeus Kostrubala (1983), it was suggested that the marathon may be the *sine qua non* for the runner. When asked if he had observed any differences between males and females in his work, he stated that the personality changes in female runners were more profound because the "forces of culture kept them in a position where growth was not allowed." Furthermore, he cited a case example of a woman in her mid-twenties who ran about 20 miles per week for about five years. Using running as his "couch" he interpreted this as fear of change. Eventually she increased her mileage over the course of several months and then completed a marathon. Hence, he suggests that further research also include a group of women runners who have completed at least three, and preferably five, marathons. He predicts that the differences will be significant between the lower mileage runner and the marathoner.

Future research must also consider the bias inherent in self-report measures. Studies which utilize process oriented, behavioral data in conjunction with self-report measures may more accurately reflect relationship constructs. Perhaps observations of mother-daughter interactions in structured as well as natural settings could be designed. The role of physical activity, such
as running, may continue to be used to provide a window for greater understanding of female developmental issues and adult identity formation.
Appendix A

Informed Consent

You will be asked to complete several questionnaires which include biographical information and descriptive statements about yourself and your mother. This information will be used to gain more understanding about adult female development and the role physical activity, particularly running, may play in the life cycle.

There will be no physical or psychological risks in answering the questions, and your responses will remain completely anonymous. At any time you may choose not to continue in this research study; if you choose not to go on, we thank you for considering to serve as a subject. If you choose to continue and answer the items, we will assume that you are giving your consent to be a subject. If you have any questions regarding any part of the procedure, please feel free to ask, or to call the phone number(s) listed below.

If you would like a summary of the results of this study when it is completed, please enclose your name and address on separate paper when you return the experimental package to the experimenter.

I have received a clear explanation and understand the nature of this procedure, and I have received an explanation of the benefits of this study. I understand that this study is investigational and that I may withdraw my consent at any time. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to participate in this study.

Any questions, call collect:

Ann Morton:
    home (214) 239-6081
    work (817) 565-2631

or

Amy Horne
    home (714) 296-7885
    work (714) 294-8470

Participant

Date
Appendix B

Personal Data Sheet

1. Your current educational level:
   A. College: 1 to 2 years
   B. College: 2 or more years
   C. College graduate
   D. College studies beyond the Bachelor's degree
   E. Some other formal training beyond high school
      (business college; dental technician, etc.)

2. Marital status:
   A. Single
   B. Married
   C. Divorced
   D. Widowed
   E. Cohabitating

3. Religious affiliation:
   A. Protestant
   B. Catholic
   C. Jewish
   D. Other
   E. None

4. You (and/or your spouse's) current annual income:
   A. Less than $8,000
   B. $8,000 to $15,000
   C. $15,000 to $25,000
   D. $25,000 to $40,000
   E. Over $40,000

5. Race:
   A. Black
   B. White
   C. Hispanic
   D. Other

6. Your current vocational status:
   A. No paid employment
   B. Part-time employment (20 to 31 hours per week)
   C. Combined employment and studies
   D. Full-time employment (32 to 40 hours per week)
7. If you are currently employed, what is the nature of your occupation? (If you are not employed, leave Blank).

A. Professional or business executive  
B. Manager, administrator, proprietor  
C. Sales, clerical or other service worker  
D. Trained worker (electrician; seamstress, etc.)  
E. Trainee, intern, etc.

8. If your natural or adoptive parents are both living, please indicate their current marital status:

A. They are currently married to each other  
B. They were divorced when I was age five or younger  
C. They were divorced when I was age six or older  
D. None of these apply

9. If your natural or adoptive parents are not both living, please indicate which of the following applies:

A. My mother is no longer living  
B. My father is no longer living  
C. Both of my parents are no longer living  
D. None of these apply

10. Which response best describes your parents' combined annual income (at the present time or before retirement)?

A. Less than $8,000  
B. $8,000 to $15,000  
C. $15,000 to $25,000  
D. $25,000 to $40,000  
E. Over $40,000
Appendix C

Physical Activity Participation Questionnaire

1. Do you participate in any of the following physical activities? If yes, how many times per week on the average? And for about how long (minutes per time)?

<table>
<thead>
<tr>
<th>Activity</th>
<th>times per week</th>
<th>how long?</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>no</td>
<td>(0-7)</td>
</tr>
<tr>
<td>a. Running/jogging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Walking/hiking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Swimming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Bicycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Rope skipping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Aerobic dancing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you answered YES to la (Running/jogging), please continue to answer the remaining items on this questionnaire.

If you answered NO to all of the above, please continue with the next questionnaire in the packet. (Go to Question 15)

If you answered NO to la (Running/jogging), and YES to any of the other items, please continue with the next questionnaire in the packet. (Go to Question 15)

2. How long have you been running? (years, months) _____
3. How many miles do you run on a typical running week?

What has been your average weekly mileage:

a. over the last month? ________

b. over the last 6 weeks? ________

c. over the last 6 months? ________

4. a. Have you ever run over 30 miles in one week?

yes____  no____

b. If YES, have you ever run over 30 miles per week for a period of four (4) weeks consecutively?

yes____  no____

c. How long ago did you do 4a? ________ 4b? ________

d. If you answered yes to either 4a or 4b, and are presently below this weekly mileage, what is your reason for decreasing your mileage?

(for example, weather conditions, injury, etc.) ______________

__________________________

__________________________

5. On the average, about how much time per day do you spend running?

at least _______________

not more than _______________

6. What is your average pace per mile (daily, not racing)?

______ minutes
7. Have you ever raced?
   
   yes_____ (go to question 8)
   
   no_____ (go to question 9)

8. a. Since you have been running, about how many races have you participated in? Also, please give your best time and year when you ran this time.

   How many?
   
<table>
<thead>
<tr>
<th></th>
<th>1-4</th>
<th>5-10</th>
<th>11+</th>
<th>Best time; year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 mile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marathon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   b. In the last year, how many races have you participated in?

<table>
<thead>
<tr>
<th></th>
<th>1-4</th>
<th>5-10</th>
<th>11+</th>
</tr>
</thead>
<tbody>
<tr>
<td>10K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 mile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marathon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Why did you begin running? ________________________________

__________________________________________________________________

10. Why do you run now? ________________________________

__________________________________________________________________

11. If you race, why do you participate? ________________________________

__________________________________________________________________

If you do not race, have you considered entering races? yes no
If yes, what has stopped you? ________________________________

__________________________________________________________________

12. Do you keep a log/journal of your running?

yes no

13. Is your commitment to running based more on:

____ "health" (Running is good for me physically and/or emotionally.)

____ "performance" (Improving my running performance is important to me.)

____ Both "health" and "performance"

____ Other __________________________________________________

14. Do you read running literature? yes no

If yes, about how often? ________________________________
15. In general, what are your leisure time activities?

Please circle the ones you have done and cross through the ones you would not do. Also feel free to add others you do.

- reading
- writing
- sailing
- weight lifting
- sewing/needlework
- motorcycling
- hang-gliding
- backpacking
- cooking
- dancing

Others: ________________________________________________________________

- bird watching
- woodcarving
- skating
- photography
- shopping
- fishing
- stamp/coin collecting
- skiing
- furniture refinishing
- canoeing

16. Do you have children? yes___ no___
References


Cutner, M. *On the inclusion of certain "body experiments" in analysis.* *British Journal of Medical Psychology,* 1953, 26, 262-277.


Gough, H. G. The adjective check list as a personality assessment research technique. Psychological Reports, 1960, 6, 107-122.


Kostrubala, T. Personal communication, July 4, 1983.


Patton, R. Personal communication, July 2, 1982.


Schreiber, F. In A. Diamant, The women's sport revolution: Change for the better? or only for the best? The Real Paper, 1979, 8(12), 20-21; 24-25.


Tillman, K. Relationship between physical fitness and selected personality traits. Research Quarterly, 1965, 36, 483-489.


