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THE AGE OF INDIVIDUATION: AN EMPIRICAL EVALUATION OF A
KEY CONSTRUCT IN JUNGIAN THEORY

By

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ABSTRACT

THE AGE OF INDIVIDUATION: AN EMPIRICAL EVALUATION OF A KEY CONSTRUCT IN JUNGIAN THEORY

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Problem

Carl Jung claimed that a person may become individuated by differentiating and then integrating four functions of consciousness (thinking, feeling, sensation, intuition), but not before mid-life (35 to 40+).

This study tested the proposition that individuation is achievable during the late adolescent and early adult years.

Method

From a population of 1289 undergraduates enrolled in psychology courses at George Washington University in Washington, D.C., a randomly assigned sample of 253 volunteers agreed to participate in this study. Of the 215 students who completed participation, 201 produced valid MMPI's, the method used to screen potential study participants.

The independent variables included: 1) Two bipolar scales on the Myers-Briggs Type Indicator (MBTI), (thinking-feeling and sensation-intuition) and 2) Ego Strength, a prerequisite for individuation, as measured by Barron's Ego Strength Scale (ES).

The dependent variable was sex-role identity (Androgenous, Traditional, Reversed or Undifferentiated) as measured by the Bem Sex-Role Inventory (BSRI). Androgeny (the union of masculinity and femininity) is recognized as a hallmark of individuation.

Various Jungian function configurations plus ego strength status (representing states of personality integration), lead to predictions regarding ones sex-role identity.

Hypotheses were tested using multiple discriminant analysis to determine the relative contribution of each independent variable (MBTI and ES), in discriminating between the four BSRI dependent variable groups. Chi square analysis was used to test the specific hypotheses relating to various Jungian personality states.

Results

The statistical analyses designed to test the hypotheses of this study did not demonstrate significance.

Statistical treatment of data not tested in the hypotheses but pertinent to the hypotheses was found to be significant. A Pearson product moment correlation revealed a statistically significant, positive relationship between ego strength and mental health self-ratings ($r = .137$, $p = .027$).

An ANOVA by BSRI category and sex revealed a non-significant BSRI category by sex interaction but significant main effects for both BSRI category and sex. Combined gender mean mental health self-ratings were significantly different for each sex-role identity category ($F = 2.651$, $p = .05$). Androgenous subjects rated themselves as most mentally healthy, followed by Traditionals, Reversals and Undifferentiated subjects. Mean mental health self-ratings were significantly higher for males than for females ($F = 3.66$, $p = .057$).

To My Mother

Norma Lehman Lenn
(1917-1982)

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Chapter I

INTRODUCTION

Statement of the Problem

This study focuses on the personality theory of Carl Jung. Writing and working in the early and middle 1900's, Jung foreshadowed current trends in both psychology and medicine (Capra, 1982, p. 124; Todd, 1980, p. 25) to conceptualize and work wholistically with an individual. The son of a minister and himself a psychiatrist, Jung understood personality development to involve physical, mental, and spiritual dimensions. According to Jung, the goal of personality development is the attainment of one's self or "selfhood" (Jung, 1953b, p. 182). For Jung, the attainment of selfhood manifests itself by the individual's feeling whole and united within oneself, with humankind and with the cosmos in general (Jung, 1953b, p. 187). The developmental process culminating in the attainment of selfhood, Jung labeled "individuation" (Jung, 1953b, p. 182). Jung understood the key to individuation to reside within the individual's ability to become "enlightened", that is, to achieve a state of heightened awareness by expanding one's conscious

functioning. This occurs by bringing to consciousness the contents of one's unconscious psyche and subsequently integrating these contents with consciousness (Jung, 1971c). Jung (1978) did not believe full individuation to be attainable prior to mid-life (ages 35-40) (p. 16), and then acknowledged that most people, despite their age, did not achieve this state (Jung, 1933, pp. 95-114).

This study questions Jung's thesis that "psychic wholeness" or "selfhood", despite its rarity, must necessarily be a mid-life occurrence.

Purpose of the Study

The purpose of this study is to test that part of Carl Jung's theory regarding the age at which psychological integration or individuation, as he termed the process, may occur. Is Jung's dictum that individuation can only occur in the second half of life (ages 35-40 plus) valid? Or, using Jungian constructs, can individuated people be identified in their late teens and early twenties?

Specifically, are undergraduate university students limited, i.e., one-sided in their psychological development as Jung would assume? Do men

and women of college age have access to only one, or possibly two, of their four orienting functions of consciousness which Jung identified as thinking, feeling, sensation and intuition? According to Jungian theory, full individuation involves the conscious differentiation of all four functions (Loomis and Singer, 1980). It was Jung's assumption that unless a person was fully individuated, thinking and feeling were mutually exclusive functions. He assumed the same to be true for the functions of sensation and intuition (Jung, 1971a, p. 463). In this study the capacity of undergraduate university students to be psychically whole or self-realized is tested. The predictor variables in this study include Jung's four functions of consciousness (thinking, feeling, sensation, and intuition) and a measure of ego strength. For Jung, individuation also requires sufficient ego strength (Mattoon, 1981, p. 182). The criterion variable in this study is psychological androgeny. Androgeny, or the integration of femininity and masculinity within an individual (Bem, 1981, p. 4), is identified in Jungian theory as a significant measure of individuation

(Mattoon, 1981, p. 100; T. Wolff in Jacobi, 1973, p. 123-142).

Because Jung claimed that individuation is not achievable before mid-life, and because the major hypothesis of this study devotes itself to the verification or refutation of this claim, the following pages will focus on a detailed explanation of Jungian theory. In doing so, it is necessary to include a preliminary review of literature as it pertains to those aspects of Jung's theory pertinent to this study.

Carl Jung's Theory of Individuation

Individuation means becoming a single, homogeneous being...it also implies becoming one's own self. We could therefore translate individuation as "coming to selfhood" or "self-realization" (Jung, 1953b, p. 182).

Jung defines the term "individuation" differently from non-Jungian theorists. The latter use the term "individuation" to refer to the "early process of discovering that one is separate from one's parents, especially the mother figure." This process Jung calls 'ego development' (Mattoon, 1981, p. 179).

Jung (1971a) writes:

The concept of individuation plays a large role in our psychology. In general, it is the process by which individual beings are

formed and differentiated; in particular, it is the development of the psychological individual from the general collective psychology. Individuation, therefore, is a process of differentiation having for its goal the development of the individual personality. (p. 448)

Individuation is practically the same as the development of consciousness out of the original state of identity. it is thus an extension of the sphere of consciousness, an enriching of conscious psychological life. (p. 449-450)

Individuation is conceived by Jung to be a life-long developmental process, and unfolding or maturation of the mind. Jacobi refers to individuation as "the psychic parallel to the physical process of growth and aging" (Jacobi, 1973, p. 107). To Jung, individuation is a natural, spontaneous process within the psyche, potentially inherent in everyone. If, according to Jung, individuation becomes inhibited or obstructed by some disturbance (e.g., one's relationship with one's family or environment), it could be analytically facilitated.

When assisted through analysis, individuation is generally considered to be a more conscious growth process operating within the individual (Jacobi, 1973, p. 107). As a developmental process of the mind, individuation aims towards wholeness and the unification of one's personality. This is accomplished

when the individual becomes aware of both parts of the psyche (the conscious and the unconscious), and when acknowledgment and acceptance are manifested by the individual.

According to Jung, for every quality that is consciously acknowledged by the ego there is an unacknowledged or repressed opposited in one's unconscious. Individuation requires that the various "pairs of opposites" (the conscious and the unconscious) which exist within the psyche of the individual be differentiated from each other and eventually integrated.

According to Jung (1971a):

...Differentiation means the development of differences, the separation of the parts from a whole...I employ the concept of differentiation chiefly with respect to the psychological functions. So long as a function is still so fused with one or more other functions--thinking with feeling, feeling with sensation, etc.--that it is unable to operate on its own, it is in an archaic condition....To the extent that a function is largely or wholly unconscious, it is also undifferentiated...without differentiation, direction is impossible since the direction of a function towards a goal depends on the elimination of anything irrelevant. (p. 424)

"...Individuation, therefore, is a process of differentiation, having for its goal the development of the personality. " (p. 448)

In order for individuation to proceed, a person must first differentiate four psychological functions of consciousness. Jung identifies these as thinking, feeling, sensation, and intuition.

Jung (1971a) describes these four functions as follows:

Under sensation, I include all perceptions by means of the sense organs; by thinking I mean the function of intellectual cognition and the forming of logical conclusions; feeling is a function of subjective valuation; intuition I take as perception by way of the unconscious, or perception of unconscious contents. (p. 518)
...For me, sensation and intuition represents a pair of opposites, or two mutually compensating functions, like thinking and feeling. (p. 463)

Jung considers thinking and feeling to be two opposite ways to make decisions and/or to reach conclusions. He identifies both as "rational" functions because each is influenced by reflection and each follows the laws of reason (Jung, 1971a, p. 459). Jung identifies sensation and intuition as opposite modes of perception. He regards them as "irrational" functions because one who uses them must dispense with reason "in order to attain the most complete perception of the general flux of events" (Jung, 1971a, p. 469). Jungian theory purports that differentiation of all four functions

must occur before individuation may proceed to the most evolved personality state. This state Jung alternatively terms the "self", "self-realization" or "the union of opposites" (Jung, 1971a, p. 182; Jung in Storr; 1983, p. 226). The way this state is achieved is through what Jung calls the "transcendent function" (Jung, 1971c). It is called transcendent because "it makes transitions from one attitude to another organically possible, without loss of the unconscious" (Jung, 1971c, p. 279). According to Jung, "...consciousness is continually widened through confrontation with previously unconscious contents, or...could be if it took the trouble to integrate them." (Jung, 1971c, p. 299) The transcendent function involves the union of psychic opposites, such as thinking with feeling and/or sensation with intuition, in a synthesis that unifies and transcends them both. Jung considers the self to be the highest or ultimate transcendent function (Jung in Storr, 1983, p. 226). Often a symbol is used to express it (p. 300). Jung sees the symbol as a "uniting function," -- something that reconciles and synthesizes, and presents in visual form that which goes beyond words alone. He employs a symbol to express the unexpressable; the

integration of the unconscious with the ego. As early as 1902, in his doctoral dissertation, Jung identifies the symbol of the mandala. A mandala is a Sanskrit word meaning "circle," or magic circle (Jung, 1978, p. 24). In psychology and in some religious practices, mandalas represent circular images which may be drawn, painted, modeled or danced. Mandalas are viewed by Jung to be cryptograms of the psychic state of the self (Jung in Storr, 1983, p. 229-238). They symbolize the human attempt toward the achievement of balance or wholeness. In the East, mandalas are often used for meditation and contemplation. This may involve focusing on oneself by balancing the two cosmic forces of nature, identified by the Chinese as yin (the feminine) and yang (the masculine) within oneself. In the West, according to Jung, this involves the task of uniting the opposites, one's inner and outer reality (Jung, 1978, p. 22-30; Jacobi, 1973, p. 136-141).

Individuation as a Developmental Process

While Jung writes primarily about the psyche or mind, it is important to note that for him the mind and body of the individual are essentially one system.

The distinction between mind and body is an artificial dicotomy...so intimate in the intermingling of bodily and psychic traits that not only can we draw far reaching inferences as to the constitution of the psyche from the constitution of the body, but we can also infer from psychic peculiarities the corresponding bodily characteristics. (Jung, 1933, p. 74)

As a developmental process, individuation is assumed by Jung to consist of two main phases. The first phase "extends...from the years just after puberty to middle life, which begins between the thirty-fifth and fortieth year." The second phase begins between ages thirty-five and forty and culminates in death (Jung, 1933, p. 100).

While ego strength is understood by Jungians to be a prerequisite for individuation (Mattoon, 1981, p. 182), the order in which one's attitudes and functions develop is dependent upon the individual. In addition, work on one part of the psyche is not likely to be completed before work on another part has begun (Mattoon, 1981, p. 181).

Individuation: Phase I

According to Jung, the first phase of the individuation process requires the emergence and consolidation of one's ego, and the differentiation

into consciousness of the dominant of one's four psychological functions. It is during this period, also, when one consciously differentiates his or her preferred attitude or mode of orienting to the world. Jung terms these attitudes as extroversion and introversion, and distinguishes each from the other by their respective foci of attention. With extroversion, one's attention is focused on outside, or external stimuli such as people and objects (Jung, 1971a, p. 427). In the case of introversion, the focus is on one's subjective thoughts and feelings (Jung, 1971a, p. 452). It is during this first phase of the individuation process that one adopts a "persona" or public mask. The persona represents a compromise position between one's individual needs and perceived societal demands (Jung, 1953a, p. 167; Jacobi, 1973, p. 119). Parallel to the development of the ego is the "shadow." The shadow includes those qualities which have been dormant or are repressed by the individual, and thus are not available for conscious use by the person during this initial phase of individuation. Included in the shadow are the undifferentiated

functions and the less developed attitude (Jacobi, 1973, p. 109-114).

Mattoon (1981), in paraphrasing Jung writes: "Jung hypothesised that "a large degree of one-sidedness in attitude...and function...is characteristic of most young people" (p. 172). In support of Jung, Mattoon further notes that; "This one-sidedness occurs because in order to get along in the world, the young person must have the ego strength that comes with excelling in one or two functions" (Mattoon, 1981, p. 172). Thus, according to orthodox Jungian theory, the individual must await phase two (beginning around age 35 to 40), before the individuation process begins to round out the personality into an integrated whole. Not until then, according to this theory, can three, or in rare instances possibly four, functions (thinking, feeling, sensation, and intuition) come to the individual's conscious command for his/her appropriate use as needed.

Individuation: Phase II

According to Jungian theory, the second phase of the individuation process involves the initiation of

the individual into one's own 'inner reality.' It is at this point when one is expected to gain deeper self-knowledge as well as knowledge of humanity at large. The process involves turning or returning to those traits which until now have always been unconscious, or have become repressed at some point in the person's development (Jacobi, 1973, p. 108). By raising one's previously neglected traits to consciousness, Jung believes that the individual can achieve an inner and outer bond with one's own world, as well as with the cosmic order. About this Jungian belief, Jacobi writes; "Towards others, it raises up within him the tolerance and kindness which are only possible to those who have explored their own darkest depths" (p. 151). Jung assumed that healing the tensions and splits within oneself to be a precondition for healing the tensions or differences between nations (Jung, 1958). Like Gandhi (1965), Jung viewed peace and integration within oneself to be a prerequisite for a more peaceful and integrated world (Jung, 1958). It was Jung's position, furthermore, that unless we learn to recognize and accept the unexpressed, repressed opposite point of view within ourselves, this might be

projected outwardly toward other individuals as well as toward other nations (Jung, 1958).

Thus, according to Jung, for psychological wholeness to be achieved, the individual must integrate the contents of his/her unconscious and conscious psyche. Two levels of the unconscious are identified. The first level Jung calls the "personal unconscious" (Jung, 1953a, p. 74-89). This area contains forgotten or repressed material. It is similar to Freud's conception of the unconscious. But Jung identifies a second and deeper layer of the unconscious. He calls this the "collective" or "transpersonal" unconscious (Jung, 1953, p. 74-89). This unconscious layer of the human psyche according to Jung is shared by all humankind "transcending all differences in culture and consciousness" (Jung, 1978, p. 13). Once the contents of this layer is made conscious and integrated, an individual might be expected to develop a meaningful connection with humankind and the cosmos in general (Jung, 1953b, p. 187). From a psychical point of view, the second phase of the individuation process involves increased differentiation of one's less developed or unconscious attitude (extroversion or introversion), and increased differentiation of one's previously less

differentiated psychological functions (thinking, feeling, sensation and intuition), whichever they may be. In addition, it is during this second part of life that a person confronts his/her inner soul image, termed "animus" and "anima," respectively (Jung, 1971a, p. 469). While the persona reflects one's habitual outer attitude and is assumed to have developed during the first half of life, the animus/anima reflects one's habitual inner attitude and is assumed to develop during the second half of life (Jacobi, 1973, p. 114-124). The anima/animus serves a mediating function between the ego and the inner world, just as the persona serves as a mediating function between the individual's ego and his or her outer world. What anima and animus actually represent are the contrasexual elements in oneself. That is, the anima is said to represent the unconscious feminine aspects in a man while the animus is said to represent the unconscious masculine aspects in a woman (Jung, 1971a, p. 467-471).

It was Jung's position that before individuation proceeds to a point where the individual achieves wholeness, he/she must understand the existence of both

the masculine and the feminine aspects of his/her being (Mattoon, 1981, p. 100). Wolff's (1973) statement reinforces this position:

The activation of the archetype of the soul-image (the contrasexual element in oneself) is an event of fateful importance, for it is the most unmistakable sign that the second half of life has begun. (T. Wolff in Jacobi, 1973, p. 123-42)

Thus, like the third and possibly fourth function of consciousness, the development of the contrasexual element, according to Jungian theory, is a process which develops during the second half of one's lifetime (Mattoon, 1981, p. 186; Jacobi, 1973, p. 114-124).

The Goal of Individuation: Self-Realization

The individuation process as a way of broadening the personality involves "a gradual exploration of the contents and functions of the total psyche and of their effect on the ego" (Jacobi, 1973, p. 132). Once the undeveloped attitude, the undifferentiated functions and the contrasexual element in oneself have been differentiated, the individual comes closer to the ultimate goal of the individuation process: self-realization (Jacobi, 1973, p. 127). In terms of the

dynamics of the psyche, the self, according to Jung, is a quantity that is superordinate to the conscious ego.

Jung further explains this point as follows:

...the ego is only the center of my field of consciousness, it is not identical with the totality of my psyche...I...distinguish between the ego and the self, since the ego is only the subject of my consciousness, while the self is the subject of my total psyche, which also includes the unconscious. (Jung, 1971a, p. 425)

The unconscious and conscious in the individuated self are not in opposition. Their relationship to each other is compensatory. The polarity of the two psychic systems, the conscious and unconscious, is transcended and a "union of opposites," viz., the self, emerges.

Jacobi (1973), describing this process, writes:

...the influx of unconscious contents into the realm of consciousness, the dissolution of the persona, and the reduction of the ruling power of consciousness lead(s) first to a state of psychic imbalance. "...This loss of balance leads, with the help of the unconscious, to the creation of a new balance, provided that consciousness is able to assimilate and elaborate the contents arising from the unconscious. (p. 127)

A strong ego is necessary for individuation to occur in order for one's unconscious contents to be assimilated into the ego. A weak ego risks being overwhelmed by the influx of unconscious material as will occur in psychosis (Mattoon, 1981, p. 182).

Individuated Development: A Summary Statement

Individuation is a process which involves becoming one's own self. "We could, therefore, translate individuation as 'coming to selfhood' or 'self-realization'" (Jung, 1953b, p. 182). Individuation leads towards unification or wholeness of personality as a function of the individual's ability to integrate the conscious and unconscious aspects of his/her mind. This involves the process of "strengthening, differentiating and assimilating into consciousness the various non-ego parts of the psyche" (Mattoon, 1981, p. 181). Specifically, individuation is conceptualized by Jung as a process involving in its initial phase (puberty to 35-40), the differentiation of one's favored attitude (extroversion or introversion), and one's dominant function (thinking, feeling, sensation, or intuition), as well as the emergence of a strong ego. The second phase of the individuation process (from 35-40 until death), involves the differentiation of the previously undifferentiated functions and the undeveloped attitude as well as the differentiation of the contrasexual elements within oneself, i.e., the masculine aspects in the female and the feminine

aspects in the male. The goal of this process is the self or "self-hood" (Jung, 1953b, p. 182). The meaning of life for a fully individuated person resides no longer in the ego alone. For such a person, the ego and the unconscious function together. Jung (1953b) sees individuation as synonymous with the development of personality and the development of personality to be synonymous with an increase in awareness.

...the more we become conscious of ourself through self-knowledge, and act accordingly, the more the layer of the personal unconscious that is superimposed on the collective unconscious will be diminished. In this way, there arises a consciousness which is no longer imprisoned in the petty, over-sensitive, personal world of ego, but participates freely in the wider world of objective interests...bringing the individual into absolute, binding, and indissoluble communion with the world at large. (p. 187)

Individuation is defined in this study as the integration of the conscious and unconscious aspects of one's being, specifically the presumably opposite psychological functions of thinking-feeling and sensation-intuition. The goal of the individuation process is psychic wholeness, integration, and ultimately "coming to selfhood" or "self-realization" (Jung, 1953b, p. 182). The implication is that one becomes one's own self, who one is meant to be.

"Consciousness and unconscious do not make a whole, when one of them is suppressed and injured by the other" (Jung in Storr, 1983, p. 225). The integration of what Jung refers to as the 'psychic opposites' (Jung, 1954, p. 167-186) is a hallmark of the individuation process. The opposite of this process is described below:

The stronger and more independent our consciousness becomes, and with it the conscious will, the more the unconscious is thrust into the background, and the easier it is for the evolving consciousness to emancipate itself from the unconscious, archetypal pattern...a consciousness heightened by an inevitable onesidedness gets so far out of touch with the primordial images (of the collective unconscious) that a breakdown ensues. Long before the actual catastrophe, the signs of error announce themselves in atrophy of instinct, nervousness, disorientation. Investigation then discovers an unconscious that is in full revolt against the conscious values, and that therefore cannot possibly be assimilated into consciousness, while the reverse is altogether out of the question. (Jung, 1978, pp. 14-15)

A new synthesis of personality involves taking into account those parts of the whole which have been neglected. One-sided development, according to Jungian theory, is the result of being too identified with one's predominant attitude and function (Storr, 1983, p. 21). Storr (1983) writes:

Since everyone has both an extraverted and introverted potential, and also needs all four functions (thinking, feeling, sensation and intuition) if he is to live fully, it follows that the task of analysis is to help the patient become aware of neglected aspects of his personality. (p. 21)

Jung was the first analyst whose therapeutic procedure supplemented verbal exchange with writing, drawing, painting, sculpting, music and visualization in order to awaken the neglected aspects of one's being. To achieve psychic wholeness, Jung focused on the individual's relationship with the various aspects of his/her own psyche, as opposed to one's relationship with other human beings. Jung does not deny the importance of interpersonal relationships but believed that it is only when one has come to terms with oneself that satisfactory relationships with others can be achieved (Storr, 1983, p. 22).

The main question this study raises is whether or not one can "come to terms" with oneself -- that is to say, become integrated (in terms of Jung's four functions of consciousness), prior to mid-life?

The following section of this chapter explores this question in the context of Jung's personality typology. It is from this typology that the construct of individuation emerges. Integral to this exploration

are two components of individuation; ego strength and androgeny. The discussion then pursues the appropriate theoretical support for the Jungian core concept of individuation as the integrative mental process.

Finally, there is a formulation of the basic thesis of this investigation. Whereas orthodox Jungian theory hypothesizes that individuation does not occur before mid-life, the thesis of this study is that individuation may occur prior to mid-life. Subsequent chapters will submit empirical data to support this position.

Carl Jung's Theory of Psychological Types

Jung identifies the concept of individuation as the central concept in his psychology. The blue-print of the individuation process is contained within his personality typology (Meier, 1971, p. 276-279). One way to conceptualize this typology is in terms of three pairs of opposites: one pair of opposing attitudes, and two pairs of opposing functions. From his subjects' reactions to his Word Association Test, Jung concluded that people maintain one of two attitudes towards an object. Either they are extroverted, and as

such are oriented by the object itself, or they are introverted, in which case their attitude is actually the subjective impression which the object releases for them (Meier, 1971, p. 227). Jung believes both attitudes to exist within the psychic structure at birth, but that one is congenitally dominant (Jacobi, 1965, p. 35). The other attitude is presumed to be rarely used or unused and therefore remains undeveloped or unconscious (Jacobi, 1965, p. 35). It may surface, however, when the threshold of consciousness shifts as one individuates (Jacobi, 1965, p. 35).

Along with the two attitudes of extroversion and introversion, Jung identifies four functions of consciousness by which the ego absorbs and assimilates material from internal and/or external stimuli. By 'function' Jung means "...a particular form of psychic activity...a manifestation of libido..." (Jung, 1971, p. 436-437) or psychic energy. Jung's four functions include: 'sensation', 'intuition', 'thinking' and 'feeling'. Jung distinguishes these functions, one from the other, because he believes that they cannot be "...related or reduced to one another" (Jung, 1971, p. 436-437). Jung describes 'sensation' as "...conscious...perception (Jung, 1971,

p. 463) ...mediated by the sense organs and 'body senses'" (Jung, 1971, p. 462). In contrast, Jung describes 'intuition' as mediating perceptions in an unconscious way (Jung, 1971, p. 452). Jung believes that sensation and intuition stand in a compensatory relationship to each other (Jung, 1971, p. 454). He describes 'sensation' and 'intuition' as 'irrational' functions not because they oppose reason, but because they are "...something beyond...(and hence)...not grounded on reason" (Jung, 1971, p. 454). Jung describes the two other functions, 'thinking' and 'feeling', as 'rational' functions because they both involve judgment, reflection and reason (Jung, 1971, p. 434-459). Jung describes 'thinking' as involving cognition and intellectual judgment which aims to establish conceptual relations. In contrast, Jung describes the judgment involved in 'feeling' as a "...subjective process...which aims...to set up subjective criterion of acceptance or rejection" (Jung, 1971, p. 434). Like 'sensation' and 'intuition', Jung views 'thinking' and 'feeling' as compensatory functions (Jung, 1971, p. 453-454). Jung makes the

claim that each person is born with one congenitally dominant function.

A person's specific personality type depends on which of each of the three pairs of opposites one uses most frequently. There are eight possible personality patterns, each with a main attitude (either extroversion or introversion), a primary function and usually an auxiliary or secondarily important function. These eight personality patterns include the total possible combination of each of the attitudes, and a perceptive and judging function combined in groups of three. These eight possible personality types are: ETN, EFN, ETS, EFS, ITN, IFN, ITS, and IFS where E=Extroversion, I=Introversion, T=Thinking, F=Feeling, N=Intuition and S=Sensation. Sometimes 16 patterns are referred to, by changing the order of the two functions to denote which is stronger, e.g. EFN or ENF.

One's primary function is the most consciously differentiated of the four functions. It is the one he/she uses most often either for perceiving or for evaluating one's perceptions. The auxiliary function is of secondary importance to the primary function. It is also present in consciousness, although somewhat less differentiated, it exerts a co-determining influence

with the principal function. Only those functions can appear as auxiliary if they are not opposed to the dominant function. For instance, feeling can not act as a second function to thinking because it is by its very nature too strongly opposed to the feeling (Jung, 1971, p. 405). The same is true for sensation and intuition. Thus, if one's primary function is a judging one (thinking or feeling), then the auxiliary function is a perceiving one (sensation or intuition), and vice versa. According to Jung, the remaining two functions are undeveloped and unused in most persons. The function opposite the dominant function is viewed as the inferior function. The inferior function is described as the final and most difficult function for a person to integrate in as much as it is most closely associated with the unconscious. The integration of one's final function is considered a highly significant, yet rarely achieved step in the individuation process (Jung, 1971a, p. 450-451).

This study is concerned primarily with the four functions and their relationships with each other within the individual. A reason for investigating the functions, in depth, as opposed to the typology is

because Jung, himself, identifies the four functions of consciousness and their differentiation as a central foci of the individuation process (Jung, 1971a, p. 424-425 and 448-450).

Ego Strength

The term ego has its roots in ancient Greek, Hebrew and Hindu cultures (Loevinger, 1970, p. 1) and generally means "person, self, or consciousness" (Blanck and Blanck, 1974, p. 19). Ego was popularized as a construct and introduced into the psychological literature by Sigmund Freud. Part of a tripartite personality structure that includes the id (the instincts) and the superego (conscience or morality), the ego is conceived by Freud as the mediator between the demands of the id and the demands of the super ego. While it was later understood that the ego also contained some unconscious aspects in it, it was initially associated with consciousness. It was assigned by Freud to possess such functions as defense, adaptation, reality testing, memory, attention, and judgment (Freud, 1969, p. 2-3).

In Jung's view, the integration of the self necessitates that a crucial role be assumed by the individual ego. Jung uses the term ego to refer to the organization of the conscious mind. He distinguishes the 'ego' from the 'self'. The 'self' encompasses the total psyche which includes the unconscious as well as the conscious parts of the mind (Jung, 1971a, p. 425). As the conscious point of reference to the psyche as a whole, the ego incorporates both somatic and psychic aspects (Maduro & Wheelright in Corsini, 1977, p. 92). Conceptually the ego is located between the unconscious inner world, and the external world of the individual. It is responsible for assimilating and coping with stimuli from each of these areas. A strong, well-structured ego is the ideal of normal development. "A person with a healthy, strong, sense of ego identity experiences himself as having continuity, sameness, individuality and autonomy over time...(as well as)...a sense of firm inner and outer ego boundaries which are flexible and relatively permeable when appropriate" (Maduro and Wheelright in Corsini, 1977, p. 91-92). Good educational experiences and parental figures "...who are able to mirror parts of the child's self and it's integrating functions" (Maduro and Wheelright

in Corsini, 1977, p. 101) greatly facilitate the maturation of the individual ego. Jungian theory emphasizes the synthesizing capacity of the ego. Loevinger's conceptualization of the ego supports this position:

The striving to master, to integrate, to make sense of experience is not one ego function among many but the essence of the ego. (Loevinger in Hauser, 1976, p. 928)

Jung assumed that one must possess a strong ego for individuation to proceed lest the person become overwhelmed by unconscious contents as they surface. A weak ego risks being overburdened by the influx of repressed psychic contents. This situation may sometimes lead to a psychosis. For individuation to proceed, the conscious ego must allow for and must be able to tolerate the gradual differentiation and subsequent integration of unconscious contents with contents which the conscious ego already acknowledges. "When the ego is strong,...unconscious contents are assimilated into it and it becomes stronger" (Mattoon, 1981, p. 182). In this study, Barron's Ego Strength Scale (Barron, 1953) is used in conjunction with the function scores on the Myers-Briggs Type Indicator (Myers, 1962) to identify an individual's phase of

individuation. This study accepts Barron's definition of ego strength as "a general factor of capacity for personal integration" (Barron, 1968, p. 125). "Among the characteristics which are collectively referred to as ego strength are physiological stability and good health, a strong sense of reality, feelings of personal adequacy and vitality, permissive morality, lack of ethnic prejudice, emotional outgoingness and spontaneity, and intelligence" (Barron, 1953, p. 332).

Psychological Androgeny

Psychology androgeny is a relatively newly accepted theory of sex-role identity entailing the combined presence of masculine and feminine characteristics within an individual. The word androgeny is derived from two Greek words, 'andro' meaning male and 'gyn' meaning female (Schwartz, 1976, p. 405). Thus, androgeny implies the integration of masculinity and femininity within a single individual. The implication is that an individual can be "both compassionate and assertive, both expressive and instrumental, both feminine and masculine, depending upon the situational appropriateness of these

various modalities...an individual may even blend these complimentary modalities in a single act..." (Bem, 1981, p. 4).

In contrast to an androgenous person, Bem identifies the "traditionally sex-typed person" as "...someone who is highly attuned to cultural definitions of sex-appropriate behavior and who uses such definitions as the ideal standard against which her or his own behavior is to be evaluated" (Bem, 1981, p. 4). A traditionally sex-typed person attempts to keep her or his behavior consistent with the societally accepted, idealized image of femininity or masculinity (Bem, 1981, p. 4).

To support her theoretical assumptions, Bem provides historical and cross-cultural data to demonstrate that the male has been associated with having an instrumental orientation and cognitive focus (Parsons and Bales, 1955, in Bem, 1981, p. 10), a concern for oneself as an individual (Baker, 1966, in Bem, 1981, p. 10) an "outer-directedness" and a "fondness for what works" (Erikson, 1964, in Bem, 1981, p. 10). In contrast, Bem notes that women have historically and culturally been associated with a more expressive, affective concern for the welfare of

others, group harmony (Parsons and Bales, 1955, in Bem, 1981, p. 10), a "communal" orientation (Baken, 1966, in Bem, 1981, p. 10), and a more inner ethical commitment to "resourcefulness in peacekeeping and devotion to healing" (Erikson, 1964 in Bem, 1981, p. 10).

Jung (1971b) was instrumental in the development of the theory of androgyny. According to Jung, each individual possesses both masculine and feminine qualities. Men have feminine aspects to their personalities and women have masculine aspects. Jung acknowledges that the opposite sex traits are often repressed, thus exist in one's unconscious. Jung identifies the masculine and feminine more as principles than behaviors, and believes that it is necessary for an individual to realize within oneself both principles as a prerequisite for achieving wholeness. Jung maintains that if the repressed opposite sex qualities within oneself are not made conscious, they may be projected towards males and females in one's life, thus interfering with an individual's interpersonal relationships. For Jung, androgyny thus represents the union of a crucial pair

of opposites, the masculine and the feminine, within an individual.

June Singer (1972, pp. 229-269) fairly recently popularized Jung's work on androgeny. Like Jung, Singer recognizes the striving for increased consciousness to be a major life task. Increased consciousness according to Singer, means becoming aware of the dualities that shape our personalities. Singer suggests that perhaps the most fundamental of all dualities is the male-female dicotomy. In agreement with Jung, Singer further believes that wholeness requires the integration of this duality. She describes androgeny as the active loving of both the masculine and feminine aspects within oneself.

Moving from a personal to interpersonal level, Schwartz (1979) submits that the highest level of personal integration is necessary for a mature, sexual love relationship. She identifies this level as an androgenous level. Schwartz (1979) refers to the work of Kernberg whose clinical expertise leads him to believe that a "prerequisite for mature love is an "empathy with the complementary sex role" (p. 409). According to this perspective one develops empathy by

identifying with and accepting complementary sex role behavior and experiences within oneself.

Bem's research relating to the presence or absence of androgeny within an individual includes the construction of an instrument to measure this factor. The Bem Sex Role Inventory (BSRI) developed by Sandra Bem (1981) is employed in this study to measure one's sex-role identity. Whether a person manifests an "undifferentiated", a "reversed", a "traditional", or an "androgenous" sex-role identity, is hypothesized in this study to be predictable from other measures of individuation. Specifically the degree of ego strength and the relative development of a person's four functions of consciousness (thinking-feeling and sensation-intuition) are used in this study to predict a person's self-appraisal regarding his or her capacity for androgenous functioning. Androgeny is viewed in this study primarily as a measure of individuation because it "reflects the meeting of a crucial pair of opposites in the formation of a complete individuated personality" (Mattoon, 1981, p. 100). Androgeny is described by Mattoon (1981) as:

the logical conclusion of Jung's hypothesis that consciousness (predominantly feminine in women, predominantly masculine in men), must

integrate much of the unconscious (predominantly masculine in women, predominantly feminine in men) in order for individuation to proceed. (p. 100-101)

Theoretical Support For Carl Jung's

Theory of Individuation

Jung's conceptualization of individuation as a process by which the individual discovers, integrates, and actualizes the self has been of fundamental concern in some of the earliest philosophies, as well as our more modern psychologies.

Yoga Psychology

In Hindu philosophy, and psychology, self-realization is the supreme goal (Kim, 1973, p. 16). In the Upanishadic period in Indian history (approximately 1500 B.C.), the concept of the self and its realization is expressed in terms of union of the individual self with the universal or cosmic self. Brahman or the cosmic self, according to the Upanishads, is the "Atman," the innermost self or soul of each individual. Hinduism suggests various methods for securing paths to realization of the self. These different methods are referred to as yogas. The word

yoga is derived from the Sanskrit word "yogi" which means "to join" or "union" (Peterson, 1971, p. 280). The goal of all yoga is one's achievement of union with the supreme consciousness, which is synonymous with the self (Chandhuri, 1975, p. 236). Yoga involves methods of development that attend to the whole person: one's physical, mental, moral and spiritual being. There are different types of people in the world. Some are active, some emotional, some intellectual, some basically empirical in approach. Individuals often practice more than one type of yoga. Specific yoga disciplines include the yoga of mind control, the yoga of love, the yoga of knowledge, the yoga of psychophysical energy, the yoga of work and action, and the yoga of total integration (Chandhuri, 1975, p. 239). These fifth century B.C. yoga insights and adaptations concerning the individual needs of people as they strived for self-realization is similar to the relatively recent psychotherapy research finding that different kinds of psychotherapy work best with different types of people (Luborsky, Singer, Luborsky, 1975).

According to yoga philosophy, the root of all human suffering is the individual's alienation from

his/her true self. The goal of yoga is thus to unite one with that from which one has become separated, oneself. Yoga involves the practice of self-discipline and "...stands revealed only to one who is existentially involved in personal self-realization and ego transcendence..." (Chandhuri, 1975, p. 236). This transcendental self-realization involves "...the transcendence of all psychic polarities such as love and hate, pleasure and pain, creation and destruction..." (Chandhuri, 1975, p. 240).

According to Indian psychology, "A person can truly know the Self only by becoming one with the Self" (Chandhuri, 1975, p. 236). The concept of self is at the core of yoga philosophy. The self is the innermost center, the unifying principle, the total personality. The self is an integrative principle of the total psyche whose structure according to yoga psychology includes the conscious, the unconscious and the superconscious. Western psychology, with the exception of the Jungian school of thought, has for the most part focused primarily on the conscious and unconscious. The superconscious, the most high of Indian consciousness, is what Jung refers to as the

collective or transpersonal unconscious. The true self, according to yoga psychology is one with being.

To experience oneness with Being is to experience oneness or kinship with all fellow beings and with all living things...
(Chandhuri, 1975, p. 239)


The experience of love and compassion inspired by the view of unity of all existence provides the philosophical basis for all yoga disciplines.

Thus, like Jungian psychology, yoga psychology which dates back to the Fifth Century B.C. shares striking parallels to Jung's psychology of individuation in terms of identifying a system of growth processes involving ego transcendence, the integration of psychic polarities and the ultimate goal of self-realization and unification with humankind. Unlike Jung, the age at which one is able to achieve this state is not restricted to middle age or older. Aspirants are encouraged to begin their journey early in life and some famous living Indian yogis are believed to have achieved self-realization prior to their twenties.

Yin and Yang, The Philosophy of T'ai Chi and Taoism

Theoretical support for Jung's theory of individuation as a process which directs major attention to the integration of opposing forces (conscious and unconscious), within the psyche dates back in China to the Sixth Century B.C. and the philosophy of Taoism. The legendary founder of Taoism was Lao Tzu. The word Tao, from which the name Taoism is derived, is one of the most important terms in Chinese philosophy. "Tao...signifies the cosmos viewed as an undifferentiated unity" (Blofeld, 1980, p. 15). Within this One Totality there is a division of two cosmic forces, called yin and yang. Yin and yang are Chinese terms that literally mean "the dark and the sunny side of the hill," respectively (Hampden-Turner, 1981, p. 20). They represent two complementary principles, the two polar forces in nature, one negative, the other positive. Yin, the dark side, represents that which is feminine, dark, negative, passive, earth, valley, yielding, rest, autumn-winter and other such associations. Yang represents that which is masculine, light, positive, active, heaven, mountain, forcing, penetrating, movement, spring-summer and other such associations (Kim, 1973; Hampton-

Turner, 1981, p. 20). These two forces are believed to have originated from "Chi", (Hampton-Turner, 1981, p. 20), a primordial breath, life force, libido or psychic energy as it is more often referred to in the West.

"T'ai" is a Chinese term meaning "contentment,...peace in the positive sense of unobstructed, complete union, bringing about a time of flowering and greatness" (I Ching, p. 41). The union of yin and yang is depicted in the symbol of t'ai chi.  It is a circle, half white, half black, with a dot of black in the white side and a dot of white in the black side. The t'ai chi symbol represents the harmonious flowing of two complementary principles, "the rhythmic movement among opposites" (Hampden-Turner, 1981, p. 20). It is on the blending of the yin and the yang that harmony depends. The way to unite these polar forces has been referred to since the Sixth Century B.C. as "tao." Tao in this sense means "the Way" or "path" of the universe that involves not taking any action that is contrary to nature, but instead moving in accord with the laws of nature. Movement in this system is towards balance and harmony. While these two cosmic forces are referred to

as opposites, they are described by Blofeld (1981), as follows:

...two sides of the same coin, for neither could exist in the absence of the other...Yin and yang are present in all conceivable phenomena, and are not to be found in isolation from each other, for pure yang contains the seed of yin, pure yin contains the seed of yang, as exemplified by the female characteristics-to be found in every male and vice-versa. It is through varying interactions of yin and yang that phenomena come to differ from one another... (p. 16)

It is a major tenet of Taoism, that one be in harmony with and not strive against, the fundamental laws of nature (Creel, 1953, p. 88). A major tenet of Jung's psychology of individuation requires that one be true to one's own nature by striving to find and actualize one's own self (Jung, 1954, p. 179). Human wisdom, perfection, even immortality, are, according to Taoist belief, the hypothesized fruits of becoming one with the Tao, with nature (Hampton-Turner, 1981, p. 20). And the Taoist way of becoming one, involves, as is the case with Jung, the union of polar, yet complementary opposites, (the yin and the yang, the masculine and the feminine), within oneself. Jung considers the reconciliation of the cosmic opposites, yin and yang, to be synonymous with his concept of self (Redfearn, 1977, p. 131). In his writings about

psychology and the East, Jung (1978) notes that the Western mind has no word for Tao.

The Chinese character (for Tao) is made up of the sign for 'head' and the sign for 'going'...'Head' can be taken as consciousness...and 'going' as traveling a way, and the idea would then be: to go consciously or the conscious way. (p. 22)

If we take the Tao to be the method of conscious way by which to unite what is separated, we have probably come close to the psychological meaning of the concept...the realization of the opposite hidden in the unconscious - the process of 'reversal' - signifies reunion with the unconscious laws of our being, and the purpose of this reunion is the attainment of the conscious life or, expressed in Chinese terms, the realization of the Tao. (p. 23)

Individuation and ultimately the attainment of selfhood for Jung, is thus similar to what is meant by the Chinese when they speak of becoming one with the Tao.

Abraham Maslow and The Resolution of Dicotomies in Self-Actualization

Jung was a forerunner of humanistic psychology with his emphasis on health and integration of the whole person. In reference to actualization, Jung (1954) writes:

To become a personality is not the absolute prerogative of the genius, for a man may be a genius without being a personality...it is theoretically possible for any man to...become a personality, that is to achieve wholeness...So although...all men share the same primary, psychic condition, this objective psyche must nevertheless individuate itself if it is to become actualized... (p. 179)

It is considered necessary that differentiation of all four psychological functions occur for individuation to lead to Jung's most highly evolved personality state, the self (Tuttle, 1973, p. 24). Jung referred to the self as the union of opposites (Jung, 1971, p. 242). This reconciliation of opposites or resolution of dicotomies is designated by Maslow as one of the defining characteristics of the self-actualized person (Maslow, 1954, p. 178). Maslow describes such individuals, as amongst other things, being usually capable of reconciling opposites in their own personalities such as adult-child, selfish-unselfish and male-female. The resolution of maleness and femaleness within oneself is also a defining characteristic of what Jung considers to be the individuated personality (Mattoon, 1981, p. 100-101).

A pioneer in humanistic psychology and in the human potential movement with its emphasis on growth of

the whole person, Maslow in his later years calls attention to possibilities beyond self-actualization (Maslow, 1971). Identifying psychoanalysis as the first force in psychology, behaviorism as the second force, and humanistic psychology as the third force, Maslow identifies a fourth force in psychology, one in which the individual transcends the usual limits of identity and experience (Walsh & Vaughan, 1980, p. 19). This fourth force is labeled transpersonal psychology and is understood to be cosmos-centered rather than centered in human needs and interests (Walsh & Vaughan, 1980, p. 19-20). Interestingly, Jung labels the collective unconscious also the transpersonal unconscious (Jung, 1971, p. 74) and believes that individuals who integrate their unconscious with their conscious psyches, tend to expand their consciousness beyond conventional boundaries. This then leads to a larger sense of identity and a feeling of connectedness to the cosmos as a whole (Capra, 1982, p. 370-371).

A Challenge to that Aspect of Jungian Theory
Which Views Individuation As
A Middle Age Phenomenon

It is Jung's contention that people do not individuate, that is, they do not integrate the conscious and unconscious aspects of their personality before middle age (ages 35-40 plus). Thus, "selfhood" according to Jung, the ideal state of integrated psychological health and wholeness, is not generally achievable by young adults. Unity with oneself (balance, wholeness, psychological integration), is what Jung identifies as a major goal of human existence. But this type of unity, he claims, is reserved for middle age or older (Jung, 1978, p. 16). And even age alone, according to Jung, is no guarantee of individuation. Jung sees individuation as a natural and almost instinctual process, something toward which one should strive, but will find difficult to achieve even in middle age (Mattoon, 1981, p. 184-185).

A central premise of this study is that individuation is possible prior to the age postulated by Jung. Relatively recent research into the psychic development of infants and small children reveals that "...children have an important psychic life of their

own much earlier than Jung thought,...(and) that the beginnings of the individuation process can be discerned even in infancy...(Fordham, 1969, p. 4). While Jung does not believe that a child has an ego to speak of before the fourth or fifth year (Fordham, 1969, p. 4), and does not have an ego separate from one's parents before puberty (Jung, 1933, p. 99), there is evidence, as a result of analytic work and infant observation, that ego-building begins from birth or shortly thereafter. Both Buhler and Spitz (in Fordham, 1969), demonstrate that there is a significant difference in the mental development in the first year between babies who have had adequate care and appropriate stimulation from those who have not (Fordham, 1969, p. 6). Thus, while it is Jung's view that the "psychic birth" of the individual does not occur before puberty (Schultz, 1977, p. 94), there is evidence that individuation or the maturation of the psyche could very possibly begin earlier, contrary to Jung's assumption (Fordham, 1969). Jung takes the position that one's personality begins to develop between puberty and young adulthood. And he sees this development as necessarily one-sided (Mattoon, 1981, p.

172). The energy of people during this stage of development is, as Jung sees it, directed outwardly toward the extroverted tasks of obtaining an education, beginning a career, getting married and establishing a family (Schultz, 1977, p. 94). Only one or two of the four psychological functions of consciousness are presumed to have been developed by this time in one's life (Mattoon, 1981, p. 186). Jung believes, further, that this onesidedness is a prerequisite, at this stage of life, to lay the foundation for the subsequent directedness necessary to achieve the goals of individuation.

A second assumption of this study is that individuation may occur prior to middle age because young adults of today have been reared in a different time period from the one in which Jung developed his theory. In essence, it is this writer's belief that Jung's theory of individuation may belie the psychological maturity of some young adults today. Young adults today are exposed to mass communications media which were non-existent in Jung's world. Today's young adults have an enormously greater exposure to different ways of being than their own families could have provided. In addition, the high divorce rate in

our society and the many single-parent families have created situations where children are called upon to assume added responsibilities and to take on an increased number of roles. A very substantial number of homes are no longer of the traditional patriarchial type, where the man does the "thinking" for the family, and the woman does the "feeling" for the family.

Finally, at this particular time, renewed interest in one of the world's most ancient healing and self-healing disciplines may be responsible for facilitating the individuation process more readily in certain young population groups. Often, of Chinese or Indian origin, meditation group practices have been emerging on many university campuses as well as in cities and smaller towns throughout the United States. Meditation is sometimes presented in the United States as a method of relaxation, and stress reduction. In the East, relaxation and self-regulation of the physical body is merely a preliminary step to the more evolved goal of altering one's state of consciousness. The goal of most meditation is to find peace within oneself. From a state of peace within, one is expected to achieve a state of connectedness between oneself and one's world,

sometimes described as the attainment of cosmic consciousness. This might also be a statement describing the individuated personality. The various methods of meditation generally involve some form of concentration or insight or a combination of these two techniques (Walsh, Goleman, Kornfield, Pensa, Shapiro, 1978). Specific methods include deep breathing, visualization, dancing, chanting, mandala drawing or painting... These methods are strikingly similar to many of the methods used by Jung to help a person raise unconscious contents to consciousness. Jung is the first analyst to have supplemented the use of verbal methods with non-verbal methods in order to help his patients to achieve a state of psychic wholeness. And the ultimate goal of meditation is also strikingly similar to the central goal of individuation; both aim toward a well-integrated personality through self-realization.

In addition to the reasons enumerated above, individuation, defined in this study by the differentiation and integration of the four functions of consciousness (thinking-feeling, and sensation-intuition), is hypothesized to be possible before mid-life, at least in part, because there is no set age or

invariant sequence of stages at which the functions are developed by an individual. Jung's notion of the order in which one develops the various psychological functions varies from individual to individual. For example, an individual may develop one's thinking function either prior to or after feeling. Thus, age alone obviously does not determine which functions are capable of conscious development, (Mattoon, 1981, p. 181), and thus, hypothetically, a person of any age can develop any function. Jung, like most psychotherapists had developed his theories based on clinical work with "patients," as opposed to a more "normal" population. A more normal population might be expected to be more balanced, and psychologically more integrated than most patients in psychotherapy. Also, Jung worked primarily with individuals in the latter part of their lives, and it is from this population that his theories have emerged. These data are central to the theses of this study, which challenges this aspect of age and individuation.

In contrast to the period of young adulthood, Jung defines middle age as the beginning point of transition from the more extroverted values and behaviors when one

obtains an education, establishes a career, and raises a family, to a more introverted inner, subjective preoccupation with philosophical and spiritual concerns. "Between thirty-five and forty a significant change in the human psyche is in preparation" (Jung, 1933, p. 104). Middle age is a time when, according to Jung, one's previous one-sided focus of consciousness begins to be replaced by a greater balance of all the facets of the personality as a prelude to the process of self-realization. No single attitude or function is dominant in the individuated personality. All aspects of capable of being expressed when appropriate.

Concerning the postponement of one's quest for self-realization until the later stages of life, Mahatma Gandhi, in his autobiography (1957), writes:

I am familiar with the superstition that self realization is possible only in the fourth stage of life, i.e., sannyasa (renunciation). But it is a matter of common knowledge that those who defer preparation for this invaluable experience until the last stage of life attain not self realization but old age amounting to a second and pitiable childhood, living as a burden on this earth. (p. 338)

A major contribution of Jung's psychology is the fact that his theory of personality growth incorporates a total life-cycle perspective. In this sense he serves as a backdrop to Erikson's (1968, 1959) subsequent

attempts to correct for the limitations of classical Freudian theory with respect to adult personality formation. This study in no way denies that further growth and development might continue throughout the life-cycle. It is an assumption of this study, however, based on the preliminary evidence submitted, that individuation as defined by Jung may occur prior to mid-life, the age postulated by Jung to be the onset of individuation.

Need for the Study

An evaluation of a theory which is as widely used in psychotherapy and human development as Jung's deserves to be researched for the sake of any knowledge that it might yield, be it corroboration or new and possibly conflicting data. C. Meier (1971), Jung's successor as professor of psychology at the Federal Institute in Zurich, in his article, "Psychological Types and Individuation: A Plea for a more Scientific Approach in Jungian Psychology," writes:

I think you would hardly disagree with me if I were to make the statement that Jung's most important contribution to psychology was the discovery and practice of the process of individuation. (p. 276)

While individuation is considered to be the central construct in Jung's psychology as well as his most important contribution to psychological theory and therapy (Meier, 1971), it has been subjected to very limited empirical study to date.

Individuation is worthy of empirical investigation because it addresses the concept of human psychological integration and well-being. Jung identifies individuation as the process by which the individual integrates the contents of the unconscious with the conscious psyche toward the ultimate goal of maximally extending his/her field of consciousness. Concerning this, Fordham (1969), writes:

Two World Wars, and their terrifying stupidity and mass emotion, impressed on Jung the urgent need for wider consciousness and its concomitant better integration of unconscious contents..." (p. 3)

There is considerable agreement among psychologists such as Maslow (1971), and Rogers (1956), as well as humanists in other disciplines, (Capra, 1982), with Jung's view of the importance of individuation both for the individual and society. Metzger (1980) addresses this same concern when he writes:

...to a considerable degree the evolution of society or humanity is anchored in and depends on the evolution of individuals. (p. 47)

Coomaraswamy in Gandhi, (1965), an Indian scholar, goes so far as to state:

The problem of nations are the problems of mentally deranged people....We are at war with ourselves and therefore at war with one another. (p. 3)

The implication of this for Jungian psychology might be that we are at war with other nations because we are split within ourselves and we then project the unacceptable parts of ourselves onto others whom we then identify as the enemy.

If the present study demonstrates that a significant number of young adults have achieved a substantial degree of individuation in their late teens and early twenties, then further studies might determine possibilities for facilitating in other young people a degree of psychological integration which some of their peers have already attained.

Statement of Delimitations

The data obtained in this study relate specifically to undergraduate students enrolled at George Washington University in Washington, D.C.

Generalizations are thus limited to this population. While all students were enrolled in introductory psychology classes, they represent a variety of college majors and all four undergraduate class years. Further, all subjects were volunteers who agreed to participate in a psychology research experiment. While they were randomly assigned to participate in this particular study, generalizations must reflect the fact that they were volunteers. This study is not unmindful that research has demonstrated that volunteers may possess characteristics different from those who do not volunteer.

A further potential limitation of this study relates to the controversy in the literature regarding the validity of self-report measures. It is generally assumed that self-report measures are accurate at least to the extent that one's self-perceptions are accurate. It is an assumption of this study that self-report measures are relevant and reflective of the mental functioning of the individuals measured. Thus, it is expected that accurate information was obtained from these measures. No attempt was made to further validate the instruments used.

Although important to the individuation process as conceptualized by Jung, no attempt was made to directly assess the spiritual component of ones development. Frank (1977) points to the potential difficulty of even "...translating a non-verbal, predominantly, right hemisphere experience (e.g. spirituality) into words and concepts" (p. 55). Thus, no attempt was made to asses ones spirituality per se, using the Western empirical method of assessment employed in this study.

Finally, no attempt was made to obtain longitudinal, developmental data on these students. While such information would permit a more complete picture of each individual's individuation process, it was not practically feasible to obtain such information due to the time limitations of this study.

Research Hypotheses

The basic question this study tests is whether or not individuation is already present in some university students. Androgeny, or the integration of the masculine and feminine polarity within an individual is used in this study as a measure of individuation.

The major hypotheses formulated for the current study are presented in general form in the following section. The specific, testable hypotheses and their statistical treatment are presented in Chapter III: Design of the Study.

Question One: Individuation

Are Androgenous university students significantly more balanced with respect to Jung's four functions of consciousness (thinking-feeling and sensation-intuition) and do they have significantly higher ego strength than non-Androgenous university students?

Question Two: Differentiation - Traditional

Are Traditionally sex-typed university students (males with a masculine sex-role identity and females with a feminine sex-role identity), significantly more differentiated with respect to one Jungian function on each bipolar domain (thinking or feeling and sensation or intuition) and do they have significantly higher ego strength than non-Traditionally sex-typed university students?

Question Three: Differentiation - Reversed

Are sex-role Reversed university students (males with a feminine sex-role identity and females with a masculine sex-role identity) significantly more differentiated with respect to one Jungian function on each bipolar domain and do they have significantly lower ego strength than non sex-role Reversed university students?

Question Four: Lacking Differentiation

Are university students with Undifferentiated sex-role identities significantly more balanced with respect to Jung's four functions of consciousness and do they have significantly lower ego strength than university students who are not Undifferentiated with respect to their sex-role identity?

Summary

This first chapter with its detailed review of Jungian theory has been developed in order to set the foundation for the present investigation. This study suggests a challenge to Jung's theory of individuation.

A review of more of the relevant literature is presented in the following chapter.

Chapter II

REVIEW OF THE LITERATURE

The purpose of this chapter is to review with appropriate analysis the sources which support the position that individuation or psychic wholeness can occur prior to mid-life, the age postulated by Jung (1933) for this process to first occur. The question this review addresses is whether or not Jungian psychic polarities (thinking-feeling and sensation-intuition)* can be differentiated into consciousness, integrated with each other and ultimately transcended by undergraduate university students.

Following a brief introduction, the remainder of this chapter presents a review of the pertinent literature relating to the following topics:

1) Empirical evidence for Jung's construct of individuation. 2) The resolution of dicotomies as a measure of individuation. 3) Individuation from a physiological perspective. 4) Empirical support from

* Hereafter to be referred to as the TFSN functions where N = intuition.

developmental psychology for an early onset of individuation. 5) Meditation as an individuation process. A final section addresses some 6) Methodological concerns with current measures of Jungian theory.

It was Jung's position that people remain lopsided in their development until middle age when they first begin to develop their previously unused opposite bipolar functions. This study questions whether the orthodox Jungian position as assessed by Mattoon (1981) is not too pessimistic and beyond what the data will support. Mattoon identifies the development of attitudes and the TFSN functions as follows:

...individuation proceeds from the development of one's superior attitude (extroversion or introversion) and one or two of the four functions (feeling, intuition, sensation, thinking). Most people develop their first and second functions in the first half of life, the third much later and the fourth not at all. (p. 186)

In contrast to this position, Loomis and Singer (1980), view the possibility for psychic balance more optimistically when they write:

The individuation process requires the unconscious or less conscious contents and functions of the psyche be brought up to a level of greater consciousness. We believe that in the individuation process this does

occur, that people do learn to come to terms with functions and attitudes other than their 'superior' ones, that even the so-called 'inferior' function can and does reach a very high degree in some individuals.

The blueprint of the individuation process is contained according to Meier, and verified by Jung (Meier, 1971), in the latter's personality typology which identifies the four functions of thinking, feeling, sensation and intuition, and two attitudes of extroversion and introversion. Maddi (1976), identifies Jung's attitudes of extroversion and introversion as "seminal dimensions" in personality research (p. 465). Meier, however, believes that the functions ought to be even more easily accepted than the attitudes. They haven't been given this importance in the literature "...in part because Jungians themselves haven't made much of them" (Meier, 1971 p. 286). In fact, it is Meier's (1971) view that:

...the four functions are the most basic...most neatly defined concepts in Jungian psychology. They for this reason lend themselves to simple testing. (p. 283)

Jung, (1971a), focuses on the four functions in terms of individuation when he writes:

To the extent that a function is largely or wholly unconscious, it is...undifferentiated...(p. 424)...Individuation, therefore, is a process of differentiation, having for

its goal the development of the individual personality. (p. 448)

Empirical Evidence for Jung's
Construct of Individuation

Despite the fact that individuation is the central construct in Jung's psychology, Mattoon (1981) points out that as is the case with many Jungian constructs, "individuation has not been the focus of direct testing of hypotheses," (p. 189). Mattoon identifies the concept of self-actualization (Maslow, 1954, 1962) as "virtually synonymous with individuation" (Mattoon, 1981, p. 189) and thus believes that quantitative evidence for the construct of individuation can be found in studies that test the concept of self-actualization.

Tuttle's (1973), study points to evidence for an overlap between the concepts of individuation and self-actualization although she simultaneously notes that individuation goes beyond the concept of self-actualization in terms of its attention to process, (p. 23). That is, Jung attends to the steps involved in becoming individuated, namely, differentiating unconscious psychic contents and integrating these

contents with consciousness. In contrast, Maslow identifies characteristics of self-actualized individuals but does not actually attend to how it is that one becomes self-actualized. Tuttle studied the concept of self-actualization as achieved through the differentiation and integration of Jung's psychological functions. Subjects included 233 graduate students from three California state universities enrolled in counseling, clinical and school psychology programs. Tests administered included the Styles of Living Preference Scale (a test of self-actualization), the Detloff Psychological Types Questionnaire and Barron's Ego Strength Scale. Tuttle found a statistically significant relationship between the number of extreme function scores and self-actualization. That is, self-actualization increased when the TSNF functions were found to be highly developed. This finding supports Jung's hypothesis that individuation occurs, in part through an increased number of developed functions. An additional finding from this study was a highly significant correlation between self-actualization and the intuitive function in Jung's typology. No other correlations between self-actualization and individual functions were found to be significant. What this

implies is that aside from an increased number of developed TSFI functions which reside within a highly self-actualized individual, according to Tuttle's findings, intuitors also appear to be among the most highly self-actualized of Jung's types. This finding is somewhat contradictory to Mattoon's (1981) statement that self-actualization and individuation are "virtually synonymous" (p. 186). Differentiation of all four TFSN functions must occur for individuation to lead to the highest development of the self, Jung's most highly valued personality state (Tuttle, 1973; Loomis & Singer, 1980; Meier, 1971).

Two other studies examine the relationship between Jung's (1923) theory of Psychological Types (1971a, pp. 510-523) and Maslow's (1954) theory of Self-Actualization. In both studies, the Jungian typology (including the attitudes of extroversion and introversion as well as the four TSFN functions), were compared with the construct of self-actualization. Sjostrom's (1977) study included 109 subjects, 50 from a junior college population from three different campuses and 59 from the clientele of five different professional psychologists. Subjects were given the

Myers-Briggs Type Indicator (MBTI), (Myers and Briggs, 1943), and the Personal Orientation Inventory (POI), (Sjostrom, 1962). The design was a complete correlational matrix, yielding 36 significant correlations between the MBTI and the POI. Findings indicated that persons of the INFP type (introverted, intuition, feeling, perceptive) had the strongest relationship to self-actualization. Because the MBTI was traditionally scored, it was not possible for a person to score high in both intuition and sensation or high in both feeling and thinking. According to the MBTI's bipolar scoring procedure, selecting a 'thinking' response, requires simultaneously rejecting a 'feeling' response and vice-versa. The same is true for the 'sensation-intuition' domain. Thus, the degree of individuation could not be ascertained by Sjostrom because of the scoring procedure he employed.

In terms of the TSFN functions found to be correlated with self-actualization, Sjostrom's study supports that part of Tuttle's (1973) study which found self-actualization to be highly correlated with the intuitive function. In addition to intuition, the feeling function was found to be correlated with self-actualization in Sjostrom's (1977) study.

Kalas (1978), like Sjostrom (1977), examined the relationship between Jung's theory of Psychological Types (Jung, 1971a, 1923), and Maslow's (1954) theory of Self-Actualization. Subjects included 103 students from introductory classes in interpersonal communication from two community colleges. Kalas also used the MBTI and the POI, scoring the MBTI according to the traditional manner of type assessment, which excludes the possibility for assessing individuation. Nineteen significant correlations between the two inventories, lead to his finding that the ENFP (extraverted, intuitive, feeling, perceptive) type of person bears the strongest relationship to self-actualization (Kalas, 1978). Thus, while Sjostrom (1977) and Kalas (1978) differ with regard to whether introverts (Sjostrom, 1977) or extroverts (Kalas, 1978) are more self-actualized, both agree that persons with more highly developed intuitive and feeling functions appear to have the strongest relationship to self-actualization.

With regard to similarity of the constructs of individuation and self-actualization vis-a-vis Jung's four TSFI functions of consciousness, the literature

clearly points up the fact that self-actualization increases concurrently with the number of highly developed TSFI functions (Tuttle, 1973). Whether or not the constructs of self-actualization and individuation are "virtually synonymous," (Mattoon, 1978, p. 189) there is only conflicting evidence (Tuttle, 1973; Sjostrom, 1977; Kalas, 1978). It does appear, however, that various aspects of self-actualization and individuation are related (Maslow, 1954; Tuttle, 1973; Sjostrom, 1977; Kalas, 1978).

The Resolution of Dicotomies as a Measure of Individuation

A more fruitful way of garnering empirical support for the individuation process involves viewing selfhood, the goal of individuation, as a resolution of dicotomies, or in Jung's terms a "union of opposites" (Jung, 1971, p. 460). This "union of opposites" (the conscious with the unconscious), involves first the differentiation of the separate poles, then transcendence of each pole as a separate entity, and finally an integration of the two (Vaughan, 1985). According to Jung (1971b):

When it represents a 'complexion opposition'

a union of opposites, it (the self) can also appear as a united duality, in the form, for instance, of 'tao' as the interplay of 'yang' (the masculine) and 'yin' (the feminine)... (p. 460).

Research on creativity, androgeny and physiology, to be treated in subsequent pages, support this major component of Jung's concept of individuation, namely the progressive resolution of dicotomies in the individuated personality. Maslow (1954) also identifies this characteristic as descriptive of those individuals he considers to be self-actualized (p. 178).

Creativity and Individuation

Research on creativity has emphasized one feature common to all creative individuals, viz. a flexibility in their mental processes (Singer & Loomis, 1980; Dellas and Gaier, 1970). Singer and Loomis (1980) suggest that highly creative individuals are capable of sustaining the tension of opposites within their personalities and are able to move from one TSFI function to another, even from 'superior' to 'inferior' function according to situational demands.

Support for Singer and Loomis's hypothesis comes from a number of sources. Barron (1969), found

creative people to score high on both ego strength and scales that access pathology on the Minnesota Multiphasic Personality Inventory. Mackinnon (1960), found creative architects to attain high scores on both theoretical and aesthetic values, as measured by the generally oppositionally scored scales on the Allport Vernon Lindsey Study of Values (Allport, et al., 1931). Mackinnon (1960), in summarizing his findings, writes:

...(what) strikes me most forcibly about the creative persons whom we have assessed...is their openness to experience, and the fact that they, more than most, are struggling with the opposites in their nature, striving ever more for a more effective reconciliation of them...(p. 378)

Loomis and Singer (1980), referring to MacKinnon's (1960) study conclude that:

These individuals were found to be both artistic and intuitive...The creative architects...were seen as enjoying aesthetic impressions and sensuous experiences, which suggests a highly developed sensation function. Yet sensation and intuition are classified as bipolar opposites in Jung's typology. (p. 2)

Additional support for the reconciliation of supposedly fundamental oppositions is found in Helson's (1970), study of creative, female mathematicians. In this study, creative female mathematicians were found

to retain their femininity while simultaneously admitting to masculine characteristics. Such was not the case with their less creative and non-androgenous counterparts.

Thus it appears that creative individuals are individuated in the sense that they are able to integrate oppositional tendencies within their personalities, and thus become more capable of wholistic functioning.

Androgeny and Individuation

The concept of androgeny implies a transcendence of viewing masculinity and femininity as bipolar traits, (Schwartz, 1979; Rebecca et al. 1976). An androgenous identity thus implies a shift away from polarities towards synthesis or unity. Masculinity and femininity are integrated within an individual. Sex-role transcendence is described by Rebecca et al. (1976), primarily in terms of external behaviors and social contingencies:

the individual can move freely from situation to situation and behave/feel appropriately and adaptively. Choice of behavioral and emotional expression is not determined by 'rigid adherence to appropriate sex-related characteristics'. (p. 95)

Other conceptualizations of androgeny (Schwartz, 1979; Jung, 1971a), encompass behavior but focus more on values and intrapsychic experience. Schwartz (1979), posits the view that the 'androgenous self' is the most highly developed self, and that androgenous loving is the highest form of emotional sexual intimacy. It is Schwartz's belief that androgenous loving is predicated on a transcendence of our present cultural sex-role values and requires a "significant cognitive restructuring" (Schwartz, 1979, p. 407). While it is generally accepted that gender identification is fixed at approximately age two (Green, 1974; Stoller, 1974), sex role characteristics associated with the gender categories and the value attributed to these characteristics are believed to change throughout childhood and adolescence (Kohlberg, 1966). Both the sex-role characteristics and the value attributed to these characteristics are to a large extent dependent on family, culture and significant others. It is through these transactions that cognitive restructuring must occur if androgeny is to emerge.

Individuation, as conceptualized by Jung, also involves a cognitive restructuring in the form of

increased differentiation, followed by transcendence of polarities; (e.g. masculine and feminine, thinking and feeling, sensation and intuition). This is a prerequisite if one is to attain what Jung refers to as selfhood, his most highly valued personality state. It is the consummation of one's unity with oneself.

Block (1973), presents a framework for examining sex-role identity that integrates sex-role definition with ego and cognitive development. Block (1973), posits the view that the ultimate goal of sexual identity is not the achievement of masculinity or femininity but the attainment of a sense of self where "there is a recognition of gender secure enough to permit the individual to manifest human qualities in our society, until now labeled unmanly or unwomanly," (p. 512). According to Block, sex-role definition involves "...a synthesis of biological and cultural forces as they are mediated by cognitive and ego function," (p. 512). Block's theoretical model of sex-role development is derived from Loevinger's (1966, 1970), hierarchical stage model of ego development whereby a person must pass through an invariant sequence of ego developmental stages, each more complex

than the previous one. The stages include 'personal/symbolic,' 'impulsive,' 'self-protective,' 'conformist,' 'conscientious,' 'autonomous' and finally 'integrated' (Loevinger 1966, 1970). There is some evidence that it is not until one transits from Loevinger's 'conscientious' stage to the 'autonomous' stage that coping with one's inner conflicts emerges (Loevinger and Wessler, 1970; Hoppe, 1972). "This is in contrast to the earlier stages where individuals attempt to eliminate paradoxes by reducing them to polar opposites" (Hauser, 1976, p. 932). The reconciliation of these conflicts is purported not to occur until the final or 'integrated' stage where "...in most social groups one finds no more than 1% of persons..." (Loevinger and Wessler, 1970, p. 4). Loevinger suggests that since this stage is so rarely, and perhaps unreliably found, it might well be combined with the 'autonomous' stage for research purposes (Loevinger in Hauser, 1976, p. 932).

In her conceptualization of sex-role definition, Block draws heavily on the work of Bakan (1966), who postulates that two modalities underlie all of human existence. These he calls agency and communion. Agency is typically masculine and is characterized by

assertive and striving behavior whereby the individual is characterized by a concern for oneself. In contrast, communion is more typically feminine and is characterized by a concern with and for others. According to Bakan (1966), and basic to the theory of androgeny, the primary task of the individual is to balance and integrate agency and communion into the personality of the individual. The ability to accomplish this task, according to Bakan (1966), signifies personal maturity.

Block (1973), suggests that if Bakan's view is accurate than one might expect self-descriptions of individuals at higher levels of maturity to reflect both agency and communion, that is, androgeny. Data from two studies lend some support to this hypothesis. In a study of student activism, Haan, Smith and Block (1968), evaluated 253 male and 257 females with respect to their level of moral reasoning based on criteria developed by Kohlberg (1964). Q-sort self-descriptions which were compared across several levels of moral reasoning were also completed by each subject. Moral reasoning as indexed by Kohlberg's Moral Judgment Test (1964), employs a hierarchical model of moral reasoning

that incorporates a 'Premoral level' (Level I), a 'Conventional level' (Level II), and a 'Principled level' (Level III). At the 'Premoral' level, adjectives significantly distinguishing students were for both male and female, essentially agentic in nature: "individualistic, rebellious, unresponsive for males; stubborn, rebellious, nonaltruistic for females. At the 'Conventional' level there was for both sexes an emphasis on adjectives expressing conformity and conventionality; conventional, practical, orderly, non-rebellious. At the level of 'Principled morality' there was a greater heterogeneity in the adjective self-descriptions. Males at this level differed from their peers at other stages of moral reasoning in their greater acceptance of communal adjectives; sympathetic, responsive, idealistic. They simultaneously endorsed an approximately equal amount of agentic adjectives. Women at the highest level of moral reasoning were no less communal than their peers at other stages, but differed in viewing themselves as simultaneously more restless and impulsive, suggesting a tendency toward agency. Block believes that these data, lend some support, "stronger in the case of males than females" (Block, 1973, p. 512), to the hypothesis that greater

moral maturity -- as measured by the Kohlberg's Moral Judgment Test -- coincides with more androgenous, less sex-typed self-definitions. The androgenous individual, according to these findings, is also more morally mature than his/her less androgenous peers. College students in this sample spanned all levels of moral reasoning (Haan, Smith and Block, 1968). Particularly significant for the present study is the finding by Kohlberg (1964), that some college students do reach the highest level of moral maturity. While it is generally assumed that moral development follows cognitive development (Kohlberg, 1964), the results of Haan, Smith and Block's (1968), study further supports the perspective that psychological integration, or individuation as it is called by Jung, may very well be evident in people younger than age 35. Their study provides evidence that androgeny, principled moral reasoning, and by implication a necessarily high degree of cognitive development, are evident in students of college age.

Block (1973), reports a second study based on 144 male and 141 female high school students. Loevinger's (1970) Sentence Completion Test was administered to

these samples in order to measure maturity of ego functioning. The findings from this study were essentially similar to results obtained in the study by Haan, Smith and Block (1968). In this second study, reported by Block (1973), when self-descriptions of students who scored at more mature ego levels were compared with those who scored at lower levels of ego development, both males (N=52), and females (N=19), at the lower levels of ego development (Impulsive and Self Protective), endorsed agentic adjectives and appeared to reject aspects of interpersonal functioning that indicate relatedness and communion. The highest level measurable in this sample of high school students was the conscientious level. At this level of ego development, males (N=13), differed from their peers at lower ego levels by their selection of adjectives endorsing interpersonal communication and expressing communion (e.g., idealistic, sensitive, sympathetic). High school females at the conscientious level (N=21), differed from their peers at lower levels of ego development in their simultaneous endorsement of both agentic (e.g. self-centered, effective, restless), and communal (e.g. sensitive, altruistic), adjectives. Findings reported by Block (1973), also lend support

to the hypothesis that higher levels of ego functioning are associated with the development of self-concepts reflecting an integration of agentic (stereotypically masculine), and communal (stereotypically feminine), concerns. It is also Block's (1973), position that "the integration of agency and communion are essential for personal integration and self-actualization" (p. 515). Again, there is support (Haan, Smith and Block, 1968, Block, 1973), for the present study's hypothesis that individuation or the integration of polarities may begin to emerge well before middle age.

It was Jung's contention that the integration of the masculine and feminine aspects of oneself was necessary for the achievement of psychic unity as well as the attainment of one's full potential or selfhood. (Mattoon, 1981, p. 101) Bem (1975), in two experiments with college students provides support for the hypothesis that psychologically androgenous individuals are more likely than either masculine or feminine individuals to display sex-role adaptability across situations. That is, androgenous students are more able to engage in situationally effective behavior without regard for its stereotype as masculine or

feminine than are their nonandrogenous counterparts. The behavioral correlates of androgeny studied by Bem include the instrumental and expressive domains of behavior often used to describe masculinity and femininity respectively. In the first experiment which elicits instrumental behavior, Bem used a standard conformity paradigm to test the hypothesis that masculine and androgenous subjects would more likely express their own opinions, and less likely conform than would feminine subjects. Experiment participants were Stanford University students enrolled in Introductory Psychology courses. All had taken an early version of the Bem Sex Role Inventory (1972), and according to this measure nine masculine, nine feminine, and nine androgenous subjects of each sex were selected to participate in the experiment. On 36 trials a false consensus by supposedly three other subjects was presented to each subject in an attempt to induce conformity. As predicted, masculine and androgenous subjects did conform on fewer trials than feminine subjects. Masculine and androgenous subjects did not differ from one another in their conformity.

A second experiment conducted by Bem (1975), offered 66 undergraduate students at Stanford

University the opportunity to interact with a small kitten in an attempt to test the hypothesis that feminine and androgenous subjects would demonstrate greater involvement at this stereotypically feminine task than would masculine subjects. It was also predicted that feminine and androgenous subjects would not differ from one another in the amount of involvement. Half of the subjects were male, half were female. One-third were masculine, one-third were feminine and one-third were androgenous as measured by the Bem Sex-Role Inventory, (BSRI), (Bem, 1972). In this test of expressive behavior, males responded as expected; androgenous males were most responsive, feminine males were next and masculine males were least responsive. Females did not respond as expected to the kitten. While androgenous females responded most, masculine women responded next and feminine women responded least. Bem explained this unexpected finding by suggesting that feminine females might be frightened of animals and might be expected to display greater nurturance with another human being rather than a kitten. Bem (1977) replicated her study using human babies and found that the low nurturance of the

feminine females with a kitten did not extend to her interaction with human babies, thus supporting her earlier prediction.

Bem and Lenny (1976), support Bem's (1975), earlier findings that androgenous individuals are competent in behaviors that are both instrumental (traditionally masculine), and expressive (traditionally feminine), and that androgenous individuals experience less difficulty performing opposite sex behaviors than do sex-typed individuals or sex-role reversed individuals. Further, Bem and Lenny (1976), found that sex-typed individuals tend to avoid crossed-sex behavior, and feel more psychological discomfort and negative feelings about themselves when performing crossed-sex behavior than do androgenous or sex-role reversed subjects.

Aside from the ability of the androgenous individual to integrate instrumental and expressive domains of behavior, thus expanding one's behavioral repertoire, self-esteem scores were found to be high among androgenous individuals of both sexes. In contrast, subjects who were either masculine, feminine or undifferentiated with respect to sex-role identity were found to have lower self-esteem (Bem, 1977;

Spence and Helmreich, 1978). What this means in terms of Jung's theory of individuation, and the basic hypothesis of this present study is that androgyny, the integration of masculinity and femininity within the individual does in fact lend itself to more wholistic functioning. Further, there is evidence that androgyny, a hallmark of individuation, does exist in some undergraduate college students (Bem, 1975, Bem & Lenny, 1976), individuals for the most part, significantly younger than middle age. In addition, there is evidence to support the position that androgenous individuals differ from the sex-typed individuals on theoretically derived cognitive measures as well as behavioral measures (Haan, Smith and Block, 1968; Bem, 1981, p. 34-35).

Hyde and Phillis (1979) studied androgyny across the life span by obtaining scores on the BSRI (Bem, 1974), from 289 subjects, ages 13 to 85 years of age. There concern was that most of the previous work on androgyny had been conducted with samples from college student populations (Bem, 1974, 1977). The BSRI was in fact standardized using college students. Thus, these researchers sought to examine the developmental pattern

of androgeny and to find out whether or not it existed in people other than college students. The initial pool of subjects were students in introductory psychology classes at a midwestern university. After completing the BSRI, students were asked to supply names and addresses of their parents, grandparents and siblings 13 years of age and older. A BSRI was mailed to 400 of the students' relatives. Two hundred ninety-nine BSRI's were returned with usable data from 165 females and 124 males, ranging in age from 13 to 85. Two methods for scoring the BSRI were employed. Regression analysis using a continuous scoring method (where each individual receives three scores: a masculinity score, a femininity score and an androgeny score), revealed no age differences in androgeny across the life span. In contrast, the currently favored categorical scoring of the data revealed age differences in androgeny. The current scoring method (Bem, 1977), provides for subjects to be classified into four categories: androgenous, feminine, masculine and undifferentiated. The problem with continuous scoring is that it gives similar scores to androgenous and undifferentiated individuals, which Hyde and Phillis (1979), believe may account for the failure of

continuous scoring to detect age differences. Categorical analysis of the data revealed a trend for the number of androgenous males to be greater as age increases and for the number of androgenous females to be fewer as age increases. Percentages of androgenous males were low in the 13-20 and 21-40 age groups, but high in the 41-60 and 61-and-over age groups. An opposite trend was evidenced in females with high percentages of androgenous young females and low percentages of androgenous older woman. If the results of this study are indicative of actual developmental trends, the increasing androgeny of men confirms predictions based on theory while the decreasing androgeny of women contradicts such predictions. (Jung, 1977, p. 469; Mattoon, 1981, p. 100; Wolff in Jacobi, 1973, pp. 123-142) Hyde and Phillis (1979), suggest that the unexpected results for women may be an artifact of the BSRI, which is the test used in this study to measure androgeny. They question whether or not Bem had inadvertently tapped a particularly youthful set of masculine traits, omitting masculine items that would be applicable throughout the life span. Another possibility is that the results of Hyde

and Phillis's (1979) study do in fact reflect true developmental trends in that the younger females in this study (all with at least one family member in college), may in fact be more androgenous than their mothers and grandmothers as a result of the women's liberation movement and other more current cultural conditions. For instance, the younger women in this study may be presently engaged in the more typically masculine, 'instrumental' behavior of obtaining an education and perhaps entering the labor force, while simultaneously selecting to postpone marriage and child-bearing until later in life. Similarly, the younger men in this study also appear to be more engaged in 'instrumental' behavior and may have not yet reached the stage of parenting and other more 'expressive' concerns. In terms of Jung's theory of individuation, the Hyde and Phillis findings do not support the notion that psychological integration is necessarily a mid-life phenomenon. Instead the integration of the masculine and feminine parts of oneself, at least for women, was found to occur prior to middle age.

Individuation From a Physiological Perspective

Neurological evidence for the differential specialization of man's two cerebral hemispheres comes in part from studying people whose brains have been damaged by accident or injury. Experimental findings from numerous studies conducted by R.W. Sperry (cited in Rossi, 1977, and Galin, 1974), and his colleagues at the California Institute of Technology (e.g. J.I. Bogan and M. Gazzaniga) point to two major modes of consciousness which seem to normally exist within each person. Each cerebral hemisphere is specialized for different cognitive functions and when they are surgically disconnected, they appear as two separate minds or spheres of consciousness (Sperry, 1968, cited in Rossi, 1977, and Galin, 1974). The left cerebral hemisphere (connected to the right side of the body) is predominantly analytical, logical, and rational. It is primarily linear in operation. Its focus is on verbal and mathematical functions. In contrast, the right hemisphere (connected to the left side of the body), is more holistic, synthetic and simultaneous in its mode of operation. The right hemisphere deals more with sensory-perceptual functions such as musical and artistic pursuits. According to Ornstein (1974), "it

is the integration of these two modes of consciousness...which underlie our highest achievements" (p. 84).

Rossi (1977), hypothesizes that much of Jung's work can be understood as the exploration of the different modes of hemispheric functioning and their integration. Specifically, Rossi proposes that the integration of the specialized functions of the right and left hemispheres may be the neurological foundation of Jung's concept of the transcendent function; that process which unites conscious and unconscious contents; the integration of the rational and abstract processes of the left hemisphere with the synthetic wholistic patterns of the right hemisphere. Rossi (1977), refers to "traditional scholarship" (p. 39-40), as strongly documenting the view that the right side of the body (controlled by the left hemisphere), is associated with extroversion while the left side of the body (controlled by the right hemisphere), is associated with introversion. Further, Rossi posits the view that Jung's rational functions of thinking and feeling tend to be associated with the left hemisphere in that they require the use of verbal and logical skills. In

contrast, Rossi views Jung's irrational functions of sensation and intuition, as more perceptual, and hence more closely related to the synthetic functioning of the right hemisphere (Rossi, 1977).

Empirical support for Rossi's position that different Jungian psychological types and functions are associated with each hemisphere is found in Fischer's (1975), research which uses the Myers-Briggs Type Indicator (MBTI), (Myers, 1962). Fischer found that 90% of the college students he studied who enjoy volunteering for experiments 'to explore and travel into inner space' scored high as 'introverts,' 'intuitors,' 'feelers' and 'perceivers' on the MBTI. Such findings to Fischer indicated that these volunteers possess preferentially right hemisphere involvements and interests. In contrast, students with high scores on 'extroversion,' down to earth 'sensation,' 'thinking' and 'judging' scales on the MBTI, point to left hemispheric predominance. This study essentially supports other research which indicates that each cerebral hemisphere has its own qualitatively different form of consciousness (Sperry, 1969; Zangwill, 1974).

Rossi (1977), notes that many researchers in hemispheric functioning (e.g. Levy, 1974), believe that both the associational and gestalt mode have important survival value but because of their intrinsic differences require bilateral hemispheric specialization for their evolutionary development. Experimental studies have revealed that the hemisphere which is more successful in obtaining reinforcement in a particular situation comes to dominate the other hemisphere, and to control its behavior in that situation (Gazzaniga, 1974). Following this logic, the development of the Jungian TSFN functions may also be influenced, in part, by the degree to which they are reinforced in a particular situation. Jung assumed that each individual had an innate propensity to differentially develop certain functions and that "...every culture and family produces children with identifiably different dominant functions..." (Mattoon, 1981, p. 69), despite the fact that specific cultures and families may not encourage specific TSFN functions. Jung did not, however, deny the importance of the role of one's early environment in strengthening or discouraging the development of each TSFN function (Mattoon, 1981, p. 69).

Jung, perhaps more than any other personality theorist, emphasized the need to develop the TSFN functions in a balanced manner. While Freud emphasized the importance of the irrational processes of the right hemisphere, he tended to value the left more highly. This is true also of the modern learning theory and behavioristic schools. Our current educational system also places more value on training the rational functions (Samples, 1975). Jung's concept of individuation emphasizes the need to develop and integrate all functions in both cerebral hemispheres.

Individuation is depicted as a state where there is free access in both dimensions to balanced brain systems -- right and left: affect and cognition.

Henry, 1977, p. 52

Bogan and Bogan (1969, cited in Galin, 1974), associate creativity as that condition in which the two cerebral hemispheres are fully active and integrated. They view this as "man's highest functioning" (Galin, 1974, p. 575) and note that this condition doesn't seem to occur very often. Along with Jung, these researchers agree that psychic wholeness is a rarity.

According to Jungian theory, there is no invariant sequence of stages in which specific functions are

developed. An individual might develop his/her 'thinking function' first or after the other three functions of 'sensation,' 'intuition' and 'feeling' (Mattoon, 1981, p. 181). Regardless of it's rarity, unconscious functions may be identified and integrated into consciousness by people younger or older than forty. This position is derived by implication from biofeedback studies (Green and Green, 1977; Simonton and Simonton, 1975). Singer (1976) points out that biofeedback training machines can and have been used to teach people both to recognize and control movement from one state of consciousness to another.

Biofeedback attempts to train voluntary control of various existential states and biological systems. The presence of these states are revealed by the measurement of correlated central nervous system states which are measured by electrical activity of the brain on an EEG record. The four brain wave states of consciousness relevant to such biofeedback training include Beta (13-30 cycles per second), which is a state of being wide awake, Alpha (8-12 cps), a state of relaxed awareness, Theta (4-7 cps), a state of light trance or hypogogic reverie and the Delta (.5-3 cps), or the sleeping state (Singer, 1976). Biofeedback

training, for instance, allows the individual to learn to turn down beta functioning and turn up alpha and theta functioning. This allows for a flow of images to enter one's consciousness and for the intuitive right cerebral hemisphere to emerge. The Simontons (1975), teach people to move into a state of consciousness in which their faculties for fantasizing and imagining can be brought to influence the bodily processes associated with their illnesses. Subjects' fantasies are then used to focus energy on the healing process. With people who are scattered and can't focus their attention, biofeedback can be used to train such people in the direction of beta, thus facilitating the emergence of the more logical left hemispheric processes.

Singer (1976), views biofeedback as a synthetic method in which conscious and unconscious reality may be apprehended directly and wholistically. According to Singer (1976), the relationship between biofeedback training and Jungian psychology is that this modality may be used to promote homeostasis by helping an individual to develop those functions that are largely unconscious so as to make them more accessible to

conscious and volitional activity. The goal is to guide the person in the direction of self-regulation and self-mastery, prerequisites for what Jung refers to as self-realization.

Green and Green (1977), used biofeedback instruments in India to record the claims of several "realized persons" -- yogis who were reportedly able to control consciously several functions of their autonomic nervous system. That such "realization" is possible for individuals only in their midlife years or older has been neither confirmed nor disconfirmed by the literature currently available.

Empirical Support from Developmental Psychology for an Early Onset of Individuation

Research findings from developmental psychology that deal with the personality structure of college students offer some support for the position that the individuation process is likely to begin prior to middle life. In particular, studies that incorporate approaches from ego psychology and cognitive theories of personality development has lead Contantinople (1969), to conclude that:

...there has been a growing recognition that important changes in the total personality configuration can and do occur in late adolescence. (p. 357)

In summarizing contributions from the fields of ego psychology and cognitive theories of personality development, Constantinople (1969), identifies specific developmental tasks which the college student must master if his/her personality is to develop to maturity. These tasks involve a reassessment of one's past beliefs, attitudes, values, and behavior and some reflection on what one hopes to become in the future. Perhaps Erikson puts it most succinctly when he labels this the stage of identity formation.

For Erikson, identity formation is a late adolescent, early adulthood process. For Jung, the attainment of a sense of self does not occur until middle life. While there is research (Constantinople 1969; Waterman, Geary & Waterman 1974), to support Erikson's position that some college students do develop a sense of identity during these years, both Erikson and Jung conceptualize identity formation somewhat differently, perhaps confounding the value of some of this research as direct support for Jung's theory of individuation. Briefly, Erikson identifies a

hierarchical and invariant sequence of eight psychosocial stages through which an individual may pass en route to full maturity. Erikson hypothesizes that people experience a specific developmental crisis or conflict at each successive stage. This conflict requires resolution or partial resolution in order for passage to the next developmental stage. For instance, the successful resolution of the first stage of adulthood (intimacy vs. isolation), requires the successful resolution of the identity crisis. This is so because the giving of oneself to another, characteristic of 'intimacy', cannot occur until one first has a self to give. Throughout development, Erikson's focus is on the interplay of the ego and social context, most importantly the ego identities assumed at each period. It is here that Erikson's and Jung's theoretical conceptions of identity appear to differ. Erikson's theory focuses on the ego and its conscious manifestations in psychosocial development. Jung sees ego development as a necessary but not sufficient prerequisite for individuation. For Jung, individuation requires the development of the conscious ego, as well as the unconscious processes and their subsequent integration. When Jung speaks of selfhood

or identity he means psychic wholeness. While Erikson's theory is concerned with the development of one's ego identity, his theory of psychosocial development is also psychoanalytically-based. To this extent the value of unconscious processes in the formation of one's identity can not be discounted. Thus the two theorists differ primarily in the sense that Erikson views identity formation as a process suitable for the college student, whereas Jung defers identity formation until middle age. While both Jung and Erikson hypothesize growth throughout the lifecycle, research (Constantinople 1969; Waterman, Geary and Waterman, 1974), supports Erikson's (1968) theory which claims that identity formation (viz. ego identity), can and does occur during the college years.

Support for the claim that the individuation process exists in college students also comes from Piaget's (1958), work on intellectual development. Piaget proposes a theory of intellectual development that involves an invariant sequence of four cognitive developmental stages. Passage to each progressive stage requires competency in the tasks involved in the preceding stage. According to Piaget's theory,

intellectual development is a function of maturation, experience, social interaction and 'equilibration,' (Piaget, 1962; Maier, 1965). Equilibration involves the interplay of the Piagetian processes of 'assimilation' and 'accommodation.' 'Assimilation' is the process of incorporating new information into already existing mental structures. The process of 'accommodation' involves the changing of mental structures to allow for the incorporation of new or inconsistent information which one's present mental structures can not (or do not) incorporate. It is the process of accommodation that ultimately leads to cognitive growth and the changing of mental structures (Maier, 1965).

Of particular interest to this study is Piaget's fourth and final stage of intellectual development, the period of 'formal operations'. This stage of cognitive development is in part marked by the individual's ability to use hypothetical reasoning as well as reasoning which uses two systems of reference simultaneously (Piaget, 1962). According to Piagetian theory, "...all normal subjects attain the stage of formal operations (no later than) 15-20 years" (Ginsburg and Oppen, 1979). While Piaget does not

assume that an individual's growth ends at 15, he does maintain that by the end of adolescence cognitive structures are fully formed and that the structures themselves undergo little modification (Piaget, 1962). He does acknowledge however, that the formal thought of the adolescent is egocentric. He believes this to be a temporary negative by-product of each stage of mental development, distorting the initial use of a newly acquired cognitive structure.

Empirical support for Piaget's theory regarding the cognitive development of the late adolescent comes initially from a number of studies by Inhelder and Piaget (1958), that use a revised clinical method to describe the adolescents' performance on a number of problems involving scientific concepts. Piaget's focus is not on the 'right' answer but on how the adolescents' thought process differs from that of the younger child. Empirical support for the development of formal operational thinking in the college student comes from Mckinnon (1976) whose findings, while not as optimistic as Piaget's, do reveal that some college students can and do attain Piaget's hypothesized level of formal operations. Furthermore, Mckinnon (1976),

believes that this level of cognitive complexity can be facilitated in college students and has designed courses that successfully promote the development of formal thought processes in the college student.

Jung also was concerned with the cognitive development of the individual. Loomis and Singer (1979), refer to Jung's four TFSN functions of consciousness as "cognitive styles" (p. 2), and they have developed an inventory, The Singer-Loomis Inventory of Personality (Loomis & Singer 1979), by which they measure these four cognitive modes. Jung, in describing the "transcendent function" (that process by which the individual integrates conscious and unconscious phenomena by synthesizing this information at a level beyond), is essentially describing a cognitive process. The transcendent function appears to require both Piaget's processes of 'assimilation' and 'accommodation'. One must 'assimilate' an already differentiated TFSN function into one's ongoing repertoire. The transcendent function which involves a 'union of opposites' leading to a new resolution is also strikingly similar to Piaget's description of 'accommodation' or the changing of mental structures to incorporate new or inconsistent

information. What all this means is that late adolescents are, according to research that supports Piaget's theory, capable of a degree of cognitive complexity that Jung believes possible only for individuals of middle age.

Meditation as an Individuation Process

Meditation outcome studies that have used developmental inventories (Sacks, 1974; Nidich, 1975), offer indirect support for the position that individuation may be facilitated in people younger than middle age. Meditation refers to a variety of practices that train one's attention and expands one's awareness (Walsh, 1981, 1979; Willis, 1979). Meditative focus may include any or a combination of techniques incorporating the intellect, the emotions, the body, and/or the path of action (Willis, 1979; Le Shan, 1974). The goal of these practices is to bring one's mental processes under voluntary control (Walsh, 1981; Willis, 1979), as well as to comprehend an expanded view of reality (Le Shan, 1974). According to Walsh (1981), the ultimate aim of meditation is:

the development of the deepest insight into the nature of mental processes, consciousness, identity, and reality, and the development of optimal states of psychological well-being and consciousness. (p. 470)

Meditation has been used successfully as a self-regulation strategy for the treatment of clinical problems such as drug and alcohol addiction, psychosomatic disorders, hypertension, stress and the reduction of anxiety and phobias (Walsh, 1979; Shapiro and Giber, 1978). Meditation has also been used as a technique to change one's consciousness, and to enhance perceptual sensitivity and psychological well-being (Shapiro and Giber, 1978; Walsh, 1980). When meditation is viewed as a method used to enhance one's consciousness and sense of identity the goal of these processes appear very similar to the ultimate goal of Jung's conception of individuation.

Two studies pertinent to the present study investigate the impact of meditation on ego and moral development respectively. Ego development is identified by Jung as a prerequisite for individuation. Moral development, as expressed perhaps through one's sense of unity with all mankind, is a characteristic of the individuated human being. Ego development and

moral development as defined by the theories and inventories of Jane Loevinger (1970) and Lawrence Kohlberg (1964), involve invariantly ordered sequential stages of development. In this sense they are dissimilar to Jung's theory of individuation whereby the order in which one develops the functions of thinking, feeling, sensation and intuition is considered to be a matter of individual preference mediated by congenital and environmental concerns. Jung also acknowledges and accepts the importance of stage development. His own theory is grounded in Freud's theory of psychosexual stage development. Jung's theory of individuation goes beyond these conceptualizations. Loevinger (1970), Kohlberg (1964), and Jung all posit theories of human development that are interrelated and to this extent appear worthy of comparison.

In the first study, Sacks (1974), studied the effects of meditation on the integration of one's self-system using Loevinger and Wessler's (1970), test of ego development. Sacks tested the hypothesis that Jesuit meditation would result in increased cognitive integration for the individual. Subjects included fifty male initiates of the Jesuit order, representing

six of the ten preparatory novitates throughout the continental United States and Canada. The mean age of the initiates was twenty-two. All subjects had obtained a high school diploma, eighteen had earned an undergraduate college degree and one a master's degree. Four of the subjects left their novitates prior to data collection and were dropped from the analysis. Experience in the novitiate begins prior to the spiritual exercises, and initiates remain in the noviate for up to a period of two years. To assess changes in the initiates' integration of self-systems a longitudinal design was used. The measure of ego development was administered at three points in time: 1) two months prior to the beginning of the spiritual/meditative exercises, 2) two weeks prior to the exercises, and 3) one month after the conclusion of the exercises. The meditative exercises took place during a thirty day retreat in which initiates were separated from the outside world, thus no external disturbances could affect the individuals' integration. Statistical analysis revealed that there was no significant variation in the effect of the meditative exercises across the six noviate groups, thus

indicating an overall similarity in the changes affecting the six noviates. To test the major hypothesis, a correlated t-test was employed to assess whether mean change in ego level between time 1 and time 2 differed significantly from the mean change between time 2 and time 3. Since it was predicted that ego level would increase as a result of the exercises, a one-tailed test of significance was used. Mean scores for the three measurement conditions were 5.50 (time 1), 5.48 (time 2), and 5.78 (time 3), reflecting a change from a transitional level between Loevinger's (1970), 'conformist' and 'conscientious' stages (a score of 5), toward a 'conscientious' level (a score of 6) of development. While these results only bordered on statistical significance, given the stability of Loevinger's index, Sacks concluded that this finding suggested that meditation exercises did have an overall effect on the integration of the self-systems of the individuals tested.

In the second study, Nidich (1975), attempted to determine if a positive relationship exists between the practice of Transcendental Meditation (TM) and moral reasoning, as measured by Kohlberg's Moral Judgment Interview. It was hypothesized that 1) TM practioners

would score significantly higher than nonmeditators on Kohlberg's moral development scale, as determined by moral maturity and stage scores, 2) Longer term meditators would score higher on Kohlberg's scale than shorter term meditators, and 3) There would be no significant difference between nonmeditators, not predisposed to beginning TM and premeditators interested in immediately beginning TM. Subjects included 96 meditators, divided into six subgroups, ranging from one to three and a half years since beginning TM, 20 nonmeditators, and 10 premeditators. All subjects, male and female, were middle-class undergraduates between the ages of 18 and 24. The meditators were enrolled at Maharishi International University in Fairfield, Iowa. The nonmeditators and premeditators were enrolled at the University of Cincinnati. Tests were sent to Harvard's Moral Development Center to be scored by an expert scorer. Statistical analysis confirmed the first and third hypothesis but did not support the second hypothesis. It was also found that meditators exhibited significantly less preconventional (stage 2), thinking and significantly more conventional (stage 4), thinking

than non-meditators. Thus it was concluded that a positive relationship exists between the practice of TM and moral development as measured by Kohlberg's scale.

The results of the above two studies indicate that moral development and to a lesser extent, ego development, may be facilitated by meditative practices in individuals younger than middle age. By implication, the data suggests that aspects of development that prepare one for individuation also may be facilitated in individuals younger than middle age.

Methodological Concerns with Current Measures of Jungian Theory

Currently available instruments based on Jungian theory measure aspects of Jung's personality typology and not individuation per se. The Jungian Type Survey q(The Gray-Wheelright Test) (GWT) (1964), and the Myers-Briggs Type Indicator (MBTI) (1962), were both designed to measure Jungian character typology. The Eysenck Inventory of Personality, a revision of the Maudsley Personality Inventory, measures only the attitude dimension (extroversion-introversion) of Jung's typology, and is thus not applicable to the present study. Two other instruments, the Detloff Jungian

Types Questionnaire (cited in Tuttle, 1973), unpublished, but in process for a number of years and the Singer-Loomis Inventory of Personality (SLIP) (1979), still in the reconstruction and validation stage of it's development (Loomis, 1982) offer promise for the future in terms of attempting to assess individuation.

The Jungian Type Survey, often referred to as the Gray-Wheelright's Test (GWT), was first developed in 1944 by Jungian analysts Horace Gray, Jane Wheelright and Joseph B. Wheelright. Elizabeth Wilson Buehler and John Buehler later corroborated in its development. The GWT was developed empirically. Three hundred questions were given to persons whose type preference was first ascertained by clinical observation. The questions were then scored according to the way they were answered by individuals of the various types. The GW presently consists of eighty two "forced-choice" items. It provides a measure of preference on three Jungian dimensions: introversion-extroversion (IE), sensation-intuition (SI), and thinking-feeling (TF). Little work has been done on the measure's reliability and validity (Mattoon, 1981, p. 74-77; Tuttle, 1973) and the test manual does not provide a scoring system.

The GWT is used primarily by Jungian analysts comfortable with using its present form.

The MBTI, the most widely known test of Jungian psychological types, is used in this study to measure Jung's four TFSN functions of consciousness. It is reported to have reliabilities similar to those of the better known personality inventories (Stricker & Ross, 1964; Mendelsohn, 1965). The SN and TF scales, those used in the present study are purported to accurately reflect the dimensions they were theorized to represent (Stricker & Ross, 1964), thus establishing construct validity for these scales. The MBTI is further discussed in Chapter III.

The Detloff Jungian Types Questionnaire (cited in Matton, 1981, Tuttle, 1973), is attempting to use items from both the GWT and MBTI as well as results from research and clinical experience with these tests to improve upon the construct validity as well as the power of the earlier two tests. The Detloff Questionnaire is scored in three dimensions: Extroversion-Introversion (EI), Feeling-Thinking (FT), and Sensation-Intuition (SN). Promising in terms of its potential to assess individuation is that the questions on the Detloff were modified from a dicotomy

to a scale from one to seven in an attempt to increase the strength of discrimination of each item (Detloff in Tuttle, 1973).

What is unique about the Jungian based Singer-Loomis Inventory of Personality (SLIP), is that it measures the Jungian attitudes (introversion-extroversion) and functions (thinking-feeling and sensation-intuition), not as pairs of opposites but as separate dimensions. Loomis and Singer (1980) believe that the bipolar assumption on which the GWT and MBTI are based has not been experimentally verified. According to Jung the paired functions tend to be mutually incompatible and exclusive:

The thinking type...must necessarily repress and exclude feeling as far as possible, since nothing disturbs thinking so much as feeling, and the feeling type represses thinking since nothing is more injurious to feeling than thinking. (Jung, 1971, p. 520)

Jung considered this also to be true of the relationship between the paired functions of sensation and intuition (Jung, 1971, p. 520).

Loomis and Singer (1980) note that they do not necessarily disagree with Jung but with the operationalization of his constructs into inventories. The currently used inventories do not allow for a

person to transcend their bipolar opposites under any conditions. Specifically, they point to the use of forced choice inventories (e.g. the GWT and MBTI), that they believe violate a central aspect of Jung's psychology, namely, the eventual union of, or transcendence of, opposites.

The individuation process requires the unconscious or less conscious contents and functions of the psyche be brought up to a level of greater consciousness. We believe that in the individuation process this does occur, that people do learn to come to terms with functions and attitudes other than their 'superior' ones, that even the so-called 'inferior' function can and does reach a very high degree in some individuals. (Loomis and Singer, 1980, p. 1)

The difficulty with the forced choice Jungian inventories currently in use is that if one of the two alternative choices is selected, the other is automatically rejected. Thus, if one selects a thinking response, feeling is rejected and vice versa, and, if one selects a sensation response, intuition is rejected and vice versa.

Loomis and Singer did some preliminary studies replacing forced choice items on the MBTI and the GWT with scaled items. They then tested the bipolar assumption to see if it was an accurate measure of

Jung's theory of typology by measuring the TFSN functions independently without forcing a negative correlation between paired functions. If the bipolar function was in fact true, they hypothesized that it would reveal itself through the opposition of the superior and inferior functions. First, the GWT inventory items were rewritten so that one forced choice item became two scaled items. The subject was asked to scale his/her answers from 1 (never), to 7 (always). Both the original GWT and the rewritten version were given to 120 subjects in their first study. Findings revealed that 86 (72%), of the subjects had different superior functions on both questionnaires. Also, in the GWT revised version, 66 subjects, (55%), did not have an inferior function that was the hypothesized opposite of their superior function (Singer and Loomis, 1980).

Loomis and Singer repeated the same procedure with the MBTI, involving 79 subjects. Also considered in this instance was that, whenever an item was double weighted in the MBTI scoring procedure, it was replaced by four scaled items. Both the MBTI and its revised form were completed by all 79 subjects, 36 subjects (46%), did not maintain their dominant function across

both inventories. In addition, 29 (36%), did not reveal a superior function that was the hypothesized opposite of their inferior function (Loomis and Singer, 1980).

Thus, in addition to not finding the hypothesized superior-inferior function dicotomy, Loomis and Singer (1980), found that what appears to be the superior function on GWT and MBTI profiles may be in error. Their reasoning follows:

...suppose that a person had very highly developed sensation and intuition functions, and that these were of nearly equal strength. Suppose further, that both thinking and feeling were undeveloped, but that feeling was even less developed than thinking. This person given the version of the tests now in use, would have a difficult time selecting between the two most highly developed functions, intuition and sensation. However, a person whose feeling function was so completely undeveloped, even in relation to a moderately developed thinking function, (which was still not as differentiated as either sensation or intuition), would score, let us say, 75% of the thinking answers as affirmative and 25% of the feeling answers as affirmative. This person's scoring, according to the method now in use, would show thinking as the superior function, and the two most developed functions would turn out to be the auxiliary functions, with only the inferior function remaining stable. (p. 4)

As a result of the above preliminary findings, reported by Loomis and Singer (1980), these

investigators concluded that a more effective measure of Jungian typology could be obtained by measuring the TSFN functions independently of each other. They then developed the SLIP (1979), in an attempt to assess Jungian typology by measuring the relative development of the eight basic personality types within the individual. Also different in the SLIP is that the attitudes of extroversion (E), and introversion (I), are measured in connection with each individual function. This change more accurately reflects Jungian theory which states that an individual favors a specific 'attitude' in relation to each specific 'function' (Jung, 1971). To each of 20 situations on the SLIP, eight possible responses correlating to one of the eight Jungian personality types (ET, EF, ES, EN, IT, IF, IS, IN) is possible. The eight affectively toned alternatives are rated by the subject on a scale of 0 (never), to 7 (always). When the initial version of the SLIP was administered to 218 subjects, and then factor analyzed, five instead of the expected eight factors emerged (Loomis and Singer, 1979). They were IS, ES, T, F, I. Because of these unusual results, the SLIP was revised. As of this writing, there is no available reliability or validity information on the

current version of the SLIP. Therefore it was not used in this study. However, the SLIP does appear to be the most theoretically sound inventory in terms of accurately attempting to operationalize Jungian constructs, especially those related to Jungian character typology and to the individuation process.

Support for the view that ego strength is positively correlated with individuation is evident from Loevinger's and Wessler's (1970) work on ego development. These investigators developed their concept of ego development empirically by constructing and administering a sentence completion test "to identify qualitative differences in the successive stages of ego development," (Loevinger and Wessler, 1970). They administered their inventory to 1,765 female subjects of different ages, marital status, occupations and educational levels. Responses were scored by four trained and four self-trained raters. Interrater reliability ranged from .83 to .94. The sixth and highest stage of ego development is identified by these researchers as the "integrated stage." This stage is described by Loevinger as including:

...existential humor, and a feeling of paradox, respect for others' autonomy, search for self-fulfillment, value for justice and idealism, opposition to prejudice, coping with inner conflict, reconciliation of role conflicts, appreciation of sex in the context of mutuality and a reconciliation to one's destiny. (Loevinger and Wessler, 1970)

Many of the above statements defining Loevinger's "integrated stage" of ego development might also be used to describe Jung's individuated human being.

Summary

The research literature which has been reviewed in this chapter was designed to provide evidence to support the assumptions and the hypotheses of this study, viz., to identify the current state of psychological integration in selected samples of university undergraduate students.

The central focus of this investigation questions Carl Jung's claim that such integration (which he calls "individuation"), is achieved at mid-life (approximately in the 40's). The works of various scholars and their respective investigational procedures which support this challenge to Jung's position have been reviewed in this chapter.

Literature has also been presented on the role of androgeny and it is used in this study.

This background paves the way for the forthcoming research design and methodology.

CHAPTER III

DESIGN OF THE STUDY

This study was designed to investigate the mental processes in college students, as these processes relate to psychic wholeness. Psychic wholeness is defined by Carl Jung as the integration of one's conscious and unconscious mental contents. Specifically, two bipolar scales (thinking-feeling and sensation-intuition) on the Myers-Briggs Type Indicator (Myers, 1962), and Barron's Ego Strength Scale (Barron, 1953), and a special scale of the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1947), were used to predict a person's capacity for androgenous functioning as measured by the Bem Sex-Role Inventory (Bem, 1971). Androgeny is used in this study as a measure of individuation, that is, the integration of conscious and unconscious aspects of one's psyche. Included in this chapter are topics covering the selection and description of the sample, the measures used, operational definitions of terms pertinent to the measures used, the procedure for data collection, a statement of the statistical hypotheses, the design of

the study and finally a description of the techniques used for the data analysis.

Selection and Description of the Sample

A population of 1289 undergraduate students at George Washington University in Washington, D.C. who were enrolled in several introductory psychology courses were selected as potential participants for this study. Enrollment in these courses included a wide distribution of freshman, sophomore, junior and senior students. A wide range of majors was also represented. Nine percent of the students were psychology majors while 91% majored in other areas of study. At the beginning of the two semesters (Fall, 1984 and Spring, 1985), at which times the data were collected, students were offered the option of receiving extra grade point credit in their psychology classes by either participating as a research subject or writing a brief paper. Clearance for this project was received by the Committee on the Rights of Human Subjects of the Department of Psychology of George Washington University, Washington, D.C. (Appendix A).

Of this population of 1289 undergraduates, 1106 students chose the extra credit option with 1075

students selecting to participate as research subjects. Only 31 students selected to write brief papers. Of the 1075 students who selected to participate as research subjects, 253 were assigned to this study. Assignment to this project was random within gender. Of the 253 students, 215 completed participation and 201 produced valid Minnesota Multiphasic Personality Inventory (MMPI) profiles. The validity scales on the MMPI (L, F and K) were used as a screening device for research participants. Only those students who produced valid MMPI's were included in this sample. The final sample used in this study included 201 students, 100 females and 101 males. Females ranged in age from 16 to 41 with a median age of 19.8 years. Males ranged in age from 17 to 45 with a median age of 19.5 years.

Fourteen percent of the males and 27% of the females had some prior psychotherapy. On a seven point scale involving self-ratings of one's current mental health (with seven being healthy and one being unhealthy), average self-ratings for males was 6.21 and 5.94 for females.

Undergraduate students at George Washington

University (GWU) come predominantly from the Eastern coast of the United States between Massachusetts and Georgia. They are from predominantly middle class families. GWU also has a fairly large international population, with a large percent of these students from the Middle East, as well as from French, Hispanic and other populations. These students are also for the most part, from middle class families. A more moderately sized segment of black students from families of lower to middle socio-economic status also attend the University. These undergraduate students have been designated primarily as middle class because GWU is a private university with a modest endowment. Outlay for tuition scholarships is limited. Thus, most students come from families who have to provide substantial financial assistance to defray these and other costs that are involved.

Procedure For Data Collection

Students randomly assigned to participate in this study received a packet of information which they completed in a group during various scheduled non-class hours. Included in the packet was a paper detailing the rights, safeguards and responsibilities of research

participants (Appendix B). In addition to an instruction sheet (Appendix D), and a brief demographic data sheet (Appendix C), there were the three inventories which comprise the independent and dependent variables of this study.

Instrumentation

Three measures are used in this study, two as predictor variables and one as a criterion or dependent variable. A fourth measure is used as a screening instrument. The presence or absence of androgeny is used as the dependent variable. Androgeny, the integration of maleness and femaleness within the same individual, is measured by the Bem Sex-Role Inventory (BSRI), (Bem, 1981). Androgeny is understood here to be symbolic of the integration of an individual's conscious and unconscious psyche, and is therefore used in this study as a measure of individuation. According to Jungian theory, individuation and ultimately the attainment of selfhood in part involves the differentiation into consciousness of the four functions which Jung identifies as thinking, feeling, sensation and intuition. The Myers-Briggs Type

Indicator (MBTI), (Myers, 1962), is used to assess the development of these functions within an individual. In addition to the development of the four functions of consciousness, Jungian theory stipulates that a person needs to possess a strong ego for individuation to proceed. Barron's Ego Strength Scale (ES Scale) (Barron, 1953), a special scale of The Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1947), is used in this study to measure ego strength. The MBTI and Barron's ES Scale are combined to predict a person's standing with regard to his/her ability to integrate conscious and unconscious psychic polarities, in this case represented by androgeny. Four validity scales on the MMPI are used to screen and to eliminate from the present study those students with invalid MMPI profiles.

Following is a description of the instruments used in this study, and information relating to the reliabilities and validities of these measures.

Myers-Briggs Type Indicator (MBTI)

The Myers-Briggs Type Indicator (Myers, 1962) is a 166 item forced choice inventory designed for use with normal subjects. Originally constructed in 1942 by

Katherine Briggs and her daughter Isabelle Myers, the MBTI was developed as a psychometric measure of Jungian personality typology. The MBTI was developed empirically, using the responses of individuals who appeared to be one personality type or another. Items that discriminated among the individuals of the various types were then selected for use on the test. The item pool was tried out many times, first with acquaintances of the authors who seemed to represent clear preferences. Subsequently the inventory was answered by several thousands of high school and college students and by various professional and industrial groups. The MBTI was revised and published by the Educational Testing Service in 1962.

The MBTI provides scores on four bipolar dimensions. These include: thinking (T) vs. feeling (F), sensation (S) vs. intuition (N), extroversion (E) vs. introversion (I), and perception (P) vs. judgment (J). The first three dimensions were described by Jung as preferences that are selected by the individual in his process of orienting to the world. The fourth dimension was added by the test constructors. The TF and SN scales represent psychic function polarities.

The MBTI TF scale was designed to measure a person's preference between two presumably opposite ways of judging or making a decision about something; rationally and impersonally (thinking) or subjectively and personally (feeling). The SN scale was designed to measure a person's preference for two presumably opposite ways of perceiving; whether one tends to perceive the world in a factual, realistic way using the usual sensory apparatus (sensation), or indirectly, focusing on imaginative possibilities (intuition). The EI scale represents an attitude polarity. It was designed to measure whether one is oriented towards the outer world of people and things (extroversion), or towards one's inner world of concepts and ideas (introversion). The JP dimension was added by the test constructors to assess whether one relies primarily on a judging process (thinking or feeling), or upon a perceptive process (sensation or intuition), in dealing with one's outside environment (Myers, 1952, pp. 1-2).

Individuation or the process of psychological integration described by Jung requires the eventual transcendence of polarities (Loomis & Singer, 1980). While Jung accounts for this in his theory of individuation, the MBTI, because of the forced choice,

bipolar nature of it's scales is not traditionally scored in a way that would discriminate between the individuated person (one who has transcended polarities) and the undifferentiated person (one who has not yet developed either pole sufficiently). For example, a person who scores approximately equally on thinking and feeling may have equal axis to both of these functions or may not have sufficiently differentiated the two to use either effectively. To rectify this difficulty, the MBTI is not scored in the traditional manner in this study. Instead of using the traditional personality 'type' categories, individual scores for the four functions (thinking, feeling, sensation and intuition) are obtained by using a continuous scoring technique. While this individual scale scoring method is contrary to the theory underlying the test's development, it is the way the inventory has been used to estimate the reliabilities and some of it's validities (Seigal, 1983, p. 308).

In the present study raw scores for T, F, S, and N are obtained. Then absolute difference scores between $|T-F|$ and $|S-N|$ are calculated. Next, the two raw difference scores are translated into MBTI (1977),

standard scores. The standardized MBTI, TF and SN scores are used to compute six subsequent chi square analyses (in Chapter IV). To compute the two multiple discriminant analyses (in Chapter IV), two additional scores are calculated. These include a 'Balance Total' score, and a 'Balance Difference' score. The 'Balance Total' score, $|T-F| + |S-N|$ measures the absolute value of standardized T minus standardized F plus the absolute value of standardized S minus standardized N. The 'Balance Difference' score, $||T-F| - |S-N||$, measures the absolute value of the difference between the absolute value of standardized T minus standardized F and the absolute value of standardized S minus standardized N. The 'Balance Total' score is a measure of the sum of the imbalance in both of the TF and SN domains. The 'Balance Difference' score measures the amount of difference in balance between the two domains.

Stricker and Ross (1964), report internal consistency reliabilities of continuous MBTI scores as generally in the .70's and .80's with the TF scale reliability coefficients ranging from .64-.74. The patterns of reliability coefficients observed in this study are, in general, consistent with Stricker and

Ross's 1962, test-retest reliability findings for continuous scores on the MBTI as well as internal consistency reliability findings for continuous scores which have been reported by Saunders (1958) and Myers (1962). In terms of continuous scores, the MBTI is accredited with "about the same reliability as the better known personality inventories..." (Stricker and Ross, 1964). Mendelsohn (1965, pp. 321-322), also supports with this position.

Stricker and Ross (1964), report intercorrelational results between the scales. For continuous scoring, EI, SN and TF were consistently found to be independent of each other. In contrast, the JP scale was found to be moderately related to the SN and TF scales. These results support the findings regarding the interrelationships of the MBTI's continuous scales (Myers, 1962; Saunders, 1958; Stricker & Ross, 1964).

In terms of the construct validity of the MBTI, that is, the degree to which the inventory actually measures Jungian typology, Stricker and Ross (1964) report that the "SN and TF scales may reflect the dimensions that they were theorized to represent but the EI and JP scales are more questionable" (p. 623).

These findings are based on a content analysis of the scales and their correlations with a large number of tests, including The Scholastic Aptitude Test, The Gray-Wheelwright Psychological Type Questionnaire, The California Psychological Inventory, The Strong Vocational Interest Inventory and the MMPI (Stricker & Ross, 1964). Only data from the two bipolar function scales thinking-feeling (TF) and sensation-intuition (SN) are used to form hypotheses in the present study.

Added to the MBTI was an item which asks each respondent to respond "yes" (1), or "no" (0), to whether one has had previous therapy. The question was asked because therapy is expected to facilitate the individuation process. Results of this question are reported in Chapter IV.

Barron's Ego Strength Scale (ES)

Barron's Ego Strength Scale (Barron, 1953), was used in this study to compensate for a technical concern which arises when using the Myers-Briggs Type Indicator alone to assess aspects of individuation that pertain to the development of the four psychic functions of thinking-feeling and sensation-intuition. Because the MBTI is bipolar and designed to elicit

forced choice responses only (a person selects T or F and S or N), it is unclear whether people who score approximately equal on thinking and feeling and/or approximately equal on sensation and intuition are reflecting highly differentiated, even individuated functioning or highly undifferentiated functioning. Does this type of almost balanced response pattern mean that the respondent is equally comfortable using both thinking and feeling in making decisions? This would imply individuation. Or is a person's approximately equal score on both thinking and feeling indicative of the fact that the person has not yet differentiated these functions, one from the other? If lack of differentiation exists and the functions are still fused with each other, then according to Jungian theory, this is a sign of low ego development (Jacobi, 1973, p. 36). Since ego strength is a prerequisite for individuation (Jacobi, 1973, p. 36), a measure of ego strength is thus used in conjunction with the MBTI function scores in order to interpret them as implying a lack of differentiation vs. high differentiation (individuation).

Frank Barron developed and cross-validated the ES

scale which he originally designed as a test of responsiveness to psychotherapy. After further consideration of the scales item content, and its personality and intelligence test correlates, Barron suggested that what was actually being measured was "the various aspects of effective functioning which are usually subsumed under the term 'ego strength'" (Barron, 1953, p. 327). The scale is now called Barron's Ego Strength Scale or the ES scale. Among the characteristics collectively referred to as ego strength are; "...physiological stability and good health, a strong sense of reality, feelings of personal adequacy and vitality, permissive morality, lack of ethnic prejudice, emotional outgoingness and spontaneity and intelligence" (Barron, 1953, p. 333). With reference to the present study it seems appropriate to assume that those who score high on the ES scale might be more differentiated in the Jungian sense than those who score low on the same scale (Jacobi, 1973, p. 36).

Barron's scale contains 68 items from the Minnesota Multiphasic Personality Inventory from a total 550 item pool. MMPI items range in content from psychiatric, psychological, neurological and physical

symptoms to affirmations of good health, and to questions concerning one's education, occupation and family. It also elicits information on one's social, political and religious attitudes. The entire group form is administered in this study since the validity scales (treated in the next section), are also used. Barron selected items for his ES Scale on the basis of rated improvement in 33 patients who had received psychotherapy for six months. Patients were tested prior to engaging in psychotherapy. After six months of treatment, patients were rated by clinical judges as improved or unimproved. Sixty-eight MMPI items were found to differentiate the two groups. Inter-rater reliability of the two judges was .91 (Barron, 1953). When the Improved vs. Unimproved groups were scored on the 68-item scale, the mean of the Improved group was 52.7 while the mean of the Unimproved group was 29.1. Barron points out that this difference is significant well beyond the .01 level (t of 10.3) (Barron, 1953). In Barron's (1953) study, odd-even reliability of the scale was .76 for 126 patients. Test-retest reliability in a sample of 30 subjects was .72. What the item content of the scale indicated to Barron is

that the strengths identified by the items were "...of the sort that are generally ascribed to a well-functioning ego, and that it is latent ego-strength which is the most important determinant (within the patient), of response to brief psychotherapy" (Barron, 1953, p. 329).

Barron cross-validated his scale using other measures in different populations. Findings from a larger clinic sample and from two non-clinic populations of graduate students and Air Force officers lead to the confirmation of his initial finding that "a significant determinant of personality change in psychotherapy is strength of the ego before therapy begins" (Barron, 1953, p. 332). Using the Adjective Check List (Gough, 1952), with a sample of male graduate students following a three day live-in assessment, Barron found ES to correlate .38 with Vitality ("general energy level") and .41 with Drive ("persistence, resolution, perseverance, directed energy") and -.40 with submissiveness (Barron, 1953, p. 329). The ES scale was also found to correlate with various measures of intelligence: .44 with the Wechsler-Bellevue IQ in the original sample; .36 with the total score on the Primary Mental Abilities

Test; .47 with the Intellectual Efficiency scale of the California Psychological Inventory with the Air Force Sample, and .39 with the Miller Analogies Test with the graduate student sample. Barron points to these and other intelligence test score correlates as adding support for the ego strength interpretation of the scale since ego-determined behavior involves intelligent behavior of "perceiving, planning, synthesizing, and in general, bringing the subject into an adaptive relationship to reality" (Fenichel in Barron, 1953, p. 330). The ES scale correlated $-.46$ with the Ethnocentrism scale (Adorno, et. al, 1950), a measure related to ethnic intolerance and cultural prejudice. Barron reports that Adorno et. al, in attempting to identify traits that correlated with ethnocentrism, identified those who scored high on the Ethnocentrism (E) scale as showing a "lack of differentiation of the ego" (Barron, 1953, p. 330).

The validity of the ES scale has been tested in a number of studies with positive evidence for the validity of the scale (Gottesman, 1959; Himelstein, 1964; Kleinmutz, 1960; Quay, 1955; Silverman, 1963; Taft, 1957; Wirt, 1955 cited in Stein and Chu, 1967).

The studies that have failed to find such validity (Getter & Sundland, 1962; Quay, 1963; Sullivan, Miller & Smelser, 1958; Tamkin, 1957; Tamkin & Klett, 1957 cited in Stein & Chu, 1967), have focused mainly on discriminating ES scores between clinical groups or have not confirmed Barron's initial finding of response to psychotherapy. Since these latter two issues are not concerns of this study, it makes Barron's ES scale valid for use in this study.

Further support for the validity of the ES scale comes from an investigation by Stein and Chu (1967). They analyzed the internal structure of the scale using a cluster analysis. Consistent significant mean differences were found between normal and abnormal groups in an original sample of 310 subjects and a replicated sample of 200 subjects for three "well-being" clusters. The three clusters, 1) emotional well-being, 2) cognitive well-being and 3) physical well-being were found to be significantly related to Barron's construct of ego strength. Two other clusters, religion and heterosexuality, did not conform with findings. Thus, Stein and Chu concluded that the ES scale is related to the construct ego strength "conceptually and empirically...in part" (Stein & Chu,

1967, p. 160). The three clusters of well-being (emotional, cognitive and physical), that were found to be related to ego strength, are nevertheless adequate for the purposes of this study, inasmuch as the concern of this study is with ego strength.

Barron's ES Scale is administered and scored in accordance with the MMPI standard procedures for adult subjects outlined by Dahlstrom, Welsh, and Dahlstrom (1972). A continuum of raw ES scores are used in the subsequent multiple discriminant analyses. For the chi square analyses, high and low ego strength status is determined by a median split of the present sample. Barron's (1953) norms for non-clinic samples are older than the students in the present study. Therefore a median split of this sample was chosen to more accurately represent college undergraduates.

Barron's ES scale has been selected for use in this study because it taps relevant dimensions of ego strength, and was economically and practically feasible to administer to a sample of 200. An alternative choice might have been Loevinger's and Wessler's (1970) Sentence Completion Test. While Loevinger & Wessler's instrument is a comprehensive, hierarchically ordered

stage level measure of ego development, it requires both individual administration and scoring. It was thus not practically appropriate for the present study.

Minnesota Multiphasic Personality Inventory (MMPI)

The MMPI (Hathaway & Mckinley, 1947) was used to assess the veracity of an individual's responses to this measure and to Barron's Ego Strength Scale which is a special scale of the MMPI. The three scales are called "validity scales" although they are not concerned with the technical validity of the test. They represent "checks on carelessness, misunderstanding, malingering, and the operation of special response sets and test taking attitudes" (Anastasi, 1976, p. 498). There are three validity scores. The Lie Score (L) is determined by a set of items that make the examinee appear in an unusually favorable light. The Validity Score (F) is based on a set of items very infrequently answered in the scored direction by the standardization group. They represent undesirable behavior without a coherent pattern of abnormality. A high F score may indicate carelessness in responding, scoring errors, gross eccentricity or malingering. The Correction Score (K) is related to both L and F but

uses another combination of items to provide a measure of one's test taking attitudes. A high K may indicate defensiveness or an attempt to "fake good" while a low K may represent excessive frankness and self criticism or an attempt to "fake bad". Administration and scoring of this instrument conformed to the standard procedures for adult subjects outlined by Dahlstrom, Welsh, and Dahlstrom (1972). For the present study, any T score of ≤ 100 for L, F, or K was interpreted as valid. This decision is based on research with student samples at George Washington University, Washington, D.C.:

On validity of the MMPI among students at George Washington University--we have studied hundreds of students both males and females over the past four to five years. Regarding the validation scales of the MMPI, we have found that T Scores of 70 or higher are fairly frequent, much more so than the one to two percent that would be expected on the basis of the normal distribution since a T score of 70 is two standard deviations over the mean T score of 50. We have adopted the procedure of not considering as invalid any T score for "F", "K", or "L" which is less than 100. We feel this better represents rare performance in our population. (S.A. Karp, Ph.D., Associate Professor of Psychology, George Washington University, Washington, D.C., personal communication, December 2, 1984)

The Bem Sex-Role Inventory (BSRI)

The Bem Sex-Role Inventory (Bem, 1981) was developed by Sandra Bem to assess psychological androgeny or "the integration of femininity and masculinity within a single individual" (Bem, 1981, p. 4). The BSRI discriminates between people who are 'androgenous', traditionally 'sex-typed', 'sex-role reversed' and 'undifferentiated' with respect to their sex-role identity. According to Bem, 'traditionally sex-typed' individuals restrict the range of their behavior to "...behavior that is culturally endorsed in American society as being both more characteristic of and desirable for their sex" (Bem, 1981, p. 10). In contrast, Bem describes 'androgenous' individuals as less concerned with cultural definitions of masculinity and femininity and less likely to behave according to such guidelines. 'Sex-role reversed' individuals are described as males endorsing primarily stereotypically feminine personality characteristics and behavior, and as females endorsing stereotypically masculine personality characteristics and behavior. According to Bem's assessment, 'undifferentiated' individuals endorse a low degree of both masculine and feminine personality characteristics and behavior. These

individuals have neither a clearly masculine or a clearly feminine sex-role identity.

The BSRI is selected as a measure of the dependent variable in this study because Jungian theory purports that androgeny "reflects the meeting of a crucial pair of opposites in the formation of a complete individuated personality" (Mattoon, 1981, p. 100). Androgeny, therefore, is used in this investigation as a measure of individuation.

The BSRI is a self-administering, self-report inventory which is used primarily with adults and college students. It takes approximately 15 minutes to complete. The BSRI consists of 60 adjectives and phrases, all of them personality characteristics. Of the 60 personality characteristics, 20 are stereotypically feminine, 20 are stereotypically masculine, and 20 are considered to be filler items. The subject is asked to rate on a scale of 1 (never or almost never true), to 7 (always or almost always true), how well each of the 60 characteristics describes him/her. Item selection was compiled by Bem in her work with Stanford University students. An item was selected out of an initial 200 items if it was

judged by both males and females to be significantly more desirable in American society for one sex versus the other. While these ratings of 'appropriate' male and female behavior were gathered in 1972, a more recent replication study at the University of Washington led Bem to conclude that the BSRI "...appears to tap relatively enduring definitions of femininity and masculinity, culturally defined standards of sex-appropriate behavior that have not given way even in the face of a strong feminine critique in the society at large" (Bem, 1981, p. 12).

Psychometric analysis of the BSRI was computed by Bem on two samples of undergraduate students enrolled in introductory psychology classes at Stanford University. The 1973 sample included 279 females and 444 males, while the 1978 sample included 340 females and 476 males. Reliability coefficients (coefficient alpha), of internal consistency were computed separately for females and males in both student samples for the femininity score, the masculinity score, and the femininity-minus masculinity difference score or androgeny score. All three scores were found to be highly reliable, ranging between .75 and .87 for the original long form of the BSRI which is used in

this study (Bem, 1981, p. 14). The relationship between the masculinity and femininity scores were found to be empirically independent as well as logically independent (Bem, 1981, p. 14). Correlations between femininity and masculinity for the two normative samples ranged from $-.14$ to $.11$ using the original (1974), BSRI (Bem, 1981, p. 14). This finding supports the unique construction of the BSRI as an inventory that does not force a negative correlation between masculinity and femininity.

Test-retest reliability ratings based on product-moment correlations also yielded highly reliable scores with the lowest test-retest reliability ($.76$), regarding males describing themselves on masculine items. These reliability ratings were based on the scores of 28 females and 28 males who again took the BSRI four weeks after their initial 1973 testing. Product moment correlations of femininity, masculinity, and androgeny scores of the 1973 test-retest sample with their scores on the Marlowe-Crowne Social Desirability Scale revealed that the BSRI does not measure social desirability response set. Correlations between the BSRI and the Marlowe-Crowne Social Desirability Scale

were very low, ranging from $-.15$ to $.04$. What this means is that the BSRI does not measure an individual's tendency to describe oneself in a socially desirable manner. In fact, Bem describes the BSRI as a "...control for social desirability response set..." in that "...what is perceived as socially desirable on the BSRI is itself a function of an individual's sex role" (Bem, 1981, p. 15).

Empirical support for the validity of the BSRI comes from a series of four laboratory studies on instrumental and expressive conditioning where (Bem, 1975), and (Bem, Martya & Watson, 1976), consistently found that only androgenous people consistently demonstrated high levels of both expressive (typically feminine), and instrumental (typically masculine), functioning. In contrast, non-androgenous subjects were frequently found to score low in either instrumental or expressive functioning. Further support for the validity of the BSRI comes from a study by Bem and Lenny (1976). In this study, traditionally sex-typed subjects were found more likely to state that they preferred sex-appropriate behavior of the two offered choices compared to both the androgenous and cross-sex-typed subjects. Traditionally sex-typed

subjects also reported that actually engaging in cross-sex-typed behavior caused them greater physiological and psychological discomfort as compared to the other two groups. Additional evidence to support the validity of the BSRI is demonstrated by studies revealing that sex-typed and non-sex-typed people differ on theoretically derived cognitive measures as well as on behavioral measures (Bem, 1981, p. 34-35).

In the present study the BSRI is scored according to the current recommended research procedure (Bem, 1981). According to this procedure the BSRI is scored separately for males and females. Each subject receives both a masculine (M), and feminine (F), score. Each of the two raw scores obtained for each gender is split at the median of the group. If a person's score exceeds the median for his or her gender on 'F', 'F' receives a plus. If a person's 'F' score is below the median for his/her gender, he/she receives a minus. The same is true for 'M' scores. Thus, each subject ends up with two scores, a (+) or a (-) on 'F,' and a (+) or a (-) on 'M.' Androgyny is defined by an individual having two pluses, one on each scale (+F,+M). Other sex-role identification classifications

include; traditional females (+F,-M), traditional males (-F,+M), sex-role reversed females (-F,+M), sex-role reversed males (+F,-M), and undifferentiated subjects (-F,-M).

In the present study, substituted for one 'neutral' item on the BSRI is a question that asks the student to rate oneself on a scale of 1 (never or almost never true), to 7 (always or almost always true), regarding one's self-endorsement of 'Mental Health.' This data is presented in Chapter IV and further discussed in Chapter V.

Operational Definitions

Individuation refers to the integration of conscious and unconscious aspects of one's being culminating in the experience of oneself or selfhood (Jung, 1971a). Individuation is identified in the present study as the differentiation of one and/or both pairs of initially bipolar Jungian functions, thinking with feeling and/or sensation with intuition. In addition, individuation is marked by adequate ego strength and androgeny.

Psychological functions are manifestations of one's libido or life force. They are directions of

interest and energy (Jung, 1971a). Myers (1962), describes Jung's four psychological functions of consciousness as:

1) Thinking, which refers to judgment based on intellectual cognition and the forming of logical conclusions.

2) Feeling, which refers to judgment based on one's subjective or personal valuation.

3) Sensation, which refers to perception using one's sense organs and focusing attention on the factual, real world.

4) Intuition, which refers to perception via the unconscious wherein one's attention focuses on imaginative possibilities.

Ego strength refers to one's general capacity for personal integration. A strong sense of reality, based on effective cognitive, emotional and physical functioning are components of adequate ego strength (Barron, 1953).

Sex-role identities defined by Bem (1981), are used in this study to symbolically represent stages of individuation.

Androgenous sex-role refers to an individual who possesses a high degree of both masculine and feminine personality characteristics.

Traditional sex-role refers to a male with a high degree of masculine personality characteristics, or to a female with a high degree of feminine personality characteristics.

Reversed sex-role refers to a male with a high degree of feminine personality characteristics and a low degree of masculine personality characteristics. It also refers to a female with a high degree of masculine personality characteristics and a low degree of feminine personality characteristics.

Undifferentiated sex-role refers to an individual who possesses a low degree of both masculine and feminine personality characteristics. Such an individual has neither a clearly masculine or a clearly feminine sex-role identity. Nor is he/she androgenous.

Introduction to Statistical Hypotheses

The statistical hypotheses tested in this study identify university students' current state of psychological integration. Beginning with the most to least evolved state, these psychological phases of

development are referred to by Carl Jung as "individuated," "differentiated" and "undifferentiated" (Jung, 1971a, pp. 424-448). The predictor variables in this study include scores from two bipolar scales on the Myers-Briggs Type Indicator (MBTI). Each scale represents what Jung assumed to be initially "opposed" psychic functions. These are Thinking-Feeling (TF), and Sensation-Intuition (SN). The second predictor variable is an individual's degree of Ego Strength, either "plus" or "minus," as measured by Barron's Ego Strength (ES) Scale. While ES is continuously scored, for a portion of the statistical analysis, it will alternatively be identified as "Increased" vs. "Decreased." The criterion variable in this study is an individual's Sex-Role Identity which is used in this study as a measure of Individuation. Sex-role identity is measured by the Bem Sex-Role Inventory (BSRI). Individuals may evidence either an Androgenous, a Traditional, a Reversed, or an Undifferentiated sex-role identity.

Following is a symbolic representation of the various hypotheses. A statistical statement of the hypotheses will conclude the design section of this

Figure 3.1 Symbolic Representation of Hypotheses

		$B_1\text{MBTI}$	$I_1\text{MBTI}$
+ES	$B_2\text{MBTI}$	$\frac{A}{T}$ $\frac{R}{U}$ $H(1)$	$\frac{A}{T}$ $\frac{R}{U}$ also $H(2)$
	$I_2\text{MBTI}$	$\frac{A}{T}$ $\frac{R}{U}$ $H(2)$	$\frac{\bar{A}}{T}$ $\frac{R}{U}$ $H(3)$
		$B_1\text{MBTI}$	$I_1\text{MBTI}$
-ES	$B_2\text{MBTI}$	$\frac{\bar{A}}{T}$ $\frac{R}{U}$ $H(6)$	$\frac{\bar{A}}{T}$ $\frac{R}{U}$ also $H(5)$
	$I_2\text{MBTI}$	$\frac{\bar{A}}{T}$ $\frac{R}{U}$ $H(5)$	$\frac{\bar{A}}{T}$ $\frac{R}{U}$ $H(4)$

Predictor Variables:

+ES = Ego Strength [high (+) or low (-)], Barron's Ego Strength Scale

$B_1\text{MBTI}$ or $B_2\text{MBTI}$ = Balance on Scale 1 (TF) or Scale 2 (SN), Myers-Briggs Type Indicator

$I_1\text{MBTI}$ or $I_2\text{MBTI}$ = Imbalance on Scale 1 (TF) or Scale 2 (SN), Myers-Briggs Type Indicator

Criterion Variable

BSRI = Bem Sex-Role Inventory

A = Androgenous Sex-Role Identity

T = Traditional Sex-Role Identity

R = Reversed Sex-Role Identity

U = Undifferentiated Sex-Role Identity

\bar{A} = Not A

\bar{T} = Not T

\bar{R} = Not R

\bar{U} = Not U

$H(1-6)$ = Hypotheses 1-6

Statement of Statistical Hypotheses

Androgeny/Individuation

1. Null hypothesis: Balance scores on both MBTI bipolar function scales (TF & SN) combined with increased ES on Barron's Scale will not significantly discriminate between university students with an Androgenous sex-role identity and university students in all other BSRI categories.
- 1a. Alternative Hypothesis: Balance scores on both MBTI function scales (TF & SN) combined with increased ES on Barron's Scale will significantly discriminate between university students with an Androgenous sex-role identity and university students in all other BSRI categories.

Differentiation

2. Null hypothesis: A balance score on one MBTI bipolar function scale (TF or SN) and an imbalance (differentiated) score on the remaining MBTI bipolar scale scale (TF or SN) combined with increased ES on Barron's Scale will not significantly discriminate between university students who are in some phase of differentiating their sex role identity (either Androgenous, Traditional or

Reversed) and those university students who are as yet undifferentiated with respect to their sex-role identity.

- 2a. Alternative hypothesis: A balance score on one MBTI bipolar function scale (TF or SN) and an imbalance (differentiated) score on the remaining MBTI bipolar scale (TF or SN) combined with increased ES on Barron's Scale will significantly discriminate between university students who are in some phase of differentiating their sex role identity (either Androgenous, Traditional or Reversed) and those university students who are as yet undifferentiated with respect to their sex role identity.

Differentiation-Traditional

3. Null hypothesis: Imbalance (differentiated) scores on both MBTI bipolar scales (TF & SN) combined with increased ES on Barron's Scale will not significantly discriminate between university students with a Traditional sex-role identity and university students in all other BSRI categories.

- 3a. Alternative hypothesis: Imbalance (differentiated) scores on both MBTI bipolar scales (TF & SN) combined with increased ES on Barron's Scale will significantly discriminate between university students with a Traditional sex-role identity and university students in all other BSRI categories.

Differentiation-Reversed

4. Null hypothesis: Imbalance (differentiated) scores on both MBTI scales (TF & SN) combined with decreased ES on Barron's Scale will not significantly discriminate between university students with a Reversed sex-role identity and university students in all other BSRI categories.
- 4a. Alternative hypothesis: Imbalance (differentiated) scores on both MBTI scales (TF & SN) combined with decreased ES on Barron's Scale will significantly discriminate between university students with a Reversed sex-role identity and university students in all other BSRI categories.

Differentiation - Traditional or Reversed

5. Null hypothesis: A balance score on one MBTI bipolar function scale (TF or SN) and an imbalance

(differentiated) score on the other bipolar scale (TF or SN) combined with decreased ES on Barron's Scale will not significantly discriminate between university students with a Traditional or Reversed sex-role identity and university students in all other BSRI categories.

- 5a. Alternative hypothesis: A balance score on one MBTI bipolar function scale (TF or SN) and an imbalance (differentiated) score on the other bipolar scale combined with decreased ES on Barron's Scale will significantly discriminate between university students with a Traditional or Reversed sex-role identity and university students in all other BSRI categories.

Lacking Differentiation

6. Null hypothesis: Balance scores on both bipolar function scales (TF & SN) combined with decreased ES on Barron's Scale will not significantly discriminate between university students with an Undifferentiated sex-role identity and university students in all other BSRI categories.

- 6a. Alternative hypothesis: Balance scores on both MBTI bipolar function scales (TF & SN) combined with decreased ES on Barron's Scale will significantly discriminate between university students with an Undifferentiated sex-role identity and university students in all other BSRI categories.

Research Design

The design of this study is correlational. Two multiple discriminant analyses and six chi square analyses are used to test the significance of various phases of Jungian personality development and the resulting relationship to sex-role identification.

The independent or predictor variables in this study include scores from two scales on the MBTI (TF and SN) in combination with one's score on Barron's ES Scale. Sex-role identification, as measured by the BSRI is the dependent or criterion variable in this study. It is used as a measure of individuation. The four BSRI categories include: 1) Androgenous (A), 2) Traditional (T), 3) Reversed (R) and 4) Undifferentiated (U).

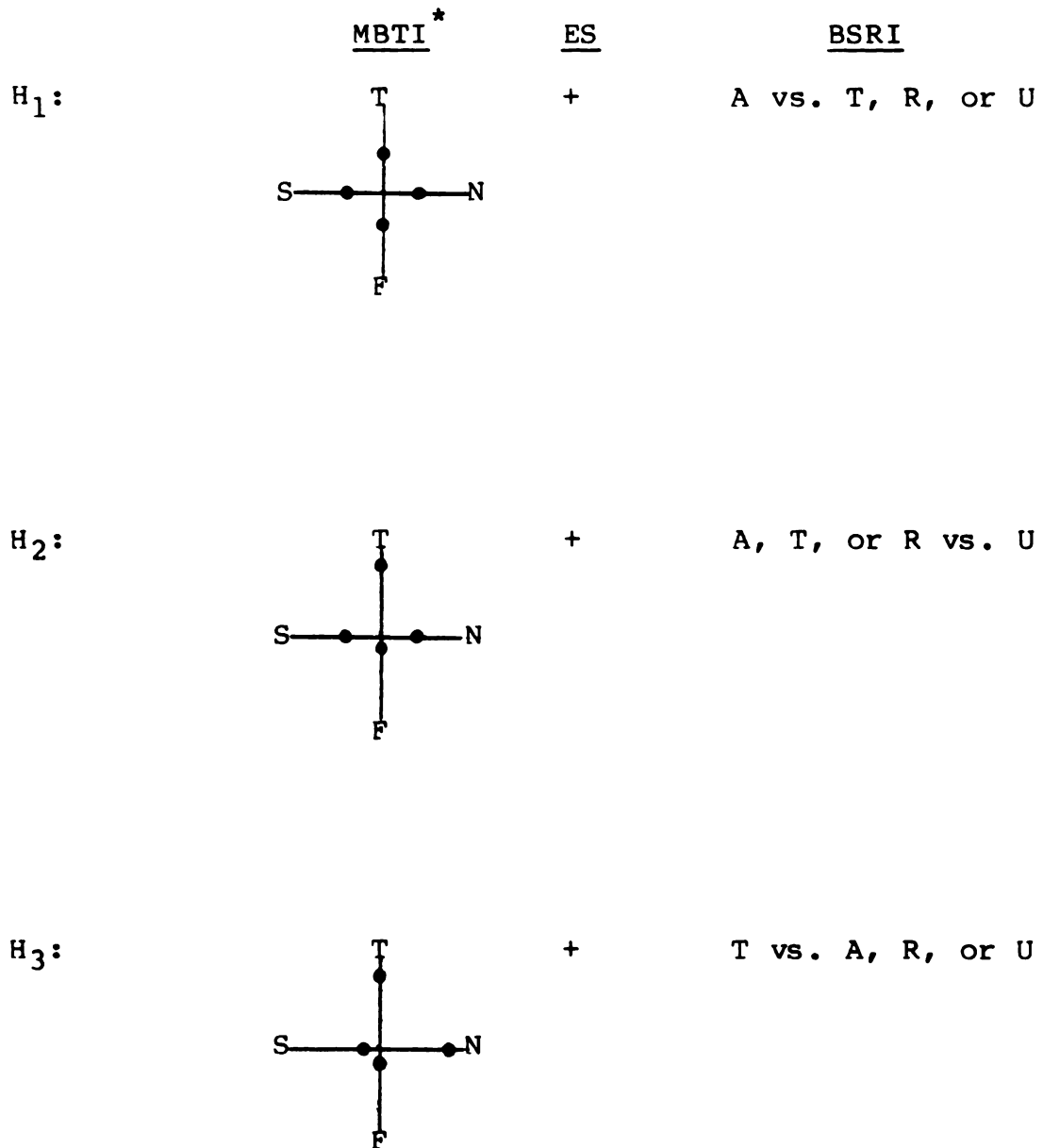
Figure 3.2 provides a pictorial representation of the eight research hypotheses of this study.

Subsequent to this is a description of the procedures used for the data analyses.

In Figure 3.2, the closer the MBTI score are to each other on each domain (T to F and S to N), the more they are considered to be 'balanced.' In H_1 and H_6 both TF and SN domains are 'balanced.' The first hypothesis of this study states that if the MBTI profile is balanced on both domains and ES is high, androgeny is predicted. In H_6 , with the same MBTI balanced profile as in H_1 , but with low ES, an undifferentiated sex-role identity is predicted. The farther apart the scores are on each MBTI domain (T from F and S from N), the more they are considered to be 'imbalanced.' In H_3 and H_4 both MBTI domains are 'imbalanced.' In H_2 and H_5 one domain is balanced and the other is imbalanced. An imbalanced domain implies differentiation of one function pair from the other. For example in the MBTI pictorial illustration of H_3 , T and N are differentiated scores.

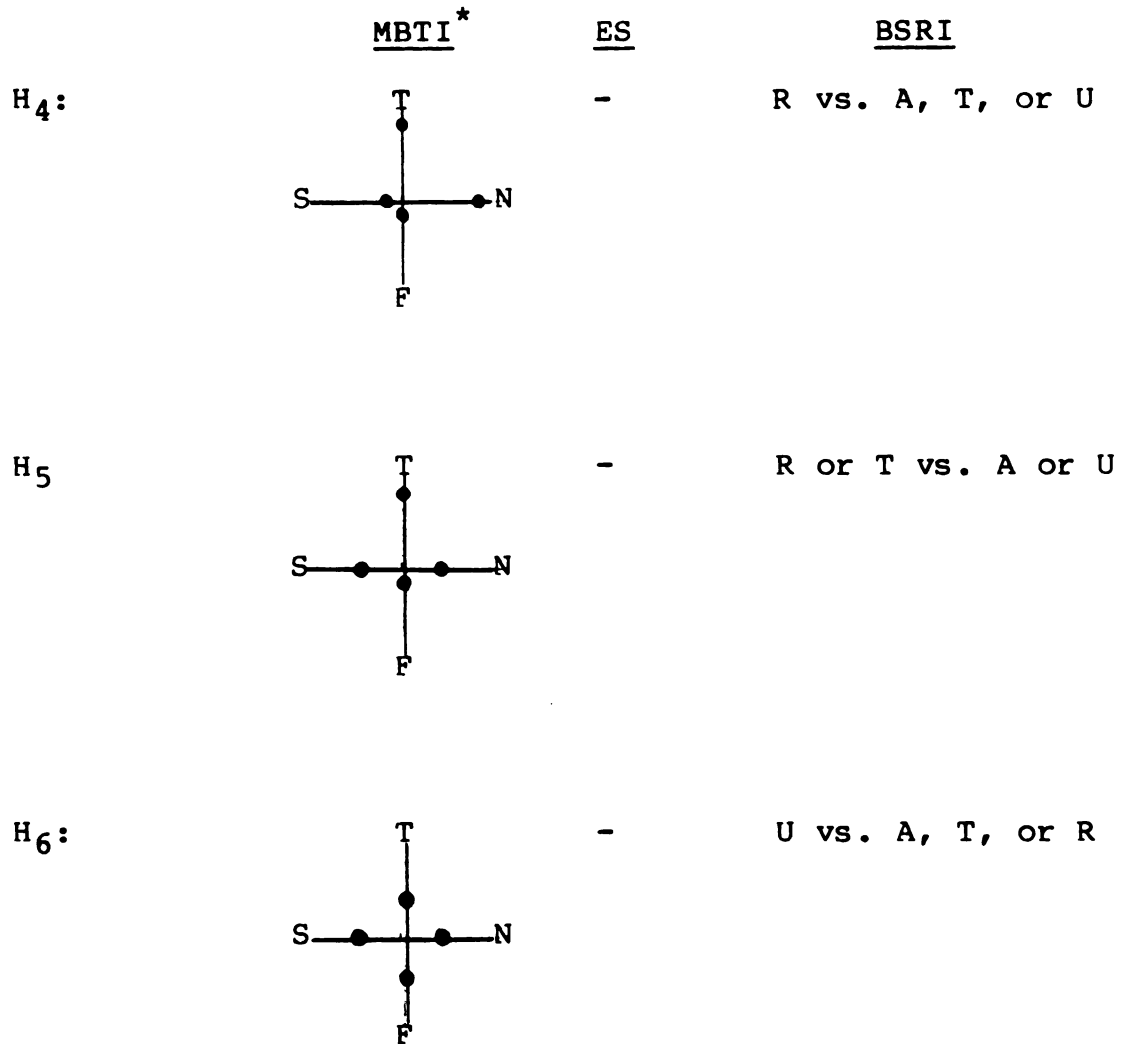
Figure 3.2

Pictorial Representation of Research Hypotheses
One Through Six



* Scores on the SN axis may be interchanged with each other and with the scores on the TF axis.

Figure 3.2 cont.



Where: MBTI ES BSRI

 T = Thinking Ego Strength A = Androgeny
 F = Feeling T = Traditional
 S = Sensation R = Reversed
 N = Intuition U = Undifferentiated

H₍₁₋₆₎ = Hypotheses 1-6

* Scores on the SN axis may be interchanged with each other and with the scores on the TF axis.

Procedure For Data Analysis

Two statistical methods were used to test the six hypotheses of this study. They were 1) multiple discriminant analysis and 2) chi square analysis. Both procedures and their relationship to the specific hypotheses of this study are described below.

Multiple Discriminant Analysis

Two multiple discriminant analyses were used in this study to determine the relative contribution of each independent variable in discriminating between the four BSRI dependent variable groups. Discriminant analysis is an appropriate statistical technique when the dependent variable is categorical and the independent variables are metric. The BSRI involves a discrimination into four dependent variable categories, hence the term 'multiple' discriminant analysis. The predictor variables, MBTI, 'Balance Total' and MBTI, 'Balance Difference' scores, were derived from the SN and TF metric scales on the MBTI. Barron's ES Scale is also metric.

Discriminant analysis involves deriving that linear combination of the independent variables that best discriminates between the previously defined

independent variable groups. This is achieved by maximizing between group variance and minimizing within group variance. In this study the following two discriminant analysis were performed:

Multiple Discriminant Analysis #1

$$Z = W_1ES + W_2\text{MBTI Balance Total}$$

Multiple Discriminant Analysis #2

$$Z = W_1ES + W_2\text{MBTI Balance Difference}$$

where Z = the discriminant score

W = the discriminant weight

ES = Ego Strength

$$\text{MBTI Balance Total} = |T-F| + \frac{|S-I|}{2}$$

$$\text{MBTI Balance Difference} = \left| \frac{|T-F|}{2} - \frac{|S-I|}{2} \right|$$

The Statistical Package for the Social Sciences (Nie et. al., 1975) was used to conduct the discriminant analyses. The type of discriminant analysis used was canonical correlation. A canonical correlation derives a linear combination of the independent variables that has the highest possible multiple correlation with the dependent variable groups.

The discriminant analysis identifies the independent variables where the greatest difference exists between the dependent variable groups. It derives a discriminant weighting coefficient to reflect these differences. By averaging the weighted

composites for each of the individuals within a particular dependent variable group, the group mean or 'centroid' is derived. The test for significance of the discriminant function is a generalized measure of the distance between the group centroids.

The assumptions for deriving the discriminant function are 1) multivariate normality of the distribution and, 2) unknown (but equal), dispersion and covariance structures for the groups.

There is evidence that the discriminant function is not very sensitive to violations of these assumptions unless the violations are extreme. This is particularly true with large sample sizes (Hair et. al., 1979).

It should be noted that the MBTI 'Balance Difference' and MBTI 'Balance Total' scores were used in separate multiple discriminant analyses, rather than in a single analysis because of the possibility that these variables are not independent.

Chi Square Analyses

Six chi square analyses were computed to test the hypotheses of this study. The independent variables

used to predict a person's BSRI category status included the scores on two standardized scales of the MBTI (TF and SN) in combination with one's ES score on Barron's Scale. For ego strength, determinations of high and low for the chi square analyses were based on a median split of the present data. Although norms for Barron's ES scale do exist (Barron, 1953), the non-clinic samples are considerably older than the present sample. A median split of the data from the present sample was used to more accurately reflect the responses of an undergraduate college population.

The chi square analyses address the question of whether the observed frequency corresponds with the expected frequency in each chi square cell or whether they differ significantly from each other. The null hypothesis in each instance is that the observed frequency does not differ significantly from the expected frequency in each cell. Each research hypothesis predicts that the observed frequency does differ from the expected frequency.'

Figure 3.3 A-F, illustrates the chi square analyses that were performed pertinent to the hypotheses of this study.

Figures 3.3A-F

Diagrams of Chi Square Analyses
Testing the Hypotheses of this Study

		BSRI	
		A	NOT A
+ES	MBTI Balance 2 Domains	+	-
	MBTI Balance 1 Domain	+/-	+/-
	MBTI Balance 0 Domains	-	+

3.3A Chi Square
Testing H_1 .

		BSRI	
		NOT U	U
+ES	MBTI Balance 1 Domain	+	-
	MBTI Balance 0 Domains	+/-	+/-
	MBTI Balance 2 Domains	-	+

3.3B Chi Square
Testing H_2 .

Predictor Variables:

+ES = Ego Strength [high (+) or low (-)]

MBTI Domains: 1) TF (Thinking-Feeling)

2) SN (Sensation-Intuition)

Criterion Variables:

BSRI: A = Androgenous Sex-Role Identity

T = Traditional Sex-Role Identity

R = Reversed Sex-Role Identity

U = Undifferentiated Sex-Role Identity

Figure 3.3A-F cont.

		BSRI	
		T	NOT T
+ES	MBTI Imbalance 2 Domains	+	-
	MBTI Imbalance 1 Domain	+/-	+/-
	MBTI Imbalance 0 Domains	-	+

3.3C Chi Square
Testing H_3 .

		BSRI	
		R	NOT R
-ES	MBTI Imbalance 2 Domains	+	-
	MBTI Imbalance 1 Domain	+/-	+/-
	MBTI Imbalance 0 Domains	-	+

3.3D Chi Square
Testing H_4 .

		BSRI	
		T+R	A+U
-ES	MBTI Balance 1 or 0 Domains	+	-
	MBTI Balance 2 Domains	-	+

3.3E Chi Square
Testing H_5 .

		BSRI	
		U	NOT U
-ES	MBTI Balance 2 Domains	+	-
	MBTI Balance 1 Domain	+/-	+/-
	MBTI Balance 0 Domains	-	+

3.3F Chi Square
Testing H_6 .

The Statistical Package for the Social Sciences (Nie et. al., 1975), was used to compute the chi square analyses.

Chi square is an appropriate statistical technique for hypotheses testing when the dependent variable is categorical and the independent variables are metric as is the case in this study.

The assumptions of chi square analysis are:

- 1) the variables must be independent from each other,
- 2) the subjects must be randomly and independently sampled,
- 3) each observation must qualify for only one category and
- 4) the sample size must be relatively large (McCall, 1970).

Summary

This chapter has presented the sequence of procedures which have been designed to establish empirically the hypotheses of this study. This study sets forth the proposition that individuation, contrary to Jung's assertion, is achievable by persons prior to mid-life.

In the following chapter the empirical findings and their assessment are presented.

CHAPTER IV

RESULTS OF THE ANALYSES

This chapter presents the research findings. Two multiple discriminant analyses and six chi square analyses were used to test the six hypotheses of this study. The results from these two statistical procedures are presented below. This chapter concludes with a presentation of the results from three supplementary analyses between demographic variables and major variables of this study.

Multiple Discriminant Analyses

Two multiple discriminant analyses were performed to determine whether the three independent variables (Ego Strength, MBTI Balance Total and MBTI Balance Difference) could, in any weighted combination, significantly distinguish between the four dependent variable (BSRI) subgroups (Androgenous, Traditional, Reversed and Undifferentiated). The three predictor variables presented some problems of independence because the MBTI Balance Total score and the MBTI Balance Difference score were derived from the same

MBTI, TF and SN scores. To avoid possible contamination, two separate analyses were computed. One analysis used Ego Strength and the MBTI Balance Total scores as predictor variables. A second analysis used Ego Strength and the MBTI Balance Difference scores as predictors.

The first discriminant analysis (predicting BSRI group from Ego Strength and Balance Total) yielded a canonical correlation of 0.17, with a Wilkes Lambda of 0.97. This was not significant (chi square = 6.075, $df = 6$). Thus, for the first analysis, no weighted combination of Ego Strength and MBTI Balance Total significantly distinguished between the four BSRI groups.

The second discriminant analysis (predicting BSRI group from Ego Strength and Balance Difference), yielded a canonical correlation of 0.19, with an associated Wilkes Lambda of 0.96. A chi square of 8.04 with 6 degrees of freedom was obtained. Again, no statistical significance was established. Thus, no combination of Ego Strength and MBTI Balance Difference could significantly distinguish between the four BSRI groups.

Table 4.1

Means and Standard Deviations of Study Variables Used in the Multiple Discriminant Analyses							
BSRI Group	N	Ego Strength		Balance Total		Balance Difference	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
Androgynous	50	45.20	5.19	35.64	21.85	11.16	11.05
Traditional	54	44.43	6.44	36.07	19.21	11.63	11.70
Reversal	49	42.67	6.11	35.22	17.70	12.12	11.19
Undifferentiated	48	42.81	7.39	37.25	21.08	14.13	10.97
All Subjects	201	43.81	6.37	36.04	19.88	12.23	11.22

Means and standard deviations for the three independent variables used in the multiple discriminant analyses in the present study, both for the total group of subjects and for the four BSRI subgroups are provided in Table 4.1.

Chi Square Analyses

The six hypotheses of this study were then subjected to a series of six chi square analyses to more directly test the individual hypotheses. Tables 4.2 - 4.7, restate the pertinent hypothesis and summarize the frequency distributions for each analysis.

Table 4.2

Chi Square Analysis Testing Hypothesis 1

Will Balance Scores on Both MBTI Domains (TF and SN) Combined with Increased Ego Strength Significantly Discriminate Between University Students with an Androgenous Sex-Role Identity and University Students in all Other BSRI Categories?

	A (BSRI)	T+R+U (BSRI)	Total
Balance on Both TF & SN Domains (MBTI)	12	20	32
Balance on One Domain (TF or SN) (MBTI)	10	31	41
Balance on Neither Domain (MBTI)	8	17	25
Total	30	68	98

Chi Square = 1.482; df = 2. Not significant.

Note: BSRI = Bem Sex-Role Inventory

A = Androgenous

T = Traditional

R = Reversed

U = Undifferentiated

MBTI = Myers-Briggs Type Inventory

TF = (Thinking-Feeling)

SN = (Sensation-Intuition)

Table 4.3

Chi Square Analysis Testing Hypothesis 2
 Will a Balance Score on One MBTI Domain (TF or SN)
 and an Imbalance Score on the Other Domain (TF or SN)
 Combined With Increased Ego Strength Significantly
 Discriminate Between BSRI Androgenous, Traditional or
 Reversed Verses Undifferentiated University Students?

	A+T+R (MBTI)	U (MBTI)	Total
Balance on One Domain (TF or SN) (MBTI)	31	10	41
Balance on Neither Domain (MBTI)	21	4	25
Balance on Both TF & SN Domains (MBTI)	25	7	32
Total	77	21	98

Chi Square = 0.655; df = 2. Not significant.

Table 4.4

Chi Square Analysis Testing Hypothesis 3
 Will Balance Scores on Both MBTI Domains (TF & SN)
 Combined with Increased Ego Strength Significantly
 Discriminate Between University Students with BSRI
 Traditional Sex-Role Identities and University
 Students in all Other BSRI Categories?

	T (BSRI)	A+R+U (BSRI)	Total
Imbalance on Both TF & SN Domains (MBTI)	9	16	25
Imbalance on One Domain (TF or SN) (MBTI)	10	31	41
Imbalance on Neither Domain (MBTI)	6	26	32
Total	25	73	98

Chi Square = 2.239; df = 2. Not significant.

Table 4.5

Chi Square Analysis Testing Hypothesis 4

Will an Imbalance Score on Both MBTI Domains (TF & SN) Combined with Decreased Ego Strength Significantly Discriminate Between University Students with a BSRI Reversed Sex-Role Identity and University Students in all Other BSRI Categories?

	R (BSRI)	A+T+U (BSRI)	Total
Imbalance on Both TF & SN Domains (MBTI)	9	21	30
Imbalance on One Domain (TF or SN) (MBTI)	11	27	38
Imbalance on Neither Domain (MBTI)	7	28	35
Total	27	76	103

Chi Square = 1.068; df = 2. Not significant.

Table 4.6

Chi Square Analysis Testing Hypothesis 5

Will a Balance Score on One MBTI Domain (TF or SN) and an Imbalance Score on the other Domain (TF or SN) Combined with Decreased Ego Strength Significantly Discriminate Between University Students with a BSRI Traditional or Reversed Sex-Role Identity vs. University Students with a BSRI Androgenous or Undifferentiated Sex-Role Identity?

	T+R (BSRI)	A+U (BSRI)	Total
Balance on One (SN or TF) or Neither Domain (MBTI)	38	30	68
Balance on Both (SN & TF) Domains (MBTI)	18	17	35
Total	56	47	103

Chi Square = 0.185; df = 1. Not significant.

Table 4.7

Chi Square Analysis Testing Hypothesis 6
 Will Balance Scores on Both MBTI Domains (TF & SN)
 Combined with Decreased Ego Strength Significantly
 Discriminate Between University Students with
 BSRI Undifferentiated Sex-Role Identities and
 University Students in all Other BSRI Categories?

	U (BSRI)	A+T+R (BSRI)	Total
Balance on Both TF & SN Domains (MBTI)	7	28	35
Balance on One Domain (TF or SN) (MBTI)	12	26	38
Balance on Neither Domain (MBTI)	8	22	30
Total	27	76	103

Chi Square = 1.265; df = 2. Not significant.

Following are the findings relative to each hypothesis:

Hypothesis One predicted that subjects with Balance scores on both MBTI domains (TF and SN), and high Ego Strength would more likely be Androgenous rather than belong to one of the other three BSRI groups. Chi square yielded 1.482 with 2 degrees of freedom. This finding was not significant and thus does not allow for rejection of the null hypothesis. Thus, this study does not demonstrate that subjects Balanced on both MBTI domains with high Ego Strength are significantly more Androgenous than are subjects in any of the other three BSRI groups.

Hypothesis Two predicted that, among high Ego strength subjects, subjects Balanced on one MBTI domain and Imbalanced on the other MBTI domain, would more likely maintain Androgenous, Traditional or Reversed versus Undifferentiated sex-role identities. Chi square yielded 0.655 with 2 degrees of freedom. Again, no statistical significance could be demonstrated and the null hypothesis cannot be rejected. High Ego Strength subjects, in some phase of differentiating their sex-role identity (either Androgenous, Traditional or Reversed), did not show a pattern of

Balance on one MBTI domain and Imbalance on the other MBTI domain significantly more so than did BSRI Undifferentiated subjects.

Hypothesis Three predicted that Traditional subjects, as opposed to all others, with high Ego Strength, would be Imbalanced on both the SN and TF, MBTI domains. Chi square yielded 2.239, with 2 degrees of freedom. Significance was not established and the null hypothesis was not rejected. Traditional subjects with high Ego Strength are neither less likely nor more likely than the other BSRI subjects to be Imbalanced on both MBTI domains, according to this research.

Hypothesis Four predicted that subjects with Imbalance scores on both MBTI domains and low Ego Strength, would maintain Reversed sex-role identities as opposed to the other three sex-role identities. A chi square of 1.068, with 2 degrees of freedom does not support this prediction. The null hypothesis cannot be rejected. Sex-role Reversed subjects were no different than the others in having low Ego Strength and being Imbalanced on both MBTI domains.

Hypothesis Five predicted that low Ego Strength subjects with Balance on one MBTI domain and Imbalance

on the other MBTI domain would be Traditional or sex-role Reversed subjects more likely than they would be Androgenous or Undifferentiated subjects. Again, chi square analysis was not significant ($\chi^2 = 0.185$, $df = 1$) and the null hypothesis could not be rejected. Low Ego Strength subjects with Traditional or Reversed sex-role identities are not significantly different from low Ego Strength, Androgenous and Undifferentiated subjects in the frequency of their having one MBTI domain Balanced and the other MBTI domain Imbalanced.

The Sixth and final Hypothesis of this study, predicted that subjects with Balance scores on both MBTI domains and low Ego Strength would more likely be Undifferentiated as opposed to belonging to any other BSRI group. This was not supported with a $\chi^2 = 1.265$ and two degrees of freedom. Again the null hypothesis was not rejected. Undifferentiated subjects with low Ego Strength did not differ from subjects in the other BSRI groups in terms of having both MBTI domains Balanced.

Thus, this study has posited six hypotheses relative to Jungian theory which have not achieved significance when subjected to statistical evaluation.

Supplementary Analyses

Although not directly related to the hypotheses that were set forth in this study, three additional analyses were conducted between the basic variables that constitute the core of this study and selected demographic variables.

Means and standard deviations for three demographic variables of the study are presented in Table 4.8. Regarding these demographic variables: First, no statistically significant age difference was found to exist between the two gender groups. Second, females, significantly more so than males had engaged in some form of therapy prior to serving as subjects in this study ($F = 5.43$, $p = .02$). Third, the mean Mental Health Self-Rating (assessed by a substituted item on the BSRI, see Chapter III and Appendix C), for males was significantly higher than was the mean Mental health Self-Rating for females ($F = 3.86$, $p = .05$).

Three additional analyses between study variables and demographic variables are presented for any possible light they may shed to explain why the original hypotheses were not found to be statistically significant.

Table 4.8

Age Differences, Previous Exposure to Therapy, and Mental Health Self-Ratings: Means and Standard Deviations by Gender Groups						
	<u>Age</u>		<u>Previous Therapy</u>		<u>Mental Health</u>	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
Females	19.86	3.02	.139	.35	6.22	.93
Males	20.51	4.03	.270	.45	5.95	1.00

First, a Pearson product moment correlation was obtained between Barron's Ego Strength score and subject's Self-Ratings on Mental Health. The correlation of .137, although low is significant at $P = .027$. Thus, there is a minor relationship present, in that subjects with greater Ego Strength tended to rate themselves as more mentally healthy.

Next, an analysis of variance was used to compare subjects who reported previous therapy with subjects who reported no previous therapy on Ego Strength. An obtained F of 1.30 with 1 and 199 degrees of freedom is not significant. Thus, Ego Strength did not differ

among subjects who had or had not experienced previous therapy.

Finally, an analysis of variance by Sex and BSRI category regarding Mental health Self-Ratings revealed a non-significant Sex by BSRI interaction, but significant main effects for both Sex and BSRI categories. As previously reported, mean Mental Health Self-Ratings for males were significantly higher than were mean Mental Health Self-Ratings for females ($F = 3.86$, $p = .05$). Males and females did not, however, have significantly different patterns of viewing themselves as Mentally Healthy as assessed by the BSRI categories. Both Androgenous males and females rated themselves as most Mentally Healthy. Traditional males and females rated themselves as slightly less Mentally Healthy than did Androgenous persons. The latter were followed by Reversals of both sexes. Undifferentiated subjects in both gender categories rated themselves as least Mentally Healthy of the four BSRI groups. Mean Mental Health Self-Ratings for combined male and female subjects in each BSRI category were significantly different ($F = 2.651$, $p = .05$). Mental Health Self-Ratings for subjects according to their sex-role identities is presented in Table 4.9.

Table 4.9

Mental Health Self-Ratings of Combined Male and Female Subjects in Each BSRI Category		
	<u>Means</u>	<u>S.D.</u>
Androgenous	6.3	.79
Traditional	6.24	1.04
Reversed	5.92	.93
Undifferentiated	5.85	1.05

Mean Mental Health Self-Rating decreased significantly from highest in the Androgenous group to lower for persons with Traditional sex-role identities, to still lower for sex-role Reversals. Subjects with BSRI Undifferentiated sex-role identities rated themselves as less Mentally Healthy than did subjects in the other four BSRI groups.

These supplementary analyses have thus provided some additional data, involving basic demographic factors as they relate to the variables contained in this study. This data will be included in the discussion of the overall findings, to be presented in the following chapter.

CHAPTER V

SUMMARY AND DISCUSSION

Included in this chapter are a summary of the present study, a presentation of the results, and a discussion of the possible meaning of these findings. Also included in this chapter are some limitations of this study and finally some implications for future research.

Summary of the Study

Problem

The basic question addressed in this study is whether or not one can "come to terms" with oneself -- that is, become integrated (in terms of Jung's four functions of consciousness), prior to mid-life? It was Jung's contention that individuation, described in part as the integration of conscious and unconscious psychic polarities (eg. thinking with feeling, sensation with intuition, masculinity with femininity), does not occur prior to mid-life (Jung, 1933, 1971).

Individuation as conceptualized by Jung has not been the focus of directing testing of hypotheses. Tuttle (1973), however, found a statistically significant relationship between the number of

developed Jungian functions (thinking, feeling, sensation, and intuition), and the presence of self-actualization within the individual. In addition, research on creativity points to a flexibility in the mental processes of creative individuals (Dellas and Gaier, 1970), such that these individuals appear capable of resolving what are usually considered to be psychic polarities or oppositional tendencies (Helson, 1971; Barron, 1961; Mckinnon, 1960). The resolution of psychic polarities is a hallmark of individuation (Mattoon, 1981).

That a resolution of psychic dicotomies is evident in people prior to mid-life comes in part from androgeny research (Block, 1973; Hann, Smith and Block, 1968; Bem and Lenny, 1976; Bem, Martya and Watson, 1976), which points to the capability of androgenous persons to have access to both the masculine and feminine parts of themselves.

Indirect empirical support from developmental psychology for an early onset of individuation comes from studies that identify identity formation (Waterman, Geary and Waterman, 1974) and the final formal operational phase of intellectual development (Piaget, 1958) as a late adolescent, early adulthood processes.

Additional support for the view that individuation can be facilitated in people younger than middle age is derived by implication from biofeedback studies (Green and Green, 1977; Simonton and Simonton, 1975) as well as from meditation research (Walsh, 1979; Shapiro and Giber, 1978). Both biofeedback and meditation are technologies that may be used to facilitate psychic wholeness (Singer, 1976; Simonton and Simonton, 1975; Nidich, 1975) in people of all ages.

Method

A sample of 253 randomly assigned (within gender) university students, 100 females and 101 males completed three inventories which comprised the independent and dependent variables of this study. The independent variables of this study included two scores on the Myers-Briggs Type Indicator (Thinking-Feeling and Sensation-Intuition) plus ego strength assessed by Barron's Ego Strength Scale. The dependent variable in this study was sex-role identity (either Androgenous, Traditional, Reversed or Undifferentiated) as measured by the Bem Sex-Role Inventory. Androgeny was understood here to be symbolic of the union of a crucial pair of opposites (the masculine and the

feminine) in an individuated human being (Mattoon, 1981).

Two multiple discriminant analyses and six chi square analyses were used to test the six hypotheses of this study. In addition, a Pearson product moment correlation and two analyses of variance between study variables and demographic variables were conducted. The discriminant analyses were performed to determine whether the three independent variables (Ego Strength, MBTI Balance Total and MBTI Balance Difference) could, in any weighted combination, significantly discriminate between the four dependent variable BSRI subgroups. Six chi square analyses were then conducted to more directly test the individual hypotheses of this study. In the chi square analyses the independent variables again included the standardized TF and SN scores from the MBTI and Ego Strength which were scored on the basis of a median split of the present data. The TF and SN scales for these analyses were not converted into Balance Total and Balance Difference scores as they were for the discriminant analyses. The results of each statistical analysis relative to the hypotheses of this study are discussed below. Three supplementary analyses between study variables and demographic variables were also performed. A discussion of these

additional analyses follows the presentation of the results of the analyses performed pertinent to the hypotheses of this study.

Results

The results of the statistical analyses designed to test the hypotheses of this study yielded no statistically significant findings. Based on the results of this study it would appear that individuation, defined in part by Carl Jung as the differentiation and integration of four psychological functions, thinking with feeling, and sensation with intuition, is not characteristic of undergraduate university students. Following is a restatement and brief explanation of the findings pertinent to each hypothesis.

Hypothesis One: Androgenous students were not significantly more balanced with respect to the four TFSN functions and did not have significantly higher ego strength than did their non-androgenous counterparts. This non-significant finding regarding the capacity for androgenous individuals for individuation appears to be in contrast to studies that identified androgenous persons as more able to integrate agentic (traditionally masculine) and

communal concerns (traditionally feminine) (Hann, Smith and Block, 1968), as consistently demonstrating higher levels of both expressive (traditionally feminine) and instrumental (traditionally masculine) behavior (Bem, 1975; Bem, Martya and Watson, 1976), as having greater moral maturity (Hann, Smith and Block, 1968), higher self-esteem (Bem, 1977; Spence and Helmreich, 1978), and higher ego strength (Block, 1973) than their non-androgenous counterparts.

Hypothesis Two: Students with differentiated sex-role identities (either Androgenous, Traditional or Reversed), were not significantly more balanced with respect to one TFSN domain. Nor were they imbalanced with respect to the other TFSN domain. Furthermore, they did not have significantly higher ego strength than did their BSRI Undifferentiated counterparts. Thus, individuals who expressed differentiation in terms of both the Jungian TFSN functions and ego strength were no more likely to express differentiation as opposed to a lack of differentiation with respect to their sex-role identity.

Hypothesis Three: Students with Traditional sex-role identities were not significantly more differentiated with respect to one function on each TFSN domain and did not have significantly higher ego

strength than did the non-Traditional students. According to expectation (Mattoon, 1981), college age students clearly showing differentiation of two Jungian functions as well as high ego strength did not also appear traditional in the sense of expressing a gender-appropriate sex-role identity.

Hypothesis Four: Students with Reversed sex-role identities were not significantly more differentiated with respect to one function on each TFSN domain. Neither did they have significantly lower ego strength than did non-sex-role Reversed students. Thus, some differentiation of the Jungian functions combined with low vs. high ego strength did not lead to a potential confusion of or a crossed sex-role identity.

Hypothesis Five: Students with Traditional or Reversed sex-role identities were not significantly more balanced on one TFSN domain and imbalanced (differentiated) on the other TFSN domain. Neither did they manifest significantly lower ego strength than did their non-Traditional or non-sex-role Reversed counterparts. Thus, subjects showing some discrimination of the Jungian functions but low ego strength did not also show differentiated (either Traditional or Reversed) as opposed to balanced (Androgenous or Undifferentiated) sex-role identities.

Hypothesis Six: And finally, BSRI Undifferentiated students were not significantly more balanced (undifferentiated) on both MBTI function domains. Neither did they manifest significantly lower ego strength than did students with more differentiated sex-role identities. Subjects expressing a lack of differentiation of the Jungian functions and low ego strength were no more likely than other subjects to endorse a low degree of both masculine and feminine personality characteristics on the BSRI. This is in contrast to other research (eg. Block, 1973).

Thus, the results of the statistical analysis do not support the hypotheses of this study, namely, that individuation is achievable by undergraduate university students. These are persons who are considerably younger than middle-age, the age purported by Jung for this process to first begin to manifest itself.

Supplementary analyses between study variables and demographic variables included a statistically significant Pearson product moment correlation of .137, $p=.027$, between Barron's Ego Strength scores and subjects' Mental Health Self-Ratings. Subjects with greater ego strength tended to rate themselves as more mentally healthy. Next, an analysis of variance was performed to compare subjects who reported having been

involved in some form of previous therapy with subjects who reported no previous involvement in therapy. This finding was non-significant ($F = 1.30$, $df = 1$ and 199). Ego strength did not differ among subjects who had or had not had previous therapy. Finally, an analysis of variance by sex and Bem Sex-Role Inventory category (Androgenous, Traditional, Reversed or Undifferentiated), regarding Mental-Health Self-Ratings revealed a non-significant sex by BSRI category but significant main effects for both sex and BSRI category. Mental-Health Self-Ratings were significantly higher for males than for females ($F = 3.86$, $p = .05$). Mean Mental-Health Self-Ratings for both sexes combined were significantly different for each BSRI category ($F = 2.65$, $p = .05$). Androgenous subjects rated themselves as most mentally healthy, followed by Traditionals, Reversals and finally Undifferentiated subjects. The last finding, in part, appears to contradict research that identifies sex-role Reversed vs. Traditional subjects as more able to engage in situationally elective behavior without regard for its stereotypes (Bem and Lenny, 1976).

Possible explanations for the non-significant findings of the statistical analyses used to test the hypotheses of the study follow. First, there is the

possibility that the construct of individuation as conceptualized by Jung was not properly operationalized within the present study. Next, there remains the possibility that Jung was correct. Individuation as conceptualized by Jung may not become manifest in people younger than middle-age. A discussion of these concerns as well as some recommendations for possible alternative ways of addressing these concerns follows.

Discussion

The Operational Implementation of the Construct of Individuation

Was the construct of individuation actually being measured by the procedures which were employed in this study? Were Jung's constructs accurately operationalized by the instruments used to assess individuation, viz., the Myers-Briggs Type Indicator, Barron's Ego Strength Scale and the Bem Sex-Role Inventory? Furthermore, it might be questioned whether or not any paper and pencil inventory has the capability to successfully operationalize the construct of individuation? It is appropriate at this point, also, to inquire if other or additional measures might be used more successfully to assess the presence or absence of individuation within the individual?

Regarding the success or lack of success in operationalizing Jungian constructs, the MBTI derived method of scoring the development of the individual functions may have contributed to confounding, and hence the non-significant results of this study. While this study attempted to measure the development or lack of development of each of the four TFSN functions within the individual, the procedure was possible only by implication from the use of the MBTI and the ES measures combined. Loomis and Singer's (1980) criticism regarding the attempt of inventories such as the MBTI, to operationalize Jungian constructs into assessment devices is pertinent here. The MBTI asks bipolarly scored questions, thus if a subject responded 'yes' to a 'thinking' question on the MBTI, he/she was simultaneously responding 'no' to a 'feeling' question. Thus by using the MBTI scores alone it could not be determined whether a balance score on two functions of one domain (e.g. equal scores on both thinking and feeling) meant that a person had previously developed both functions and was sometimes selecting a thinking response, and at other times selecting a feeling response. It might also mean that both functions were as yet undifferentiated from each other and that each was equally undeveloped. To correct for the inability

of the MBTI scales to measure each TFSN function in a unipolar manner, a measure of ego strength was used to interpret the MBTI scores as indicating development or a lack of development of the individual functions. Thus, for example, if a person received approximately equal scores on both thinking and feeling functions and scored high on ego strength, the MBTI, balanced TF profile was interpreted as implying previous development of these two functions. If on the other hand, a person received equal scores on both the thinking and feeling functions and had low ego strength, the same MBTI profile was interpreted as implying a lack of significant differentiation of one function from the other. Jungian theory understands ego strength to be an important prerequisite for individuation (Mattoon, 1981; Jacobi, 1973). Research by non-Jungians (eg. Block, 1973; Loevinger and Wessler, 1970) also point to ego development as a crucial ingredient of psychic wholeness. A unipolar measure of each of the four TFSN functions (Loomis, 1982) would, however, undoubtedly provide a more direct and potentially less confounded indication of the strength of each of the separate TFSN functions.

There is some indication that the Barron's Ego Strength Scale was a suitable measure to use in

conjunction with the MBTI scores for the purpose of indicating one's general adaptive or integrative ability. Ego strength was found to correlate significantly ($p=.027$) with one's self-appraisal of "Mental Health." Thus, Barron's Ego Strength Scale appears to have been an adequate measure to identify a balanced MBTI configuration as representative of previous differentiation (high ego strength) versus a lack of differentiation (low ego strength). That ego strength did not differ among subjects who had or had not experienced previous psychotherapy, might be of interest in light of Barron's (1953) position which regards one's latent ego strength as the most important determinant (within the patient) of response to brief psychotherapy.

Regarding the use of the Bem Sex-Role Inventory, there is first the question of whether androgyny was actually measured by this particular instrument. Bem (1974, 1975), perceives androgyny as a stable psychological trait which incorporates a balance of male and female characteristics. According to this conceptualization, the androgenous individual behaves in either a masculine or feminine way depending upon the situational demands. For others, notably Rebecca, Hefner and Oleshansky (1976), the concept of androgyny

implies a transcendence of sex-roles. If the androgenous person is characterized as someone who transcends stereotypes, a measure of androgeny not based on our present cultural stereotypes of masculinity and femininity might more accurately reflect one's status vis. a vis. androgeny. Kaplan (1979), for example, defines characteristics of the androgenous person to include adaptability, flexibility as well as the integration of masculine and feminine characteristics. A measure which includes characteristics such as these as contrasted with the culturally bound stereotypical responses on the BSRI might further clarify and more explicitly measure the concept of androgeny. In fact, in response to Lockley and Colten's (1979), concern with the conceptual status of the androgeny concept, Bem (1979) acknowledges her own concern when she writes:

...to the extent that the androgenous message is absorbed by the culture, the concepts of femininity and masculinity will cease to have such content and the distinctions to which they refer will blur into invisibility. Thus, when androgeny becomes a reality, the concept of androgeny will have been transcended.
p. 1053

The hypotheses of this study predicted that BSRI, Androgenous persons would be most individuated, Traditionals next, followed by Reversals and finally, by Undifferentiated subjects. This finding was not

supported using the MBTI and ES scores to predict BSRI sex-role identity. A subsequently performed analysis of variance of Mental Health Self-Ratings for the four BSRI subgroups found mean Mental Health Self-Ratings for subjects in the different BSRI groups to be statistically significant ($F = 2.615$, $p = .05$). Mental Health self-assessments were highest for Androgenous persons, decreasing slightly for persons with Traditional sex-role identities, again decreasing for sex-role Reversals and decreasing still further for persons with Undifferentiated sex-role identities.

While according to Jungian theory, androgeny is clearly an important component of individuation (Jacobi, 1965; Mattoon, 1981), there may be additional procedures which might have been used to validate this assumption empirically. A discussion of some other measures which may have been used both as predictor and criterion variables, along with appropriate implications will be discussed in ensuing pages.

Confirmation for Jung's Theory of Individuation?

An important consideration possibly accounting for the non-significant findings in this study is that Jung was in fact correct in his assessment of individuation as being a process reserved for the second half of

life. By individuation Jung meant "...a process by which individuals are formed and differentiated... having for it's goal the development of the individual personality" (Jung, 1971, p. 448). Jung described the process of individuation as involving "...an extension of the sphere of consciousness, an enriching of conscious psychological life (Jung, 1971, p. 448). This expansion of consciousness involved the differentiating of previously unconscious psychic contents and the subsequent integration of these unconscious and conscious psychic contents. More specifically, in this study the conscious differentiation of the four TFSN functions and their subsequent integration were used as measures of individuation.

Jung's clients were primarily middle-aged and his theories were developed primarily on this population. It was his belief that persons younger than middle-age could not have sufficiently differentiated the individual functions to allow for the integration of these initially opposite functions as is required for psychic wholeness. Unity with oneself and selfhood Jung believed, was not possible prior to mid-life.

Limitations of the Study

Limitations to this study already discussed include the quality and nature of the measures used. A major limitation of this research is the difficulty operationalizing the construct of individuation using the Myers-Briggs Type Indicator. This instrument does not allow for the assessment of individuation (Loomis, 1982, Loomis and Singer, 1980) except by implication using a combination of derived scores in conjunction with an Ego Strength measure. Also limiting to this study was the operational implementation of a construct as complex as individuation, wherein only cognitive, paper and pencil self-report measures were employed.

Regarding the sample used in the present study, there are at least three possible sources of bias that may contribute to the view that the present findings are of questionable generality. These include: 1) the volunteer status of the subjects, 2) the limited age range of the subjects tested, and 3) other evidence of a lack of representativeness of the sample. A discussion of these three concerns follows.

The Volunteer Status of the Subjects

Participants in this study were volunteers electing to participate in this study in order to

receive extra grade point credit in undergraduate psychology courses. They were not offered feedback regarding the results of their tests and their names were removed from their inventories as soon as they were recorded as having participated in the study and the inventories were coded. There is some question as to whether subjects taking these inventories with the explicit purpose of receiving feedback from them, perhaps for counseling or therapy purposes might not have responded differently from the volunteer subjects in the present study.

The Limited Age Range of the Subjects Tested

In this study only undergraduate university students were studied. They were tested at one point in time. From the results of this study it is difficult to generalize the results of these findings to other age and educational groups. Thus while the university students tested in this study did not appear to be individuated, the same might have been found to be true for a matched group of 40-year-old persons.

It would follow, therefore, that a more definitive assessment of the developmental processes regarding individuation within the individual might consist of

measurements of college and non-college populations at various points during the life span.

While measuring subjects longitudinally may be ideal, it is often neither economically nor logistically feasible. Thus, a cross-sectional sample of subjects of twenty-year-old college students and non-college students in the same age category, as well as their respective parents and grandparents might provide a more accurate assessment of individuation across the life span. Most likely, one could then determine by the use of the same measurements with a demographically matched sample whether psychic wholeness is achievable at age 40 as posited by Jung, or at age 20 as hypothesized in this study.

The Potential Atypicalness of the Present Sample

A possible source of problems in generalizing from the present study is that there is evidence that the present sample is somewhat different from the original sample on which the BSRI was standardized. Thus, the results of this study may not be typical of college students in general. Table 5.1 offers a presentation of the two samples regarding Bem Sex-Role Inventory scores. An explanation of the table follows.

Table 5.1

The Percentage of Subjects in the 1978 BSRI Stanford Normative Sample Compared with the Present Sample Classified as Feminine, Masculine, Androgenous and Undifferentiated on the Basis of a Median Split.				
	<u>Original BSRI</u>			<u>Undiffer-</u>
	<u>Feminine</u>	<u>Masculine</u>	<u>Androgenous</u>	<u>entiated</u>
Females	39.4%	12.4%	30.3%	17.9%
Males	11.6%	42.0%	19.5%	26.9%
	<u>Present Sample</u>			
Females	25.0%	27.0%	25.0%	23.0%
Males	21.8%	28.7%	25.8%	24.8%

In the present sample there were considerably fewer Feminine females (25.0%), versus 39.4% in the original BSRI sample. In addition, in the present sample there were significantly fewer masculine males (28.7%) versus 42.0% in the original BSRI sample. And finally, there were considerably more Masculine females in the present study (27.0%) versus 12.4% in the original BSRI sample.

In the present study the percentage of persons with Traditional sex-role identities (both males and females) was similar to the percentage of persons expressing Reversed sex-role identities. In the

original BSRI sample, the percentage of persons expressing Traditional vs. Reversed sex-role identities was considerably higher.

In general, male and female subjects in the present study were not as sharply distinguishable from each other as they were in the original BSRI sample. Additionally, in the 1978 BSRI study there were slightly more Androgenous females (30.3% vs. 25.0%) than in the present study. There were however, slightly more Androgenous males than Androgenous females in the present study. While some of these findings may be indicative of cultural changes in our society in the past seven years, there remains the fact that the present sample is different in various categories from the original norm group. There is the possibility that the present sample is atypical. This, of course, limits generalization of these findings to other college populations.

Implications for Future Research

Clearly the construct of individuation is complex and multidimensional. Objective paper and pencil inventories used alone may not have tapped the construct as well as might have been done had a combination of measures been employed. Such measures

might include a clinical interview as well as a combination of objective, projective behavioral and/or physiological measures.

Other objective measures which might have proven promising in the assessment of individuation include Singer and Loomis's Inventory of Personality (Loomis & Singer, 1979), and the Lifestyle Assessment Questionnaire (1980). Singer and Loomis's inventory, still in the validation stage, attempts to measure the Jungian TFSN functions independently as well as the Jungian attitudes of extroversion and introversion in conjunction with each function, hence ultimately allowing for a more direct assessment of individuation. The Lifestyle Assessment Questionnaire is a comprehensive self-report measure that elicits one's emotional, physical, social and spiritual state of well-being. These components are germane to Jung's theory of individuation and with the exception of the term 'spiritual,' are simultaneously used by the World Health Organization (WHO, 1958, in Capra 1982, p. 124) to define health in the preamble of its charter. A potentially useful projective measure of individuation is the Mari Card Test (Kellogg, 1980) which involves the use of mandalas to assess the psychic state of the self. Jung viewed mandalas as cryptograms of the

psychic state of the self (Jung, 1959, 1969).

Behavioral measures of individuation might include one's work in the world while potential physiological measurements might include blood pressure, pulse rate and/or per cent of body fat. Thus, a combination of measures might provide a more comprehensive means of assessing individuation within the individual.

The attainment of selfhood and self-realization, the goals of Jung's individuation process continue to appear worthy of further study. Scholars from philosophical and scientific backgrounds of every century have pointed out that the person who not only experiences greater emotional and physical well-being but who has made peace with oneself contributes most productively to making peace in the world. In terms of both prevention and treatment, it continues to make sense to study the processes involved in the facilitation of psychic wholeness. Perhaps as Ghandi (1957) suggests, old age is too late to begin work towards self-realization.

Future research might attempt to understand the psychic development of college students through an assortment of measures that include additional cognitive self-report measures, projective assessments, as well as behavioral and physiological measures which

are designed to assess the whole person, mentally, physically, socially, and spiritually. Perhaps focusing on the concept of wellness and its clinical identification, as well as the methodology to facilitate this process in college students might be a less cumbersome way of assessing the developmental process which the present study defined as individuation.

To confirm Jung's theory regarding the presence of individuation in people of middle age or older, while simultaneously disconfirming the presence of this integrative process in college students, people of both age categories must be studied and the results of each study compared.

The need for further research in this field is indicated in order to explore the implications of what this investigation has not revealed, rather than what it has revealed.

Jung contended that individuation is only to be achieved in mid-life (35-40+). According to Jung, younger individuals (20+) do have what it takes to become individuated. Jung hypothesized that a large degree of one-sidedness in function (thinking-feeling and sensation-intuition) is characteristic of most

young people (Jung 1933; 1971a). Mattoon addresses this point when she writes:

This one-sidedness (of function) occurs in order to get along in the world, the young person must have the ego strength that comes from excelling in one or two functions. Thus the young person expends a great deal of energy on his or her dominant....function and gives only minimum to the non-dominant. (1981, p. 173)

But Jung did not provide us with the empirical data to support this claim. Subsequent research might probe further into the construct of individuation, by addressing the following concerns: First, is individuation, as Jung defines the term, even achievable by persons of any age? Next, if achievable at all, at what age level does this process first begin to emerge? And finally, if individuation is achievable, as determined by empirical methodology, to what extent do heredity, learning and unique experiences of the individual play a part?

Until answers to the above questions and possibly others can be obtained by scientific methodology, the claims of Carl Jung perhaps still warrant questioning.

APPENDIX A

Approval by Committee on the Rights of Human Subjects



THE
GEORGE
WASHINGTON
UNIVERSITY

Washington, D.C. 20052 / Department of Psychology / (202) 676-6320

January 2, 1986

TO WHOM IT MAY CONCERN:

This is to certify that all data used by Ms. Rachel Lenn for her dissertation research has been collected by the undersigned as part of a larger research project being carried out at the George Washington University.

This larger project has been reviewed by the Committee on the Rights of Human Subjects of the Department of Psychology of George Washington University and found by that committee to conform to our guidelines for the protection of human subjects.

A handwritten signature in cursive script, reading "Stephen A. Karp".

Stephen A. Karp, Ph.D.,
Associate Professor

APPENDIX B

**Paper Detailing Extra Credit Psychology Option,
Rights, Safeguards and Responsibilities
of Research Participants**

APPENDIX B

Paper Detailing Extra Credit Psychology Option, Rights, Safeguards and Responsibilities of Research Participants

Psychology 01-08, 131-11, George Washington University

EXTRA CREDIT OPTION

You may receive 2 points added to the total number of points accumulated in the course in one of two ways. You may choose only one of the two options.

OPTION 1: PARTICIPATION IN PSYCHOLOGY EXPERIMENTS

You may choose to participate in two psychology experiments, giving you a total of 2 extra credit points. Each experiment will take one hour or less.

RIGHTS AND RESPONSIBILITIES OF EXPERIMENT PARTICIPANTS

There are many misconceptions and fears about participating in psychology experiments which can hopefully be cleared up. As a participant in psychology experiments, you have a number of rights and responsibilities which are outlined below.

PARTICIPANT RIGHTS/SAFEGUARDS

1. All experiments in which you may participate have been previously approved by the Committee for Research on Human Subjects of the psychology department to insure your physical and psychological safety and guarantee your rights.
2. All approved studies will be conducted by university faculty or faculty-sponsored personnel.
3. When you are participating in an experiment, you have the right to withdraw at any time without penalty if you feel uncomfortable.

4. After participating, the experimenter will tell you about the purpose of the experiment, what s/he hopes to find out, and will answer any questions which you have about the experiment and your participation in it.

PARTICIPANT RESPONSIBILITIES

1. You are responsible for showing up when scheduled. If you are unable to be there you are responsible for notifying the experimenter as soon as possible.
2. If you are not contacted in class or by phone to participate by Monday, March 19, it is your responsibility to call the extra credit coordinator to schedule participation. The extra credit coordinator for this semester is Professor Karp, and is located in Room 409, Building GG, 2125 G St., telephone number 676-7009. This person is responsible for assigning all extra credit points, and will return a list of those students who should receive them to each instructor at the end of the semester. If you have any questions about receiving extra credit, contact this person.
DO NOT CONTACT YOUR INSTRUCTOR.

APPENDIX C

Demographic Data Sheet

APPENDIX C

Demographic Data Sheet

PSYCHOLOGY 1, 8, 131-11 EXTRA CREDIT OPTION

NAME _____

AGE _____ CLASS (check one: Freshman ____ Soph ____
Junior ____ Senior ____ Other ____

Gender: M ____ F ____

COURSE FOR WHICH EXTRA CREDIT SOUGHT: Psych 1 ____ 8 ____
131-11 ____

SECTION OF COURSE (e.g. 10, 11, etc.): _____

OPTION: Hours of research participation: 2 ____ 1 ____

Written summaries of articles: 2 ____ 1 ____

Local Phone: Day _____ Evening _____

Local Address: _____

Home Address: _____

Major: Psychology ____ Other (Specify) _____

APPENDIX D
Instruction Sheet

APPENDIX D

Instruction Sheet

INSTRUCTIONS

This constitutes an extra credit project for Psych. 1, 8, or 131-11 for which you can earn two points (the maximum possible). It involves taking three personality tests, the Minnesota Multiphasic Personality Inventory (MMPI), the Bem Sex-Role Inventory (BSRI) and the Myers-Briggs Type Indicator (MBTI).

The MMPI and MBTI come with test booklets and separate answer sheets. Please record your answers on the answer sheets and do not mark the test booklets. For the BSRI, both questions and room for answers are on the same sheet.

Do not put your name on any of the test booklets or answer sheets, but please fill in the other information asked for. But do put your name, course and section on the bottom of this sheet so that we can give you the extra credit you earn.

YOU DON'T HAVE TO TAKE THESE TESTS IF YOU DON'T WANT TO OR IF THEY DISTRESS YOU. JUST RETURN THE MATERIALS AND LET US KNOW THAT YOU DIDN'T TAKE THE TESTS. IF YOU ARE IN PSYCH 1, YOU CAN STILL EARN EXTRA CREDIT BY WRITING BRIEF SUMMARIES OF JOURNAL ARTICLES. IF YOU ARE IN PSYCH 8 OR 131-11, SEE YOUR INSTRUCTOR FOR ALTERNATIVE WAYS OF EARNING EXTRA CREDIT.

If you have concerns about the tests or any other questions, please call Dr. Karp, who is running the project, on Tues. or Thurs., noon to 1 PM, at GWU extension 7009 or visit him in room GG-409 and he will be glad to help.

Your answers to the tests will be kept anonymous, so that no person will know how you answered any question. The information requested below is for purposes of getting you the extra credits you earn and will be destroyed once those credits have been assigned you.

NAME _____
Please Print Carefully

Psych Course 1 8 131-11
(circle one)
Section _____

APPENDIX E

Substituted Item on the
Bem Sex-Role Inventory

APPENDIX E

Substituted Item on the Bem Sex-Role Inventory

RESEARCH QUESTIONNAIRE

Using the following scale, circle the number which best represents how well each of the following characteristics describes yourself:

1	2	3	4	5	6	7
Never or Almost never true	Usually not true	Some- times but in- frequently true	Occas- ionally true	Often true	Usually true	Always or almost always true

* 15. Mentally healthy1 2 3 4 5 6 7

* Substituted Item.

APPENDIX F

**Additional Item on the
Myers-Briggs Type Indicator
(Form F)**

APPENDIX F

Additional Item on the Myers-Briggs Type Indicator

DIRECTIONS

There are no 'right' or 'wrong' answers to these questions. Your answers will help show how you like to look at things and how you like to go about deciding things. Knowing your own preferences and learning about other people's can help you understand where your special strengths are, what kinds of work you might enjoy and be successful doing, and how people with different preferences can relate to each other and be valuable to society.

Read each question carefully and mark your answer on the separate answer sheet. Make no marks on the question booklet. Do not think too long about any question. If you cannot decide on a question, skip it but be careful that the next space you mark on the answer sheet has the same number as the question you are then answering.

Read the directions on the answer sheet, fill in the information asked for and then work through until you have answered all the questions.

WHICH ANSWER COMES CLOSEST TO TELLING HOW YOU
USUALLY FEEL OR ACT?

- * 167. Have you A) ever or B) never been in psychotherapy?

* Additional Item.

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