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A Correlational Analysis of Personality Factors, Reasoning Styles, and Gender in Identity Integration

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LOYOLA UNIVERSITY CHICAGO

A CORRELATIONAL ANALYSIS OF PERSONALITY FACTORS, REASONING
STYLES, AND GENDER IN IDENTITY INTEGRATION

A THESIS SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
MASTER OF ARTS
DEPARTMENT OF PSYCHOLOGY

BY

DANIEL J. ZOLLER

CHICAGO, ILLINOIS

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CHAPTER I

INTRODUCTION

Erikson asserts that the formation of identity is the fundamental developmental task of adolescence. A well-formed or integrated identity provides a coherence to personality as well as a sameness and continuity that is apparent to others. Erikson describes identity:

Ego identity...in its subjective aspect, is the awareness of the fact that there is a self-sameness and continuity to the ego's synthesizing methods, the style of one's individuality, and that this style coincides with the sameness and continuity of one's meaning for significant others in the immediate community. (Erikson, 1968; p. 50)

Thus according to Erikson, synthesis, coherence, and a temporal continuity in the personality that is apparent to others represent the salient characteristics of an integrated identity. Most developmental psychologists have accepted Erikson's theories regarding the fundamental importance of identity. This acceptance, in turn, has led to attempts to refine the construct in ways that give it "clinical vitality" and facilitate its operationalization, as well as a search for factors that influence identity formation (Waterman and Archer, 1990). Considering these objectives, Waterman (1984) has refined and delimited Erikson's definition of personal identity as:

having a clearly delineated self-definition comprised of those goals, values, and beliefs to which the person is unequivocally committed. These commitments evolve over time and are made because the chosen goals, values, and beliefs are judged worthy of giving a direction, purpose, and meaning to life. (p. 331)

Through his refinement of the definition, Waterman sought to identify the fundamental structural and content characteristics of identity that encompass the issues of vocation, religious beliefs, and gender roles. In addition, his definition also addresses how choices are made within each domain, and the extent to which these choices are realistic.

A review of the literature investigating the formation of identity suggests that social cognition and personality strongly influence identity formation (Grotevant, 1987). Moreover, Grotevant, Thorbecke, and Meyers (1982) and feminist psychologists such as Bakan (1966), Chodorow (1974), and Gilligan (1982) have asserted that gender differences influence how an individual works through the process of forming an identity. Grotevant notes that identity exploration may be characterized as a cognitive problem solving process directed at garnering the necessary information about one's self and the world which guide critical life choices. These choices include vocation, ideological orientation, and interpersonal issues. In addition, Grotevant argues personality factors have an important impact on the process. He notes that factors such as openness to experience, ego-resiliency, and self-esteem each influence the outcome of this developmental task. With regard to gender issues, Grotevant hypothesized that since women tend to focus on interpersonal and sexual issues in the formation of their identity, the task of identity development might be usefully divided into two domains: the ideological and the interpersonal (Grotevant, Thorbecke, and Meyers, 1982). Although cognitive style, personality traits, and gender may be important in identity formation, a search for studies that examined simultaneously the role of these factors was unsuccessful. Thus, this study will investigate the relationship between cognitive

development, personality adjustment, and gender on identity formation in adolescence.

CHAPTER II

A REVIEW OF THE LITERATURE-IDENTITY FORMATION

THEORY OF IDENTITY FORMATION

Marcia (1980) notes identity formation is "as much a process of negation as affirmation" (p.160). He notes that identity formation requires a commitment to an ideological position, a sexual orientation, and a career choice. Both Erikson (1968) and Marcia (1980) emphasize the notion that for one to integrate an identity, options must be explored, crises faced, and conflicts resolved. The process of negation involves achieving independence from one's parents by giving up the role of being cared for and by assuming responsibility for one's own well-being. Moreover, one must leave behind childhood fantasies of glamorous life styles. Similarly, Erikson suggests that a state of identity confusion occurs when one is confronted by situations which entail making a set of commitments to vocational choice, to psychosocial definition, and to physical intimacy. Given the pressures of these competing demands, one's success in the formation of an identity depends on cognitive problem solving responses as well as personality adjustment. (Marcia, 1980)

Based on Eriksonian theoretical constructs, Marcia (1966) has operationalized four categories describing one's status in the formation of an identity: identity achievement, moratorium, foreclosure, and identity diffusion. In the development of these categories

Marcia stressed two dimensions described by Erikson in his theory of identity formation - exploration and commitment. The four identity classifications indicate: a) whether or not the crisis has occurred, and b) whether or not the individual has completed an exploratory process. In addition, the categories indicate whether or not one has made the ideological, vocational, and interpersonal commitments necessary to form a stable identity.

Individuals who have failed to explore their options adequately, fall into one of two categories: identity defused or foreclosed. An individual who has not completed an exploratory process, has failed to pass through a crisis (moratorium) phase, and failed to make the vocational and ideological commitments may be seen as identity diffused. An individual who makes the commitments, yet has failed to explore the alternatives, may be viewed as foreclosed. Such individuals have usually adopted the ideological and vocational commitments of their parents.

Individuals who have actively explored life's alternatives determine the other two categories: moratorium or identity achieved. Individuals in the moratorium phase are exploring alternatives systematically and may be experiencing an identity crisis. Such persons have yet to make self-determined commitments. In contrast, individuals who have experienced a crisis after a period of exploration and have made the requisite ideological, vocational, and interpersonal commitments may be described as identity achieved. In effect, each of Marcia's identity categories reflects one's capacity to solve problems and make commitments indicating that cognitive development plays a role in identity formation.

CHAPTER III

COGNITIVE DEVELOPMENT AND IDENTITY STATUS

Piaget And Post-Formal Operational Theories Of Cognitive Development

Researchers on cognitive development have reformulated Piaget's initial theories regarding formal operational thinking. They have made distinctions regarding the process and product of so-called "post formal" operational thinking. Discussion of how identity formation may be linked to different cognitive styles, requires a short review of theory and research on post formal operational thinking.

Theories of post formal operational thinking have their roots in Piaget's stage theory of cognitive development. Keating (1980) observes that Piaget offers a comprehensive theory of the structural changes that occur in the cognitive development of both children and adolescents. Keating notes that research stemming from Piagetian theory has made many contributions to what is known about adolescent thought processes including conditional reasoning and information on age related differences on performance factors. Furthermore, Keating has discussed the limitations of Piaget's theory when employed to describe adolescent thinking. He notes the theory best serves as an "organization framework" to describe cognitive abilities based on a given set of tasks. Finally, he asserts that beyond differences in performance on cognitive tasks, little

is known about adolescent thinking. With these limitations in mind, cognitive developmental theory in adolescence according to Piaget's model will be discussed.

Piaget hypothesized that cognitive development was an invariant process which occurred over four stages, lasting from birth to about 16 years of age. Each stage represents a reorganization, integration, and transformation of the cognitive structures of the preceding stage. Piaget's stages are ordered hierarchically and one progresses to the next stage based on a series of transformations in the cognitive structure of the child. For example the preoperational stage (2-7 years) follows the sensory motor stage (0-2 years). In the sensory motor stage the infant's intelligence is limited to actions on the environment. The child develops a set of complex problem solving skills, but without a mental representation of these processes. In the preoperational stage the child has developed the capacity to form mental representations and employ symbolization. The qualitative transformation that differentiates a preoperational child from a sensory motor child is the use of symbols. Thus, the criteria for structural change that permits movement from one stage to another is both a hierarchal integration and a qualitative transformation.

By early adolescence, Piaget theorized that one has reached the formal operations stage. At this stage one is capable of making and testing hypotheses, engaging in introspection, employing formal logic, and thinking abstractly. Moreover, other theorists suggest that at this stage absolute thinking predominates (Basseches, 1984; Kramer, 1990; and Perry, 1970). Finally, Piaget asserted that the period of formal operations continues throughout adulthood without any major modification. Thus, the formal

operations stage was characterized by a logical, scientific, and absolute form of reasoning.

Since Piaget, other cognitive developmental theorists have modified his theory to encompass the entire life span. Many assert, contrary to Piaget, that one's cognitive capacities continue to develop to qualitatively higher levels of organization and describe what may be called "post-formal" operational thinking. Such assertions have important ramifications for how one conceptualizes identity development.

Epistemological World Views and Cognitive Development

One theory of post formal operations was constructed by Kramer (1989) who has suggested that cognitive development continues both within and beyond the period of post formal operations. Kramer (1989) and others (Basseches, 1984; Kramer, 1990; and Perry, 1970) hypothesize that in early adolescence one employs an absolute style of thought. However, as the individual proceeds through adolescence to early adulthood, one's reasoning style undergoes a change. By the late teens and early twenties, individuals view their world, their choices, and their responsibilities in a more complex way. As a result, a more relativistic form of thinking emerges. Dialectical or organismic thinking appears later in life as adults come to integrate their life experiences in middle adulthood.

In Kramer's model, people are viewed as lay scientists or theorists who construct theories about their world. Borrowing from Kelly's (1955) Theory of Personal Constructs, she notes that people collect data, make hypotheses, and test theories about the social world. These theories are referred to as "personal constructs." Kramer

suggests that constructs undergo change when they no longer adequately explain events in the world. Under these circumstances, one alters one's theories to more adequately explain reality.

Kramer's model augments Piaget's stage theory of cognitive development. Kramer views development as "a series of successive transformations in one's lay theory" because the problems one confronts cannot be adequately addressed by the theory one currently holds. According to Kramer each succeeding change broadens the range of problems that can be addressed. The theoretical underpinnings of Kramer's theory of post formal operational cognitive development are the world views defined and discussed in Pepper's (1942) work, *World Hypotheses* (Kramer, 1990).

World Views

World view refers to the philosophical positions one formulates about the physical and social world and how these views influence hypotheses generated regarding interpersonal relationships, behavior, ideas, and perceptions of the world. Pepper observed that theories can be classified according to four world hypotheses: formism (absolute thinking), mechanism, contextualism (relativistic thinking), and organicism (dialectical thinking). Kramer asserts that the stages for her post formal operational theory of cognitive development are represented in Pepper's four world views.

Pepper's World Hypotheses may be classified on two bi-polar dimensions, the analytic-synthetic and dispersive- integrative. Analytic world views which are reductionistic, classify and study basic facts. Synthetic world views which are derivative from basic facts, are holistic and integrative. The dispersive-integrative dimension

determines the presence of possible causal relationships. Dispersive world views do not posit causality, whereas integrative world views make causal attributions. Thus, each world view represents a different stage of cognitive development and they differ from each other on one of the two dimensions: analytic-synthetic, or dispersive-integrative. (These bipolar dimensions of the world view construct are represented in Table 1.)

Formism and mechanism fall into the analytic category. These forms of thinking emerge during the formal operations stage of cognitive development in early adolescence and generally last until late adolescence. Both represent absolute forms of thinking. Formism (also referred to as absolute thinking) holds to absolute principles in the classification of knowledge based on types of traits. Formism represents a dualistic form of thinking with clear distinctions between right and wrong. Stability and order characterize the world of the absolute thinker. Formistic thinking is idealistic. (See tables 2 and 3 for additional explanations and examples). In contrast, mechanistic reasoning is characterized by predictability, with environmental influences or external sources as the vehicles for change. Linear causality (cause-effect relationships) characterizes causal attributions at this level. Cause-effect relationships are determined through scientific experimentation. Thus, formism and mechanism both represent absolute forms of reasoning; however, the categories differ in attribution of causality. Formism merely classifies knowledge, whereas, mechanism classifies facts and incorporates notions of linear causality.

Contextualism (relativistic thinking) and organicism (dialectical thinking) fall into the synthetic category. Relativistic thinking is believed to emerge in late adolescence and

Table 1

Illustration of the Bipolar Dimensions of Pepper's World View Construct

Dimension	Analytic	Synthetic
Dispersive	Formism	Contextualism
Integrative	Mechanism	Organicism

Table 2

Assumptions and Descriptions of Each Style of Thinking

Lay Theory	Name of Assumption	Description
Absolute	traits/types	people, things, and events are grouped into one category, which is seen as fixed and unchanging; the thinker makes sweeping generalizations (formism).
	stability/fixedness	the natural order of things is for people and events to stay the same (formism or mechanism).
	individual as	two possible types of responses: 1) people
	passive	do not grow or change without an external impetus (mechanism); 2) knowledge is obtained passively, discovered from objective properties of an unchanging world, rather than constructed (formism or mechanism).
	linear causality	change occurs in a deterministic, chainlike manner; any event or behavior can be traced to a single cause or several additive causes; causality can be isolated (mechanism).
	absolute principles/ ideals	there are absolute, correct principles which must guide action in all situations; these are universal and hold for all people regardless of the social-historical and life context; utopia is at least theoretically possible (formism).

(continued)

Table 2 (continued)

	one-sided solutions	various aspects of this assumption include: a) belief in one correct or ideal solution to a problem; 2) belief that one person or group has the right to impose his, her, or its will on another; and 3) a tendency to see only one perspective (formistic or mechanistic).
	noncontradiction	phenomena and knowledge are seen as inherently noncontradictory; contradictions represent errors; two opposing points of view cannot be accepted as simultaneously valid (absolute or mechanistic).
Relativism	pragmatism	action is dictated by what is most expedient or necessary to achieve some objective, rather than by universal moral principles, there is not one right, universal viewpoint or solution.
	change as basic	change as an inherent feature of reality and generally tends to occur randomly (as the context changes).
	broader context	the broader social, historical, cultural, and physical context influences how one will approach and act in a situation.
	tools of knowledge	the lens through which, or perspective from which, one views a situation will influence how one interprets it; knowledge as seen as subjective and sometimes arbitrary.
	selected aspect	that aspect of a situation on which one focuses will influence one's interpretation of the situation.
	uniqueness	every person, society, group, and situation is unique.

(continued)

Table 2 (continued)

	unpredictability	(because every situation is unique and change is random) one cannot predict what will happen in the future with any degree of certainty; chaos and disorder are possible; discontinuity is the rule.
	statement of contradiction	awareness that a contradiction exists, or that perspectives conflict and that each may be valid.
	contrasting systems	ability to articulate two or more contexts of perspectives which would yield conflicting knowledge systems and solutions.
Dialecticism	implication of opposites	each assertion, element, person, event, or perspective - everything - contains the seeds for its opposite - i.e., interpenetrates its opposite; in order to have one thing, something else must be given up; every solution also yields its own antithesis.
	emergence	the whole or the organization transcends and gives meaning to its parts; all life is systematic.
	movement through forms	change occurs through evolution, where conflicts are resolved and redefined by new, more integrated solutions which themselves generate new conflicts; the process continues indefinitely; people, groups, society, events, and knowledge evolve through states of increased integration.
	reciprocity	a change in any one part of a system influences and in turn is influenced by a change in other parts of the system. In such a system everything is inter-related, and, hence, it is impossible to determine or isolate causality.

Table 3

Examples of Absolute, Relativistic and Dialectical Thinking

I. Absolute thinking

A. Formism

1. Personality determines whether you can work with someone. This is because there are certain types of personalities which are innately compatible and you know immediately whether you can work with such a person.
2. Dissension is a dangerous thing. This is because dissenters threaten stability and moral fabric of a culture, endangering its future success.

B. Mechanism

1. The most powerful countries have the right to use their power. This is because the world operates by survival of the fittest and if the strong do not maintain their power their existence is threatened.
2. It is impossible to predict whether a marriage will last. This is because having enough information about the person you're going to marry allows you to predict how he or she will react to different situations and prepare accordingly.

II. Relativism (Contextualism).

1. There is no right or wrong for anyone. This is because relationships form on the basis of who's there at the time, whether these people want a relationship and can make it work.
2. The most powerful countries do not have the right to use their power. This is because what one country views as right and just, another may see as unfair and unjust.

III. Dialectism (Organicism)

1. Problems solving is a question of coming up with a creative solution which will satisfy all sides. This is because a good decision maker is able to see many sides of problems and realizes that the most satisfying solution for all takes these different sides into account.

Table 3 (continued)

2. People are essentially contradictory. This is because people are always changing and becoming someone new, which contradicts the old self.

to last until middle adulthood. In relativism, knowledge is seen as subjective and understood in context, with no clear right or wrong. All knowledge is seen as inherently contradictory. Change is a fact of life and is unpredictable.

Dialectical thinking typically emerges in middle adulthood according to Kramer (1990). The emergence of dialectical thinking in the person occurs from an interaction between an active changing person and an active changing world. One progresses toward an increasingly adaptive system of functioning. Although all knowledge is seen as inherently contradictory, the contradictions are seen as interrelated. Thus, both relativism and dialecticism view events in context and knowledge as inherently contradictory. These views differ importantly however, in that dialectical world view understands these contradictions as being interrelated, rather than randomly occurring as in the relativistic (contextual) world view.

Issues In Post-Formal Operational Theories

Theories explaining cognitive development beyond post formal operations remain controversial. Post formal operations theorists such as Kramer have elucidated a theory and operationalized the constructs; however, research supporting the theory has been limited. Kramer maintains that two transformations occur in thinking beyond formal operations: relativistic and dialectical thinking. However, many theorists (Arlin, 1975; Chandler, 1975; Fisher, Hand, and Russell, 1984; Kramer and Woodruff, 1986 and Lunzer, 1975) reject the assertion that relativistic and dialectical thinking are equivalent to a Piagetian stage. They argue that operations underlying these stages are not qualitatively different from those of the period of formal operations.

It is difficult to prove that relativistic thinking is qualitatively different from formal operations, and, hence, a more advanced form of cognitive organization. Kramer (1990) notes that Inhelder and Piaget (1958) devised problems illustrating formal operations that incorporated a notion of relativistic thinking, "coordination of frames of reference." Kramer and Woodruff (1986) found that subjects who had not reached the formal operations stage in their cognitive development still possessed an awareness of relativity. Moreover, many other investigators (Arlin 1975; Chandler, 1975; and Fisher, Hand and Russell, 1984) view relativistic thinking as a component of formal operational thinking.

With regard to dialectical thinking, Kramer acknowledges that a dispute exists over whether or not this style of reasoning represents a qualitatively different form of cognitive organization. However, she argues forcefully for the position that dialectical thinking represents a qualitatively different form of reasoning from formal operations. Citing Basseches (1984), she argues that dialectical thinking permits the resolution of contradictions inherent in formal operational systems. One deals with "a systematic relationship between contradictory events." Furthermore, Basseches asserts that formal and dialectical reasoning deal with different levels of analysis. Formal logic deals with sets of propositions that have fixed truth values within a given system. However, certain propositions may be true within opposing systems. Dialectical thinking attempts to resolve contradictions between opposing systems.

Therefore, a more cogent case can be made that dialectical thinking is indeed a stage in the Piagetian sense, than can be made for relativistic thinking. Whether or not

either type of thinking meets the criteria as an additional stage may be less important for the purposes of this study other than the order in which each type of thinking emerges in development. Cognitive developmental theorists appear to agree that developmentally, absolute thinking emerges first, followed by relativistic thinking, and then by dialectical thinking (Chandler, 1975; Fischer, Hand, and Russell, 1984; and Kramer, 1990).

The Role of Reasoning Style in Identity Formation.

Work has begun assessing how each style of thought affects other developmental processes such as identity formation. A review of the literature suggests that one's cognitive problem solving resources correlate with the formation of identity. Tzuriel and Klein (1977) found a curvilinear relationship between cognitive complexity and level of identity integration. Individuals who scored highest on a measure of identity had a moderately complex cognitive style. Subjects with a highly complex cognitive style process too much information in too much detail. The authors suggested that their failure to integrate an identity was due to inefficient functioning of their integrative processes. Subjects low in complexity, viewing the world in terms of black and white thinking, may have difficulty relating all factors in the identity formation process. Cote's (1977) investigation lends additional support to Tzuriel and Klein. Cote found that individuals falling under the category of identity diffused had a complex cognitive style in comparison to individuals falling into identity achieved or moratorium. Kirby (1977) found a significant correlation between foreclosure and simplicity of cognition. Waterman and Waterman (1974) found identity achievers and those in moratorium had a more reflective thought style in the Matching Familiar Figures Test. These individuals

spent time thinking about a problem before arriving at a decision. Whereas, foreclosed and identity diffused individuals tended to be impulsive. These individuals displayed short decision latencies and made more errors. Thus, a number of studies have shown a relationship between complexity of cognition and identity status. However, none of these studies linked identity status directly to cognitive developmental level or one's reasoning style.

In their 1990 study, Kalbaugh and Kramer found that a college sample most often employed relativistic reasoning particularly when faced with a personal conflict. Furthermore, such thinking was a significant predictor of moratorium scores on the Extended Objective Measure of Ego Identity Status (Grotevant and Adams, 1984). In addition, when identity status was used to predict world view, scores of those subjects in moratorium as well as identity achieved were a significant predictor of absolute reasoning. Although the authors predicted a significant positive relationship between mechanistic reasoning and identity achievement, a significant negative relationship emerged. Finally, gender differences occurred; women had significantly higher moratorium scores than men, and men higher absolute reasoning scores than women.

Kalbaugh and Kramer concluded that their results suggest two types of moratoria may occur. An absolute moratorium may lead to a mechanistic identity achievement and a relativistic moratorium to a dialectical identity achievement. The authors maintain that such an interpretation supports Kramer's view that world views can be ordered hierarchically (from least to most sophisticated): absolute, mechanistic, relativistic, and dialectical. Moreover, the authors conclude the relativistic thinker takes a more

sophisticated approach to the workings of his/her personality and social relationships than the absolute thinker. Furthermore, "by broadening the definition of cognition to include the idea of adolescent as an epistemologist, important relationships between cognition and personality may be found..." Thus Kramer and Kalbaugh (1990) suggest their findings imply that personality factors play a role in cognitive development and hence, in identity development. This notion is discussed below.

Kalbaugh and Kramer's (1990) findings are intriguing. Their data support the hypothesis that different types of post-formal thinking occur and that these styles of reasoning may be related to different stages of identity formation. However, some methodological issues in their study raise questions about the measures they used and the conclusions they reached. First, the authors ran the analysis with a low number of subjects (approximately six per predictor variable) in the multiple regressions. Second, the authors did not state how they arrived at identity status classifications on the EOMEIS-I. In the manual, the authors of the test state that the interpersonal and ideological domain scores should not be combined. Kramer and Kalbaugh do not indicate whether they used a combined score or whether they only used one domain score, either the interpersonal or ideological. The authors of the scale recommend that two classifications be given for each subject because correlation between the two domains is moderate ($r_s = .60$) (Bennion, Adams, and Huh, 1989).

Classification issues also occur regarding subject's style of reasoning. Categorization was based on an interview and the authors made the claim that relativistic thinking predominated in the sample. However, for the rest of the analyses, the authors

based classification of subjects' style of reasoning on the Social Paradigm Belief Inventory. The authors do not mention whether or not the pencil and paper measure yielded the same results as the interview.

Their results also bring to light additional questions about the relationship of cognitive styles to identity development. First, their results failed to confirm the hypothesis that mechanistic reasoning correlates positively with identity achievement. Such a relationship makes intuitive sense because mechanistic reasoning is an integrative style of reasoning. The college students participating in this study, who are in their late teens and early twenties would not be expected to have developed dialectical reasoning (the other form of integrative reasoning). Thus further study may explain this result. Second, one's epistemological world view appears to explain between 19% and 22% of the variance for subjects' score on the EOMEIS-I. Thus, other factors may play an important role in how one forms identity. Personality factors may play an important role. Finally, the authors found gender differences in their data. These differences, while intriguing, have yet to be explored more fully. These three issues suggest that more research is needed to investigate how cognitive styles relate to identity development. Therefore, this study attempts to expand on Kramer and Kalbaugh's original investigation by not only relating one's world view, but also one's personality adjustment and gender to identity formation.

CHAPTER IV

PERSONALITY CHARACTERISTICS AND IDENTITY FORMATION

Previously, the observation was made that the process of resolving cognitive conflicts plays a role in the evolution of identity formation. Similarly, personality characteristics are often considered to be important in determining how interpersonal conflicts are resolved, suggesting the possibility that personality factors also play a role in identity integration. Marcia (1967) cites findings that indicate personality adjustment plays an important role in identity formation. In one study, he found high levels of anxiety in subjects who were in the moratorium status. Foreclosures appeared to be the least anxious; however, he attributed this lack of anxiety to defensiveness. Administering the MMPI, Oshman and Manosevitz (1974) found that both foreclosures and moratorium subjects "had patterns of conflict" as indicated by high scores on the Pt (psychasthenia) and Sc (schizophrenia) subscales. In samples of college women, Marcia and Friedman (1970) found that women who fell into the foreclosure category were both low in anxiety and high in self-esteem. Women who appeared in the identity diffusion and moratorium categories scored low in self esteem and high in anxiety. According to Prager (1976), women in Identity Achievement and Foreclosure had highest self-esteem statuses of the four categories. Thus, although research suggests a link between personality factors and identity formation, the specific relationships between these constructs are unclear.

Methodological issues in the aforementioned research suggest the results should be interpreted cautiously. Oshman and Manosevitz's (1974) study only used male subjects. In addition, they classified subjects identity status employing an interview schedule with only one rater, the first author. Therefore, classifications have no established interrater reliability. Finally, no indications were given as to whether or not interviewers were blind to the hypotheses of the study (to control for experimenter effects). Marcia and Friedman's (1970) study reported low interrater reliability (65% to 75%). and the authors did not report whether they used a straight percentage agreement or the Kappa statistic to adjust for chance agreement. In the studies by Prager (1976) and Marcia and Friedman only female subjects participated. Thus, in all three studies generalizability is limited.

CHAPTER V

GENDER AND IDENTITY FORMATION

Different writers have suggested that men and women resolve the identity task differently. Bakan (1966) and feminist writers such as Gilligan (1982) and Chodorow (1974) observe that personal identity has different meaning for the genders. The authors suggest that each gender employs different values, styles, and strategies in their approach to resolving the identity task. They contrast the individuation of males to the "embeddedness" of females. In interpersonal relationships, the authors note that men emphasize separateness while women focus on connectedness (Gilligan, 1982). Gilligan notes that these differences put men and women at odds in the development of identity because masculinity appears to be defined by separation. Therefore male gender identity is threatened by intimacy. On the other hand, femininity appears to be defined through attachment and female identity seems to be threatened by separation.

Gilligan (1982) has written extensively on women's identity development. She asserts that gender differences extend to moral reasoning with males emphasizing fairness, justice, and rights, whereas women appear to value care and response. Gilligan suggests that two issues underlie gender differences in moral development: one is the masculine tendency to emphasize rights and the feminine tendency to focus on responsibility. The other difference is stylistic, with women employing a contextual and

narrative reasoning rather than formal and abstract reasoning. Thus, given the feminine tendency to focus on relationship, care, response, and responsibility Gilligan (1982), and Grotevant, Thorebecke, and Meyers (1982), suggest that women may focus on the interpersonal issues of identity formation in adolescence. Males who place an emphasis on occupation, fairness, separation, and justice may focus on ideological identity. Thus each gender may focus on a different dimension of the identity task at different periods of their development.

This theory has received mixed support in the empirical literature. Bilsker, Schiedel, and Marcia (1988) examined how gender differences influenced identity integration in different content areas (occupational, interpersonal, and ideological). Results suggested that the interpersonal area was more predictive of women's overall identity status and the ideology area was more predictive for men. The authors claimed that these findings were consistent with the theoretical assertions of Gilligan (1983).

The research of Archer and Waterman (1988) and Archer (1989) call into question the findings of Blisker, Schiedel, and Marcia (1988), as well as the theoretical assumptions of Gilligan (1982), Chodorow (1974), and Bakan (1966). Archer and Waterman (1988) in a review of the literature assessed gender differences in a construct Waterman labeled "ethical individualism". Ethical individualism subsumes four constructs: Erikson's personal identity, Maslow's self-actualization, Rotter's locus of control, and Kohlberg's principled moral reasoning. The authors advanced the theory that ethical individualism was gender neutral and that the construct would be associated with optimal psychological functioning for both men and women. However, they noted that

the notion that psychological individualism is gender neutral runs counter to the theories of Chodorow (1974), Bakan (1983), and Gilligan (1982).

Archer and Waterman (1988) reviewed the literatures of personal identity, self actualization, locus of control, and principled moral reasoning to determine if findings already published could substantiate their claims. They found a total of 84 studies which evaluated gender differences in personal identity (N=16), self-actualization (N=5), locus of control (N=22), and principled moral reasoning (N=41). The authors concluded that neither gender fit the stereotypical patterns of identity development advanced by theorist such as Gilligan, Chodorow, and Bakan. Results did not categorize men as more individuated, separate, agentic, nor concerned about an ethic of rights. Furthermore, their findings did not describe women as more as embedded, concerned with community, and demonstrating an ethic of care and response. Citing Waterman's 1984 study of psychological functioning, the authors observed that both men and women who had high scores on each of the variables seemed to function most effectively psychologically, whereas men and women with lower scores on these constructs functioned less effectively.

Archer (1989), in a longitudinal study of identity development of college-age males and females found no gender differences in identity formation across the domains of vocational choice, religious beliefs, and sex-role definitions. Archer concluded that the traditional assumptions raised by Gilligan and others, that the process of identity integration differs across gender, needs to be re-evaluated.

Whether or not the theories advanced by feminist theoreticians needs to be re-evaluated is open to question. Perhaps methodologically more rigorous research needs to be conducted in order to evaluate the claims of Gilligan and others more rigorously since flaws in Archer and Waterman's (1988) research undermine their own conclusions. For example, Archer and Waterman (1988) base their conclusion that personal identity, self actualization, locus of control, and principled moral reasoning were gender neutral on simple tallies of the number of studies that failed to show differences. On the personal identity construct 13 studies showed no significant gender differences and only 5 studies showed a significant difference. A meta-analytic review employing more rigorous statistical techniques may have more accurately tested the questions. In Archer's (1984) series of studies a variety of methodological issues force one to interpret her findings with caution. First, the studies do not indicate whether or not the interviewers were blind to the hypotheses of the study. Moreover, subjects were self-selected; therefore, generalizability of the findings is called into question. Thus, the dearth of studies, as well as methodological issues that undermine interpretation of the results of the studies of gender differences in identity formation, suggests further research is needed to clarify this issue.

CHAPTER VI

THE CURRENT STUDY

This research sought to clarify how reasoning style, personality, and gender contribute to identity development. For the purposes of this study, three measures have been selected: 1) the Extended Measure of Ego Identity Status-II to categorize level of identity integration (Bennion, Adams, and Huh, 1986), 2) the Social Paradigm Belief Inventory to determine epistemological world view (Kramer, Kalbaugh, and Goldsten, 1989), and 3) the NEO Personality Inventory to assess personality adjustment (Costa and McCrae, 1985). Although it is impossible to predict all possible relationships between these variables, a number of hypotheses were offered.

The study attempted to replicate Kalbaugh and Kramer's (1990) findings relating epistemological world view and identity formation. Like Kramer and Kalbaugh's study, this study employs a college sample; therefore, relativistic thinking should be the most prevalent reasoning style. Additionally, since this sample was drawn from a college student population, it is predicted that most of the subjects will fall into the moratorium identity status. Identity Achievement suggests an appraisal of one's options, talents, and abilities and a selection of goals. Kalbaugh and Kramer hypothesized that as a result of having gone through this decision making process, subjects with scores that are high on identity achievement should possess an integrative form of reasoning: dialectical

thinking. Their results however failed to confirm this hypothesis. In addition, identity achievement should be predicted by conscientiousness since one of the assumptions of identity achievement is a systematic exploration and conscientious individuals tend to be calm, secure and goal-directed. (See Table 4 for a diagram of a priori hypotheses including all relevant criterion variables and predictor variables.) These subjects have gone through an exploration process, made some decisions, and now may pursue their goals purposefully.

Identity achievers in the interpersonal domain should also score high on the personality scales assessing extroversion and agreeableness and on measures of dialectical thinking. The former scales are an explicit assessment of interpersonal adjustment. Well-integrated subjects, who have made critical choices regarding values attitudes and personal style should feel more comfortable asserting themselves and dealing with the range of interpersonal skills these subscales assess.

Individuals in the moratorium status should be in a process of exploration and evaluation of life's options. As a result, it was hypothesized that ideological moratorium would be predicted by high scores in relativistic thinking, neuroticism, and openness to experience. In the interpersonal domain, relativistic thinking, openness to experience and gender will also emerge as significant predictors. Such a finding would be consistent with the theories that suggest that in this stage of their development, women focus on the interpersonal domain of identity development.

Subjects classified as foreclosed will be predicted positively by absolute reasoning, and negatively by the openness to experience subscale of the NEO. Although these

Table 4

Summary of Hypothesized Positive and Negative Predictors of Identity Status

CRITERION VARIABLE	A B S O L U T E	R E L A T I V I S T I C	D I A L E C T I C A L	N E U R O T I C I S M	E X T R O V E R S I O N	O P E N N E S S	C O N S C I E N T I O U S	A G R E E A B L E N E S S	G E N D E R	A G E
DIFFUSION	+						-		+m	
FORECLOSURE	+					-				
MORATORIUM		+		+		+				
ACHIEVED			+		+					
INTERPERSONAL										
DIFFUSION	+				-				+m	
FORECLOSURE	+					-				
MORATORIUM		+				+			+f	
ACHIEVED			+		+					

"+" Postive relationship to the criterion variable.
 "-" Negative relationship to the criterion variable.
 "m" gender= male.
 "f" gender= female.

subjects have made commitments to career, ideology, and interpersonal orientation, they have done so without exploring their options. Thus, these subjects will be less open to experience.

With regard to identity diffusion, identity theory and previous research would suggest these individuals do not have the required organization in their reasoning style to work through this developmental task. Thus absolute thinking will emerge as a significant positive predictor and conscientiousness a negative predictor of ideological diffusion. Additionally, consistent with previous research gender (male) will also positively predict ideological diffusion. In the interpersonal domain, absolute thinking and male gender also will be significant positive predictors; however, it was expected extraversion would emerge as a negative predictor.

Finally, gender differences will emerge. Like Kalbaugh and Kramer, it is predicted that women will have higher moratorium scores than men. In addition, it was hypothesized that men would tend to have higher absolute reasoning scores than women and women will employ more relativistic reasoning. Given that women have higher moratorium scores, they will also have higher scores on the neuroticism scale and the openness to experience scale of the NEO.

CHAPTER VII

METHOD

Subjects

One-hundred forty one students from an urban university served as subjects in the study. Three subjects were dropped from the analysis because their protocols were incomplete. Subjects ranged in age from 18.7 years to 55.77 years ($M=22.54$ years, $SD=5.48$). Forty five males and 94 females (2 subjects did not disclose their gender) participated in the study. The culturally diverse sample included subjects from 18 countries. Eighty three percent (117) of the subjects were born in the United States. Sixty two percent of the sample was Caucasian, 6.4% African American, 10.6% were Latino, and 9.9% were Asian; the rest of the subjects were from mixed multicultural backgrounds (e.g. Asian-Latino). The sample included 67 (47.5%) Catholics, 26 (18.4%) protestants, 26 (18.4%) without religious preference or atheist, 10 (7.1%) Orthodox Christians, 5 (3.5%) Muslims, 3 (2.1%) Jews, 1 (0.7%) Buddhist, and 1 (0.7%) Hindu. The sample spanned the economic spectrum. Thirty four (24.1%) reported a family income of over \$100,000, 45 (31.9%) between \$50,000 and \$100,000, 36 (25.5%) between \$25,000 and \$50,000, 16 between \$15,000 and \$25,000, and 6 (4.3%) below \$15,000.

Measures

1. Extended Objective Measure of Ego Identity Status - II. Developed by Grotevant and Adams (1984) and revised by Bennion, Adams, and Huh (1986), the measure contains 64 items with a six point scale. The instrument assesses identity integration under the four possible configurations (diffusion, foreclosure, moratorium, and achieved identity) in both the ideological and interpersonal domains. High scores coincide with strong agreement with a particular configuration.

The Extended Objective Measure of Ego Identity Status - II (Bennion, Adams, and Huh 1986) employs the Eriksonian theoretical framework and Marcia's categorical classification scheme to assess identity formation. This version represents an expansion and revision of two earlier versions of the measure, the prototype OMEIS (Adams, Shea & Fitch, 1979) and the Extended Objective Measure of Ego Identity Status - I (Grotevant & Adams, 1984). The measure was developed based on the assumption that the two critical processes involved in identity formation, exploration and commitment, could be operationalized and measured in a self-report questionnaire.

The instrument provides an assessment of exploration and commitment on three dimensions of identity formation: ideological identity, interpersonal identity and a total identity scores. The ideological scale taps the domains of occupation, politics, religion, and philosophical life style. Interpersonal identity scale assesses sex roles, friendship, recreational choices, and dating.

The psychometric properties of this measure have been investigated extensively. A series of eight studies were conducted by the authors in the construction of the

instrument. Moreover, the instrument has been employed in at least 30 additional studies.

Reliability estimates include measures of test-retest reliability, internal consistency, and split half reliability. Internal consistency estimates were done in fourteen studies with a range of .30 to .89 on both the interpersonal and ideological subscales. The authors report that the median alpha across studies was .66 with higher alpha values for the ideological subscale than the interpersonal scales. The median value for test-retest reliability was .76. Split-half reliability correlations ranged from .37 to .64. Thus measures of reliability indicate the instrument has adequate reliability.

An instrument's validity is based on how well the measure taps the construct it has been designed to measure. Studies have examined predictive, construct, and concurrent validity of the EOMEIS - II. The EOMEIS - II has been shown to have predictive validity with measures of cognitive development (Bennion and Adams, 1985), ego development (Adams, Shea, and Fitch, 1984; Bennion, 1988; intimacy (Bennion and Adams, 1984; Bennion, 1988), locus of control (Abraham, 1983; Bennion, 1988; and Francis, 1981), and masculinity and femininity (Lamke and Abraham, 1984).

An assessment of construct validity attempts to determine how well a measure taps the theoretical components of a given construct. Factor analyses by Bennion, Adams and Huh (1985), Bennion (1988), McConnell (1985), and Grotevant and Adams (1984) indicated that separate factors emerged for identity achieved and foreclosed. However, the studies indicate that diffusion and moratorium share some common variance. Studies correlating identity status across ideological and interpersonal domains,

concurring with a priori hypotheses, indicated a moderate convergence. (For example identity achieved in the ideological domain showed moderate correlation with identity achieved in the interpersonal). Correlation of the ideological scales with the interpersonal scales ranged from .38 to .92. The authors report that tests of discriminant validity between the interpersonal subscales ranged from .27 to .76 and for the ideological subscales from .19 to .79.

2. Social Belief Paradigm Inventory. Kramer, Kahlbaugh, Goldsten's (1984) measure assesses absolute, relativistic, and dialectical thinking that serves as the basis for the formulation of one's world view. The instrument contains 27 items. Each item contains three statements about a social domain representing an absolute, relativistic, or dialectical assumption.

The Social Belief Paradigm Inventory was developed with four goals in mind. The instrument was designed to measure one's epistemological world view in order: 1) to consider cognitive developmental trends, 2) to measure absolute, relativistic, and dialectical thinking, 3) to account for the underlying assumptions (See tables 2 and 3) to assess how these assumptions as reflected in each world view relate to the social world (Kramer, Kalbaugh, & Goldston, in press).

The scale has gone through various validation procedures. In order to establish face validity, the authors presented the scale to researchers who have investigated paradigm beliefs both empirically and theoretically. These experts accurately classified absolute, relativistic, and dialectical statements with 93% agreement. Internal

consistency which was assessed using Cronbach's alpha was .75, thus showing a moderately high consistency.

Convergent and discriminant validity of the measures was assessed using the OMPI, the WHS, the Bruden tolerance of ambiguity Scale and the second half of the WAIS-R vocabulary test. Correlations with the Organicism-Mechanism Paradigm Inventory (OMPI), the World Hypothesis Scale (WHS), and the Bruden Tolerance of Ambiguity were all significant. In addition, the measure showed no correlation with the WAIS vocabulary and the personality measures.

3. The NEO Personality Inventory. Developed by Costa and McCrae (1985), the measure consists of 181 items and employs a five point Likert scale. The instrument measures five personality factors or dimensions: neuroticism (N), extroversion (E), openness (O), agreeableness (A), and conscientiousness (C). The neuroticism scale assesses emotional stability and adjustment versus neuroticism or "maladjustment." Thus, the neuroticism scale measures negative emotions. Negative emotions have been shown to interfere with cognitive processes and may interfere with successful adjustment according to Costa and McCrae. One with a high score on this scale would tend to be worried, nervous, emotional, insecure, and inadequate. A person with a low score would tend to be relaxed, calm, unemotional, secure, and at ease. Neuroticism should correlate with the dispersive forms of reasoning, i.e., formistic and relativistic reasoning.

Extraversion scale examines interpersonal relationships in terms of both quality and intensity. In addition, the scale assesses need for stimulation, activity level, and positive emotions. High scores suggest a sociable, active, talkative, person-oriented,

affectionate, and energetic person. Low scores a more reserved, retiring, quiet, and sober person.

The openness scale taps one's tendency to seek out experiences for the sake of the experience as well as the propensity to explore unfamiliar situations and places. Open individuals explore both their outer and inner worlds. Costa and McCrea note that not only do open persons experience their positive and negative emotions more intensely but also they are open to unconventional values, ideas, and beliefs. Low scorers on this scale tend to hold more conventional views with interests more narrow in scope and less intense. This scale should correlate with relativistic reasoning.

Agreeableness like extroversion measures a dimension of social behavior. Agreeableness taps one's interpersonal orientation assessing whether the person prefers to take a more cooperative attitude in their relationships with others, or whether one holds a more antagonistic attitude toward interpersonal relationships. As Costa and McCrea observe each orientation may be advantageous depending on the situation. Agreeable persons tend to be helpful, empathic, trusting, and cooperative. Low scorers on this scale tend to be skeptical, competitive, and antagonistic.

Conscientiousness measures one's capacity for self-direction and an orientation toward achievement. People scoring high on this scale tend to be organized, motivated, ambitious, punctual, and hardworking. Low scorers tend to be less focused, lackadaisical, careless, and less motivated.

The NEO Personality Inventory has been widely used in research and reliability and validity have been well-established. Briefly, the authors report high internal

consistency with test-retest reliability ranging from .66 to .91. The measure shows moderate to strong correlation with the Eysenck Personality Inventory, the Guilford Zimmerman Temperament Survey, and Peck's Individual Style of Coping measure among others.

4. Crowne-Marlowe Social Desirability Scale. This instrument assesses the degree to which responses may be influenced by socially desirable response sets in a 33 item true-false format (Crowne-Marlowe, 1960).

Procedures

This sample of college students completed the four measures anonymously in counterbalanced order during a one hour session. Students entered the room, were given instructions for completion of the surveys, and received academic credit for their participation in the study.

CHAPTER VIII

RESULTS

Social Belief Paradigm Inventory

It was hypothesized that relativistic reasoning would predominate in this sample; however, this result did not emerge from the data. Scores on each of the subscales on the SBPI indicated that subjects had a mean scores of 5.17 (SD=2.79) in absolute thinking, 21.01 (SD=4.95) in relativistic thinking, and 33.54 (SD=7.81) in dialectical thinking. (For a complete breakdown of the sample on each of the subscales see Table 5.) To determine if subjects were absolute, relativistic, or dialectical thinkers, subjects were given a classification based on their highest Z-score. Subjects received a Z-score for each reasoning style (absolute, relativistic, and dialectical) and were categorized based on their highest score. This method of classification split the sample into three approximately equal groups: 44 absolute thinkers, 47 relativistic thinkers, and 47 dialectical thinkers.

Extended Objective Measure Of Ego Identity Status - II

Scores were calculated for subjects on each of the identity subscales (diffusion, foreclosure, moratorium, and achievement) for both the interpersonal and ideological domains yielding a total of eight identity scores per subject. (Table 6 presents a list of the results in comparison with the normative sample.) Subjects were then categorized

Table 5

Means, Standard Deviations, and Ranges of Social Belief Paradigm Inventory Scores According to Reasoning Style Presented for the Total Sample and Separated by Gender (N=138)

Style of Reasoning	M	SD	Range	
Absolute	5.17	2.79	0-14	
Relativistic	21.01	4.95	12-34	
Dialectical	33.54	7.81	18-57	
Total	59.81	4.77	46-73	

	Results by Gender			
	Male (N=45)		Females (N=91)	
	M	SD	M	SD
Absolute	6.27	3.19	4.67	2.42
Relativistic	18.98	4.86	22.15	4.70
Dialectical	33.67	9.53	33.46	6.96
Total	58.91	5.87	60.29	4.12

Table 6

Means, Standard Deviations, Ranges of Scores on the Extended Measure of Ego Identity Status II (N=138)

	M	SD	Range		
<u>Ideological</u>					
Diffusion	22.62	6.15	9-40	28	(20%)
Foreclosure	17.75	6.92	8-34	14	(10%)
Moratorium	25.91	5.88	8-40	77	(56%)
Achievement	32.79	5.36	19-47	19	(14%)
<u>Interpersonal</u>					
Diffusion	20.50	5.87	8-39	19	(14%)
Foreclosure	14.51	5.82	8-32	5	(4%)
Moratorium	26.16	5.78	8-42	91	(66%)
Achievement	31.84	6.41	14-45	23	(16%)

By Gender

	Males (N=45)		
	M	SD	<u>N</u>
<u>Ideological</u>			
Diffusion	24.07	6.28	11 (24%)
Foreclosure	19.09	7.34	8 (18%)
Moratorium	27.20	5.38	21 (46%)
Achievement	33.47	4.36	5 (12%)
Females (N=91)			
	M	SD	<u>N</u>
Diffusion	21.88	6.06	17 (19%)
Foreclosure	17.15	6.66	6 (7%)
Moratorium	25.22	6.08	54 (59%)
Achievement	32.45	5.84	14 (15%)

(continued)

Table 6 (continued)

	By Gender		
	Males (N=45)		<u>N</u>
	M	SD	
<u>Interpersonal</u>			
Diffusion	22.16	5.86	8 (18%)
Foreclosure	15.47	6.48	3 (7%)
Moratorium	27.60	4.79	28 (62%)
Achievement	32.82	5.75	6 (13%)
	Females (N=91)		<u>N</u>
	M	SD	
Diffusion	19.71	5.75	11 (12%)
Foreclosure	13.99	5.35	2 (2%)
Moratorium	25.45	6.17	61 (67%)
Achievement	31.35	6.76	17 (19%)

into one of the four identity status classifications for both interpersonal and ideological identity employing the scoring guidelines offered by Bennion, Adams, and Huh (1990).

Initially, an attempt was made to give each subject an overall identity classification by combining the interpersonal and ideological identity scores. However, results indicated that actual agreement between interpersonal and ideological scales occurred in only 53 of the cases. The Kappa statistic reflecting agreement in identity status across the ideological and interpersonal domains was .183. (Table 7 contains a crosstabulation of interpersonal and ideological identity scores.) Therefore interpersonal and ideological identity were considered to be independent domains and separate analyses were run for each category. In both the interpersonal and ideological identity subscales, subjects indicated highest agreement with the moratorium identity status. Sixty seven percent of the sample was classified in the moratorium status in terms of interpersonal identity and 56.7% in terms of their ideological identity.

NEO Personality Inventory

Scores were calculated for all scales and subscales of the NEO Personality Inventory. Although many of the scores appeared to be slightly elevated in comparison to the normative sample, mean scores for the two groups did not differ significantly. (Table eight presents a list of the NEO group means and standard deviations results.)

Crowne Marlowe Social Desirability Scale

Scores on the Crowne Marlowe Social Desirability Scale were correlated with each of the subscales of the NEO Personality Inventory, the SBPI, and the EOMEIS-II. Only two significant correlations emerged with the Crowne Marlowe. In each case, the

Table 7

Crosstabulation of Scores for the Ideological and Interpersonal Domains of the Extended Measure of Ego Identity Status II

	Ideological Domain				Raw Total
	Diffusion	Foreclosure	Moratorium	Identity Achieved	
Interpersonal Domain					
Diffusion	5	5	9	0	19 13.9%
Foreclosure	2	1	1	0	4 2.9%
Moratorium	17	6	57	11	91 66.4%
Identity Achieved	3	2	10	8	23 16.8%
Column Total	27 19.7%	14 10.2%	77 56.2%	19 13.9%	137 100.0%

Note. Scores in the highlighted diagonal indicate the number of Ss classified into the same identity category scores ideological and interpersonal domain. For example, only 5 of 19 Ss fall into the diffusion category on both domains.

Table 8

Means and Standard Deviations for Subjects' Scores in Comparison to the Normative Sample on the NEO Personality Inventory by Gender

	Male		<u>Normative Sample</u>	
	M	SD	M	SD
<u>Domain Scales</u>				
Neuroticism (N)	90.42	19.62	86.1	21.1
Extraversion (E)	116.27	18.89	116.6	16.8
Openness (O)	122.22	17.70	121.9	19.9
Agreeableness (A)	43.02	6.57	45.3	7.2
Conscientiousness (C)	44.33	7.10	44.1	8.8
<u>Neuroticism Facet Scales</u>				
Anxiety	16.22	4.99	15.3	4.8
Hostility	13.68	4.67	12.7	5.1
Depression	15.82	5.85	14.0	5.3
Self-Consciousness	16.54	4.89	15.2	4.5
Impulsiveness	16.04	2.83	17.9	4.7
Vulnerability	12.00	4.70	10.9	4.0
<u>Extraversion Facet Scales</u>				
Warmth	21.78	4.35	22.1	4.1
Gregariousness	17.02	4.62	17.2	4.8
Assertiveness	16.24	5.15	16.6	4.3
Activity	18.80	3.89	17.7	4.3
Excitement-Seeking	22.42	4.01	21.5	4.1
Positive Emotions	20.00	4.61	21.5	4.3

(continued)

Table 8 (continued)

	<u>Normative Sample</u>			
	Male		Male	
	M	SD	M	SD
<u>Openness to Experience</u>				
Fantasy	21.11	4.26	21.0	4.9
Aesthetics	19.78	4.82	19.5	5.6
Feelings	22.44	4.16	22.5	4.2
Actions	15.87	3.86	16.4	3.6
Ideas	22.40	4.47	20.6	5.5
Values	20.62	4.47	21.9	4.1

	<u>Normative Sample</u>			
	Female		Female	
	M	SD	M	SD
<u>Domain Scales</u>				
Neuroticism (N)	97.22	17.21	94.9	21.2
Extraversion (E)	119.45	17.32	114.9	17.4
Openness (O)	125.63	18.57	123.4	17.2
Agreeableness (A)	46.35	7.96	49.1	7.0
Conscientiousness (C)	43.96	8.86	45.7	9.2
<u>Neuroticism Facet Scales</u>				
Anxiety	19.34	4.66	18.2	5.1
Hostility	14.53	4.89	12.8	5.0
Depression	17.12	5.84	15.7	6.0
Self-Consciousness	16.89	4.35	16.6	4.7
Impulsiveness	15.60	2.91	18.8	4.4
Vulnerability	13.74	3.80	12.8	4.4

(continued)

Table 8 (continued)

	<u>Normative Sample</u>			
	Female		Female	
	M	SD	M	SD
<u>Extraversion Facet Scales</u>				
Warmth	23.72	4.11	22.4	3.7
Gregariousness	17.48	4.42	17.6	4.6
Assertiveness	16.84	4.61	15.5	4.9
Activity	18.16	4.34	17.5	4.5
Excitement-Seeking	21.42	4.85	20.2	4.7
Positive Emotions	21.56	4.21	21.8	4.6
<u>Openness to Experience</u>				
Fantasy	20.02	5.65	20.17	4.7
Aesthetics	21.98	4.84	20.9	5.5
Feelings	24.24	3.96	24.2	3.7
Actions	16.34	3.81	16.4	3.8
Ideas	20.84	5.10	19.5	5.3
Values	22.21	4.24	21.7	3.4

correlation was low (neuroticism, $r=-.33$ and agreeableness, $r=.28$). (Table 9 lists all subscales with the Pearson's r for Social Desirability.)

Principal Findings

In order to examine the hypothesized influence of personality characteristics and thinking style on identity formation, stepwise multiple regressions were conducted. In these equations, absolute, relativistic, and dialectical world views, the five personality factors from the NEO, age, and gender were used as predictor variables. Each of the four identity statuses (diffusion, foreclosure, moratorium, and achievement) for both ideological and interpersonal dimensions were used as the criterion variable. Therefore, a total of 8 multiple regressions were conducted. (Tables 10 and 11 summarize these results.) The following sections discuss the findings for each of the four identity statuses. In each section, the amount of variance accounted for by each significant predictor is noted.

Findings for Identity Diffusion

It was hypothesized that both absolute thinking and conscientiousness would be significant predictors of ideological identity diffusion, with the former variable being positively and the latter variable negatively related to the criterion variable. Contrary to the hypotheses, neither of the above variables appeared as significant predictors of ideological identity diffusion. In contrast, extroversion emerged as the only significant predictor and accounted for 4.3% of the variance. The relationship to the criterion was negative.

Table 9

Correlations Between the Crowne Marlowe Social Desirability Scale and Subscales of the NEO Personality Inventory, the Social Belief Paradigm Inventory, and the Extended Measure of Ego Identity Status

Absolute Reasoning	-.0272
Relativistic Reasoning	.0348
Dialectical Reasoning	-.0090
Neuroticism	-.3334*
Extraversion	.1267
Openness	.0279
Conscientiousness	.1028
Agreeableness	.2832*
Ideological Diffusion	.1410
Ideological Foreclosure	.0398
Ideological Achievement	-.0613
Interpersonal Diffusion	.0282
Interpersonal Foreclosure	.0309
Interpersonal Moratorium	-.0939
Interpersonal Achievement	.0214

* $p < .05$

Table 10

Summary of Significant Positive and Negative Predictors of Identity Status

CRITERION VARIABLE	A B S O L U T E	R E L A T I V E I S T I C	D I A L E C T I C A L	N E U R O T I C I S M	E X T R O V E R S I O N	O P E N N E S S	C O N S C I E N T I O U S	A G R E E A B L E N E S S	G E N D E R	A G E
DIFFUSION					- *					
FORECLOSURE	*					-				- *
MORATORIUM				+					+ *	
ACHIEVED								+ *		
INTERPERSONAL										
DIFFUSION			- *		-				+	
FORECLOSURE						-				- *
MORATORIUM						+		- *		
ACHIEVED	+				+					

Eight predicted findings were obtained and 7 unpredicted findings emerged.

"-" Negative relationship to criterion variable.

"+" Positive relationship to criterion variable.

"*" Relationship to criterion variable not predicted by an a priori hypothesis.

Table 11

The Actual Relationship of Predictor Variables to Criterion Variables

Identity Status	Variable	Beta Value	r ²	F	P
<u>Diffusion</u>					
Ideological	(a)Extraversion	-.2068	.043	5.98	.0157
	Total		.043		
Interpersonal	(a)Extraversion	-.3973	.158	25.12	.000
	(b)Dialectical	-.2026	.041	16.51	.000
	(c)Gender (male)	.1603	.025	12.72	.000
	Total		.224		
<u>Foreclosure</u>					
Ideological	(a)Absolute Think	.4040	.163	26.13	.000
	(b)Age (younger)	-.2793	.075	20.83	.000
	(c)Openness to Exp	-.2693	.064	19.08	.000
	Total		.302		
Interpersonal	(a)Openness to Exp	-.3016	.090	13.41	.0004
	(b)Age (younger)	-.1856	.039	9.53	.0001
	Total		.129		

(continued)

Table 11 (continued)

Identity Status	Variable	Beta Value	r ²	F	P
<u>Moratorium</u>					
Ideological	(a)Neuroticism	.1769	.031	4.33	.0394
	(b)Gender (male)	.1865	.033	4.62	.0114
	Total		.064		
Interpersonal	(a)Agreeableness	-.2171	.047	6.63	.0111
	(b)Openness to Exp	.1804	.028	5.43	.0054
	Total		.075		
<u>Identity Achievement</u>					
Ideological	(a)Agreeableness	.2164	.047	6.59	.0114
	Total		.047		
Interpersonal	(a)Extraversion	.2181	.047	6.69	.0108
	(b)Absolute Thinking	.2073	.043	6.60	.0018
	Total		.090		

With regard to interpersonal identity diffusion, it was hypothesized that absolute thinking and gender (male) would emerge as positive predictors and extraversion as a negative predictor. As predicted extraversion emerged as the best predictor (negative) and accounted for 15.8% of the variance. However, gender emerged as the third best predictor of this identity status and accounted for only 2.5% of the variance and the relationship to the criterion variable was positive. Dialectical thinking was the second best predictor and was negatively related to identity diffusion, accounting for 4.1% of the variance.

Findings for Foreclosure

It was hypothesized for both ideological and interpersonal domains that absolute thinking would positively predict foreclosure and openness to experience would emerge as a negative predictor. As predicted openness to experience emerged as a negative predictor of foreclosure in both the interpersonal and ideological domains. This variable was the best predictor and accounted for 9% of the variance in the interpersonal domain and was third best predictor accounting for 6.4% of variance in the ideological domain. Absolute thinking emerged as a positive predictor of foreclosure, but only in the ideological domain, accounting for 16.3% of variance. Contrary to expectations, age also emerged as significant positive predictor variable for foreclosure (second best predictor in both domains). In the ideological domain, age predicted 7.5% of variance and 3.4% in the interpersonal domain with younger subjects significantly predicting the foreclosure status.

Findings for Moratorium

Relativistic thinking, neuroticism and openness to experience were expected to positively predict moratorium status in the domain of ideological identity. Additionally, it was hypothesized that relativistic thinking, openness to experience, and gender (female) would be significant predictors of interpersonal moratorium. Results failed to support the hypotheses. Instead, personality factors and gender (male) were significant predictors of the moratorium identity status. Neuroticism emerged as the best (positive) predictor and gender (male) as second best (positive) predictor of ideological moratorium. The variables accounted for 3.1% and 3.3% of variance, respectively. In the interpersonal domain, agreeableness emerged as the first significant predictor (negative) and openness to experience the second best significant predictor (positive) of interpersonal moratorium. The former variable accounted for 4.7% of variance and the latter 2.8%.

Findings for Identity Achievement

It was hypothesized that ideological identity achievement would be predicted positively by dialectical thinking, gender (male), and extraversion. Contrary to the hypotheses, none of these variables emerged as significant predictors of identity achievement. Agreeableness emerged as the only significant predictor of ideological identity achievement accounting for 4.7% of variance. With regard to interpersonal identity, it was hypothesized that extraversion and dialectical thinking would emerge as significant predictors of identity achievement. According to expectations extraversion emerged as the first best positive predictor of this category accounting for 4.7% of the variance. Contrary to expectations absolute thinking also emerged as second best

predictor (positive) of identity achievement, accounting for an additional 4.3% of variance.

The amount of variance accounted for in each identity category varied greatly. Predictor variables accounted for the greatest percentage of variance in the ideological foreclosed category (30.2%) and in interpersonal diffusion (22.4%). The least amount of variance accounted for by predictor variables occurred in ideological diffusion (4.3%) and ideological achievement (4.7%). The average amount of variance accounted for by the eight regression equations was 12.12%.

Supplementary Analyses

The regression analyses examined identity scores within the same subject employing the continuous EOMEIS-II identity subscale scores in relation to personality, reasoning style, gender, and age. Thus, in the regression analyses each person received eight scores, one for each identity status (diffusion, foreclosure moratorium and achievement) in both the interpersonal and ideological domains. An additional exploratory analysis (MANOVA) was conducted in which each subject received a single score in each domain (ideological and interpersonal) that categorized them exclusively into one status (diffusion, foreclosure, moratorium or achievement). Categorization was based on the scoring rules in the EOMEIS-II scoring manual developed by Bennion, Adams, and Huh (1989). A 3 X 2 MANOVA was then conducted with identity status (diffusion, moratorium, and achievement) and gender as the independent variables. The five personality factors of the NEO, reasoning style and age were the dependent variables. The foreclosure condition in both the ideological (N=14) and interpersonal

domain (N=4) was dropped from the analysis as an independent variable because of the small sample size in that category.

Significant effects emerged in three analyses. In one analysis (interpersonal identity status X gender), no interaction emerged. However, a main effect for interpersonal identity emerged ($F(18,130)=2.02, p=.010.$), as well as, a main effect for gender ($F(9,115)=2.95, p=.003$). In the analysis examining ideological identity X gender, a main effect for gender ($F(9,106)=2.37, p=.018$) emerged as significant; however, neither an interaction effect nor a main effect for the ideological identity emerged from the analysis.

In the interpersonal domain, personality variables accounted for all the differences with regard to identity status categories: neuroticism $F(2,123)=3.65, p=.029$, extraversion $F(2,123)=4.85, p=.009$, and openness to experience $F(2,123)=4.23, p=.017$. When post hoc were conducted on these variables, significant differences did not occur between the groups (diffusion, moratorium, and achievement) on any of the three variables. With regard to the gender differences in the interpersonal domain significant differences occurred in absolute thinking $F(1,123)=12.33, p=.001$, relativistic thinking $F(1,123)=15.05, p<.001$, and neuroticism $F(1,123)=5.44 p=.021$. Men had higher scores in absolute reasoning than women. (See table 12 for a comparison of the means between men and women on the significant variables.) Women were higher in measures of relativistic reasoning and neuroticism than men.

In the ideological domain gender differences occurred in absolute reasoning $F(1,114)=6.67$ $p=.001$, relativistic reasoning $F(1,114)=11.38$ $p=.001$, neuroticism $F(1,114)=4.36$ $p=.039$, and agreeableness $F(1,114)=4.47$ $p=.037$. Analyses of means revealed that men had higher absolute reasoning scores than women. Additionally women's scores were higher than men's in measures of relativistic thinking. In the personality factors women had significantly higher scores in neuroticism and agreeableness.

Table 12

Comparison of Means by Gender for Significant Variables in Manova Post Hoc Analysis

	Male	Female
<u>Interpersonal</u>		
Absolute Thinking	6.39	4.57
Relativistic Thinking	18.87	22.31
Neuroticism	89.92	97.31
<u>Ideological</u>		
Absolute Thinking	5.79	4.59
Relativistic Thinking	19.22	22.31
Neuroticism	89.92	97.82
Agreeableness	121.78	128.29

CHAPTER IX

DISCUSSION

Personality variables were the strongest or only predictor of identity status in seven equations and emerged as significant predictors in the remaining regression equation. Reasoning style emerged in three equations and was the strongest predictor in one instance. Finally, gender and age each appeared as significant predictors in two equations but in neither case were these variables the strongest predictors. Thus, in a study which assessed the relative influence of reasoning style, personality factors, and gender on identity formation, personality factors appeared to emerge as the most salient predictors of identity status.

Reasoning, Personality, and Identity Status

An examination of the results relating personality factors and reasoning style to identity status yielded interesting findings. For subjects classified as identity diffused, extraversion emerged as a negative predictor in both the interpersonal and ideological domains. The finding was more significant in the interpersonal domain than in the ideological domain where the negative relationship of extraversion to diffusion accounted for nearly 16% of the variance whereas it accounted for 4% in the ideological domain. Low scorers on the NEO extraversion scale tend to be reserved and distant, have less need or desire for social stimulation, may be conflict avoidant, appear less driven, and

may be less likely to experience intense positive emotions. Such a posture suggests a tendency to respond to situations by withdrawing and disengaging. Therefore, results from the current study suggest that introverted subjects may withdraw from focusing on the task of developing of an identity especially in the interpersonal domain.

In the interpersonal realm, additional variables emerged in the regression analyses as significant predictors of identity diffusion: dialectical thinking was a negative predictor and gender (male) a positive predictor. Dialectical thinking is described as an integrative, systematic form of reasoning and subjects in the diffusion category exhibit less of this integrated form of reasoning. This result is consistent with the findings of Tzuriel and Klein (1977), Cote (1977), and Waterman and Waterman (1974) whose data also suggests that subjects in diffusion seem to lack organization in their thought processes.

Additionally, gender (male) emerged as a significant positive predictor of diffusion. This result also corroborates the findings reported by Blisker, Schiedel, and Marcia (1988) that significantly more males tend to be diffused. A significantly greater number of men fell into the identity status (i.e., diffusion) that is considered the least sophisticated developmentally in the interpersonal domain. Blisker, Schiedel, and Marcia (1988) note that during late adolescence, men tend to focus more of their attention on ideological than on interpersonal identity. It is also significant that this finding emerged in the interpersonal domain because previous research suggests that women tend to focus more on interpersonal identity issues than men during this period of their development.

Thus, this result seems to lend support to the theories of Gilligan (1982) and Chodorow (1974) that men and women resolve identity issues differently.

Findings most supportive of the a priori hypotheses occurred in the foreclosure status. As expected, openness to experience, emerged as a negative predictor of foreclosure, in both the interpersonal and ideological domains. Therefore, foreclosed subjects who appear to be less open to experience tend to be more practical, to express a narrower range of emotions, to follow stricter routines, and to be more conservative and dogmatic. Such traits appear consistent with identity theory, that holds that individuals who are foreclosed make identity commitments without exploring their options.

Although it was predicted that absolute reasoning would be a positive predictor of foreclosure in both domains, it emerged as a significant positive predictor in only the ideological domain. The positive relationship of absolute thinking to ideological foreclosure not only makes intuitive sense, but also lends additional support to previous findings that suggest foreclosures have a more rigid/dogmatic style of reasoning (Bernard, 1981; Marcia, 1966).

Age also emerged as an important predictor of foreclosure. Younger subjects were significantly more likely to be classified in this status in both domains. Younger college students have more recently left home and spent less time in a university environment where open questioning of values and beliefs is encouraged. They may have had less opportunity, see less of a need, or be less able to begin questioning the values and beliefs they formulated in childhood within the context of their families. As

a result, younger subjects may be retaining a belief system that functioned effectively for them in the past and do not yet see the functional utility and adaptive significance of a more flexible style of reasoning.

With regard to moratorium, the results partially supported the a priori hypotheses. Personality variables were the most salient predictors of moratorium; however, gender emerged as a significant predictor as well. In the ideological domain both neuroticism and gender (male) emerged as positive predictors of the moratorium status suggesting that subjects in moratorium may feel insecure, inadequate, uncertain, and worried. This result is not only consistent with the findings of Marcia (1980), but also makes sense intuitively. Persons undertaking an exploratory process may have negative feelings associated with the uncertainty of a process in which critical decisions are made. Such a finding may also call into question the notion that neuroticism is essentially pathological. Negative emotions connected with the ambiguity of a process in which one is exploring and attempting to redefine oneself may be adaptive.

Additionally, it was found that males are more likely to be in an ideological moratorium than females. This finding corroborates the finding of higher scores of male subjects in ideological diffusion. During this period of their development feminist theorists hypothesize that men may be responding to societal pressures to focus on ideological identity including issues such as vocation and political ideology and these data lend support to the feminist theories. Additionally, the data appear to support feminist theories of women's identity development. Women's higher scores on the neuroticism subscale of the NEO suggest that they may be more worried and anxious than males.

Gilligan (1982) has theorized that women are not only dealing with ideological issues but intimacy (i.e., interpersonal) issues as well during this period of development. Perhaps the added strain of addressing issues in both domains accounts for the higher scores on the neuroticism subscale.

Interpersonal moratorium was negatively predicted by agreeableness and positively by openness to experience. Although subjects in this status may have broad interests and may be seen as curious, untraditional, and imaginative, (i.e., open to experience) they also may be antagonistic, irritable, and manipulative (i.e., less agreeable). Subjects in an interpersonal moratorium seem to have the curiosity that would drive an exploratory process. However, negative feelings associated with the ambiguity of this type of growth process may affect their interpersonal relationships and account for the negative relationship with an intrapersonal factor such as agreeableness.

Contrary to expectations, relativistic thinking failed to emerge as a significant predictor of moratorium. This result runs counter to the findings of Kalbaugh and Kramer (1993) who reported that relativistic thinking was highly predictive of the moratorium status. Several explanations may account for discrepancy in the findings between the two studies. First the measures for both reasoning style and identity status were slightly different. This study employed the EOMEIS-II to assess identity status, whereas, Kalbaugh and Kramer (1993) used an earlier version, the EOMEIS-I. The EOMEIS-II was revised to improve the interpersonal identity subscale items of the EOMEIS-I. Second, different classification procedures were used. Kalbaugh and Kramer employed a median split procedure, this study utilized the newly developed scoring rules

provided with the revised edition of the EOMEIS-II. Additionally, each study utilized a different edition of the Social Belief Paradigm inventory. Kalbaugh and Kramer employed a version of the SBPI with Likert scales, the measure used in this study was a forced-choice instrument. Thus, the measurement procedures may account for differential findings.

Another possible explanation of the discrepancy in findings may be a difference in sample sizes and subject selection procedures. Kalbaugh and Kramer's small sample size (N=40) was selected for their investigation as a result of an initial screening employing the EOMEIS-I to focus specifically on moratorium and identity achieved subjects. Possibly the selection process created a selection bias. This study employed 141 undergraduate psychology students from the university subject pool. Thus, differences in the measures used, the sample size, and the selection process may account for differences in the findings.

For identity achieved subjects, scores on the explicitly interpersonal variables of the NEO differentiated them from the rest of the sample. In the ideological domain agreeableness predicted subjects with high scores on the identity achieved scale. These subjects may be seen as trusting, helpful, good-natured, and straightforward. The question then arises, how do the personality characteristics that fall under the umbrella of agreeableness relate to ideological identity achievement? One hypothesis might be that the agreeable nature of these subjects stems from positive relationships in their lives. Quite possibly, these subjects had a positive social environment to rely upon for social support. With ample support and encouragement from the important others in their lives,

these subjects were able to undertake the exploration process and form commitments, thus facilitating ideological identity achievement.

With regard to interpersonal identity another interpersonal variable was positively predictive of identity achievement: extraversion, i.e., subjects who tend to be outgoing, confident, assertive, and cheerful. Their outgoing, assertive nature probably has offered these subjects the opportunity to experience a range of relationships and to develop a set of preferences in their interpersonal relations. Embracing such experiences may have enabled these subjects to integrate more fully their identity in this domain.

Results of the supplementary analyses underscored these findings for identity achievement that interpersonal processes play an important role in identity formation. Results of the MANOVA suggested that an explicitly interpersonal variable (agreeableness) of the NEO was significant in ideological identity formation.

Absolute thinking also emerged as a positive predictor of identity achievement in the interpersonal domain. Superficially, this finding does not appear to make sense because absolute thinking is the developmentally least advanced stage of reasoning. Subjects in identity achievement have made a developmental leap from moratorium to identity achievement which is theoretically the most advanced stage in identity development. Intuitively, one would expect that the most developmentally advanced identity status would be attained by employing the most developmentally advanced reasoning style, i.e. dialectical thinking. However, research has shown that dialectical thinking rarely appears before middle adulthood, suggesting most people complete the task of integrating an identity employing a style of reasoning other than dialectical

thinking. Perhaps, after an exploratory process subjects at this age might still rely on a more rigid thought process to consolidate and integrate the newly formed commitments into their self-definition. Thus, for these subjects who have yet to develop dialectical reasoning, absolute reasoning may serve an important function developmentally. They may rely on relativistic reasoning to explore and question their world, but once they are prepared to commit themselves, employ absolute reasoning.

Gender and Identity Formation

The supplementary analyses highlighted the issues of gender in identity formation. In the MANOVA, gender was significant in both the interpersonal and ideological domain and gender differences emerged in both reasoning style and personality factors. Men had higher scores in absolute thinking and women in relativistic thinking. Women also had significantly higher scores in extraversion, agreeableness and neuroticism.

In the regression equations, although men had significantly higher scores on the ideological moratorium subscale of the EOMEIS-II, a significantly greater number of subjects (both men and women) were categorized in moratorium as compared to diffusion, foreclosure, and achieved by the classification procedures. In the context of this study, the emergence of gender (male) as a significant predictor of both ideological moratorium and interpersonal identity diffusion lends additional support to Gilligan (1982), Chodorow (1974), and Balkan's (1966) theory that men are more focused on issues such as vocation and political ideology and less focused on interpersonal identity issues than women.

In the MANOVA, the main effect of gender in both the ideological and interpersonal domains as well as higher scores by female subjects on measures of relativistic thinking, agreeableness, and neuroticism suggest that women may view identity integration with more complexity than men. Women in this sample had significantly higher scores on both the neuroticism scale of the NEO and relativistic thinking on the SBPI in both the ideological and interpersonal domains of identity formation suggesting that women deal with a broader range of identity issues than men and experience greater conflict in confronting this developmental task.

Other Findings

Results of this study raise questions about how identity status should be measured and how classifications of identity status have been made in previous studies. Current data suggest that an individual can be classified in different identity statuses depending on whether the ideological or interpersonal domain is being considered. Data for the ideological and interpersonal domains were analyzed separately, because only 53 % of the subjects fell into the same identity status in each domain according to EOMEIS-II. Such data suggest that identity status is not a unidimensional concept and that identity status should be examined separately for the ideological and interpersonal domains.

Based on Kalbaugh and Kramer's (1993) study, it was predicted that relativistic thinking would be the predominate style of reasoning in this sample and the finding was not replicated. However, partial support for the hypothesis emerged. Scores were significantly higher on in the developmentally more advanced relativistic and dialectical reasoning categories and lower in absolute reasoning. Quite possibly, the disparity that

occurred in the findings in the current study and those of Kalbaugh and Kramer (1993) may be the result of differences in the classification procedures. In Kalbaugh and Kramer's (1993) study subjects' reasoning style was classified on the basis of a personal interview, not on the basis of the SBPI, a self-report measure, that was used here.

With regard to identity status, a majority of subjects appeared in the moratorium status in both the interpersonal and ideological domain. These results support the hypothesis that college students are struggling with identity issues. In addition, the finding is consistent with previous findings by Kalbaugh and Kramer (1993) and Bennion, Adams, and Huh (1989), indicating that college students are exploring options open to them in several realms of their lives including the interpersonal, ideological, and vocational.

Limitations of this Investigation

Given the limited amount of variance accounted for by the predictor variables in this study, conclusions presented here must be tempered. The overall amount of variance accounted for by the total set of predictor variables was not large, with a maximum of 30.2% of the variance in ideological foreclosure and a minimum of 4.3% in ideological diffusion. The mean amount of variance accounted for in each of the 8 equations was 12.12% leaving on average of 87.88% of the variance unexplained. Thus, other factors in addition to those studied here appear to play a significant role in the formulation of identity.

Additionally, the sample size was not large enough to detect an effect at the .80 level according to the criteria established by Cohen (1992). This study contained 141

subjects. In order to detect an effect at the .80 level roughly 350 subjects would have been needed. Additionally, some subjects were dropped from the analysis because of missing data (e.g., gender). Thus, given the sample size, results of the MANOVA need to be interpreted with caution.

Finally, data presented here were obtained from self-report measures. Although the correlations of the results to the Crowne-Marlow Measure of Social Desirability were low, the validity of self-report data remains open to question. Shaughnessy and Zechmeister (1990) note that responses on self-report measures should be taken at face value unless a reasonable doubt about their veracity exists. However, studies by other researchers (Kidder and Judd, 1986 and Latane and Darley, 1970) question the validity of self-report data.

Future Directions

Much work remains to be done. First, more rigorous measuring procedures need to be devised to assess identity status. Until now, most investigations appear to have employed a unidimensional measure of identity. However, results of this study and a study by Bennion, Adams, and Huh (1986) suggest that identity status should be assessed more accurately along at least two dimensions- interpersonal and ideological. It makes sense that one's identity status may vary according to the domain being measured whether it be vocational political, religious, interpersonal, or sex-role.

One issue that should be considered in future studies of identity is attachment. Giordano (1987) has suggested that an important factor in identity development may be the quality of attachment one has experienced with a caregiver or significant other. He

asserts that a unique relationship with an attachment figure provides one with the resources to organize "fragmentary information about the self and the world into a coherent whole" (Giordano, 1987). He notes that initially, the self is undifferentiated and finds the world equally confusing. In a close relationship similarities and differences between one's self and the other can be more readily recognized. Additionally, in order to truly elaborate a sense of self one must separate from the source of identification (the attachment figure). Thus, children may identify with personal attributes of the caregiver and integrate them into their own sense of self to create a coherent identity (Giordano, 1987).

Additionally, more longitudinal research is needed with more diverse populations to study identity status. Until now, most research has been done on college samples. Research is needed on both non-college subjects in late adolescence and early adulthood. Little is known about the process of identity formation in young people outside the university setting.

Research is also needed on adults in later stages of life span development. Longitudinal studies could reveal important information about how identity commitments in the interpersonal and ideological domains change throughout adulthood as a result of major life events such as marriage, birth of children, and the death of spouses.

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APPROVAL SHEET

The thesis submitted by Daniel J. Zoller has been read and approved by the following committee:

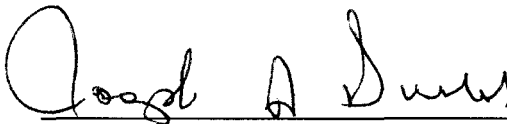
Dr. Joseph Durlak, Director
Professor, Psychology
Loyola University, Chicago

Dr. Grayson Holmbeck
Associate Professor, Psychology
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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

Dec 13, 1953
Date


Director's Signature