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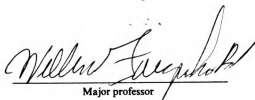
Ego-Identity Development of Early Adolescents

presented by

Mark Picciotto

has been accepted towards fulfillment  
of the requirements for

Ph.D. degree in Counseling Psychology



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EGO-IDENTITY DEVELOPMENT  
OF EARLY ADOLESCENTS

By

Mark Picciotto

A DISSERTATION

Submitted to

Michigan State University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

School of Health Education

Counseling Psychology

and Human Performance

1987

## ABSTRACT

### EGO-IDENTITY DEVELOPMENT OF EARLY ADOLESCENTS

By

Mark Picciotto

Part of the reason there has been a relative paucity of research on the identity development of younger adolescents is the lack of valid objective measures of identity status. Further, there is a widely held belief that the important changes in identity status do not occur until later adolescence, in spite of a small but significant body of research which disputes this assumption.

In the present study, the Objective Measure of Ego Identity Status (OMEIS), and a shortened version of the Assessment of Adult Adjustment Patterns (AAAP) were administered to 214 students between the ages of 13 and 18, in the 8th, 10th, and 12th grades. The purpose of the study was to identify any changes in identity status with increasing age, and to attempt to partially validate the AAAP on the OMEIS.

Although a high number of subjects (about 50%) were not classifiable in any of the identity statuses or appeared not to have mastered any Eriksonian stages, there was a significant shift with age both out of the foreclosure status, and into the achievement status which was correlated with social desirability. The only significant relationship between the OMEIS and the AAAP was a canonical correlation between them.

However, a Guttman scale analysis of the AAAP, which is presumed to be unidimensional and hierarchical, showed it to have quite good qualities as a Guttman scale. Also, a MANOVA analysis of the theoretical underlying variables of the OMEIS, the tendency to consider life alternatives and a commitment to one of them, showed a significant increase with age in the tendency to consider alternatives, but not in the tendency to commit to one of them. Thus, the conclusions were drawn that significant identity development does occur in younger adolescence, that both the OMEIS and the AAAP appear promising for use with this age group, but that either the cutoff levels of both tests should be revised downward, or future researchers should directly use the interval level data which the tests produce, not the mastery concept.

## ACKNOWLEDGEMENTS

I wish to thank all the members of my committee, but most particularly Dr. William Farquhar who, as chairman, provided invaluable support and assistance throughout the entire process of completing my dissertation. Dr. Steven Raudenbusch provided very valuable suggestions on questions of analysis and interpretation of results. Dr. Richard Houang was available and helpful throughout the time I was working, and Dr. Alton Kirk was supportive and most flexible.

In the Lansing area schools, I wish to thank Mr. Anthony Waldron and Mr. Paul Berdon, principals of the high school and middle school respectively, where the data was collected, for their willing accomodation to my needs. I also wish to thank the many teachers who helped, as well as the students who took the time to fill out the questionnaires.

Other people without whom this dissertation would not have gotten completed include Anthony Straseske and Lyn Gay, who were very helpful during the data collection process, as well as being willing to run errands during all phases of the project, and allowing their house to be used as a base. Jeffrey Picciotto has been willing to take many hours of extra time to make sure that the printed version of the dissertation was properly edited and presented. My wife Yoshie has been helpful in more ways than I can mention providing support, typing, drafting, and love. Thank you all.

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## LIST OF ABBREVIATIONS

AAAP:        Assessment of Adult Adjustment Patterns

OMEIS:      Objective Measure of Ego Identity Status

A or ACH:   Identity Achievement

D or DIF:   Identity Diffusion

F or FOR:   Identity Foreclosure

M or MOR:   Moratorium

## CHAPTER 1

### THE PROBLEM

Answers to the questions "Who am I?" and "How did I become this way?" have been proposed since antiquity. Only relatively recently however, have complete, fairly well integrated theories arisen to address the issue of development in general, and the development of a sense of identity in particular.

One of the first was Freud's psychoanalytic theory, which strongly emphasized a child's early life, and maintains that an individual's identity is determined by a complex system of internal adjustments. Thus, the important components of an individual's identity and of identity development are within an individual's psyche, and are influenced chiefly by the parents. Moreover, an individual's identity is set at a fairly young age, and is relatively resistant to change. There are several variants to the psychoanalytic approach.

A second general theory is the behavioral one, which in its most extreme form maintains that an individual has no personality per se, but rather is completely shaped by a series of positive and negative reinforcers to behaviors. A person then becomes essentially a "reaction machine" who behaves in every situation the way predicted by previous reinforcers. In this system, the environment plays a paramount role in the determination of an individual's identity. There are also several variants to the behavioral approach.

A third broad class of theories are those which attempt to combine a sense of the importance of the individual's inner world with an appreciation of the importance of the individual's environment as well. One of the most important of these has been Erik Erikson's theory of development (Erikson, 1956, 1968). As a psycho-social theory, it recognizes that an individual's inner development is important, but maintains that a sense of identity is equally

influenced by the social matrix within which one must define one's identity. Erikson's developmental theory was one of the first which truly recognized development as a life-long process, and moreover, considered a sense of identity to be one of the central organizing concepts of that process.

As theories which purported to explain the development of a sense of identity emerged, so did research which attempted to confirm or deny the truth of each theory. Erikson's theory in particular, has given rise to a great deal of research because of the integrating features present in it not present in other theories. Unfortunately, Erikson's postulates are written in a nonspecific way, making them particularly difficult to operationalize. The concept of identity although central to the theory, was resistant to empirical testing.

In 1964, James Marcia developed a semi-structured interview to assess an individual's identity status, a specification of the type of identity one had resolved, derived from his interpretation of Erikson's writing (Marcia, 1964). Marcia's operationalization of Erikson's concepts proved useful, but the interview was cumbersome, took a lot of time to administer, and required a great deal of time to train interviewers who had high reliability.

In response to this need, a number of more objective tests of identity status were produced, one of the most useful of which was one developed by Adams (Adams, Shea, and Fitch, 1979). It was tested and partially validated on college students. Independently, Farquhar, Parmeter, and Wilson developed a test (the Assessment of Adult Adjustment Patterns, AAAP) to determine one's stage in the Eriksonian development process which has had few validity studies (Farquhar, Wilson, and Parmeter, 1977).

## PURPOSE

The purpose of the present study was two fold. On the one hand the usefulness of the developmental scheme developed by Marcia (see Marcia's Four Identity Statuses, this

chapter), was investigated on a population younger than that upon which it was originally validated. In the study not only were the constructs of identity diffusion, foreclosure, moratorium, and identity achievement examined for their expected distributions in this population, but the presumed underlying senses of developing crisis and commitment were also investigated.

The second part of the study was a validation of a portion of the AAAP. It arose out of the fact that both the AAAP and the OMEIS were developed with direct reference to Erikson's theory of development, and therefore were presumably measuring through different instruments the same underlying developmental process. For example, an individual who appeared in the 'identity achievement' status (the highest) of the OMEIS, was expected to have fully mastered the Stage 5 (Identity) portion of the AAAP, since that individual would be near the end of his identity development tasks.

## NEED

The need for this study derives from the fact that a great deal of the research to date in identity development has been done with college students, because of the convenience in obtaining samples. This is true in spite of the fact that Erikson was far from specific about the ages at which he presumed this adolescent crisis to occur. It is possible that many of the changes described by Erikson could occur, or begin to occur, in younger adolescents than those of college age. However, a strikingly small number of studies have investigated this age group. This study helps to fill that gap.

Another difficulty in doing research in the field of identity development is the lack of valid measures. This study, in moving closer to a validation of both instruments being used, helps in that regard.

A final area of need addressed by this study is the fact that one of the most readily accepted instruments in identity development research, the Marcia semi-structured interview, is also one of the most time consuming to administer and difficult to score. The instrument developed by Adams has been concurrently validated with the semi-structured interview. The additional validation of this paper and pencil test of identity status is helpful to future research by making the test more objective, easier to score, and allowing larger samples to be tested.

## OVERVIEW OF THE THEORY

The theory being used for this study is Erik Erikson's theory of human development, with James Marcia's redefinitions of the stage of identity development. In this section, the essential aspects of Erikson's theory will be described, as will the ways Marcia has made Erikson's identity stage more precise. Finally, the way this study relates to Erikson's theory will be clarified.

### *Erikson's Theory of Development*

Erikson's original interest was in abnormal rather than normal identity formation. Noting the difficulties which some World War II veterans had in reentering society, he labeled those problems "acute identity diffusion". Erikson came to believe that the problems the veterans had in leaving one role and entering another were psychologically similar to the problems which some adolescents have in leaving childhood and entering adulthood.

His work led him to construct a theory of development, with identity as its main anchoring concept, which runs from infancy to old age, encompassing eight distinct stages. The first four stages involve the development of aspects of the self which are felt to be crucial precursors to identity formation, the fifth stage involves the development of one's sense of identity, and the last three deal with the evolution of identity as the individual progresses through life.

Before elaborating on the stages in a more precise manner, several aspects of the theory need to be made clear. First, it should be acknowledged that, as a trained psychoanalyst himself, Erikson did not underestimate the role played by processes internal to the self in identity formation. In fact he postulated two types of identity: ego identity which refers to one's commitment to social roles such as work, religious values or political beliefs. Self identity refers to the individual's self-perceptions and role-images. Although the development of the two overlap to a fair extent, Erikson considered self-identity to be a primary focus at younger ages, and ego-identity to be developed more intensively during adolescence and young adulthood. Most studies of identity development in adolescence deal implicitly or explicitly with ego-identity, as does this study.

Second, Erikson viewed development as a series of tasks which must be accomplished by the individual. Thus, each stage is defined as a "crisis", which must be overcome or solved in the appropriate way, or one's development lapses into a maladaptive state. For this reason, each of Erikson's stages is described as a choice of alternatives, one good and one bad, which describe the adaptive and maladaptive states of the resolution of a stage. For example, the second stage of the theory is called "autonomy vs shame and doubt", reflecting a sense of autonomy as a desirable outcome, with a sense of self-doubt as the maladaptive alternative.

Third, Erikson's theory, as are most stage theories, is cumulative. That is, an individual is expected to use the resolution of all previous stages as a basis for the resolution of the next crisis. It is presumed that inadequate or poor resolution of a developmental task seriously, if not totally impairs further development, since building blocks needed for further development have not been provided.

The eight stages of human development are briefly described in the following section.



### Stage 1: Trust vs. Mistrust

In Stage 1, the infant from birth to about one year gains both a sense of trustfulness of others as well as a sense of his own trustworthiness. The physical basis of the development is the process of "taking in" both sustenance and various stimuli, and growing appreciation of taking in, and later, of giving back. The feeling of trust in identity arises out of the encounter between mother and infant, which is one of mutual trustworthiness and recognition. Stage 1 is also the basis for the capacity for faith, which is echoed in the importance of the institution of religion.

### Stage 2: Autonomy vs. Shame and Doubt

Stage 2 is a time for the child to develop a sense of separateness from the parents, particularly the mother. The separateness entails both an expression of one's personal will, and a growing understanding that one is, to a certain extent, controlled by the parents. The psychological manifestation of one's will is through a propensity to "hold on" to what is one's own, or to release it. The contribution made to a sense of identity from Stage 2 is the gaining of the courage to turn away from others to be one's self, and the danger is that the self-doubt that arises upon parental control that is felt as too strong impairs one's will to self-determine. The human institution echoed from Stage 2 is that of law and order, which is supposed to control, yet allow one the freedom to be one's self.

### Stage 3: Initiative vs. Guilt

In Stage 3, which takes place around the age of three, the child's increasing ability to speak and to move freely about allows him to greatly expand his horizons and his expectations about what he can do to fulfill his capacities. At age three, a growing awareness of sexual differences, alliance with the opposite sex parent, and a growing sense of conscience, gives rise to

a sense of guilt. The contribution of Stage 3 to a sense of identity lies in freeing the imagination and leaving in place the initiative to attempt to become all one can.

#### Stage 4: Industry vs. Inferiority

Stage 4, which coincides with the beginning of school, marks the beginning of the child's identification with the world of work as well as that of play. The child takes pride in being a "maker" as well as a player, and can try on and discard many potential roles from the adult world of work. The pleasure of doing tasks well and of being recognized for them fosters a sense of industry, while an estrangement from what one can accomplish may give rise to a sense of one's inferiority, particularly as social connections, peer groups, and teachers become much more important to one's development.

#### Stage 5: Identity vs. Role Confusion

Stage 5, which begins with the onset of puberty, is the stage in which previous psychosocial crises are reexamined in light of the now pressing need to integrate them into a more stable, "final" identity. Thus, it is important to have a moratorium, or a period during which an integration can take place, and during which each earlier stage becomes reworked in the service of an adult, integrated identity.

The need for trust manifests itself as a need to have idols and ideas to have faith in, as well as ones in whose service one can prove one's self trustworthy. A sense of one's will makes it important that the adolescent decide freely upon one of the available avenues for self-fulfillment, and will oppose being forced into activities that would expose him to shame or self-doubt. The legacy of the third stage is the willingness of the adolescent to allow his imagination to expand the range of possible avenues of fulfillment. The desire to make things work well makes the choice of occupation important beyond questions of money and status, and will

sometimes make one refuse a job in which one would be producing in a manner inferior to one's capabilities.

The danger in Stage 5 is identity confusion, a state in which one is unable to adequately define one's self as a meaningful individual in society. The dilemma of choosing a profession is often the most disturbing element of identity confusion, yet it can manifest itself in an inability to define one's values and meanings in a variety of social arenas, such as the religious, ethnic, cultural, and political.

#### Stages 6, 7, and 8: Beyond Identity

Following the establishment of a sense of identity, one may develop a full sense of intimacy with another, that is, the ability to fuse one's self with another while still retaining one's core identity. The counter to the full ability to share of one's self is a sense of isolation reflected in an unwillingness to risk an undeveloped or fragile identity by exposing one's self to another.

The next psychosocial crisis involves the establishment and guiding of the next generation. The development of Stage 7 is a more mature form of expression of man's need to be needed, as well as his needs for productivity and creativity. The sense of creativity need not express itself only in child-rearing, but where it is not present at all, a sense of stagnation arises, in which one may begin to indulge one's self as if one were a child, yet without an accompanying sense of satisfaction.

Finally, the aging person who has accepted her life cycle for what it has been, has accepted her responsibilities to herself and to others, and is able to make sense of her life both for herself and in its larger social context, has achieved a state of ego integrity. Failing to achieve ego integrity, one might be left with a sense of despair that life is too short, that one

would like to, but cannot, start life anew and try other roads. One has a sense of disgust at life in general, reflecting one's disgust of one's self.

### *Marcia's Four Identity Statuses*

Faced with a rich theory that was nevertheless difficult to test, several theorists stepped forward with clarifications and expansions of Erikson's theory. In the area of identity development, however, none has been so influential as Marcia (1966).

He proposed four different ways of resolving the identity crisis, each of which he called an identity status. Moreover, each identity status could be defined by the presence or absence of two crucial ingredients in an adolescent's life: an active consideration of several alternatives in a given psychosocial realm, and a clear commitment to one of them. Thus one could have neither considered alternatives, nor committed one's self to any, and one would be in the identity diffusion status. If one were actively considering options, without having chosen any yet, one would be in the moratorium status suggested by Erikson. If one had considered a variety of options, and had committed to one of them, one would be in the identity achievement status for that psychosocial realm, for example, occupation. Finally, if one had committed one's self to an option without having considered the possible alternatives, one would be considered identity foreclosed. Identity foreclosure might happen when a parent's values are accepted by the adolescent without questioning. In Figure 1, an illustration of the four identity statuses is provided.

It is clear from both Erikson and Marcia that the ideal path to identity achievement lies in starting out identity diffused, as anyone is at a young enough age, going into a period of moratorium, or active consideration of one's choices, then settling on those that make sense for one, that is, becoming identity achieved. However, other possible paths exist, for example an individual may become identity foreclosed for a time, then, after becoming aware of alternatives,

		Commitment		
		absence	presence	
Crisis	presence	M	A	
	absence	D	F	

M = moratorium  
A = identity achievement  
D = identity diffusion  
F = foreclosure

Figure 1. The four identity statuses of Marcia's theory of development

begin considering them (moratorium), then choose one more congruent with her needs (identity achievement). Furthermore, Erikson's theory makes it quite allowable to "regress" from a higher status to a lower one in the short term, so as to achieve a more fulfilling long term adjustment. Regression would occur if an individual in the process of considering alternatives (moratorium), decided to simply postpone such debate and return to a state of identity diffusion, either because no satisfactory resolution seemed to exist, or because more pressing concerns emerged.

Waterman (1982) has proposed a model of the sequential patterns of ego development. The model suggests a developmental pathway of development, illustrated in Figure 2.

As can be seen, not all mathematically possible pathways are considered theoretically possible. For example, individuals in either moratorium or identity achievement cannot become identity foreclosed, because both the moratorium and identity achievement statuses involve the contemplation of alternatives, while foreclosure indicates commitment without considering alternatives. For a similar reason, an individual in identity foreclosure cannot directly pass into identity achievement, since it would not seem possible to pass from a state of being committed without having considered alternatives to one of being committed to one of several alternatives, without first passing through a period of questioning, or moratorium.

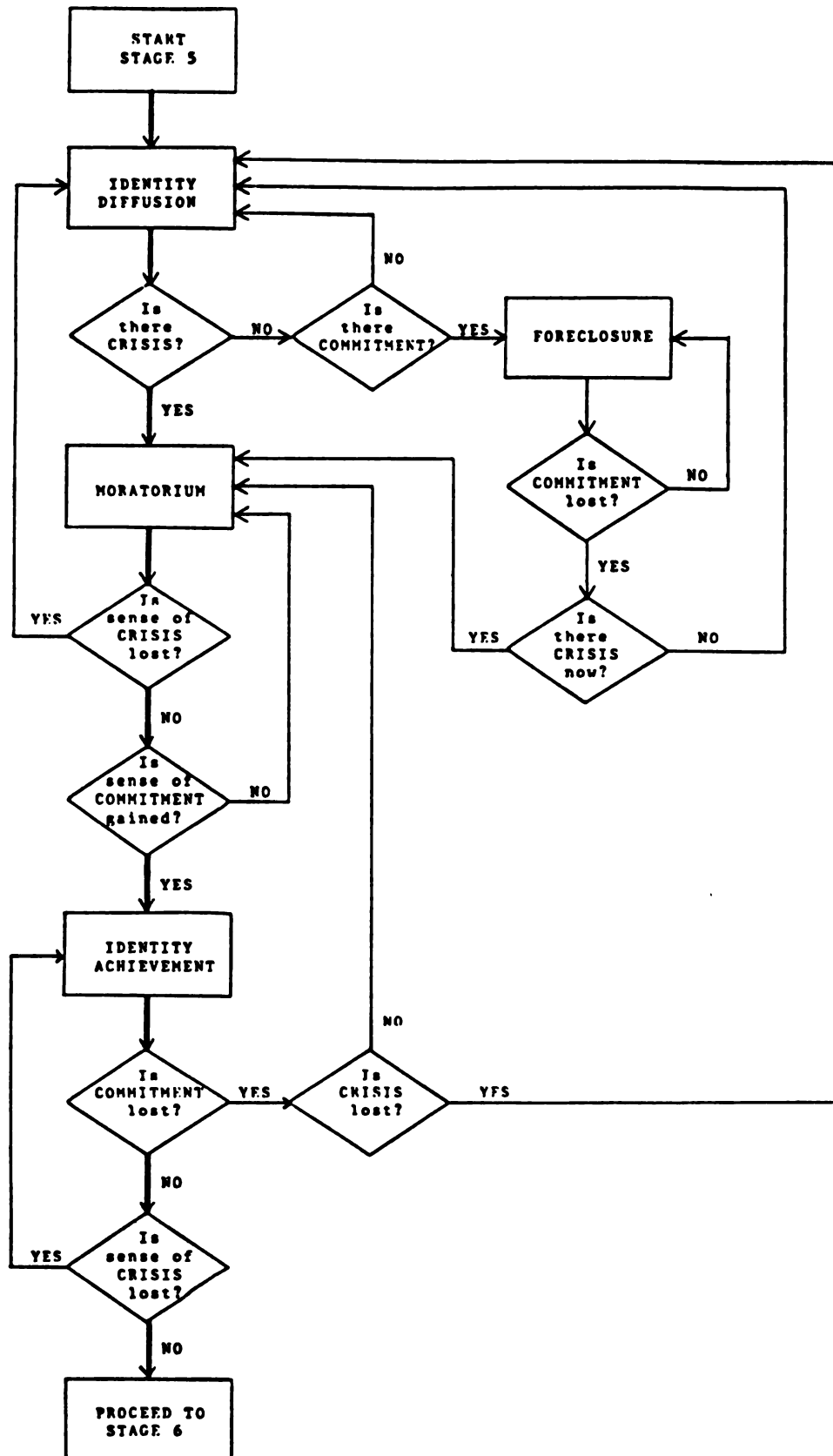


Figure 2. Patterns of identity development according to Waterman (1982)

Drawing upon Erikson's work as well as psychoanalytic theory, ego psychoanalytic theory, and cognitive-structural developmental theory, Marcia (1983) has recently proposed three related variables which, having been measured at early adolescence, should allow one to predict identity resolution at the end of adolescence.

The three variables that are proposed are rooted in ego-developmental theory. Marcia's reasoning goes that as an adolescent has to cope with the increasing disorder of his or her life, there is a need for controls. The control most used by children is the superego or conscience. The problem is that the injunctions of right and wrong contained in the childhood superego are not appropriate to adolescents, so it is increasingly ignored and the adolescent begins to enlarge upon the already partially formed ego-ideal, to slowly make it into that which is peculiarly right for him or her.

When identity development is viewed in this light, Marcia states that three variables will be of hierarchical importance: confidence in parental support, a sense of industry, and a self-reflective approach to one's future.

Confidence in parental support is a prerequisite to allowing an adolescent to relinquish superego control, since temporary external control will be needed, and the adolescent must be able to expect it from the parents. Such confidence is essentially a restatement of Erikson's formulation that "basic trust" in the parents is necessary for the adolescent to embark on identity exploration.

A sense of industry is critical for the child to feel competent in his or her skills and feel that mastery of a given area is possible. An additional advantage is that competence and mastery lead to high self esteem. From a theoretical point of view, mastery of the last psychosocial task before identity should be a good predictor of mastery of the identity task.

A self reflective approach to the future implies an ability to see one's self in the future, to introspect about one's self and one's abilities. Such introspection implies formal operations, but includes as well an accurate knowledge of who one is, what one "has to offer" and some possible avenues for expression of interests and talents.

Marcia hypothesizes that the three variables are hierarchical, with confidence in parental support at the base, followed by industry and self-reflection. The reasons are largely based on Erikson's theories: one must have trust before one can work on industry, and the first two are necessary to work on the issues directly pertaining to identity.

In the preceding ways, then, Erikson's theory of human development, in which the development of a sense of identity is the central concept, has been made more precise and theoretically expanded by the efforts of Marcia and Waterman.

#### STATEMENT OF THE HYPOTHESES IN BROAD RESEARCH FORM

The following hypotheses relate to the validation of the OMEIS.

1. The proportion of students at each grade level in the lowest level of identity development --identity diffusion-- decreases as grade level increases (8th to 10th to 12th grade).
2. The proportion of students at each grade level in the most active phase of identity development --moratorium-- increases as grade level increases.
3. The proportion of students at each grade level in a phase of identity development characterized by premature termination of identity development --foreclosure-- does not change with grade level.



4. The proportion of students at each grade level who are identity achieved remains constant and low across grade levels.

The following hypotheses relate to the validation of the constructs of the AAAP.

1. Any student who has an unresolved developmental task prior to identity development, is in the lowest identity status.
2. Any student who has no unresolved early developmental task is in moratorium.
3. Any high school senior who has resolved the developmental task immediately prior to identity development is in moratorium.
4. Each of the identity statuses on the OMEIS corresponds to one of the subfactors of the identity crises portion of the AAAP.

## OVERVIEW OF THESIS

The remainder of the research is presented as follows: in Chapter 2 the relevant research pertaining to the development of a sense of identity in early adolescents is described, in Chapter 3 the measures used in this study, the methodology and the types of analysis of the data are presented, in Chapter 4 the results of the data analysis and answers to the research questions are presented, and in Chapter 5 the thesis is summarized and possible avenues for future research are raised.

## CHAPTER 2

### REVIEW OF LITERATURE

The great bulk of research in identity development has been concerned with older adolescents, particularly those of college age. There have thus been only a few studies pertaining to younger adolescents, and they are reviewed in this chapter. For the purposes of the review, a younger adolescent is one who is between 13 and 18 years of age, or is in middle school or high school. Older adolescents are those in college or older than 18 years old.

Since the current study describes the relationship between two measures of identity development, the review is organized by the nature of the measure used to assess identity. In the first section studies using measures other than Marcia's Ego-Identity Status Interview or Adam's Objective Measure of Ego-Identity Status (OMEIS) are described. In the second section studies which have used the interview to assess the identity status of younger adolescents are reviewed. In the third section the two studies which have used the OMEIS to assess identity status are described.

#### STUDIES USING MEASURES OTHER THAN THE MARCIA INTERVIEW OR THE OMEIS

In one of the earliest studies of identity development, Howard (1960) administered a questionnaire of her own design to sixty-nine women who were sophomores or seniors at two high schools. She derived the questions from her readings of Erikson's work, and included the areas of time distortion, identity consciousness, work paralysis, sexual identity, and diffusion of ideals. The area of identity consciousness area had five parts, including awareness of one's identity, the extent to which one was building a self-image by copying other people, awareness of a sense of isolation, extent of one's satisfaction with one's present self and life, and the nature of one's peer group relations. In another section of the questionnaire the nature of the women's interpersonal

relations was addressed, as the purpose of the study was to investigate the relationship between identity and the psychosocial stage which follows it, intimacy vs. isolation.

Her findings were that in most areas of conflict for which she tested, at least two questions were answered positively by "twenty to thirty" girls, which she took to mean that there was a certain elevation of awareness of identity concerns among her sample. She also found that having conflict in one area was strongly associated with having conflicts in other areas, and she described such multiply conflicted individuals as "identity diffused". More girls were rated as being conflicted in the area of sexual identity than any other. Further, girls with some reported conflict with their parents were frequently more deeply engaged in identity issues. Finally, a trend toward lessening conflict in the older group (seniors) compared to the younger group (sophomores) was found, though it was not statistically significant.

The weaknesses of the study were primarily the lack of any sort of validation for the instrument used, except for face validity, as well as the fact that response bias was not controlled for, and that the sample was limited in size and was only female. Nevertheless, there was some indication that there is a change in identity status during the high school years.

Ciaccio (1971) used a Thematic Apperception Test-type story-telling instrument to assess the extent to which males aged 5, 8, and 11 expressed concerns associated with each of the first five stages described by Erikson. The results of a "unit utterance" scoring procedure indicated that 11 year old boys were beginning to show some identity concerns, but the frequency of such expressed concerns was far lower than for concerns associated with the earlier stage components of industry and initiative. Although the study used only males, and the measurement instrument lacked many psychometric qualities, it has helped to suggest eleven or twelve years old as a possible lower age boundary for the study of normal identity development, and also supports Erikson's view that some focus on earlier stages precedes consideration of identity issues.

Stark and Traxler (1974) used Dignan's Ego Identity Scale to examine identity crystallization in late adolescence. Their sample consisted of college students, whom they grouped into two age groups, 17-20 and 21-24. Their purpose was to compare the two age groups, as well as to examine sex differences, and the effect of anxiety on identity development. Dignan developed the Ego Identity Scale from items adapted from self-report inventories and derived from Erikson's concept of ego identity. The test consists of 50 items and has different forms for males and females, since it was originally designed for women and then expanded for use with men. In the original study (Dignan, 1963), it was found that female ego identity crystallizes in late adolescence, and that ego identity and manifest anxiety are significantly negatively correlated.

Stark and Traxler found that 17 to 20 year olds reported significantly more ego diffusion than 21 to 24 year olds. Furthermore, they found that females in the 17 to 20 age range reported significantly less ego diffusion than males of the same age range, as did females in the 21 to 24 age compared to males in the 21 to 24 age range. Both males and females became increasingly more crystallized in their identity as they got older. Finally, they replicated the finding of Dignan that identity diffusion correlates significantly with anxiety.

They interpreted these findings to mean that the significant crystallization of ego identity occurs in late adolescence, compared to early adolescence, that females resolve identity issues more rapidly than males, and that heightened anxiety prevents one, to some extent, from progressing to a crystallized identity. However, while showing that, as a group, 21 to 24 year olds are more identity crystallized than 17 to 20 year olds, they had no way of addressing to what extent the younger age group had begun to deal with identity issues, and moreover, did not attempt to say what percentage of each group might be "high" or "low" in crystallized identity. Thus, they left open the possibility that a significant number of younger subjects might have a crystallized (or crystallizing) identity, while the group as a whole still appears to be identity diffuse.

In a study of correlates of adolescent identity development, Lavoie (1976) administered a variety of measures to 120 sophomores, juniors, and seniors in high school. The extent of identity achievement was measured using the Marcia incomplete sentence blank test, called the Ego Identity Status Scale, which provides a score of overall identity achievement, though not one of identity status. Sex role identity was measured by an adjective check list called the Heilbrun Masculinity-Femininity Scale, in which high scores indicate greater masculinity and low scores greater femininity. Another measure of sex role identification was provided by a semantic differential measure developed by Lazowick in which a subject makes judgments of the similarity of the concept "myself" to the concepts "husband", "wife", "mother", "father", "man", "woman", and "family". The Erikson Measure of Personality Development, developed by Constantinople (1969), was used as a measure of personality synthesis. This scale is a self rating scale which assesses personality integration on the first four psychosocial stages as well as the sixth (Intimacy vs. Isolation). It includes a measure of the fifth stage, identity, but this was omitted as the authors felt that this was already being assessed by the incomplete sentence blank. Self concept was assessed using the Tennessee Self-Concept Scale which also provided six measures of psychological adjustment (Defensive Positive, General Maladjustment, Psychosis, Personality Disorder, Neurosis, and Personality Integration). Finally, socialization practices were obtained from an 18 item child rearing questionnaire on which each subject rated each of their parents on the factors of warmth, concern, punishment practices, and consistency.

Their results showed that while ego identity became greater with age, this increase was not statistically significant. Furthermore, there were no sex differences in ego identity. The other variables were analyzed by making a median split between high and low identity subjects and using that as one independent variable, with age and sex the other two. While high from low identity subjects could not be distinguished on a measure of masculinity/femininity, high identity subjects perceived less distance between self and father, self and family, self and man,

self and mother, and self and husband. The only significant sex by identity interaction occurred for self and family, where high identity females perceived greater similarity than low identity females. High identity subjects scored more positive on basic trust and industry than low identity adolescents. There were no significant sex differences on the personality measures. Subjects high in ego identity were better adjusted psychologically than low identity subjects, except in the area of Psychosis, in which there was no difference. There were no sex differences in psychological adjustment. Self concept was more positive with increasing age, and was significantly higher among high identity subjects than low scorers.

Overall, the study supports the view that some increase in ego identity status may occur during the high school years, though it may be rather small. Another important finding was that successful resolution of the earlier stages of trust (Stage 1) and industry (Stage 4) predict more frequent resolution of identity (Stage 5) in early adolescence. An important non-finding was that in no case was a sex difference on a dependent measure associated with greater or lesser identity development, suggesting that sexual differences may be less important in early adolescence.

Pomerantz (1979) studied the development of self-esteem, physical self-satisfaction, and identity, as predictors of the variable satisfaction with one's social milieu. Her sample consisted of six hundred and nine junior and senior high school students in the eighth, tenth, and twelfth grades, evenly divided among males and females.

Self-esteem was measured by the Rosenberg Self-Esteem Scale. Identity was measured by the Ego Identity Scale developed by Rasmussen (1964), which assesses the first six Eriksonian stages, all of which are presumed to be reworked by the adolescent in an identity crisis. Each stage is represented by three statements, and are rated on a four point Likert scale. The split-half and test-retest reliabilities for this measure are .85 and .87 respectively. The scale is reported to correlate significantly with Constantinople's Inventory of Psychosocial

Development. Physical self-satisfaction was measured by the Body Cathexis Scale. Satisfaction with one's social milieu was assessed using an Adolescent Questionnaire created by the authors, which asked adolescents to rate their degree of satisfaction with various aspects of their life.

The best predictors of satisfaction with one's social milieu were self-esteem, identity, and physical self-satisfaction in that order for males (accounting for 37% - 44% of the variance), while identity, physical self-satisfaction and self-esteem were the ordered predictors for females (42% - 47% of the variance). In each case, the first variable entered into the prediction equation accounted for the overwhelming bulk of the variance, while the other two variables accounted for 4% - 7% of the variance together. Thus, identity was found to vary significantly with age for women, but not for men, in early adolescence. That result was tempered by the fact that the variables identity and self-esteem correlated more strongly with each other than either did with the criterion variable. Thus, the possibility exists that the effect of one variable is masking the effect of the other, but the authors of the study do not perform the analyses necessary to determine if that is the case.

Erwin (1983) investigated whether there was a difference in identity level between students planning to go to college, those planning not to go to college, and those who were undecided. His test of identity was based on Erikson's ideas, and was divided into three areas: Confidence, Sexual Identity, and Conceptions about Body and Appearance. The author developed a questionnaire to assess these constructs, which were shown to have internal consistency coefficients ranging from .75 to .81. The scale is also reported to correlate moderately with other scales of personality integration and internal locus of control.

The scale was administered to 163 high school students from grades 9 through 12. Those students who were sure they either did or did not want to go to college and those who were uncertain about their plans could be differentiated by both the subscale "Confidence" and the subscale "Conceptions about Body and Appearance". The students who were sure about

their choice appeared essentially identical on all measures, consistently higher than those who were unsure. No study was made of sex or cohort differences.

## STUDIES USING THE MARCIA INTERVIEW TO ASSESS IDENTITY STATUS

The Marcia semi-structured interview, by far the most frequently used measure to assess identity status, was first used on a sample of students younger than college age in 1978, when Raphael (1978) tested one hundred women in the 12th grade. In addition to identity status, he also administered measures of social class, intelligence, tolerance of ambiguity, cognitive complexity, ego identity, and anxiety. He also examined performance on a behavioral measure of information search.

Significantly, the author dismissed on theoretical grounds the possibility of a high school senior being in the identity achieved status. To be in that status, one must have considered alternatives and committed one's self to one of them. At that age, the author felt that a subject would of necessity have considered too few alternatives, and thus be actually identity foreclosed, or not have made a true commitment, and thus be actually in the moratorium status. Therefore, every person in this study was defined as either identity diffused, foreclosed, moratorium or unclassifiable.

By these rules, 22 persons were found to be in moratorium, 32 in foreclosure, 24 in the identity diffusion status, and 22 were unclassifiable. Moratoriums were significantly higher than foreclosures on the variables social class, complexity of conceptual level, intelligence, and tolerance of ambiguity. Moratoriums were significantly higher than diffusions on the same variables, as well as certain measures on the information search task. Foreclosures were significantly higher than diffusions only on the measure of ego-identity. The Rasmussen Ego identity scale was used, giving only an overall score on ego identity. Foreclosures were higher on the ego identity variable than moratoriums, though not significantly so.



The author concludes that the results support the usefulness of the identity status categories, as well as the hypothesis that the moratorium status is a more adaptive one in terms of overall behavioral functioning than the foreclosure status, while the foreclosure status, although more rigid and less tolerant of change, is still more behaviorally adaptive than the identity diffusion status. A significant percentage of subjects in a high identity status was observed, although only women were tested, and no identity achievement status was scored for.

In perhaps the only study which examined the identity status of young adolescents and of older adolescents, Meilman (1979) administered a modified Marcia Identity Status Interview to twenty five white males in each of five age groups: 12, 15, 18, 21, and 24 years. A series of questions designed to elicit subject's exploration of and commitment to aspects of sexual identity was added and administered to the three oldest age groups. A series of questions related to avocations was also asked, but were poorly correlated with overall crisis and commitment scores, so were excluded from further study.

A multivariate analysis of variance of the effects of age on commitment and crisis measures for the areas of occupation, religion, and politics was significant. Univariate tests indicated age-related increases in occupational commitment and crisis, religious crisis, and political commitment and crisis. The effect of age on sexual commitment and crisis was also significant. Cross sectional data showed that there were steady decreases with age of subject's presence in the "lower" identity statuses (identity diffusion and foreclosure), and a steady increase with age of a subject's presence in the "higher" identity statuses (moratorium and particularly identity achievement). Of interest is that the author classified 4% of 15 year olds as identity achieved, and found fully 20% of 18 year olds in that category. There was no evidence that, as a group, higher identity statuses regress to lower ones, after college, but no analysis of such changes within individuals could be made, and that is the relevant variable. Although this was a cross sectional study, it suggests that while the majority of identity resolution is done

during the college years for men, a significant minority become identity achieved by the end of their high school years.

St. Clair and Day (1979) tested the hypothesis that adolescent women who are high in ego identity have high interests in religious and political values. In addition to the Marcia Interview, they administered the Allport-Vernon-Lindzey study of values, and collected data on the parents' occupational, educational, and marital status, as well as obtaining the subjects' GPA (grade point average) and IQ scores on the Otis-Lennon Mental Ability Test from school records. The age of the women was either 17 or 18 years.

Of the 80 subjects, 40 were classified as being in the moratorium status, with 15 identity achievements, 14 foreclosures, and 11 diffusions. Of the values investigated, only religious values were different across statuses, with diffusions having significantly lower interest in religious values than any of the other three statuses. Furthermore, diffusions had significantly lower GPA's than achievements, moratoriums, or foreclosures, but the IQ's of the four identity statuses were not significantly different. An interesting finding was that 67% of the identity achieved women came from families in which either divorce or death of one parent had occurred. There was also a significant relationship with mothers' educational level, in which more than half of the mothers of achievements and foreclosures had attended college, 30% of mothers of moratoriums had done so, and only 9% of mothers of diffusions had. There was no relationship with level of father's education.

Thus, the authors found that 19% of their high school senior subjects could be assigned to the identity achieved status. The difference in GPA between achievements and diffusions without a corresponding difference in IQ's suggested that one difference between the two groups was in the area of motivational or interest variables rather than aptitude. There was also an indication that instability in the family may facilitate the identity achievement of women, forcing them to consider alternatives and make commitments sooner than others.

In a comprehensive study of the identity development of younger adolescents, Archer (1982) assessed the identity status of 6th, 8th, 10th, and 12th graders. She was careful to include equal numbers of men and women, and obtained information about their parent's educational and vocational level. Rather than using the interview to assign an individual to one identity status, the areas of vocational, religious, political, and sex-role interests were each scored separately so as to examine each one's importance.

The majority of subjects used diffusion and foreclosure "decision-making strategies", but a significant increase of those in the achiever status as grade increased was found. No significant sex differences were found throughout the study, although the greater number of males in the foreclosure status approached significance. Among the four different content areas of investigation by the interview, there were far more diffusions in the political philosophy area than any other, with almost none in the sex-roles area. By contrast, the sex-roles area was primarily characterized by a very high number of foreclosures. There were few individuals in the moratorium status, but they were largely concentrated in the vocational plans area. The identity achievers were equally found in the vocational and religious areas, with many fewer in the sex-role or political areas. Presence in the achiever status correlated significantly with both parents' educational and vocational levels, i.e., the more highly educated parents with the best jobs tended to have sons and daughters who had considered alternatives and made commitments to one of them.

Perhaps the most interesting result to emerge from the study was the sense that individuals are in different identity statuses for different areas of their lives, and are usually in more than one decision-making mode at once. Thus, only 5% of the subjects were in only one status, 60% were in two, 32.5% were in three, and 2.5% were in all four statuses. A strong question was thus raised about the advisability of labeling an individual with only one identity status.

In summary, Archer found a significant shift toward use of the achiever status in early adolescence, almost exclusively in the areas of vocational plans and religious values. Questions regarding politics were generally not under consideration, while commitments without awareness of choices were made regarding sex roles. No sex differences were found throughout the study. Parents with more education and higher level occupations tended to have identity achieved children, and an individual was in one identity status across all four content areas only 5% of the time.

In a recent study investigating the identity development of early adolescents, Gortych (1983) measured the identity status of 27 ninth grade and 25 twelfth grade women. She also measured their ego strength, using the ego-strength scale of the MMPI. Her hypotheses were that there would be a shift from the diffusion status to the moratorium status as women got older, and that this shift would be accompanied by an increase in ego strength.

The majority of her subjects, whether 9th or 12th grade, were in the moratorium status, with none in the achiever status, few in foreclosure, and 10% - 20% in diffusion. There was, however, a significant difference in ego strength among the 12th graders (higher ego strength) compared to the 9th graders. Thus, in her sample, Gortych found essentially no change in identity status between 9th and 12th graders, with no one in the achiever status.

#### STUDIES USING THE OBJECTIVE MEASURE OF EGO IDENTITY STATUS (OMEIS)

There have only been two studies in which the identity development of young adolescents was investigated using the OMEIS as the measure of identity status. In one, Adams and Jones (1983) assessed high school women from the 10th, 11th, and 12th grades. In addition to recording their identity status, they also examined the perceived parenting styles which the adolescents felt they were living in. The questions tapping parenting styles related to issues such as perceived fairness of punishment received, extent of parental control, extent of allowed

freedom, amount of expressed approval and praise, and frequency of expressed love and affection of parents toward their children.

The authors found evidence for the validity of the OMEIS when used with a younger sample. Thus, correlation coefficients showed the diffusion and achievement statuses to be strongly negatively correlated, as expected, as well as moderate correlations between diffusion and foreclosure, and diffusion and moratorium, which seem to indicate that the issue of commitment is more strongly tapped than that of crisis, or the consideration of alternatives.

No significant differences were found in the examination of identity status change by grade or age. The authors report two "meaningful but nonsignificant trends" among the four age groups (15 to 18 years, inclusive), in which 15 year olds and 18 year olds had higher foreclosure scores, while 16 year olds and 17 year olds had higher achievement scores. With respect to the parenting variables, adolescent girls in the "higher" statuses of moratorium or achievement both involving an active state of thinking about alternatives, were the least likely to report controlling behavior on their mother's part, instead seeing their mothers as encouraging independent behavior. Further, fathers were viewed as fair in punishment, while offering minimal approval and praise to their daughters.

The authors conclude that their data are somewhat equivocal in terms of a developmental trend of identity in middle adolescence. The expected relationship was ruined by the oldest age group showing lower achievement and higher foreclosure scores than predicted by the trend. The difference is attributed either to a cohort difference or to the special pressures attending an impending high school graduate. Overall, however, diffusion scores decreased with age, and achievement scores increased.

In a study relating identity status to locus of control, Abraham (1983) tested the hypothesis that subjects in the achievement status feel that reinforcements are internally controlled. The subjects were 254 boys and girls with roughly one fourth each in the 9th, 10th,

11th, and 12th grades. In addition, because 30% of the sample was Mexican-American, the opportunity was taken to investigate ethnic heritage as a variable. Finally, one of the scoring rules of the OMEIS was examined, in which subjects who score below the cutoff score for all four statuses, and cannot be assigned to a stage, are "arbitrarily" assigned to the moratorium status, under the presumption that they are experiencing a peculiar form of crisis (See Chapter 3). These subjects are assigned to the "moratorium rule 2" status.

Twenty nine subjects were in diffusion, 29 in foreclosure, 19 in moratorium, 33 were identity achieved, and 122 were below all cutoff scores and were in the "moratorium rule 2" status. Identity achieved individuals were found to be significantly more internal in their locus of control than individuals in any other status. Also, "moratorium rule 2" individuals were more internal than regular moratoriums. The ethnic differences were significant, and reflect the fact that Anglo-Americans were more numerous in the foreclosure and "moratorium rule 2" status.

The author concludes that internal locus of control is characteristic of identity achievers in early adolescence. Further, the "moratorium rule 2" individuals must be considered to be in a qualitatively different state than other moratoriums, since they are two distinct groups on at least one intrapersonal variable. The difference is particularly important since "moratorium rule 2" is a highly represented status, 55% in this study. The finding that Mexican-Americans had less of a tendency to be in the diffusion status went against the author's assumption that parents' socio-economic status would be a mediating variable. A post hoc analysis showed that the lower educational status of the parents of Mexican-Americans did not predict high presence in the diffusion status. The author concludes that parenting style may be a more important mediating variable.

## SUMMARY

The main findings regarding the development of identity status in early adolescence are summarized in Figure 3.

Although the bulk of early adolescents are generally found in the "lower" identity statuses, characterized by not considering alternatives, a fairly constant percentage, usually 10% - 20%, are generally found in the "higher" identity statuses, characterized by consideration of alternatives and commitment to one of them. Usually the commitment is in the area of vocational choice and religious issues, more so than politics. On numerous measures of psychological functioning and adaptation, those in the higher statuses appear to use more complex reasoning, to be more adaptable, and more resistant to stress. The causal relationships among these variables are far from sorted out, however. Those studies that have examined sex differences in identity development, have generally not found them. With one exception, all of the studies were cross sectional designs, and examined white suburban or urban adolescents. Therefore, cohort effects may be being observed, and limits generalizability to the white middle class. That caveat is significant for there is evidence both that different ethnic groups develop their identity in different ways, and that the educational and occupational level of the parents is a significant variable in the identity development of their children. The most significant mediating variable was parenting style, with a more controlling, punitive style predictive of lower identity statuses. Parental conflict could actually help adolescents develop more quickly, perhaps by making them commit to one of several alternatives sooner than children of less conflicted households. Finally, there was some support for Erikson's view that resolution of the earlier stages of trust vs. mistrust, and industry vs. inferiority in particular, are important to a successful resolution of the identity crisis.

The findings have some drawbacks, however. In the first place, sample sizes are generally fairly small, a handicap which limits internal validity and, particularly,

<b>Researcher</b>	<b>Identity Instrument</b>	<b>Sex of Sample</b>	<b>Ages</b>	<b>Main Findings</b>
Howard, 1960	Her own questionnaire	F	14-17	Evidence for some change with age, primarily in sexual identity.
Ciaccio, 1971	Story telling test	M	5,8,11	11 year old boys have early identity concerns.
Stark & Traxler, 1984	Dignan Ego Identity Scale	M,F	17-24	Identity crystallizes at 21-24 years. Women resolve identity issues more quickly than men.
Lavoie, 1976	Ego Identity Status Scale	M,F	15-18	Nonsignificant increase in identity with age. Resolution of earlier stages predicts resolution of identity. No sex differences.
Pomerantz, 1979	Rasmussen Ego Identity Scale	M,F	16-18	Identity varied with age for women, not for men.
Erwin, 1983	Erwin Identity Scale	M,F	14-18	Students sure about plans for college had higher identity than those unsure.

Figure 3. Summary of Research on the Identity Status of Early Adolescents



<b>Researcher</b>	<b>Identity Instrument</b>	<b>Sex of Sample</b>	<b>Ages</b>	<b>Main Findings</b>
Raphael, 1979	Marcia Identity Status Interview (MISI) Rasmussen Ego Identity Scale	F	17-18	Moratoriums more adaptive than Fore closures, and both more adaptive than Diffusions Significant number in high identity status.
Meilman, 1979	MISI	M	12,15,18,21,24	Identity status increased with age. 20% of 18 year olds identity achieved.
St.Clair & Day, 1979	MISI	F	17-18	19% of subjects identity achieved. Family instability may facilitate identity resolution.
Archer, 1982	MISI	M,F	11-18	Increase in number of subjects in achievement status with age. No sex differences.
Gortych, 1983	MISI	F	14-18	No individual in achievement status.

Figure 3. (continued)

<b>Researcher</b>	<b>Identity Instrument</b>	<b>Sex of Sample</b>	<b>Ages</b>	<b>Main Findings</b>
Adams & Jones, 1983	Objective Measure of Ego Identity Status (OMEIS)	F	15-18	No identity status change with age. Non controlling parenting style facilitates higher identity status.
Abraham, 1983	OMEIS	M,F	14-18	15% of subjects in achievement status, with internal locus of control.

Figure 3. (concluded)

generalizability. Further, the bulk of recent work in identity development has been done using the Marcia Identity Status Interview. The Identity Status Interview measure is time consuming and labor intensive. Moreover, it has been criticized by its designer for possible loss of objectivity (Marcia, 1976). The development of the Objective Measure of Ego Identity Status, designed to help redress those drawbacks, has not done so, because only two studies using a younger adolescent population have been conducted. Those studies suffered from test development problems which may have clouded the results, which were not consistent with the bulk of previous research findings. Therefore, the need for a valid, objective measure of identity status, which could examine the identity development of younger adolescents remains as a prime measurement need in developmental research.

## CHAPTER 3

### METHODOLOGY

In Chapter Three, the process of obtaining a sample is described, as well as the instruments used in the study, the design of the study, and the method of analysis. The hypotheses are restated in testable form.

#### SAMPLE AND POPULATION

The population under consideration was younger adolescents, specifically defined as individuals not yet having entered college. The desired age range was 13 to 18 years. A number of junior high school (middle school) and high school principals in the Greater Lansing area were contacted, with the principals of two of them agreeing to have their schools participate in the study.

The sample was composed of those students who had signed permission forms from their parents, and who were present on the day the instruments were administered.

Both communities may be characterized as moderate sized towns, middle to upper-middle class, and quite predominantly white. Both school's principals indicated a low drop-out rate of about 2% - 3%, and indicated that at least 95% of a given class eventually graduates.

The sample had the following demographics: the total sample was 214, with 52 eighth graders, 98 tenth graders, and 64 twelfth graders. Males composed 49.5% of the overall sample, while females composed 50.5%. There were 24 13 year olds (11%), 29 14 year olds (14%), 87 15 year olds (41%), 11 16 year olds (5%), and the age of the last 29% of the sample was unknown. The sample was overwhelmingly white, as 95% of those subjects for whom race was known were white, with only three members each from the black and hispanic races.

## INSTRUMENTS

Besides the "Fact Sheet", used to collect demographics on the sample, two clinical instruments were administered: the Objective Measure of Ego Identity Status (OMEIS) and a shortened version of the Assessment of Adult Adjustment Patterns (AAAP).

### *Fact Sheet*

The fact sheet collected the following data from all students: grade in school, and gender. Because a different version was used for each of the three grades, the students' vocational intentions after high school (and marital intentions after high school) were collected only for the eighth graders, and race and age were not collected for the twelfth graders. Examples of the fact sheets may be seen in Appendices B and C.

### *Objective Measure of Ego Identity Status (OMEIS)*

The OMEIS was developed by Adams, Shea, and Fitch (1979) as a paper and pencil test to establish which identity status an individual currently occupies. The test was developed out of a need to have an objective, yet valid test for ego-identity status, designed to replace the cumbersome interview schedule and incomplete sentence blank already in use. The interview schedule had been criticized by its designer for a lack of consistency arising primarily because of difficulty in scoring portions of it (Marcia, 1976). The OMEIS was also designed to allow a researcher to measure the extent to which a given subject tends toward self-perceived identity diffusion, foreclosure, moratorium, and achievement separately, instead of simply assigning a subject unilaterally to one status, as do the interview and the incomplete sentence blank.

The OMEIS is structured with 24 items. For each item, one must indicate whether the statement is similar to or dissimilar to one's self-perceptions, by marking a number on a Likert scale with six gradations ranging from "strongly agree" to "strongly disagree". Each identity status has six questions designed to assess the extent to which an individual responds

like others in that status, with two questions each drawn from the psychosocial realms of occupation, religion, and politics.

The test is scored by assigning a value of "1" to an answer of "strongly disagree" to any question, a value of "6" to an answer of "strongly agree" to any question, and the appropriate intermediate values to the other answers. The values of the six questions pertinent to each identity status are then summed, giving four scores, or an "identity status profile" for each subject. Operationally, the subject's identity status may be determined by calculating the means and standard deviations of each identity status for the entire sample under consideration, then assigning each individual to an identity status according to the following directions:

1. Individuals with scores falling one standard deviation above the mean for a given identity status are scored as being in that identity status if all remaining scores fall below the one standard deviation cutoff.
2. Individuals with all scores falling less than one standard deviation above the mean are scored as moratorium. The rule was arbitrarily decided upon, as a low profile of this sort was assumed to reflect a unique form of crisis. Subsequent research has shown, however, that individuals in "moratorium rule 2" are going through a qualitatively different experience than those scored as being in moratorium by rule "1" above.
3. Individuals with more than one score above the standard deviation cutoff are scored as being in transition from one status to another and are given a transition status typology, such as diffusion-moratorium, diffusion-foreclosure, etc.

The normative group consisted of 48 participants (12 male, 36 female) in a general education course at Utah State University. They were primarily middle class youth from rural or

small town backgrounds. Their academic fields were education, child development, sociology, social work, psychology, and liberal arts.

The OMEIS was partially validated by its developers through four studies comparing its results with those obtained from the Incomplete Sentence Blank (ISB) developed by Marcia (1966), which itself provided the primary validation measure for the ego-identity interview .

The OMEIS had internal consistency coefficients for each status ranging from .67 to .76. A one way analysis of variance using the ISB scores as a dependent measure yielded a significant result. Individual comparisons using a multiple range test revealed that diffusion status persons were significantly less committed to an overall ego identity as measured by the ISB than the identity achievement status persons.

A second study supported the ability of the OMEIS to categorize individuals in the same manner as the ISB, as a second one way analysis of variance with a slightly different sample again proved significant. Concurrent validation with a measure of authoritarianism supported the expectation that foreclosure individuals are significantly more authoritarian than moratorium or achievement persons. Concurrent validation with a measure of self acceptance supported the expectation that achievement individuals are significantly more self accepting than individuals in diffusion or foreclosure. Concurrent validation with a measure of personal rigidity supported the expectation that foreclosure individuals are more inflexible (though not significantly so) than achievement individuals.

A third study again supported the OMEIS as able to categorize individuals similarly to the ISB. Furthermore, gender effects were investigated, and were consistently found to be non-significant, that is, women and men score the same way on this test. A cross sectional study by age showed results in the expected direction: younger individuals were more diffused and foreclosed, while older ones were more likely in moratorium or achievement.

The fourth study compared results of the OMEIS with the Marcia semi-structured interview. Although the results were generally as expected, there was some discrepancy in the classification of an individual into either the diffusion or moratorium classes, as several subjects were transposed between the two classes. Two explanations are offered, one, that the OMEIS may not be completely adequate as a tool to distinguish between identity diffusion and moratorium, or two, that such individuals were in a "diffusion-moratorium transition state" and thus could be classified as either status depending on the specific criteria examined. Test-retest reliability ranged from .71 to .93 for the four subscales.

Taken together, these four studies appear to offer evidence for a certain amount of concurrent validity for the OMEIS, particularly with respect to the theoretical formulations and research of James Marcia.

#### *Assessment of Adult Adjustment Patterns (AAAP)*

The AAAP was recently developed by Farquhar, Wilson, and Parmeter (1977) as an attempt to objectively measure an individual's degree of mastery of each of the eight psychosocial tasks postulated by Erikson. In its most complete form, the AAAP consists of 320 items, including items for each of the eight stages, as well as for two validity scales.

Each item consists of a statement which a respondent describes as "Definitely true of me", "True of me", "Not true of me", "Definitely not true of me", or "Does not apply to me", by marking a number on a 5-point Likert scale. Items may be presented either "positively", meaning that an endorsement of the item as "True of me" is supportive of having mastered the stage, or "negatively", meaning that a non-endorsement of the item as "Not true of me" is supportive of having mastered a given stage. The test is scored by giving a respondent four points for an item if they have answered in the manner most supportive of their having mastered the stage, i.e., "Definitely true of me" for a "positive" item, or "Definitely not true of me" for a "negative" item. The item is given three points if a respondent has endorsed the next most

supportive statement, and two points or one point for the least supporting statements. The item is scored with no points if a respondent has endorsed it as "Does not apply to me". All item scores pertaining to a given stage are then summed to give a stage score. James Azar, in an analysis of the AAAP using a norming population of university students and faculty, established cutoff scores for each stage (Azar, 1983). If the score on a given stage is above the cutoff point, it indicates that an individual has answered a substantial portion of the items in the mastery direction, and is presumed to have resolved to a significant extent the psychosocial crisis of that stage. The cutoff points for the stages were set so that they had the characteristics of Guttman scales, specifically, that they were mastered in hierarchical order of difficulty, beginning with Stage 1 (easiest) and proceeding in order to Stage 8, the hardest scale on which to achieve a mastery score, and thus the last one to be mastered.

The scales of the AAAP have internal consistencies ranging from .88 to .95 and were normed on university students and faculty. It gives results in the expected direction for a variety of populations, including psychiatric inpatients and a prison population. However, there have not been any direct studies of the validity (concurrent or predictive) of any of the AAAP scales.

For the current study, only the first five scales of the AAAP were used to collect data regarding adolescents, partly because the questions relating to intimacy, generativity, and old age were assumed not to be relevant to adolescents who are predominantly wrestling with much earlier issues. Another concern was that the length of the full AAAP, 320 items, would make the time necessary to administer all of the instruments equal to at least two class periods, a sacrifice of time no principal was willing to agree to for his students. One of the two validity scales, an F-scale patterned on the MMPI scale of the same name, was also dropped, but the other, a social desirability scale, was retained, and brought the total number of items on the shortened AAAP to 205.



The social desirability scale was used to identify subjects who had a strong tendency to respond to items as they felt they were expected to, or how they felt others might respond, rather than according to their own feelings. Recognizing that different levels of social desirability existed for each of the three cohorts, an average social desirability score and standard deviation was computed for each of the three grades sampled. Those students were eliminated from subsequent analyses who had social desirability scores greater than one standard deviation above the mean for their grade. The procedure resulted in the elimination of 29 cases from the overall sample. More detailed discussion of the effect of the exclusion procedure may be found in Chapter 4.

## PILOT STUDY

A small pilot study was conducted to see how understandable the test materials were, how long it took to complete them, and to check the scoring procedures. Four adolescents aged 15 to 17 years were recruited through an acquaintance network. They were, as a group, given an explanation of the nature of the research and what they were being asked to do. They were given a packet of materials containing the fact sheet, the Objective Measure of Ego Identity Status, the modified and shortened version of the AAAP, and a computer scoring sheet for recording their AAAP answers. There were no questions regarding the instructions or any part of the test materials, except for one comment that questions on the AAAP appeared to be redundant and in some cases identical. This comment reflects the nature of the test, which was designed with a great deal of redundancy. In the final version of the test, the redundant versions of two questions, which were found to be exact duplicates, were dropped.

The time required for completion of the test materials ranged from 31 minutes to 44 minutes and averaged 37 minutes. Thus, the materials were deemed suitable for use in schools where a class period is from 45 to 50 minutes long. The OMEIS was tabulated and scored by hand, and revealed one student in the moratorium status of identity, one in foreclosure, and one

in diffusion. The final student was below the cutoff points on all statuses, and was thus assigned to the "moratorium Rule 2" group (see the "Instruments" section of this chapter). The AAAP, because of numerous items and complex scoring procedures, must be scored by computer. A standing program exists in the Scoring Office of Michigan State University's Computer Center which can accomplish this. However, difficulties arose in its use, which were not resolved by the time the data from the schools was due to be collected, so pilot study AAAP results were not obtained.

#### ADMINISTRATION OF THE MATERIALS

After approval was given by the principal for the project to proceed, parental consent forms were sent to each school to be distributed to the students and taken home. Approximately one week later, when most of the forms had been returned, materials were dropped off at the office of the principals for distribution to each involved teacher. In both schools, the principals felt that more effective data collection could be accomplished if the teacher normally scheduled to teach a class presented the materials. Usually, these were Social Studies or English teachers. After the materials were returned to the principal's office of each school, they were held there until picked up by an associate.

#### DESIGN OF THE STUDY

The study was cross sectional and exploratory in nature. The independent variable was grade in school, with three levels: 8th grade, 10th grade, and 12th grade. One dependent variable consisted of the identity status scores obtained from the Objective Measure of Ego identity Status, which had four levels: identity diffusion, foreclosure, moratorium, and identity achievement, and the other dependent variable consisted of the stage scores obtained from the AAAP, and had five levels, one corresponding to each of the first five Eriksonian stages from

trust through identity. For one analysis, the scores on the items of the four identified factors of the fifth stage, identity versus role confusion, were used as separate dependent variables.

## HYPOTHESES IN TESTABLE FORM

In the following section, each of the research hypotheses are restated in turn, in words and symbolic form, and include null and alternate hypotheses. The hypotheses relating to the validation of the OMEIS with a younger sample were:

### Hypothesis 1

$H_{01}$  : The proportion of students at each grade level in identity diffusion remains the same during early adolescence.

$H_{A1}$  : The proportion of students at each grade level in identity diffusion decreases during early adolescence.

Stated symbolically the hypotheses are:

$H_{01}$  :  $D_8 = D_{10} = D_{12}$

$H_{A1}$  :  $D_8 > D_{10} > D_{12}$   $\alpha = .05$

where :  $D_8$  = the proportion of 8th graders in identity diffusion,

$D_{10}$  = the proportion of 10th graders in identity diffusion,

$D_{12}$  = the proportion of 12th graders in identity diffusion

### Hypothesis 2

$H_{02}$  : The proportion of students at each grade level in moratorium remains the same during early adolescence.

$H_{A2}$  : The proportion of students at each grade level in moratorium increases with grade level during early adolescence.

Stated symbolically the hypotheses are:

$H_{02}$  :  $M_8 = M_{10} = M_{12}$

$$H_{A2}: M_8 < M_{10} < M_{12} \quad \alpha = .05$$

where:  $M_8$  = the proportion of 8th graders in moratorium

$M_{10}$  = the proportion of 10th graders in moratorium

$M_{12}$  = the proportion of 12th graders in moratorium

### Hypothesis 3

$H_{03}$ : The proportion of students at each grade level in foreclosure remains the same during early adolescence.

$H_{A3}$ : The proportion of students at each grade level in foreclosure is different over age level during early adolescence.

Stated symbolically the hypotheses are:

$$H_{03}: F_8 = F_{10} = F_{12}$$

$$H_{A3}: F_8 \neq F_{10} \neq F_{12} \quad \alpha = .05$$

where:  $F_8$  = proportion of 8th graders in foreclosure

$F_{10}$  = proportion of 10th graders in foreclosure

$F_{12}$  = proportion of 12th graders in foreclosure

### Hypothesis 4

$H_{04}$ : The proportion of students at each grade level who are identity achieved remains the same during early adolescence.

$H_{A4}$ : The proportion of students at each grade level who are identity achieved is different over grade level during early adolescence.

Stated symbolically the hypotheses are:

$$H_{04}: A_8 = A_{10} = A_{12}$$

$$H_{A4}: A_8 \neq A_{10} \neq A_{12} \quad \alpha = .05$$

where:  $A_8$  = proportion of 8th graders in identity achievement

$A_{10}$  = proportion of 10th graders in identity achievement

$A_{12}$  = proportion of 12th graders in identity achievement

The following hypotheses relate to the partial validation of the AAAP with the OMEIS.

Hypothesis 5

$H_{05}$ : There is no significant association among students between failing to reach the mastery level on stages 1, 2, 3, or 4 on the AAAP and being in the identity diffusion status on the OMEIS.

$H_{A5}$ : There is a significant association between failure to reach the mastery level on stages 1, 2, 3, or 4 on the AAAP, and being in the identity diffusion status on the OMEIS.

$H_{05}$ : The two population subgroups described above are independent

$H_{A5}$ : The two population subgroups described above are associated

Hypothesis 6

$H_{06}$ : There is no significant association among students between reaching the mastery level on stages 1 through 4 on the AAAP and being in moratorium on the OMEIS.

$H_{A6}$ : There is a significant association between the mastery of the first four AAAP stages and presence in the moratorium status on the OMEIS.

$H_{06}$ : The two population subgroups described above are independent

$H_{A6}$ : The two population subgroups described above are associated

Hypothesis 7

$H_{07}$ : There is no association among 12th graders between mastery of the fourth stage of the AAAP and presence in the moratorium status on the OMEIS

$H_{A7}$ : There is a significant association among 12th graders between mastery of the fourth stage of the AAAP and presence in the moratorium status on the OMEIS.

H<sub>07</sub>: The two population subgroups described above are independent.

H<sub>A7</sub>: The two population subgroups described above are associated.

#### Hypothesis 8

H<sub>08</sub>: There is no significance to the canonical correlation between the first set of canonical variates formed by the four subfactors of Stage 5 on the AAAP and the four variables of the OMEIS.

H<sub>A8</sub>: There is a significant canonical correlation between the first set of canonical variates formed by the four subfactors of Stage 5 on the AAAP and the four variables of the OMEIS.

H<sub>08</sub>: The canonical correlation is not significant.

H<sub>A8</sub>: The canonical correlation is significant.

#### ANALYSIS

The analysis of the hypotheses proceeded in three major steps, each described in the following section.

*Analysis of hypotheses 1 through 4.* The first set of hypotheses, relating to the validation of the OMEIS with a younger sample, were analyzed by a method for testing the equality of a set of proportions set forth in Fliess (1981). In this method, the proportion of subjects with a given characteristic in each subgroup (for example, the proportion of students in diffusion at each grade level), is systematically compared to the proportion of subjects with that characteristic over the entire sample. The test statistic is a chi-square, with degrees of freedom equal to the number of subgroups less one. The assumption of chi-square is independent sampling at each level (e.g., the assigning of students to the diffusion status in the 8th grade had no effect on the assigning of students to that status in the 10th or 12th grades).

The first two hypotheses of the first set were tested by a procedure which takes advantage of the presumed qualitative ordering of the subgroups (e.g.,  $D_8 > D_{10} > D_{12}$ ) to provide an increase in power, in the event that the presumed ordering actually exists. If the proportions are not ordered, then the technique, which requires one to average sets of proportions which do not conform, increases the likelihood that no significant effect will be found. The second two hypotheses of the first set were tested by a more general procedure which tests only for differences among subgroup proportions compared to the overall sample proportion.

*Analysis of hypotheses 5 through 8.* The second set of hypotheses, with the exception of Hypothesis 8, were analyzed using a fourfold table of proportions. In such a table, one assesses the presence or absence of association between two characteristics by observing the frequency with which they are each found or not found for a sample of individuals. Each individual is assigned to one of four cells, depending upon whether they have both characteristics of interest, have the first but not the second, the second but not the first, or neither. The test statistic is a chi-square with one degree of freedom, and is generated by comparing the observed cell frequencies (or proportions) with the frequencies expected under conditions of total independence of the two characteristics.

The eighth hypothesis was tested by canonical correlation. This is a technique which gives one measure of the amount of intercorrelation between two sets of variables. The variables within each set are presumed themselves to be intercorrelated, and each set of variables is presumed to correlate with the other set. The process of canonical correlation then produces linear combinations of each set of variables (called canonical variates), such that the correlation between the canonical variates is maximized. The square of the canonical correlation, the eigenvalue, represents the amount of variance of one set of variables accounted for by the other set. In addition, coefficients for each variable in the canonical variate may be obtained, and examination of these can lead to the formation of hypotheses relating to the relationship between particular variables in the canonical variates.

*Post-hoc analyses.* Because of the nature of the data and the purposes of the study, several additional analyses were performed: a Guttman scale analysis of the AAAP as it was used in this study, the determination of new mastery cutoff points for the AAAP, the reanalysis of hypotheses 5, 6, and 7 using the new cutoff points, and a MANOVA (Multivariate Analysis of Variance) on the OMEIS data.

Guttman scale analysis is a set of methods for evaluating whether a set of scales have the properties of Guttman scales. Those properties are first that the scales must be unidimensional, that is, measure movement toward or away from a single underlying concept. Second, the scales must be cumulative, that is, the scales are ordered from "easiest to pass" to "hardest to pass", and moreover, a respondent who endorses positively a difficult item should endorse positively all easier items. In the present study, the five scales analyzed were those scales pertaining to the five stages of development in the AAAP. The stages were analyzed twice, once allowing them to be ordered from easiest to hardest, once forcing them to be ordered the way they are conceptualized (i.e., Stage 1 first, then Stage 2, etc.). In each analysis, several statistics were computed, including the coefficient of reproducibility, a measure of the extent to which a respondent's score is a predictor of one's response pattern, and the minimum marginal reproducibility, which is the minimum coefficient of reproducibility that could have occurred for the scale. The percent improvement is the difference between the first two measures and indicates the extent to which the coefficient of reproducibility is due to response patterns rather than the inherent cumulative interrelation of the variables used. The coefficient of scalability is a measure of the extent to which a scale is truly unidimensional and cumulative.

Guttman scale analysis can also be used to examine how the qualities of a set of scales change as the cutoff points, or the levels at which each scale in a set is considered to be passed, change. In the case of the AAAP, the cutoff points were the mastery levels determined by Azar (1983). Since use of those mastery levels with the current sample led to many subjects mastering none of the stages, new cutoff points were determined for the AAAP so that a much



greater number of subjects had mastered at least one of the scales. The criteria for the new cutoff points were that they had to be such that they allowed most of the subjects to be assigned to one of the first five stages of the AAAP, while keeping the coefficient of reproducibility and the coefficient of scalability high. Further, the number of "errors" was kept as low as possible. An "error" is a case in which a subject passes a high scale while failing a lower one, i.e. deviates from a pure Guttman pattern.

The next post hoc analysis involved retesting hypotheses 5 through 7 using the distribution of subjects obtained with the new mastery cutoff levels. The same cutoff points for the OMEIS were used.

Multivariate Analysis of Variance (MANOVA) is a technique which allows a researcher to test the significance of differences between several interrelated dependent variables measured at an interval level, across one independent variable, measured at a nominal level. In the present study, the independent variable was grade level, while the four dependent variables were transformed scores of the four subscales of the OMEIS.

The scores were transformed to investigate changes in the presumed underlying variables tapped by the OMEIS. Specifically, the four subscales of the OMEIS (identity diffusion, foreclosure, moratorium, and identity achievement) are theoretically derived by assessing the presence or absence of a sense of crisis (consideration of alternatives) and commitment in three psychosocial arenas (see Chapter 1 - "Marcia's Four Identity Statuses"). The subscale variables were transformed so as to obtain the following variables: a grand mean of all scores, two "crisis" variables, formed by averaging the two subscales involving the presence of crisis (moratorium and identity achievement) and the two which do not (diffusion and foreclosure), two "commitment" variables, formed by averaging the two subscales involving commitment (foreclosure and identity achievement) and the two which do not (diffusion and moratorium), and an interaction term assessing the extent of interaction between the two

variables "crisis" and "commitment". The MANOVA was performed using as dependent measures the grand mean, a contrast formed by the difference between the high and low crisis variables, a contrast formed by the difference between the high and low commitment variables, and the interaction term. The final variables were constructed so as to be orthogonal. Both an overall multivariate significance test and univariate tests of significance were done with the transformed variables.

## SUMMARY

In Chapter 3 the nature of the instruments used in this study, their psychometric qualities and validation work, and the techniques used to score them were presented. It was concluded that while the OMEIS has had some adequate validation work, the AAAP, while a well designed psychometric instrument, lacked concurrent and predictive validation work. The methods of administration of the test materials and the results of a small pilot study were reviewed. Two sets of test hypotheses were presented, including those pertaining to the validation of the OMEIS with a younger sample, and those pertaining to the validation of the AAAP using concurrent results from the OMEIS. The methods of analysis were reviewed, and several additional analyses were described, including the determination of new mastery level cutoff scores for the AAAP with the current sample, and the reanalysis of three of the hypotheses using the resulting new subject distributions. In Chapter 4 the results of the analyses are presented.

## CHAPTER 4

### RESULTS

In this chapter, the results of the study are examined, beginning with the description of students by each instrument, followed by the outcome of testing each hypothesis.

#### DISTRIBUTION OF CASES ON THE OBJECTIVE MEASURE OF EGO IDENTITY STATUS

The descriptive statistics for the OMEIS were calculated for each identity status, and may be seen in Figures 4 and 5.

	Mean	Standard Deviation	Kurtosis	Skewness
Identity Diffusion	21.593	4.538	.849	.122
Foreclosure	17.107	5.052	-.554	-.241
Moratorium	20.290	4.341	.847	-.185
Identity Achievement	23.864	4.155	.455	.252

Figure 4. Descriptive statistics over the whole sample (n=214) for the OMEIS

These statistics were used to assign subjects to a given identity status, as described in Chapter 3, and resulted in the distribution seen in Figure 6.

Of the entire sample (n=214), 80 (37%) could be unambiguously assigned to a single identity status. An additional 24 (11%) were in a transition status (e.g., diffusion-foreclosure). A further 7 (3%) could not be assigned to any category because of high scores on 3 or more identity statuses. Finally, 103 (49%) could not be assigned to any category because of low scores on all identity status scales.

	Identity Diffusion	Foreclosure	Moratorium	Identity Achievement
Identity Diffusion	1.0			
Foreclosure	.1039 p=.065	1.0		
Moratorium	.4731 p=.001	.2719 p=.001	1.0	
Identity Achievement	-.1553 p=.012	-.2236 p=.001	-.3469 p=.001	1.0

Figure 5. Pearson correlation coefficients of the identity statuses of the OMEIS over the whole sample (n=214)

		Identity Status				
		D	F	M	A	
Grade	8	3	11	4	6	
	10	7	8	4	9	
	12	3	6	4	15	
						D = identity diffusion F = foreclosure M = moratorium A = identity achievement  n = 80

Figure 6. Number of students in each identity status by grade level as classified by scores on the OMEIS

#### DISTRIBUTION OF CASES ON THE ASSESSMENT OF ADULT ADJUSTMENT PATTERNS

The distribution of students on the AAAP may be seen in Figure 7.

		Stage				
		1	2	3	4	5
Grade	8	13	2	1	1	1
	10	30	1	6	2	2
	12	15	4	1	1	1

n = 84

Figure 7. Number of students in each Eriksonian stage by grade level, classified by mastery level at each stage

Of the entire sample (n=209), 84 (40%) could be unambiguously assigned to a given stage. An additional 50 (24%) had ambiguous scores, in which one or more of the stage scores were below the cutoff point (e.g., scoring above the cutoff on stages one and three, but below the cutoff on stage two). Finally, 75 (36%) had the ambiguous score in which all stage scores were below the cutoff points.

The reliabilities of the OMEIS and the AAAP were calculated for each of the three grades and are listed in Figure 8.

#### EFFECT OF THE CORRECTION FOR SOCIAL DESIRABILITY

When the subjects who responded in the most socially desirable way were eliminated from the data as described in Chapter 3, the results of the OMEIS were modified as shown in Figure 9.

Figure 9 reflects the fact that 7 cases were eliminated from the eighth grade sample, including one diffusion, two foreclosures, one moratorium, and three whose scores were low on all scales. 13 cases were eliminated from the 10th grade sample, including one foreclosure, one

		8	10	12	Total Sample
OMEIS	DIF	.684	.319	.634	.552
	FOR	.700	.684	.758	.722
	MOR	.200	.481	.677	.517
	ACH	.362	.537	.637	.553
AAAP	STAGE 1	.716	.566	.554	.617
	STAGE 2	.703	.756	.634	.705
	STAGE 3	.649	.586	.669	.635
	STAGE 4	.869	.835	.772	.833
	STAGE 5	.751	.697	.821	.769

Figure 8. Reliabilities of the OMEIS and AAAP

		Identity Status				
		D	F	M	A	
Grade	8	2	9	3	6	D = identity diffusion F = foreclosure M = moratorium A = identity achievement  n = 69
	10	7	7	3	7	
	12	3	6	4	12	

Figure 9. Number of cases in each identity status by grade level, when cases are eliminated for responding in a highly socially desirable way

moratorium, two identity achievements, four transition stage scores, and five whose scores were low on all scales. 9 cases were eliminated from the 12th grade sample, including three identity achievements, two transition stage scores, and four whose scores were low on all scales. In all, 29 cases were eliminated by this procedure, including 11 who scored unambiguously in a given identity status, 6 in transition statuses, and 12 who scored low on all scales.

When the subjects who responded in the most socially desirable way were eliminated from the data, the results of the AAAP were modified as shown in Figure 10.

		Developmental Stage				
		1	2	3	4	5
Grade	8	12	2	1	0	1
	10	27	1	5	2	1
	12	14	3	1	1	1

n = 72

Figure 10. Number of cases in each developmental stage by grade level when cases are eliminated for responding in a highly socially desirable way

Figure 10 reflects the fact that 7 cases were eliminated from the 8th grade sample, including one Stage 1, one Stage 4, two ambiguous multiple stage responders, and three whose scores were below the cutoff on all scales. In the 10th grade sample, 13 cases were eliminated, including 3 Stage 1, 1 Stage 3, 1 Stage 5, 5 ambiguous multiple stage responders, and 3 whose scores were below the cutoff on all scales. In the 12th grade sample, 9 cases were eliminated, including 1 Stage 1, 1 Stage 2, 3 Stage 4, one ambiguous multiple stage responder, and 3 whose scores were below the cutoffs on all scales. Overall, 29 cases were eliminated, including 12 unambiguously assigned to a stage, 8 multiple stage responders, and 9 whose scores were below the cutoffs on all stages.

Since the cases eliminated because of high social desirability scores seemed to have little relationship to the hypotheses tested, the research hypotheses were tested both with the full sample and with the sample reduced by the 29 cases which showed high social desirability scores.

## TESTS OF THE HYPOTHESES

The following hypotheses relate to the validation of the OMEIS with a younger sample.

### Hypothesis 1

$H_{01}$ : The proportion of students at each grade level in identity diffusion remains the same during early adolescence.

$H_{A1}$ : The proportion of students at each grade level in identity diffusion decreases during early adolescence.

$H_{01}$ :  $D_8 = D_{10} = D_{12}$

$H_{A1}$ :  $D_8 > D_{10} > D_{12}$      $\alpha = .05$

The appropriate analysis with the full sample yielded a chi-square value of .308 to be compared to a reference value of 3.914. The null was accepted in this case.

The appropriate analysis with the sample reduced because of high social desirability scores yielded a chi-square value of .138 to be compared with a reference value of 3.95. The null was accepted in this case.

### Hypothesis 2

$H_{02}$ : The proportion of students at each grade level in moratorium remains the same during early adolescence.



$H_{A2}$ : The proportion of students at each grade level in moratorium increases with grade level during early adolescence.

$H_{02}$ :  $M_8 = M_{10} = M_{12}$

$H_{A2}$ :  $M_8 < M_{10} < M_{12}$   $\alpha = .05$

The analysis with the full sample yielded a chi-square value of .508 to be compared to a reference value of 4.08. The null was accepted.

The analysis with the reduced sample yielded a chi-square value of .186 to be compared to a reference value of 4.15. The null was again accepted.

### Hypothesis 3

$H_{03}$ : The proportion of students at each grade level in foreclosure remains the same during early adolescence.

$H_{A3}$ : The proportion of students at each grade level in foreclosure is different over grade levels during early adolescence.

$H_{03}$ :  $F_8 = F_{10} = F_{12}$

$H_{A3}$ :  $F_8 \neq F_{10} \neq F_{12}$   $\alpha = .05$

The analysis with the full sample yielded a chi-square value of 6.02 to be compared with a reference value of 5.99. The null was rejected.

The analysis with the reduced sample yielded a chi-square value of 3.96 to be compared with a reference value of 5.99. The null was then accepted.

### Hypothesis 4

$H_{04}$ : The proportion of students at each grade level who are identity achieved remains the same during early adolescence.

$H_{A4}$ : The proportion of students at each grade level who are identity achieved is different over grade level during early adolescence.

$H_{04}$ :  $A_8 = A_{10} = A_{12}$

$H_{A4}$ :  $A_8 \neq A_{10} \neq A_{12}$   $\alpha = .05$

The analysis with the full sample yielded a chi-square value of 6.88 to be compared to a reference value of 5.99. The null was rejected in this case.

The analysis with the reduced sample yielded a chi-square value of 5.27 to be compared to a reference value of 5.99. The null was thus accepted in this case.

The following hypotheses relate to the validation of the AAAP with the OMEIS.

#### Hypothesis 5

$H_{05}$ : There is no significant association between failing to reach the mastery level on stages 1, 2, 3, or 4 on the AAAP and being in the identity diffusion status on the OMEIS.

$H_{A5}$ : There is a significant association between failure to reach the mastery level on stages 1, 2, 3, or 4 on the AAAP, and being the identity diffusion status on the OMEIS.

$H_{05}$ : The two population subgroups described above are independent.

$H_{A5}$ : The two population subgroups described above are associated.

The analysis with the full sample yielded the fourfold table in Figure 11, with a chi-square statistic of .048, to be compared to a reference value of 3.84. The null was accepted.

The analysis with the reduced sample yielded the fourfold table in Figure 12, with a chi-square statistic of .035. The null was again accepted.

		Diffusion		
		+	-	
Failure to master stage 1,2,3, or 4	+	13	190	203
	-	0	11	11
		13	201	214

Figure 11. Number of students failing stage 1, 2, 3, or 4 who are in diffusion

		Diffusion		
		+	-	
Failure to master stage 1,2,3, or 4	+	12	167	179
	-	0	6	6
		12	173	185

Figure 12. Number of students failing stage 1, 2, 3, or 4 who are in diffusion with exclusion for high social desirability in effect

#### Hypothesis 6

$H_{06}$ : There is no significant association between reaching the mastery level on stages 1 through 4 on the AAAP and being in moratorium on the OMEIS.

$H_{A6}$ : There is a significant association between the mastery of the first four AAAP stages and presence in the moratorium status on the OMEIS.

$H_{06}$ : The two population subgroups described above are independent.

$H_{A6}$ : The two population subgroups described above are associated.

The analysis with the full sample yielded the fourfold table in Figure 13, with a chi-square statistic of .025, to be compared to a reference value of 3.84. The null was accepted.

		Moratorium		
		+	-	
Mastery of stages 1,2, 3, and 4	+	1	10	11
	-	11	192	203
		12	202	214

Figure 13. Number of students who have mastered stages 1, 2, 3, and 4 who are in moratorium

The analysis with the reduced sample yielded the fourfold table in Figure 14, with a chi-square statistic of .10. The null was again accepted.

		Moratorium		
		+	-	
Mastery of stages 1, 2, 3, and 4	+	1	5	6
	-	9	170	179
		10	175	185

Figure 14. Number of students who have mastered stages 1, 2, 3, and 4 who are in moratorium, with exclusion for high social desirability

#### Hypothesis 7

$H_{07}$ : There is no association among 12th graders between mastering the 4th stage on the AAAP and presence in the moratorium status on the OMEIS.

$H_{A7}$ : There is a significant association among 12th graders between mastering the 4th stage on the AAAP and presence in the moratorium status on the OMEIS.

$H_{07}$ : The two population subgroups described above are independent.

$H_{A7}$ : The two population subgroups described above are associated.

The analysis with the full sample yielded the fourfold table in Figure 15, with a chi-square value of .10, to be compared to a reference value of 3.84. The null was accepted.

		Moratorium		
		+	-	
Mastery of stage 4	+	0	7	7
	-	4	53	57
		4	60	64

Figure 15. Number of 12th grade students in moratorium who have mastered stage 4

The analysis with the reduced sample yielded the fourfold table in Figure 16, with a chi-square value of .17. The null was again accepted.

#### Hypothesis 8

$H_{08}$ : There is no significance to the canonical correlation between the first set of canonical variates formed by the four subfactors of stage 5 on the AAAP and the four variables of the OMEIS.

$H_{A8}$ : There is a significant canonical correlation between the first set of canonical variates formed by the four subfactors of Stage 5 on the AAAP and the four variables of the OMEIS.

		Moratorium		
		+	-	
Mastery of stage 4	+	0	4	4
	-	4	47	51
		4	51	55

Figure 16. Number of 12th grade students in moratorium who have mastered stage 4, with social desirability exclusion in effect

$H_{08}$ : The canonical correlation is not significant.

$H_{A8}$ : The canonical correlation is significant.

The analysis yielded two sets of canonical variates with significant canonical correlations. For the first set, the canonical correlation was .316 (eigenvalue=.10) and was significant at the  $p=.001$  level. For the second set, the canonical correlation was .282 (eigenvalue=.08) and was significant at the .032 level. The coefficients of the canonical variates are shown in Figure 17. The intercorrelation matrix is shown in Figure 18.

The Guttman scale analysis was done two ways. In the first analysis, the scales were ordered by the degree of difficulty of each scale. The Guttman analysis resulted in the scales being ordered with Stage 1 followed by Stage 3, then Stage 2, Stage 4, and Stage 5. The ordering resulted in a coefficient of reproducibility of .9495, a minimum marginal reproducibility of .8047, a percent improvement of .1449, and a coefficient of scalability of .7416.

The second analysis was done to examine how well the AAAP performed as a Guttman scale when the scales were forced to be ordered in the expected order (Stage 1 through Stage 5). This resulted in a coefficient of reproducibility of .9009, a minimum marginal reproducibility of .8047, a percent improvement of .0963, and a coefficient of scalability of .4928.

	CANVAR 1	CANVAR 2
Factor 1	-.43170	-.41804
Factor 2	.61905	.43017
Factor 3	-.09038	-.71264
Factor 4	.79994	-.18806
Diffusion	-.71019	-.87545
Foreclosure	-.25647	.16028
Moratorium	.00406	.66431
Achievement	.49577	-.39752

Figure 17. Coefficients of the two sets of canonical variates

	DIF	FOR	MOR	ACH
Factor 1	.0395 p = .258	-.0817 p = .120	-.1092 p = .058	.1716 p = .006
Factor 2	-.2216 p = .001	-.1109 p = .055	-.1517 p = .014	.1462 p = .017
Factor 3	.0710 p = .154	-.1175 p = .045	-.1545 p = .013	.1350 p = .026
Factor 4	-.1159 p = .047	-.1420 p = .020	-.1817 p = .004	.2512 p = .001

Figure 18. Pearson correlations between the identity statuses of the OMEIS and the four subfactors of Stage 5 of the AAAP

The analysis designed to find more appropriate mastery level cutoff points for the AAAP when used with a younger population yielded the following cutoff levels: Stage 1, 58%, Stage 2, 65%, Stage 3, 63%, Stage 4, 67%, Stage 5, 77%. The Guttman scale analysis done with these cutoffs resulted in a coefficient of reproducibility of .8879, a minimum marginal reproducibility of .7043, a percent improvement of .1836, and a coefficient of scalability of .6209.

The reanalysis of Hypothesis 5 with students assigned to stages based on the new cutoff levels led to the distribution in Figure 19. The chi-square had a value of .304, to be compared to a reference value of 3.84. The conclusion that the null would still have been rejected was reached.

		Diffusion		
		+	-	
Failure to master stage 1,2,3, or 4	+	9	126	135
	-	4	70	74
		13	196	209

Figure 19. Number of all students in diffusion who have failed to master stages 1, 2, 3, or 4 on the AAAP, using the new cutoff levels

The reanalysis of Hypothesis 6 using the new mastery levels as the basis for assigning students to stages led to the distribution of cases in Figure 20. The chi-square was 5.67, to be compared to a reference of 3.84, indicating that the new distribution of cases would have led to rejection of the null hypothesis.

The reanalysis of Hypothesis 7 using the new mastery levels as the basis for assigning students to stages led to the distribution of cases in Figure 21. The chi-square was 0, indicating that the new distribution of cases would have led to acceptance of the null again.

The MANOVA on the transformed variables of the OMEIS (see Chapter 3, "Post hoc analyses") was performed with the entire sample and with the 29 cases with highly socially desirable answers omitted. In the analysis with the full sample, the multivariate test for overall significance had a p-value of .005, indicating strong significance for either the "crisis" contrast, the "commitment" contrast, the "interaction" contrast, or the grand mean. The univariate tests



		Moratorium		
		+	-	
Mastery of stages 1, 2, 3, and 4	+	4	70	74
	-	7	128	209
		11	198	209

Figure 20. Number of all students in moratorium who have mastered stages 1, 2, 3, and 4, on the AAAP, using the new cutoff points

		Moratorium		
		+	-	
Mastery of stages 1, 2, 3, and 4	+	1	23	24
	-	3	37	40
		4	60	64

Figure 21. Number of 12th graders in moratorium who have mastered stages 1, 2, 3, and 4, on the AAAP, using the new cutoff points

of significance for each main effect had p-values as follows: grand mean, .138; "crisis" contrast, .001; "commitment" contrast, .140; "interaction" contrast, .016.

In the analysis with the reduced sample, the overall multivariate test of significance had a p-value of .02, while the univariate tests of significance for each main effect were as follows: grand mean, .216; "crisis" contrast, .010; "commitment" contrast, .080; "interaction" contrast, .075. Because the tests of significance for the "crisis" and the "interaction" contrasts were significant, a test for the presence of linear and quadratic effects and their strength was performed. For the "crisis" contrast the F-value for the linear effect was 8.15 and significant compared to a reference value of 3.92. The F-value for the quadratic effect was 4.54 and also

significant for the same reference value. The proportion of variance accounted for by the linear effect,  $r_L^2$ , was .036 or 3.6%, while the  $r_Q^2$  was .02 or 2%, indicating a weak effect.

For the "interaction" contrast, the F-value for the linear effect was 7.8, and significant compared to a reference value of 3.92. The F-value of the quadratic effect was .4 and non significant. The proportion of variance accounted for by the linear effect was  $r_L^2 = .036$  or 3.6%. Graphs of the average identity status of each grade and of the average value of each of the transformed variables of each grade may be seen in Figures 22 and 23.

In summary, in this chapter, the results of the study have been presented, and each of the hypotheses has been tested in turn. In addition, several additional analyses were performed in order to more closely examine the nature of the two instruments under investigation as well as patterns of identity development in younger adolescents. In the next chapter, the study is summarized, the results are discussed, and conclusions are drawn.

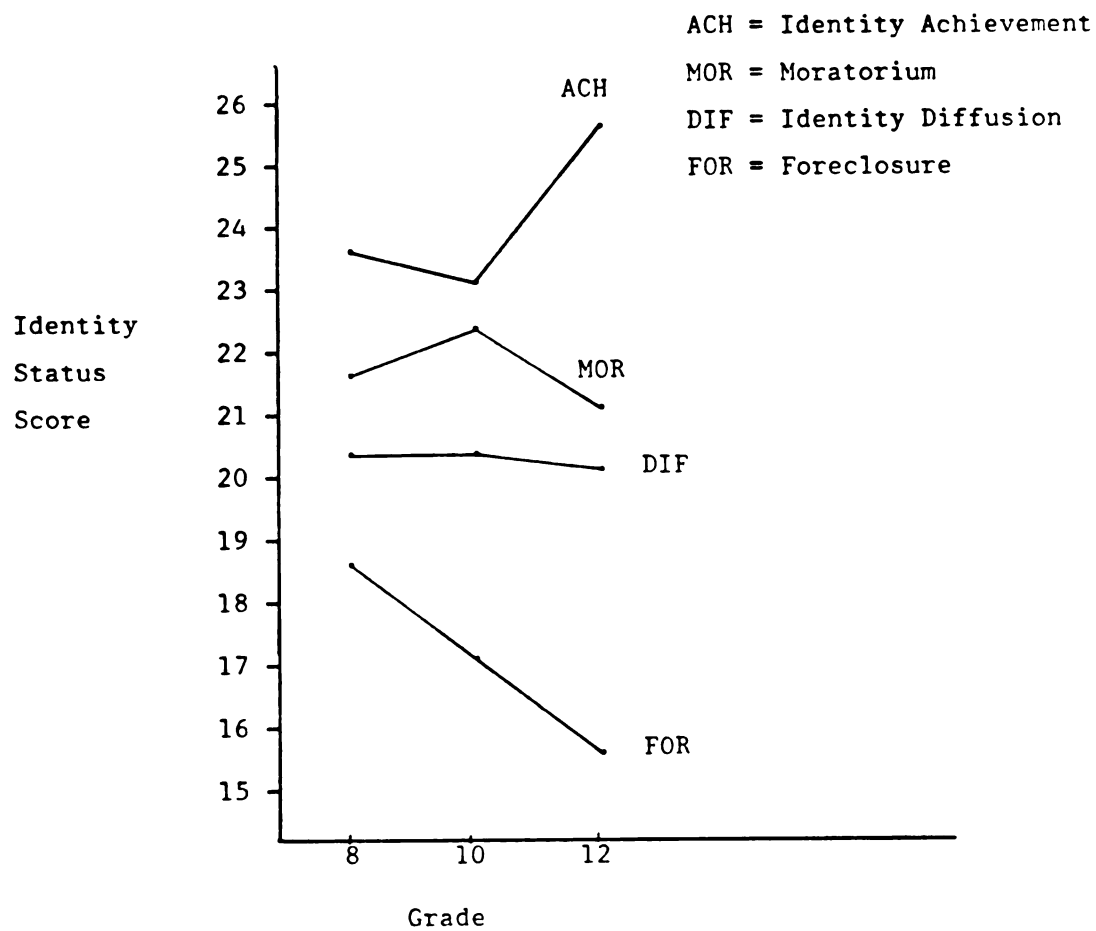


Figure 22. Graph of average identity status scores for each grade level

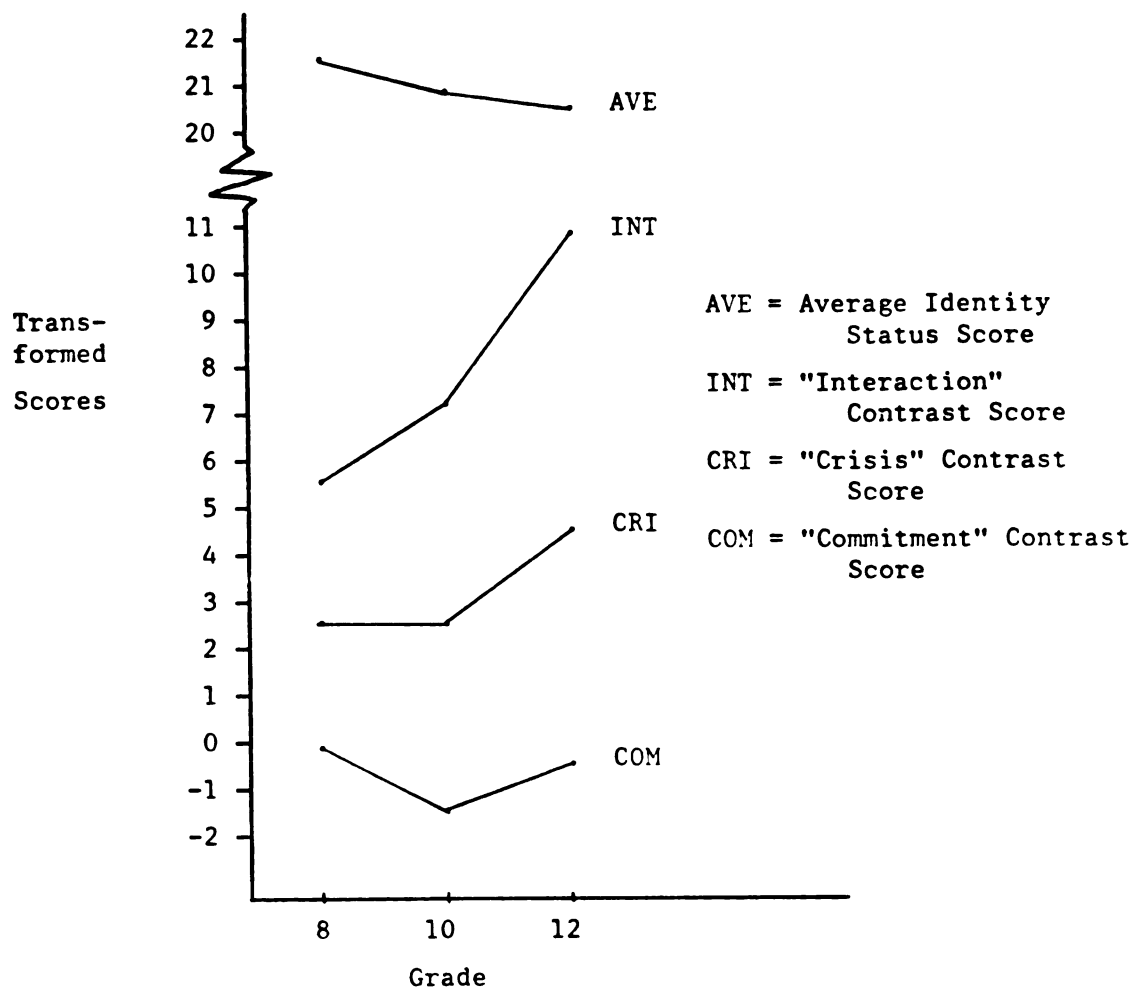


Figure 23. Graph of average transformed variable scores by grade level

## CHAPTER 5

### SUMMARY AND CONCLUSIONS

In this chapter, the study is reviewed. The relevant literature and the methodology is briefly summarized. The results of the analyses are restated, and conclusions drawn with a focus on meaningfulness to the theory involved and weaknesses of this study. Finally, with this information in mind, the implications of this work for future studies are discussed.

### REVIEW OF THEORY

Erikson's theory of development has been by far the dominant theory for identity researchers since its emergence in 1959. It takes into account both the intrapsychic and environmental or social factors mediating development, and has been shown to be more widely applicable than most other theories of identity development. The theory includes eight stages which together span an individual's lifetime. Each stage is viewed as a crisis, or choice between alternatives. The first five stages involve choices between trust and mistrust (Stage 1), autonomy vs. shame and doubt (Stage 2), initiative vs. guilt (Stage 3), industry vs. inferiority (Stage 4), and identity vs. role confusion (Stage 5). Successful resolution of all previous stages is presumed to be necessary for the successful resolution of a current stage.

Although widely used, Erikson's theory was also widely interpreted, as it was not easily operationalized. The most widely accepted operationalization of the stage of identity development was that of Marcia (1966), who proposed that there are four ways of resolving the identity "crisis", which he called identity statuses. Each status was one cell of a two by two table with the variables "crisis" (presence or absence of the consideration of alternatives) and "commitment" (to one of the alternatives) as the parameters. The four statuses were identity diffusion (no crisis, no commitment), foreclosure (no crisis, yet committed to a life choice),

moratorium (considering alternatives, not committed yet), and identity achievement (having considered alternatives, one is committed to one of them).

Although Marcia viewed each of the identity statuses as possible endpoints of the identity stage, most researchers view them as transitional stages through which people pass in order to end up in the identity achievement status. The simplest path is one in which an individual begins identity diffused, passes into moratorium, then becomes identity achieved. Waterman (1982) has described eight possible steps an individual can take at various points in identity development, including regression from a "higher" status to a "lower" one, and staying in a status.

## REVIEW OF RESEARCH

There has been only a small amount of research done on the process of identity development in early adolescence, with a surge of interest recently. Almost all of the studies have been cross sectional in design. Some general findings have been consistent, however. It seems true that the bulk of younger adolescents are to be found in the "lower" identity statuses, that is, those not involving any consideration of the alternatives open to them. A small, but consistent number do seem to enter into the "higher" identity statuses, involving the consideration of life alternatives and sometimes the commitment to one of them. Those in the higher statuses appear, on numerous measures of functioning and adaptation, to use more complex reasoning, to be more adaptable, and more resistant to stress. The causal relationships among the variables are not clear, however. While gender does not appear to predict differences well, a variety of "family stability" variables seem to do so fairly well. A strong yet open parenting style, with some family stress, in a family of high socioeconomic status, seems to be the combination which promotes the quickest identity development.

## REVIEW OF METHODOLOGY

The present study was designed as a cross sectional exploratory study, with grade level as the independent variable (3 levels: 8th, 10th, 12th), and the scores on two measures of development as the dependent variables. The two instruments used were the Objective Measure of Ego Identity Status (OMEIS) and a shortened form of the Assessment of Adult Adjustment Patterns (AAAP). The purpose of the study was to observe how well the two instruments performed on a younger sample than they had been validated on, and to find the degree of relationship between the two measures.

A total of 214 subjects were administered the two instruments, with all completing the OMEIS, and five subjects not completing the AAAP. A fact sheet collected demographics on the sample, although the fact that the data were collected on three different occasions by different people led to gender being the only variable known for the entire sample.

The hypotheses, which related to the changing proportions of subjects in a given identity status, and to the proportion in an identity status given a particular pattern of stage mastery on the AAAP, were analyzed by techniques designed to detect significant changes in proportions of populations. Canonical correlation was used to test the interrelationship of two groups of variables, while Multivariate Analysis of Variance was used to take advantage of the fact that the data were measured at the interval level, as well as to overcome the problem of about half the subjects being unclassifiable. A Guttman Scale analysis was done to examine the extent to which the AAAP functions as a Guttman Scale for younger adolescents, as well as to determine lower, more appropriate cutoff mastery levels for the AAAP when used with younger adolescents. Finally, hypotheses 5 through 7 were reanalyzed using the new cutoff points to determine the subject distribution for the tests.

## REVIEW OF RESULTS AND CONCLUSIONS

One of the most clear and disturbing results to emerge initially from the study was the very high proportion of students who fell below the cutoff score on all scales of both instruments. Thus, of the full sample, 50% scored below the cutoffs on all identity statuses on the OMEIS, while 36% fell in this category for the AAAP. Only 37% of the subjects could be unambiguously assigned to a given identity status on the OMEIS, while 40% could be unambiguously assigned to a stage on the AAAP.

Although such levels of non-classified subjects have been observed in other studies, some indication of why so many subjects were not assigned to an identity status may be seen in their descriptive statistics. Thus, it can be seen that there is some skewness to the distribution, particularly foreclosure and identity achievement. Moreover, identity achievement scores were negatively correlated with all other identity statuses, suggesting it is measuring a quality different from what the other statuses are. Nevertheless, because such high numbers of unclassified subjects have been found in all other studies using the OMEIS to classify individuals, such a result may be partly a consequence of the classification rule itself, which is designed to select the top 15% of each group, a total of about 60% of the subjects at best, then relabels those who are high on two or more of the statuses. Therefore, it would be expected that approximately 50% of the subjects in any study using the OMEIS would be left unclassified, as was the case in this study.

Also somewhat disturbing were the rather low reliability scores found for this sample, ranging from .52 to .83 for the whole sample, but sinking as low as .20 in one case for one class on one subscale. Overall, however, the average reliability of .59 on the OMEIS, and .71 on the AAAP, while low, seemed sufficiently high to proceed with the testing of the hypotheses.

The first four hypotheses related to the changes in identity status expected at different times in early adolescence. Thus, Hypothesis 1 related to an expectation that fewer



individuals would be identity diffused at later stages of early adolescence than at early ones. The hypothesis was rejected, leading to the conclusion that there are equal proportions of identity diffused individuals throughout early adolescence.

Hypothesis 2 related to the expectation that increasing numbers of early adolescents would be in moratorium, or exploring alternatives without committing to one of them, during early adolescence. The hypothesis was also rejected, leading to the conclusion that the proportion of students actively considering their life options does not increase during early adolescence. Overall, reliability was lowest for the moratorium subscale of the OMEIS, so this conclusion is perhaps most subject to question.

Hypothesis 3 related to the theoretical concept that the foreclosure status should be the most stable of the identity statuses, and that individuals who have entered this status tend to remain in it. The hypothesis was not supported for the whole sample, reflecting progressively smaller numbers of subjects in foreclosure with increasing grade level. However, when subjects scoring high on a measure of social desirability were eliminated from the analysis the hypothesis was found to be true, reflecting the fact that more students were eliminated from foreclosure in the 8th grade than in the older grades for responding in a highly socially desirable way. These results lead to the conclusion that the proportion of students in the foreclosure status decreases during early adolescence, although presence in the foreclosure status at an early age is more likely for individuals who tend to behave and respond similarly to others. This conclusion is consistent with the theory, which states that foreclosed individuals have taken on the identity values of others, their parents in particular, and thus may respond in general in a more socially desirable way.

Hypothesis 4 related to previous research findings that the proportion of identity achieved individuals remains small and stable throughout early adolescence. The hypothesis was found not to be true for the full sample, reflecting a significant increase of identity achieved

individuals during early adolescence. When the hypothesis was tested on the sample reduced by eliminating those subjects who had scored high on a measure of social desirability, it was found to hold true, reflecting the fact that more subjects were dropped from the achievement status for this reason from the older grades than from the younger ones. The conclusion is drawn that there is a significant increase in the proportion of individuals in identity achievement during early adolescence, although presence in the identity achiever status at an older age is more likely for individuals who tend to behave and respond similarly to others. This finding is somewhat inconsistent with previous findings and the theory, and will be discussed further below.

Hypothesis 5 was the first of four to investigate the relationship between the OMEIS and the AAAP. This hypothesis arose directly from one of the principles of Erikson's theory, which holds that mastery of all previous psychosocial stages is necessary for successful mastery of the current one. Therefore, hypothesis 5 holds that those individuals who have not mastered one of the stages prior to stage 5 on the AAAP are in identity diffusion on the OMEIS, without having progressed further in developing their identity. The hypothesis was rejected, indicating that the two states of being in identity diffusion and of having failed to master any of the stages prior to stage 5 are independent. The conclusion is drawn that there is no relationship between mastery of the first four psychosocial stages as measured by the AAAP, and a diffused identity as measured by the OMEIS.

Hypothesis 6 was designed to investigate the development of students who had mastered all psychosocial crises prior to the identity crisis. The theory suggests that those students are free to explore a variety of options in their life, and should thus be found in the moratorium status. Specifically, the hypothesis held that those individuals who had mastered the first four psychosocial stages on the AAAP, will be found in the moratorium status on the OMEIS. The hypothesis was not supported, suggesting that there is no relationship between mastering the first four psychosocial stages as measured by the AAAP and presence in the moratorium status as measured by the OMEIS. That there may exist some underlying

relationship is suggested by the observation that of the eleven subjects who mastered the first four psychosocial stages, five were classifiable on the OMEIS, and all five were in the "higher" statuses (one in moratorium, four in identity achievement). Thus, although the numbers involved are small, there may be a relationship between being in an identity status in which one has considered alternatives, and having mastered the four early Eriksonian crises.

Hypothesis 7 arose from theoretical considerations and research findings which suggested that mastery of the fourth Eriksonian task, industry vs. inferiority, is the single most important precursor to engaging identity issues. This should be true partly because mastery of Stage 4 hinges on mastery of the three previous crises, and partly because a sense of one's own capacity to be an active and effective worker in one's world seems particularly important for the exploration and choices needed for identity development. The hypothesis was tested on high school seniors in the hopes of increasing the likelihood of finding individuals in moratorium and thus of finding the expected relationship. The hypothesis was not supported, as only 7 (of 64) subjects had mastered Stage 4, only four subjects were in moratorium, and there was no overlap between these two subgroups. The conclusion is drawn that there is no relationship between mastery of Stage 4 on the AAAP and presence in the moratorium status on the OMEIS.

Hypothesis 8 arose from the observation that a factor analysis of stage five of the AAAP had yielded four subfactors, while theoretical expansions of Erikson's theory suggested four identity statuses. The hypothesis was a rather broad, exploratory one that reflected initial attempts to determine if there is a relationship between these two sets of four variables. In the current study, the hypothesis was phrased in terms of whether a significant canonical correlation existed between the canonical variates that could be formed from the two sets of variables. In fact, two sets of canonical variates were formed which were significantly correlated. The conclusion is drawn that the two sets of variables have a significant amount of variance in common, and thus may, as a group, be measuring similar attributes of younger adolescents. The conclusion must be tempered by the fact that the combined variance accounted for by the two

canonical variates is about 18%. Also, the intercorrelation matrix of the eight variables reveals that the highest correlation is .25, between Factor 4 and Identity Achievement, and that ten of the correlation coefficients are negative. Taken together, these results suggest that while the subfactors of stage five on the AAAP, and the identity statuses on the OMEIS are significantly related, the relationship is not very strong, and these variables measure, in large part, different aspects of the identity development of younger adolescents.

The Guttman scale analysis on the AAAP was done because the results of attempts to partially validate the AAAP had been severely hampered by the small number of students who were unambiguously classifiable in a given stage. One of the most important features of Erikson's theory is that it is a theory of human development, i.e., it has unidimensional characteristics, and each stage must build on the successes of all previous stages, i.e., it is hierarchical. These are both characteristics of Guttman Scales. Therefore, it was felt that an analysis of the Guttman scale properties of the AAAP with the sample of younger adolescents would give one indication of how well the scale works for younger adolescents. The results suggest that the AAAP has some good qualities as a Guttman scale but needs to be refined. Thus, when the stages were used to form a Guttman scale based on their increasing difficulty of being passed, the coefficient of reproducibility was a high .95, but Stage 3 was found to be easier to pass than Stage 2. When the stages were entered in their theorized order, the coefficient of reproducibility dropped to .90, but the coefficient of scalability became a low .49. This suggests that the stages of the AAAP do have some good qualities of Guttman scales, with the most glaring problem being the high cutoff point of Stage 2, making it too hard to pass for younger adolescents. Indeed, all of the stages appeared to be too hard to pass for younger adolescents, as fully 75 of the subjects were in the lowest group, that of those who passed none of the stages. That quality does not detract from the usefulness of the stages for those who can pass any of them, but does mean that the instrument would not be meaningful for 36% of the younger adolescents it is used on.

For that reason, the mastery level cutoff scores were lowered from their levels at the outset of the study. The mastery levels used at the beginning of the study were derived from the original norming study of the AAAP performed by Azar (1983). That study used as a primary norming group staff and faculty at Michigan State University, with an average age of 42 years old and a range from 19 to 69 years old. Because the majority of the respondents in the current study did not reach the mastery levels of the norming group, and because the age range of the sample in the current study was from 13 to 19 years old, one possible reason for the low mastery levels of the sample was a qualitative difference in response patterns related to age. The new mastery level cutoff points for the first five stages of the AAAP may represent more reasonable levels for this age group, while at the same time retaining the Guttman qualities of the AAAP, specifically, that the stages are mastered in their expected order, with acceptably high coefficients of reproducibility and scalability.

It was understood that using the sample to determine new mastery level cutoff scores, then using the same sample to reanalyze hypotheses 5, 6, and 7 was a circular process which could increase the chance of error in interpretation. Because the current study was an exploratory study, it was felt that it would be useful to examine the results of reanalyses of the hypotheses, and take the results as indications of trends. The results indicated that while there still appeared to be no relationship between the failure to master an early psychosocial stage on the AAAP and presence in the diffusion status on the OMEIS, there may be a significant relationship between mastery of all four psychosocial tasks before identity on the AAAP and presence in the moratorium status on the OMEIS. This suggests that if students have mastered early developmental tasks, they may be free to explore more life options. The result also suggests that the new cutoff levels may be appropriate for use in research. The final result indicated that there still appears to be no relationship for 12th graders between mastery of all four psychosocial tasks before identity and presence in moratorium.

The MANOVA on the data from the OMEIS was designed to use the information which was lost when 50% of the subjects scored below all cutoffs, meaning that they could not be assigned to an identity status, and could not be included in the analysis of the hypotheses. The analysis arose from the recognition of the fact that the underlying variables being measured by the OMEIS are a sense of crisis and a sense of commitment. Each variable in the theory and on the OMEIS includes elements of both crisis and commitment in them. These overt variables were combined so as to isolate the effects of each underlying variable. For example, each individual's score on the diffusion and foreclosure scales was averaged, as each of these scales reflects a low sense of crisis. Furthermore, the moratorium and identity achievement scores were averaged, as they reflect a high sense of crisis. These two new variables arising from the combination of variables with similar characteristics (high crisis and low crisis), were then used to construct a contrast which measured the difference between the high crisis and low crisis variables. The value of this contrast across the three grade levels was then tested for significance by a MANOVA technique, which was then testing for the significance of changes in younger adolescents' sense of crisis. A similar transformation was done to assess the significance of changes in younger adolescents' sense of commitment, and to assess the interaction between these two variables.

The results were quite striking, and indicated that among the four dependent variables tested (grand mean, crisis, commitment, and interaction), there were significant changes over the three grade levels. Univariate tests performed on the variables indicated that there was strong significance for the crisis effect, and for the interaction effect. When the overall sample was reduced by eliminating those subjects who scored high on a measure of social desirability, the same results were found, but the interaction effect was no longer significant. Two main conclusions may be drawn from these results. Since the grand mean, which may be interpreted broadly as a measure of responsivity, was not different among grade levels, one cannot say that any changes over the three grade levels is due to changing responsivity at different grade levels.

It is clear that what is changing among early adolescents is their sense of experiencing a crisis, that is of beginning to explore a variety of life alternatives and choices. Also changing significantly is the interaction between an adolescent's sense of crisis and their sense of commitment to a life alternative. That the interaction effect, and not the commitment effect alone, was significant, leads to the conclusion that during the process of identity development of early adolescents, an individual may significantly increase the extent to which he is exploring alternatives, and most importantly, he will not commit to a life choice unless he has actively investigated alternatives in that area. There was a strong indication that such effects change linearly with age, although the effect was not a particularly strong one in this study.

## DISCUSSION

One of the purposes of this study was to validate the OMEIS for use with a younger adolescent sample. The results of the first four hypotheses taken together seem to offer some of this validation. Although theoretically predicted changes over grade level in the proportion of students in the diffusion status and moratorium status were not observed, changes in the proportion of students in the foreclosure status and identity achievement status were observed, and these changes were consistent both with the theory and with some empirical findings. Thus, foreclosure is viewed as a "low level" identity status, and a decrease in the proportion of students in this status may be an indication that younger adolescents leave this status as they get older, and begin considering alternatives (moratorium), and committing to them (achievement) toward the end of their high school years. The passage through the moratorium status could be rapid enough that it would not be detected by this study.

The fact that controlling for high social desirability response bias made those changes non significant suggests that social desirability may be an important mediating variable in identity development. The social environment in general, and peer group in particular, within which adolescents develop their identity, is presumed to be an important aspect of such

development. Thus, it could be that those adolescents who are most highly socially attuned go into foreclosure at an early age, then become identity achieved earlier than others as well, perhaps because they have a more secure base from which to explore alternatives. It may also mean that the identity achievement they reach is not one reflecting solely their own choices, and these individuals may be at high risk for reverting back to lower identity statuses at a later age, a phenomenon which has been observed (Marcia, 1976).

The next set of four hypotheses were an attempt to partially validate the AAAP based upon comparison of results on it and the OMEIS. The results of hypotheses 5, 6, and 7 were overwhelmingly negative, and reflect the powerfully disruptive effect the individuals who scored below all cutoff scores on either of the two tests had on the analyses. Although no significant findings emerged, the fact that half of those students who had mastered the first four psychosocial crises were in a "high level" identity status suggested a relationship to be investigated when the problem of high cutoff scores had been controlled for. In general, these findings did not appear to invalidate the AAAP for use with younger adolescents, but suggested a need for further validation work.

The canonical correlation analysis yielded a significant correlation between the first two sets of canonical variates, suggesting areas of overlap in the content of the OMEIS and stage 5 of the AAAP. That less than 20 % of the variance was accounted for, and that many of the individual correlation coefficients were negative, indicates that the area of overlap is not only not very substantial, but also not very meaningful, and further work attempting to draw a direct parallel between the OMEIS identity statuses and the subfactors of Stage 5 of the AAAP will probably not be worth the effort.

The Guttman scale analysis of the AAAP was quite positive, indicating that the AAAP works in predicted ways with a younger population. Although this result is encouraging, two aspects of the analysis suggested that further work was needed on the AAAP for younger



adolescents. The first problem was that Stage 2 was harder to pass than Stage 3. This finding ran counter to the theory and indicated that the cutoff or "mastery" score for Stage 2, as currently defined, was too high to be useful for younger adolescents. Since 75 of the subjects were placed in the lowest group, of those who mastered no stage, it seemed that the cutoff points for mastery of all the scales needed to be revised downward for younger adolescents who use the AAAP.

The development of new mastery level cutoff scores proceeded for the above reasons and because the previous mastery levels had been developed for a much older population. Although the usefulness of the new mastery level scores needs to be tested more completely, there was at least an indication that they are useful in the assessment of the development of younger adolescents.

The need for new cutoff levels may be true as well for the OMEIS, since such a large number of subjects scored below the cutoff on all scales on that instrument. Such a change is imperative if the OMEIS is to continue to be used to assign subjects to one identity status, since the MANOVA analysis showed identity development activity occurring that was effectively masked by the high cutoff scores. An argument can easily be made that the OMEIS and the AAAP should not continue to be used with cutoff scores at all, since both of those instruments generate interval level data, and the use of cutoff scores reduces such data to the dichotomous level, reducing power and forcing one to throw out those cases which are not assignable. The MANOVA analysis showed the usefulness of keeping the data in its original form, as it allowed the identity development of younger adolescents to be confirmed in a useful and novel way.

At its most theoretical level, this study rests on the work of Erikson, who postulated a stage theory to explain human development. The work of Marcia retained the stage nature of development, simply operationalizing and making more precise the definitions of the stages for the identity development portion of Erikson's theory. One of the strongest conclusions to emerge

from this study has been the usefulness of conceptualizing change in identity development as a gradual process, with no clear breaks with age, which proceeds in a linear fashion throughout early adolescence. When conceptualized as a stage development process, the data of this study reduced to a dichotomous level, gave no clear sense of the development occurring which was apparent when conceptualized as a gradual process. For this population, and area of development, stage theory would not be the theory of choice, rather a gradual, linear theory of development seems more appropriate.

#### LIMITATIONS OF THE STUDY

The main limitation of this study, of which the aim was to investigate one aspect of the identity development of younger adolescents, was that it was a simple cross sectional study. This design precluded drawing any conclusions about the development of individuals, and leaves cohort effects as a confounding variable.

The other important limitation of this study is the extent to which other confounding variables were not controlled for. Although intelligence was partially controlled for by confirming that a small percentage of 8th or 10th graders drop out of school, other variables, particularly a host of "family" variables (divorced or widowed parents, nature of parental discipline, and openness of family) were not considered. Neither was socioeconomic status or educational level of the parents, two other confounding variables which have been shown to be related to the pace of identity development.

The fact that the sample used in this study was a sample of convenience and not a true random sample raises the possibility that other confounding variables relating to the particular samples may have had an effect. Finally, the relatively small sample size compared to the number of variables and cohorts investigated suggests that the power of the study was lower

than it might have been had a greater number of students been able to be obtained at each grade level.

## SUGGESTIONS FOR FUTURE RESEARCH

This study has provided evidence that the OMEIS and the AAAP have utility with a younger adolescent sample, and that important changes in the identity development of adolescents can be detected using these instruments. The new cutoff levels for the AAAP open the way for further validation work with this instrument in an adolescent population. Perhaps more importantly, both instruments need to be recognized as important sources of interval level data, with which more powerful analyses can be performed.

The bulk of recent research on the identity development of adolescents has focused on concomitant and potential causal variables of identity development. The use of these instruments on the interval level will allow research on these variables to proceed, with the possibility of using multiple regression and factor analysis to examine the interrelationships between identity statuses, precursor stages, and other variables.

The fact that two objective, increasingly validated measures exist to investigate the development of ego-identity in younger adolescents should encourage the use of larger samples, and permit researchers to use the identity status interview to a lesser extent, especially when the investigation of a wide variety of interrelated variables is desired.

## APPENDIX A

### PARENTAL CONSENT FORM

PARENTAL CONSENT FORM

Dear Parent:

I am doing a research project investigating how adolescents develop their identity. There has been little research focusing on middle school/high school students.

The process of the research will involve filling out two questionnaires. Each questionnaire presents the subject with statements and asks him/her to respond to the statement as "true of me" or "not true of me". I expect the process to take about one hour. There are no potential risks involved in this research.


The results of this research will be kept in strict confidence and after being turned in will be coded and remain anonymous. Within these restrictions, results of the study will be made available upon request.

Anyone is free to discontinue their participation at any time without penalty. Participation in this research does not guarantee any beneficial results.

Please indicate your written consent to having your son/daughter participate in this research by signing below.

Thank you.

Sincerely,



Mark Picciotto, M.Ed.

I have read and understand the above statement. As a parent, I hereby give my written consent to my son/daughter's participation in this research.

\_\_\_\_\_  
Parent's signature

\_\_\_\_\_  
Date

## APPENDIX B

### FACT SHEET A

FACT SHEET

Please circle the appropriate response

Age        12   13   14   15   16   17   18   19   20

Grade     8   9   10   11   12

Sex        male     female

Race       white     black   hispanic   other

What do you plan to do after high school?

- a. go to college (or junior college)
- b. go to a vocational school (trade school)
- c. begin full time employment
- d. travel
- e. none of the above

## APPENDIX C

### FACT SHEET B



Personal Data Sheet

Code # \_\_\_\_\_

Age \_\_\_\_\_

Sex M F

Grade \_\_\_\_\_

Race: White Black Hispanic Asian

## APPENDIX D

### OBJECTIVE MEASURE OF EGO-IDENTITY STATUS

Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

Religious preference \_\_\_\_\_

**Instructions:** Read each item and indicate to what degree it fits your own impressions as to how it best reflects your thoughts and feelings.

1. I haven't really considered politics. They just don't excite me much.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

2. I might have thought about a lot of different things, but there's never really been a decision since my parents said what they wanted.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

3. When it comes to religion, I just haven't found any that I'm really into myself.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

4. My parents had it decided a long time ago what I should go into, and I'm following their plans.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

6. I don't give religion much thought, and it doesn't bother me one way or the other.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

8. I haven't chosen the occupation I really want to get into, but I'm working toward becoming a \_\_\_\_\_ until something better comes along.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

9. A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
10. It took me a long time to decide, but now I know for sure what direction to move in for a career.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
11. I really never was involved in politics enough to have to make a firm stand one way or the other.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
12. I'm not so sure what religion means to me. I'd like to make up my mind, but I'm not done looking yet.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
13. I've thought my political beliefs through and realize I may or may not agree with many of my parents' beliefs.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
14. It took me a while to figure it out, but now I really know what I want for a career.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
15. Religion is confusing to me right now. I keep changing my views on what is right and wrong to me.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
16. I'm sure it will be pretty easy for me to change my occupational goals when something better comes along.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|
17. My folks have always had their own political and moral beliefs about issues like abortion and mercy killing, and I've always gone along accepting what they have.
- |                |                  |       |          |                     |                   |
|----------------|------------------|-------|----------|---------------------|-------------------|
| Strongly Agree | Moderately Agree | Agree | Disagree | Moderately Disagree | Strongly Disagree |
|----------------|------------------|-------|----------|---------------------|-------------------|

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

20. I just can't decide how capable I am as a person and what jobs I'll be right for.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

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

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

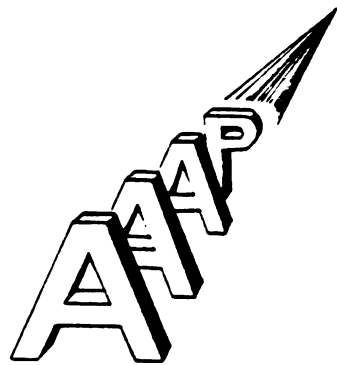
24. Politics are something that I can never be too sure about because things change so fast. But I do think it's important to know what I believe in.

Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------	----------	------------------------	----------------------

## APPENDIX E

### ASSESSMENT OF ADULT ADJUSTMENT PATTERNS

# **ASSESSMENT of ADULT ADJUSTMENT PATTERNS**



**William W. Farquhar**

**Fredrick R. Wilson**

**James A. Azar**

*Form B*

### **Directions**

Please answer the questions in this booklet as honestly as you can. The statements were designed to measure how you view yourself and how you view life in general. Be as honest as you possibly can.

Work quickly, not spending too much time on any one question. There are no right or wrong answers to these questions.

Make your marks on the answer sheet next to the same number that appears before the question. Please use a number two pencil.

**Do not mark on this booklet.**

All items are to be rated:

- (1) Definitely true of me
- (2) True of me or mostly true of me
- (3) Not true of me or mostly not true of me
- (4) Definitely not true of me
- (5) Does not apply to me

### **Example:**

- 1. I believe that people should save money.

### **ANSWER SHEET**

- 1. (1) (2) (3) (4) (5)

This person marked space number one on question one, indicating the belief that people should save money is "definitely true of me."

**NOW TURN THE PAGE AND BEGIN**

**Use the BLUE answer sheet first.**

**REMEMBER NOT TO WRITE ON THIS BOOKLET.**



1=Definitely true of me (DT)  
 2=True of me (T)  
 3=Not true of me (NT)  
 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

1

1.	My judgment is sound.	(1)	(2)	(3)	(4)	(5)	1
2.	My happiness is pretty much under my own control.	(1)	(2)	(3)	(4)	(5)	2
3.	I like being able to change my plans without having to check with somebody.	(1)	(2)	(3)	(4)	(5)	3
4.	People of the opposite sex think well of me.	(1)	(2)	(3)	(4)	(5)	4
5.	When I sit down to learn something, I get so caught up that nothing can distract me.	(1)	(2)	(3)	(4)	(5)	5
6.	When I feel tense, there is a good reason.	(1)	(2)	(3)	(4)	(5)	6
7.	My feelings are easily hurt.	(1)	(2)	(3)	(4)	(5)	7
8.	I am sometimes irritated by people who ask favors of me.	(1)	(2)	(3)	(4)	(5)	8
9.	I have feelings of doom about the future.	(1)	(2)	(3)	(4)	(5)	9
10.	I feel uneasy if I don't know the next step in a job.	(1)	(2)	(3)	(4)	(5)	10
11.	My table manners at home are as good as when I eat out in a restaurant.	(1)	(2)	(3)	(4)	(5)	11
12.	I am always a loyal friend.	(1)	(2)	(3)	(4)	(5)	12
13.	When someone says something critical about me, I keep my composure.	(1)	(2)	(3)	(4)	(5)	13
14.	I enjoy things that make me think.	(1)	(2)	(3)	(4)	(5)	14
15.	When I decide to do something, I am determined to get it done.	(1)	(2)	(3)	(4)	(5)	15
16.	I handle myself well at social gatherings.	(1)	(2)	(3)	(4)	(5)	16
17.	I do many things well.	(1)	(2)	(3)	(4)	(5)	17
18.	I publically question statements and ideas expressed by others.	(1)	(2)	(3)	(4)	(5)	18
19.	My day-to-day frustrations do not get in the way of my activities.	(1)	(2)	(3)	(4)	(5)	19
20.	In times of trouble I have friends to turn to.	(1)	(2)	(3)	(4)	(5)	20

1=Definitely true of me (DT)  
 2=True of me (T)  
 3=Not true of me (NT)  
 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

21.	I am happy with the pace or speed with which I make decisions.	(1)	(2)	(3)	(4)	(5)	21
22.	I feel optimistic about life.	(1)	(2)	(3)	(4)	(5)	22
23.	Completed and polished products have a great appeal for me.	(1)	(2)	(3)	(4)	(5)	23
24.	I like to gossip at times	(1)	(2)	(3)	(4)	(5)	24
25.	When people express ideas very different from my own, I am annoyed.	(1)	(2)	(3)	(4)	(5)	25
26.	I don't worry whether anyone else will like the friends I choose.	(1)	(2)	(3)	(4)	(5)	26
27.	I have "put myself on the line" in my relations with others.	(1)	(2)	(3)	(4)	(5)	27
28.	Basically, I feel adequate.	(1)	(2)	(3)	(4)	(5)	28
29.	I enjoy doing favors for my friends.	(1)	(2)	(3)	(4)	(5)	29
30.	I like to be by myself a part of every day.	(1)	(2)	(3)	(4)	(5)	30
31.	If someone criticizes me to my face, I listen closely to what they are saying about me before reacting.	(1)	(2)	(3)	(4)	(5)	31
32.	The thought of making a speech in front of a group panics me.	(1)	(2)	(3)	(4)	(5)	32
33.	My mistakes annoy me but do not frighten me.	(1)	(2)	(3)	(4)	(5)	33
34.	I feel more confident playing games of skill than games of chance.	(1)	(2)	(3)	(4)	(5)	34
35.	Feelings of guilt hold me back from doing what I want.	(1)	(2)	(3)	(4)	(5)	35
36.	I take the unexpected in my stride.	(1)	(2)	(3)	(4)	(5)	36
37.	I like to solve problems.	(1)	(2)	(3)	(4)	(5)	37
38.	I have difficulty in getting down to work.	(1)	(2)	(3)	(4)	(5)	38
39.	I like problems which have complicated solutions.	(1)	(2)	(3)	(4)	(5)	39
40.	I enjoy explaining complex ideas.	(1)	(2)	(3)	(4)	(5)	40

1=Definitely true of me (DT)  
 2=True of me (T)  
 3=Not true of me (NT)  
 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

41. People are more important than material things to me.	(1)	(2)	(3)	(4)	(5)	41
42. It's hard for me to say "no" without feeling guilty.	(1)	(2)	(3)	(4)	(5)	42
43. When I have to speed up and meet a deadline, I can still do good work.	(1)	(2)	(3)	(4)	(5)	43
44. I feel optimistic about life.	(1)	(2)	(3)	(4)	(5)	44
45. When things are not going right in my work, I reason my way through the problems.	(1)	(2)	(3)	(4)	(5)	45
46. I generally feel pleased with my performance when I talk in front of a group.	(1)	(2)	(3)	(4)	(5)	46
47. Other people determine the kind of person I am.	(1)	(2)	(3)	(4)	(5)	47
48. I feel there is nothing I can do well.	(1)	(2)	(3)	(4)	(5)	48
49. It takes a lot to frighten me.	(1)	(2)	(3)	(4)	(5)	49
50. My morals are determined by the thoughts, feelings, and decisions of other people.	(1)	(2)	(3)	(4)	(5)	50
51. People hurt my feelings without knowing it.	(1)	(2)	(3)	(4)	(5)	51
52. I feel awkward around members of the opposite sex.	(1)	(2)	(3)	(4)	(5)	52
53. When the situation demands, I can go into deep concentration concerning just about anything.	(1)	(2)	(3)	(4)	(5)	53
54. Circumstances beyond my control are what make me a basically unhappy person.	(1)	(2)	(3)	(4)	(5)	54
55. I can remember "playing sick" to get out of something.	(1)	(2)	(3)	(4)	(5)	55
56. I am strong enough to make up my own mind on difficult questions.	(1)	(2)	(3)	(4)	(5)	56
57. I worry about my future.	(1)	(2)	(3)	(4)	(5)	57
58. My duties and obligations to others trap me.	(1)	(2)	(3)	(4)	(5)	58

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 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

59.	My family understood me while I was growing up.	(1)	(2)	(3)	(4)	(5)	59
60.	I analyze my own motives and reactions.	(1)	(2)	(3)	(4)	(5)	60
61.	I think the best way to handle people is to tell them what they want to hear.	(1)	(2)	(3)	(4)	(5)	61
62.	I see to it that my work is carefully planned and organized.	(1)	(2)	(3)	(4)	(5)	62
63.	I was raised in a happy family.	(1)	(2)	(3)	(4)	(5)	63
64.	I am happy.	(1)	(2)	(3)	(4)	(5)	64
65.	My parents treated me fairly.	(1)	(2)	(3)	(4)	(5)	65
66.	I feel useless.	(1)	(2)	(3)	(4)	(5)	66
67.	In my work I show individuality and originality.	(1)	(2)	(3)	(4)	(5)	67
68.	When I was prepared, teachers couldn't fool me with trick questions.	(1)	(2)	(3)	(4)	(5)	68
69.	Compliments embarrass me.	(1)	(2)	(3)	(4)	(5)	69
70.	I am comfortable being alone.	(1)	(2)	(3)	(4)	(5)	70
71.	I would not care to be much different than I am.	(1)	(2)	(3)	(4)	(5)	71
72.	I feel proud of my accomplishments.	(1)	(2)	(3)	(4)	(5)	72
73.	No matter who I'm talking to, I'm a good listener.	(1)	(2)	(3)	(4)	(5)	73
74.	I am happy.	(1)	(2)	(3)	(4)	(5)	74
75.	I find it easy to introduce people.	(1)	(2)	(3)	(4)	(5)	75
76.	Once I have committed myself to a task I complete it.	(1)	(2)	(3)	(4)	(5)	76
77.	There have been times when I was quite jealous of the good fortune of others.	(1)	(2)	(3)	(4)	(5)	77
78.	I am good at solving puzzles.	(1)	(2)	(3)	(4)	(5)	78
80.	My basic state of happiness is dependent upon me.	(1)	(2)	(3)	(4)	(5)	80

1=Definitely true of me (DT)  
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 5=Does not apply to me (NA)

81.	I feel that people are genuinely interested in me.	(1)	(2)	(3)	(4)	(5)	81
82.	I will probably always be working on new projects.	(1)	(2)	(3)	(4)	(5)	82
83.	I enjoy privacy.	(1)	(2)	(3)	(4)	(5)	83
84.	I feel self-confident in social situations.	(1)	(2)	(3)	(4)	(5)	84
85.	I constantly need excuses for why I believe the way I do.	(1)	(2)	(3)	(4)	(5)	85
86.	I find people are consistent.	(1)	(2)	(3)	(4)	(5)	86
87.	I believe the best times are now.	(1)	(2)	(3)	(4)	(5)	87
88.	I am calm.	(1)	(2)	(3)	(4)	(5)	88
89.	I admit my mistakes.	(1)	(2)	(3)	(4)	(5)	89
90.	I like to discuss ways to solve the world's problems.	(1)	(2)	(3)	(4)	(5)	90
91.	My word is my bond.	(1)	(2)	(3)	(4)	(5)	91
92.	I can work even when there are distractions.	(1)	(2)	(3)	(4)	(5)	92
93.	If someone criticizes me to my face, I feel low and worthless.	(1)	(2)	(3)	(4)	(5)	93
94.	People expect too much of me.	(1)	(2)	(3)	(4)	(5)	94
95.	I am dedicated to my work.	(1)	(2)	(3)	(4)	(5)	95
96.	Even when I am doing something I really enjoy, I can never get totally involved.	(1)	(2)	(3)	(4)	(5)	96
97.	I like to participate actively in intense discussions.	(1)	(2)	(3)	(4)	(5)	97
98.	I feel inferior to most people.	(1)	(2)	(3)	(4)	(5)	98
99.	The best times of my life were in the past.	(1)	(2)	(3)	(4)	(5)	99
100.	I have deliberately said something that hurt someone's feelings.	(1)	(2)	(3)	(4)	(5)	100
101.	Whatever stage of life I am in is the best for me.	(1)	(2)	(3)	(4)	(5)	101

1=Definitely true of me (DT)  
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 3=Not true of me (NT)  
 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

102.	I find there are a lot of fun things in this world to do alone.	(1)	(2)	(3)	(4)	(5)	102
103.	I like problems that make me think for a long time before I solve them.	(1)	(2)	(3)	(4)	(5)	103
104.	I am confident when learning a complicated task.	(1)	(2)	(3)	(4)	(5)	104
105.	My free time is spent aimlessly.	(1)	(2)	(3)	(4)	(5)	105
106.	I sometimes try to get even rather than forgive and forget.	(1)	(2)	(3)	(4)	(5)	106
107.	When I get angry at someone, I boil inside without letting them know.	(1)	(2)	(3)	(4)	(5)	107
108.	If I were one of the few surviving persons from a worldwide war, I would make it.	(1)	(2)	(3)	(4)	(5)	108
109.	I'm interested in people.	(1)	(2)	(3)	(4)	(5)	109
110.	I am pretty much the same person from situation to situation.	(1)	(2)	(3)	(4)	(5)	110
111.	If I want to, I can charm a member of the opposite sex.	(1)	(2)	(3)	(4)	(5)	111
112.	I just can't be courteous to people who are disagreeable.	(1)	(2)	(3)	(4)	(5)	112
113.	When I'm in a group, I feel confident that what I have to say is acceptable.	(1)	(2)	(3)	(4)	(5)	113
114.	I am self-confident.	(1)	(2)	(3)	(4)	(5)	114
115.	I like myself.	(1)	(2)	(3)	(4)	(5)	115
116.	I am confident when learning something new which requires that I put myself on the line.	(1)	(2)	(3)	(4)	(5)	116
117.	There have been occasions when I felt like smashing things.	(1)	(2)	(3)	(4)	(5)	117
118.	When it's time to go to bed, I fall asleep easily.	(1)	(2)	(3)	(4)	(5)	118
119.	Getting along with loudmouthed, obnoxious people is impossible for me.	(1)	(2)	(3)	(4)	(5)	119

1=Definitely true of me (DT)  
 2=True of me (T)  
 3=Not true of me (NT)  
 4=Definitely not true of me (DNT)  
 5=Does not apply to me (NA)

120.	I worry or condemn myself when other people find fault with me.	(1)	(2)	(3)	(4)	(5)	120
121.	People like to be with me.	(1)	(2)	(3)	(4)	(5)	121
122.	I can work on ideas for hours.	(1)	(2)	(3)	(4)	(5)	122
123.	I feel free to express both warm and hostile feelings to my friends.	(1)	(2)	(3)	(4)	(5)	123
124.	There have been times when I felt like rebelling against people in authority.	(1)	(2)	(3)	(4)	(5)	124
125.	I cannot stand silence.	(1)	(2)	(3)	(4)	(5)	125
126.	I get stage fright when I have to appear before a group.	(1)	(2)	(3)	(4)	(5)	126
127.	I like to participate in intense discussions.	(1)	(2)	(3)	(4)	(5)	127
128.	I never like to gossip.	(1)	(2)	(3)	(4)	(5)	128
129.	When I get angry at someone, it rarely wrecks our relationship.	(1)	(2)	(3)	(4)	(5)	129
130.	I am ashamed of some of my emotions.	(1)	(2)	(3)	(4)	(5)	130
131.	Sometimes I deliberately hurt someone's feelings.	(1)	(2)	(3)	(4)	(5)	131
132.	If I can't solve a problem quickly, I lose interest.	(1)	(2)	(3)	(4)	(5)	132
133.	I worry about things that never happen.	(1)	(2)	(3)	(4)	(5)	133
134.	I can stay with a job a long time.	(1)	(2)	(3)	(4)	(5)	134
135.	When I get hold of a complicated problem, I return to it again and again until I come up with a workable solution.	(1)	(2)	(3)	(4)	(5)	135
136.	I sometimes feel resentful when I don't get my way.	(1)	(2)	(3)	(4)	(5)	136
137.	No one understands me.	(1)	(2)	(3)	(4)	(5)	137
138.	My plans work out.	(1)	(2)	(3)	(4)	(5)	138
139.	My parents caused my troubles.	(1)	(2)	(3)	(4)	(5)	139

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140.	When I argue, I use facts to support my position.	(1)	(2)	(3)	(4)	(5)	140
141.	I read a great deal even when my work does not require it.	(1)	(2)	(3)	(4)	(5)	141
142.	It is hard for me to keep my mind on when I am trying to learn.	(1)	(2)	(3)	(4)	(5)	142
143.	I get caught up in my work.	(1)	(2)	(3)	(4)	(5)	143
144.	I enjoy finding out whether or not complex ideas work.	(1)	(2)	(3)	(4)	(5)	144
145.	Mostly, I like to just sit at home.	(1)	(2)	(3)	(4)	(5)	145
146.	I eat balanced meals.	(1)	(2)	(3)	(4)	(5)	146
147.	I can make big decisions by myself.	(1)	(2)	(3)	(4)	(5)	147
148.	I make my own decisions.	(1)	(2)	(3)	(4)	(5)	148
149.	I am picky about my food.	(1)	(2)	(3)	(4)	(5)	149
150.	I learn fast.	(1)	(2)	(3)	(4)	(5)	150
151.	When I am alone, silence is difficult to handle.	(1)	(2)	(3)	(4)	(5)	151
152.	When I feel worried, there is usually a pretty good reason.	(1)	(2)	(3)	(4)	(5)	152
153.	I rarely check the safety of my car no matter how far I am traveling.	(1)	(2)	(3)	(4)	(5)	153
154.	I am outspoken.	(1)	(2)	(3)	(4)	(5)	154
155.	I enjoy interacting with children.	(1)	(2)	(3)	(4)	(5)	155
156.	Guilt is a feeling I seem to have outgrown.	(1)	(2)	(3)	(4)	(5)	156
157.	I never have serious talks with my friends.	(1)	(2)	(3)	(4)	(5)	157
158.	I learn well when someone gives me the problem and lets me work out the details for myself.	(1)	(2)	(3)	(4)	(5)	158
159.	I am proud of my work.	(1)	(2)	(3)	(4)	(5)	159
160.	I am not irked when people express ideas very different than my own.	(1)	(2)	(3)	(4)	(5)	160



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161.	I don't need to apologize for the way I act.	(1)	(2)	(3)	(4)	(5)	161
162.	I go at my work without much planning ahead of time.	(1)	(2)	(3)	(4)	(5)	162
163.	If a clerk gives me too much change, I correct the error.	(1)	(2)	(3)	(4)	(5)	163
164.	I trust the spontaneous decisions I make.	(1)	(2)	(3)	(4)	(5)	164
165.	I frighten easily.	(1)	(2)	(3)	(4)	(5)	165
166.	I can work under pressure.	(1)	(2)	(3)	(4)	(5)	166
167.	I like being by myself.	(1)	(2)	(3)	(4)	(5)	167
168.	When I took a new course in school, I felt confident that I would do all right.	(1)	(2)	(3)	(4)	(5)	168
169.	I find it hard to keep my mind on a task or job.	(1)	(2)	(3)	(4)	(5)	169
170.	I have difficulty imagining how other people feel.	(1)	(2)	(3)	(4)	(5)	170
171.	I can take a stand.	(1)	(2)	(3)	(4)	(5)	171
172.	I am an even-tempered person.	(1)	(2)	(3)	(4)	(5)	172
173.	My work is usually up to the standards set for me.	(1)	(2)	(3)	(4)	(5)	173
174.	I feel disappointed and discouraged about the work I do.	(1)	(2)	(3)	(4)	(5)	174
175.	I do not understand myself.	(1)	(2)	(3)	(4)	(5)	175
176.	It is hard for me to work on a thought problem for more than an hour or two.	(1)	(2)	(3)	(4)	(5)	176
177.	It's easy for me to know whether people really like me.	(1)	(2)	(3)	(4)	(5)	177
178.	In times of crisis, I'm one of the first people my friends call for help.	(1)	(2)	(3)	(4)	(5)	178
179.	I do not intensely dislike anyone.	(1)	(2)	(3)	(4)	(5)	179
180.	I get those things done that I want to do.	(1)	(2)	(3)	(4)	(5)	180

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181.	I check things out for myself.	(1)	(2)	(3)	(4)	(5)	181
182.	I get along with people.	(1)	(2)	(3)	(4)	(5)	182
183.	I have been punished unfairly.	(1)	(2)	(3)	(4)	(5)	183
184.	I act independently of others.	(1)	(2)	(3)	(4)	(5)	184
185.	I enjoy parties.	(1)	(2)	(3)	(4)	(5)	185
186.	It takes something of real significance to upset me.	(1)	(2)	(3)	(4)	(5)	186
187.	I trust others.	(1)	(2)	(3)	(4)	(5)	187
188.	I am basically an unhappy person.	(1)	(2)	(3)	(4)	(5)	188
189.	I punish myself when I make mistakes.	(1)	(2)	(3)	(4)	(5)	189
190.	I am determined to be the kind of person I am.	(1)	(2)	(3)	(4)	(5)	190
191.	I must defend my past actions.	(1)	(2)	(3)	(4)	(5)	191
192.	I believe people are basically good.	(1)	(2)	(3)	(4)	(5)	192
193.	Because I have to be so different from situation to situation, I feel that the real me is lost.	(1)	(2)	(3)	(4)	(5)	193
194.	I have very few good qualities.	(1)	(2)	(3)	(4)	(5)	194
195.	When somebody does me wrong, I get so hung up on my own feelings I can't do anything but brood.	(1)	(2)	(3)	(4)	(5)	195
196.	My social life is full and rewarding.	(1)	(2)	(3)	(4)	(5)	196
197.	For me to learn well, I need someone to explain things to me in detail.	(1)	(2)	(3)	(4)	(5)	197
198.	I think about the big issues of life.	(1)	(2)	(3)	(4)	(5)	198
199.	I can see little reason why anyone would want to compliment me.	(1)	(2)	(3)	(4)	(5)	199
200.	I have a lot of energy.	(1)	(2)	(3)	(4)	(5)	200

II

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201.	I play around so much I have a hard time getting a job done.	(1)	(2)	(3)	(4)	(5)	201
202.	I go out of my way to avoid being embarrassed.	(1)	(2)	(3)	(4)	(5)	202
203.	It's pretty neat to be me.	(1)	(2)	(3)	(4)	(5)	203
204.	I am proud of the accomplishments I have made at work.	(1)	(2)	(3)	(4)	(5)	204
205.	When I get angry at someone, I tell them about it, and it's over.	(1)	(2)	(3)	(4)	(5)	205

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