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With The Assessment of Adult Adjustment Patterns

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Shirley Lynn Neal Harris

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Norman K. Stewart
Major professor

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DIFFERENTIATING AN OLDER POPULATION BY EDUCATION, GENDER, AND AGE WITH THE ASSESSMENT OF ADULT ADJUSTMENT PATTERNS

By

Shirley Lynn Neal Harris

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ABSTRACT

DIFFERENTIATING AN OLDER POPULATION
BY EDUCATION, GENDER, AND AGE
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The discriminability of the Assessment of Adult Adjustment Patterns (AAAP), a psychological instrument based on Erikson's theory of development, was examined by using groups of individuals who differed on educational level, gender, and age. The sample consisted of 192 participants who ranged in age from 48 to 88 with 43 participants under 65 years of age and 145 who were 65 years of age or older. There were 72 males and 120 females, and 82 participants with a high school degree or less and 109 with some college education or more. A multivariate analysis of variance was performed to test the 2 X 2 X 2 factorial design. There was a significant difference found between the psychological development of men and women as measured by the AAAP ($F_{8,173} = 2.781$, $p = .006$) suggesting that overall psychological development of women ($\bar{X} = 2.918$, $sd = .284$) is better than that of men ($\bar{X} = 2.915$, $sd = .249$). And a significant difference was found between the two educational groups ($F_{8,173} = 2.038$, $p = .045$) which suggested that individuals with some college education or more ($\bar{X} = 2.969$, $sd = .273$) faired better on overall psychological development than individuals with a high school degree or less ($\bar{X} = 2.847$, $sd = .252$). Although the AAAP demonstrated the ability to discriminate groups by gender and education, it was questioned whether the

instrument could be biased by gender and/or education. Biasedness by gender seemed unlikely since females appeared to do better than males. However, biasedness toward individuals with a higher level of education could not be entirely ruled out. It was suggested that biasedness by level of education be investigated in future research studies.

To David . . .

for your patience and understanding
that sustained me throughout the
completion of this thesis.

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CHAPTER I

INTRODUCTION

The social structure of society sets the stage for research into society's effects upon the individual. Not that the individual cannot impact change, make decisions for himself or herself, and act generally in ways of apparent self-will, but that, unequivocally, society affects the individual through norms and conventions.

It has been well documented in social science research that location in the social structure influences an individual's beliefs, attitudes, and values. Whether an individual goes to college, how long the individual lives, whether the individual gets married or has children, how the individual interacts with family, spouse, and friends--all correlate with particular social categories. This is not to say that individual differences do not play a large part in development. Certainly, individual ambition, family expectations and support, and personality characteristics can influence life choices entirely or in combination with social parameters.

Although Erikson's theory of development incorporates social aspects along with psychoanalytical and biological aspects, outcomes were not based solely on his theory since little social research has been conducted on Erikson's theory. Instead, research evidence from sociological studies that were investigating social aspects similar to concepts described by Erikson's theory was used to support the hypothesized outcomes.

Need for the Study

Although the Assessment of Adult Adjustment Patterns (AAAP) has been validated on several populations, additional studies must be conducted to assess the AAAP's applicability to different populations, to check its ability to differentiate groups, to establish norms for different populations, and in general, to improve the instrument (Azar, 1982; Valdez, 1983; Arulpragasm, 1986; & Picciotto, 1987). Furthermore, since the theory underlying the AAAP is developmental, older persons who are chronologically and physically in the last stage of life are among the best candidates for further research on the AAAP. Administering the AAAP to older persons has produced at least two gains:

(1) a better understanding of the strengths and weaknesses of the AAAP; and

(2) a greater knowledge of the developmental process.

Purpose of the Study

The main purpose of the study was to further test and develop the AAAP's ability to differentiate groups defined according to age, gender, and education. By hypothesizing about certain outcomes along the selected social parameters of age, gender, and education the validity and reliability of the AAAP can be expanded.

Hypotheses of the Study

Some stages of development may be more difficult to complete than others depending upon one's location in the social structure. Although all eight stage scales were used to assess overall psychological development, three

individual stage scales--4, 6, and 8--were used to test outcomes on confidence and competence issues, intimacy issues and integrity issues, respectively. The rationale for why these stages may be difficult to complete is given in Chapter II.

The following hypotheses were tested in the present study:

1. Individuals who are 65 years of age and older show greater evidence of having mastered integrity than those who are under 65 years of age.
2. Women have lower levels of confidence and competence than men.
3. Men show a lesser capacity for intimacy than women.
4. Men in the upper educational level show a greater capacity for intimacy than men in the lower educational level.
5. There is a difference between the overall psychological development of men and women.
6. The higher educational group has a higher grand mean on overall psychological development than the lower educational group.

Psychosocial Theory of Ego Development

Erikson developed his theory of ego development to embrace the social and physical aspects of growth absent from Freud's theory of psychosexual development. Specifically, Erikson attempted to account for the influence of social and family structure upon the growth of the individual. However, Erikson does not purport that individual development is entirely dependent upon the social environment; he assumes an epigenetic basis to his theory of development. The epigenetic principle states that "anything that grows has a ground plan, and that out of this ground plan the parts arise, each part having its time of special ascendency, until all parts have risen to form a functioning whole" (Erikson, 1959, p. 53).

The eight stages of development consist of "parts" which are systematically related to each other and exist in some form before their critical time of emergence (usually near the end of the stage). The critical time of a part's emergence is experienced as a crisis, and is triggered by the biological readiness of the individual and social pressure. Completion or mastery of a stage depends upon successful handling of the crisis which in turn determines whether the individual moves on to the next stage or regresses to an earlier stage. Healthy development depends upon the former.

The ideal state of affairs is mastery of a stage. However, in life, the ideal state never occurs and is not necessary for "normal" development. Erikson states that psychosocial health must persistently outweigh psychosocial ill health. Most likely ill health is present to a more or less degree in one stage than another. Mastery then can be expressed in terms of the degree of completion of a stage. Thus, the individual only approaches completion of stages, never entirely reaching full completion. What is left uncompleted in one stage may or may not affect the level of growth attained in some future stage.

As the individual moves through the life cycle, he or she encounters the following crises:

Stage I Basic Trust versus Basic Mistrust. A mutual relationship between the caregiver and the child is necessary for a sound sense of trust to develop, as well as a consistent, regular, predictable environment. If these two conditions have been established fairly well, the infant will learn that his or her needs will be satisfied.

A sense of mistrust develops when the infant's needs are met inconsistently. The caregiver may be "unable to differentiate the infant's needs and to respond appropriately...or...the caregiver (may be) unusually harsh while meeting the infant's needs" (Newman and Newman, 1975, p. 37). For whatever the reason, the infant learns to mistrust the environment and manifests the mistrust as withdrawal, sobbing, depression, or loss of appetite. The crucial element that determines the development of a trusting relationship between the caregiver and the infant is the consistent and appropriate responding of the caregiver to the infant's needs.

Stage II Autonomy versus Shame and Doubt. The beginning of autonomy is characterized by the child wanting to do things "his own way" while the latter part of the stage is characterized by the child doing things "on his own." If the child is allowed to do things on his own, two characteristics develop: energy and persistence.

Shame and doubt result when the child fails at some task he attempts or when his parents criticize his performance on the task. The child then lacks confidence in his abilities expecting to fail at whatever he attempts. A state of constant doubting develops in which case the child only feels comfortable in structured situations where the possibility of failure is reduced (Newman and Newman, 1975).

Stage III Initiative versus Guilt. In stage 3, the child focuses his attention on investigating the environment. "Initiative is the active conceptual investigation of the world," while "autonomy is the active physical investigation of the world" (Newman and Newman, 1975, p. 123).

When the child learns that exploring the environment is an informative and pleasurable experience with certain areas of exploration prohibited out of respect for other's privacy and cultural values, the child has developed a sense of initiative. However, when the child is made to feel that every question is an intrusion upon his parents or his questions are answered indifferently or inadequately, curiosity itself becomes a taboo and the child feels guilty for being curious about anything. The developing sense of guilt finally culminates in the child's reliance on his parents or other authorities for directions on how to live in the world (Newman and Newman, 1975).

Stage IV Industry versus Inferiority. In stage 4, the ability to persevere on a task is developed. Erikson states that most children become dissatisfied with make-believe games and desire to become useful, "to be able to make things and make them well" (1959, p. 91). Children learn to be industrious because they not only gain recognition for producing things but they learn that acquiring new skills can be intrinsically rewarding and motivating.

Inadequacy and inferiority may result when, for example, the child's work is not valued by the family, teachers, or peers, or when the child is not ready for school. In the school system, children are continually being compared and evaluated according to set levels of mastery (ignoring individual differences) with many receiving the message that they do not measure up to the students in their age group. In some cases, feelings of inadequacy and inferiority may result from environmental conditions and not from individual difficulty. With the social environment playing such a large part in the

development of competency or inferiority, the influence that sex role socialization can have on the child's developing abilities and aspirations can easily be understood.

Stage V Identity versus Role Diffusion. Development in stage 5 is marked by rapid physical growth and changes. It is the time of life where childhood ends and adolescence begins. Much as the child questions his or her origin, the adolescent questions his or her character. "Who am I?" characterizes this stage very well.

Erikson defines identity as "the accrued confidence that one's ability to maintain inner sameness and continuity is matched by the sameness and continuity of one's meaning for others" (1959, p. 94). Essentially, identity is that part of us which stays the same from situation to situation providing us with continuity in present as well as future social relationships. In other words, identity is the culmination of past, present, and future identifications as well as cultural values. The cultural identity of an individual reflects the values of his or her reference group and the values of society-at-large.

Stage VI Intimacy versus Isolation. Stage 6 marks the beginning of early adulthood where people are establishing their careers, marrying, and rearing children. According to Erikson (1959), the task of stage 6 is to establish intimacy with another person of the opposite sex (whether intimacy can only take place with the opposite sex is debatable at this time since there are some homosexuals who couple successfully). Intimacy between two people includes being mutually supportive, expressive, and empathetic without the

fear of losing one's own identity. Thus, the possibility for establishing intimacy with another person depends on how well a personal identity has been established in the previous stage.

When the individual has not established a personal identity, then an intimate relationship is threatening to that person's sense of self. Essentially, his own identity is not stable enough to allow himself to lose himself in another person. The result is isolation in which the person builds walls between himself and others in order to keep his sense of self intact.

Real intimacy usually develops between two people after they have been in the relationship for awhile. In the early years of marriage the intimacy process may be slowed down by such interferences as adjusting to the new marital situation, children, work, and relatives. Other obstacles that make developing an intimate relationship difficult include the inability of many men to express themselves emotionally, and for women, the inability to express their sexual feelings.

Stage VII Generativity versus Stagnation. Erikson (1959) states that generativity is "the interest in establishing and guiding the next generation" (p. 103). The development of generativity usually takes place after the following adulthood tasks have been successfully completed: rearing a family, pursuing a career, and managing a household. According to Erikson, generativity need not be fulfilled only through the above means. Individuals who possess a special talent or gift can fulfill their generativity needs by using their talents for the improvement of society.

Stagnation suggests a "lack of psychological movement or growth" and

results when individuals are unable to look past their own needs and satisfactions to see the needs of others and society (Newman and Newman, 1975, p. 319). Individuals who did not successfully handle family, career, and household tasks have not acquired the administrative skills necessary for community involvement--a main outlet for satisfying generativity needs. Consequently, these individuals are likely to experience a sense of stagnation.

Stage VIII Integrity versus Despair. In the final stage of life the developmental task is to come to terms with death, particularly one's own death. The individual engages in considerable introspection to sort out and incorporate the conflicts, failures, and disappointments that have accumulated over life. These must be integrated in order for integrity to be attained.

Despair results when the individual is unable to accept and integrate his or her failures and conflicts. Death may be feared or dreaded because the person will not get the opportunity to change things; or death may be sought as a means of ending a miserable existence. Quite often some individuals can be found speculating about what their lives could have been, "If only...." However, a despair resolution may be influenced by such external factors as negative attitudes expressed by family members and deterioration of physical capabilities.

Overview

Although Erikson's theory of development describes the process of life from birth to death, little social research has been done to evaluate its applicability. However, certain processes of aging, such as reminiscence, that are similar to concepts proposed by Erikson have been investigated. In

Chapter 2, these studies are reviewed to support age outcomes.

In addition to age outcomes, gender and education outcomes are also discussed in Chapter 2. Studies from the social sciences are used to support the hypotheses. A brief history of the development of the instrument, The Assessment of Adult Adjustment Patterns, is presented along with a review of other instruments assessing Erikson's theory and the process of aging.

In Chapter 3, a description of the sample and the data collection procedure is given, followed by an explanation of scoring the AAAP. The reliability coefficients for the 8 stage scores from the present sample are presented as well as the statistical hypotheses, the design of the study and type of analysis. The results of the study can be found in Chapter 4 while the interpretation of the results is discussed in Chapter 5.

CHAPTER II

REVIEW OF THE LITERATURE

Little social research has been conducted on the utility of Erikson's theory of development as it relates to the parameters investigated here (education, gender, and age), thus research evidence was drawn from other areas of study to support outcomes. A history of the development of the Assessment of Adjustment Patterns and a review of other instruments that measure Erikson's theory of development are presented along with research on the process of aging followed by age, gender and education outcomes. Gender outcomes are divided into three subsections with female outcomes on stage 4 discussed separately from male outcomes on stage 6. Overall male and female differences are presented in the final subsection.

Instrumentation: The Assessment of Adult Adjustment Patterns

Based on Erikson's (1959) theory of ego development, the AAAP was constructed for diagnostic and research purposes. At this point in the development of the AAAP, the utility of the AAAP is the research focus. Eventually, it is hoped that the AAAP can be used as a diagnostic tool to aid therapists in determining the client's strengths and weaknesses.

The Assessment of Adult Adjustment Patterns was originally developed by Farquhar, Wilson, and Parmeter (1977) and recently refined by Azar (1982).

Having consisted of 719 items initially, the AAAP was generated by extracting the major constructs from each of the eight stages of development. The instrument also includes three validity scales, two of which were developed by Farquhar, Wilson, and Parmeter: the F Scale and Consistency Scale. The purpose of the F Scale, which is similar to that of the MMPI's, is to indicate unusual response patterns; the Consistency Scale was constructed to measure inconsistent response patterns. The third validity scale was derived from the Crowne-Marlowe (1964) Social Desirability Scale and modified by Farquhar and Wilson (1977) to correspond to the format of the AAAP. The Social Desirability Scale detects respondents who respond in a highly favorable manner.

Azar's (1982) study was the first attempt to validate the AAAP on a population sample. His purpose was to eliminate poor items and to test the reliability and validity of the AAAP. He reduced the initial set of 719 items to 258 and found a multiple factor structure for each stage except stage 1 (23 total factors). Additional items for the Stage 1 factor, Optimism, have been included on the latest version of the AAAP; thus stage 1 presently has two factors (see Table 2-1). The mean reliability coefficient for the eight stages was .89 with a range of .85 to .95 (see Table 2-2). Both the Social Desirability Scale and the F Scale met the criteria established for inclusion in the AAAP; however, the Consistency Scale did not.

Determining the hierarchical properties of the AAAP was achieved by setting an 80% mastery criterion level. The results indicated that the stages were not in ascending order as Erikson theorized. However, a hierarchical

Table 2-1

INDIVIDUAL FACTORS WITH ASSOCIATED STAGES

Stage	Factors	No. of Items Per Factor	No. of Items Per Stage
1. Trust vs. Mistrust	Optimism	12	25
	Basic trust	13	
2. Autonomy vs. Shame and Doubt	Will to be oneself	17	
	Solitude	10	36
	Holding on, letting go	9	
3. Initiative vs. Guilt	Self-punishment and guilt	22	
	Anticipation of roles by parents	4	26
4. Industry vs. Inferiority	Apply self to task	21	
	Win recognition by producing things	14	
	Perserverance	9	63
	Competence	10	
	Trust in adults	5	
	Confidence	4	
5. Identity vs. Diffusion	Trust in peers	14	
	Ideological thoughts	6	33
	Molding identity	6	
	Fidelity tests	7	
6. Intimacy vs. Isolation	Commitment to affiliation	15	
	Genital maturity	7	28
	Fusion with another	5	
7. Generativity vs. Self-Absorption	Establishing and guiding next generation	15	29
	Charity	14	
8. Integrity vs. Distrust, Despair	Order and meaning	14	25
	Accepting one's life cycle		

TABLE 2-2

SCALE STATISTICS FOR AZAR'S SAMPLE
N = 354

Scale	No. of Items	Mean	Standard Deviation	Standardized Item Alpha
Stage 1	18	54.01	7.33	.88
Stage 2	36	108.86	11.59	.91
Stage 3	26	75.27	8.90	.87
Stage 4	63	190.56	20.99	.95
Stage 5	33	100.08	10.41	.90
Stage 6	28	88.09	10.80	.90
Stage 7	29	84.37	10.77	.89
Stage 8	25	74.23	8.71	.85

structure was obtained by using the Guttman scale which mathematically manipulated the mastery levels of the eight stages.

In a study that used the AAAP to assess female identity and intimacy issues (Valdez, 1983), the reliability coefficients for the eight stages of development ranged from .79 to .94 with a mean reliability coefficient of .87 (see Table 2-3). No data were available for the F scale or Social Desirability scale. The coefficients for the eight stages from the two different samples were very similar, suggesting that the AAAP is a highly reliable instrument across populations.

Other instruments have been developed to research the psychological process of aging. Havighurst and Glasser (1972) constructed a questionnaire to measure the amount and affect of reminiscence by converting an interview schedule which was itself for the purpose of studying reminiscence (Sherman, 1970, reported in Havighurst and Glasser, 1972). The reliability coefficients for frequency and affect of reminiscence ranged from .10 to .20.

Boylin, Gordon, and Nehrke (1976) used six out of the ten items from the Havighurst and Glasser questionnaire as well as all the items from the intimacy subscale of Constantinople's Inventory of Psychosocial Development (1969). Items for generativity and integrity were constructed using Constantinople's format for the inventory as a model. The item analysis of all three intimacy, generativity, and integrity subscales indicated that the items of a particular subscale significantly correlated with the total subscale score.

Constantinople's intimacy subscale had the least number of items (3) with significant correlations (perhaps because the items were expressed too

TABLE 2-3

SCALE STATISTICS FOR VALDEZ'S SAMPLE
N = 138

Scale	No. of Items	Mean	Standard Deviation	Standardized Item Alpha
Stage 1	18	71.20	7.48	.83
Stage 2	36	107.67	10.71	.89
Stage 3	26	72.84	7.12	.79
Stage 4	63	183.47	19.09	.94
Stage 5	33	103.87	11.20	.90
Stage 6	28	93.11	10.72	.90
Stage 7	29	84.27	9.74	.84
Stage 8	25	77.16	8.26	.85

globally) ranging from .33 to .59. Generativity had significant correlations ranging from .27 to .54 for all five items while stagnation had only one significant item correlation (r = .44). Four of the five items on the integrity subscale correlated significantly with a range of .40 to .70. Only two items correlated significantly with despair (.27 and .66).

Although a few measures have attempted to quantify Erikson's theory of development, the need for a reliable and valid measure still existed. None of the measures developed thus far have the magnitude of the AAAP. Such comprehensiveness, however, may have its price. Many times broadness in scope gives way to lesser specificity. Through testing and retesting the AAAP, it is hoped that a balance can be attained between comprehensiveness and specificity.

Age Outcomes

Some aging theories include a component similar to integrity, but Erikson's theory is the only one to include the concept of mastery. According to the theory, if one stage is not mastered then subsequent stages are not mastered as well. Since attempts to demonstrate an individual's progression of stage mastery have proved futile, stage progression dependent upon mastery was not examined in the present study (Azar, 1982; Valdez, 1983). However, an attempt was made to examine whether there were particular relationships between certain stages and the independent variables of the study.

One conceptualization of aging that is closely related to Erikson's concept of integrity is called the life review process: "a naturally occurring, universal mental process characterized by the progressive return to

consciousness of past experiences, and particularly, the resurgence of unresolved conflicts" for the reintegration of the self (Butler, 1963, p. 66). The process is prompted by approaching death, and the behaviors engaged in during this time are reminiscing, thinking about oneself, and reconsidering previous experiences and their meanings.

Although Butler does not recognize the similarity between his and Erikson's conceptualization of aging, both view the process as: occurring universally, a final attempt to resolve conflicts and reintegrate the self, prompted by approaching death, and both postulate positive and negative outcomes. For Erikson, the positive outcome is integrity, the negative outcome is despair. For Butler, the positive outcome is wisdom, candor, serenity, and the negative outcome is depression. The difference between the two conceptualizations seems to be the terminology used more than any differences in thought and perspectives.

In a study conducted by Havighurst and Glasser (1972), reminiscence was defined as both purposeful and spontaneous retrospection, but not engaged in for the purpose of coming to a decision or solving a problem. Havighurst and Glasser found an association among positive feelings about reminiscence, frequent reminiscence, and good personal-social adjustment but the directionality of these results--whether frequent reminiscence caused good adjustment or vice versa--was not clear.

Boylin, Gordon, and Nehrke (1976) found that both frequent reminiscence and reminiscence of negative experiences were related to higher scores on integrity measures. Boylin, et al. seemed to discount their results since

the outcomes did not match Havighurst and Glasser's finding that positive feelings and frequency of reminiscence were related, and attempted to explain the discrepancy as differences in subject population. Undoubtedly, subject population may very well explain why a relationship between positive feelings and frequent reminiscence was found in a middle- to upper-middle socioeconomic group while negative experiences and reminiscence were found in an institutionalized group. Yet, the results of the Boylin, et al. study seemed to make more sense when one considered the purpose of reminiscing--to integrate past conflicts, failures, and disappointment. And since the directionality of positive feelings and frequent reminiscing was unknown, it may have been that the end result of reminiscing was positive feelings as Havighurst and Glasser found, while the means for reaching such a state, for at least some, was through reminiscing (integrating and reintegrating) the negative experiences as Boylin, et al. found.

Another explanation may be that the achievement of integrity is a function of age, i.e., as age increases so does the likelihood of achieving integrity. Another group of studies using age as a defining characteristic lends some support to the postulation that integrity may be related to age.

Bloom (1961) asked adult males ranging from ages 20 to 60 to respond to an adjective checklist. He found a curvilinear relationship between self-acceptance and age with increasing self-acceptance between 20 and 50, highest at 50, and decreasing around 60. The results of Bloom's study suggest that after age 60, people may be increasingly experiencing discouragement, despair, and/or depression which is very likely associated with the realization that

life is finite. However, Coles (1971) reported from interviews of men and women who had reached their 100th birthday that they expressed contentment, satisfaction, and resignation to their life events. Based on these data, Newman and Newman (1975) explained that as people approach 60, they begin to experience changes in the form of decreasing physical abilities and increasing physical pains and ailments; they begin experiencing psychological and social changes associated with retirement, widowhood, and inevitable death. Newman and Newman further speculated that if Bloom had included in his study people in their 70's and 80's, he might have found self-acceptance on the increase once again, as suggested by the centenarians' contentment and satisfaction with life.

As the above studies and speculations suggest, age has been suspected of being an important variable in the study of aging for some time. However, not until Bengtson, Cuellar, and Ragan (1977) were studying the impact of social structure on aging did the potency of age itself fully emerge as a relevant variable.

Bengtson and his associates explored attitudes toward death by race, gender, age, and social class. The results indicated that orientations toward death are related to social structure location but not as highly related as was expected. What was unexpected, however, was the extent that age predicted attitudes toward death. Bengtson, et al. found that the 45-54 age group expressed the greatest fears about death while the 65-74 age group expressed the least, regardless of gender, race, or socioeconomic status.

The evidence for age as a potential aid in greater understanding of the

developmental process of aging is mounting. The data suggest that people may move into Erikson's stage 8 in a state of despair while adjusting to new changes in their lives. If the individual adjusts satisfactorily, then movement toward integrity takes place; if not, the individual continues in despair. It is hypothesized in the present study that individuals who are 65 and older have a significantly higher stage 8 mean than those who are under 65.

However, there is one confounding factor: it may be that people in despair die sooner leaving only people in integrity to represent the above 65 age group. The only way to show that people move into stage 8 in a state of despair and later move into integrity would be to conduct a longitudinal study. The results for age as a factor in stage 8 outcomes must be interpreted carefully.

Gender Outcomes

In this section, the rationale for overall male and female differences is presented first. Overall differences were evaluated by the grand stage means which are the summations of the stage means divided by the total number of stages. The rationale for stage 4 female outcomes is presented next followed by stage 6 male outcomes. Although age was not expected to be a factor in gender outcomes, it may be advantageous in predicting gender outcomes for the older population. Specifically, it seems likely that the older population has been less influenced than the younger population by the consciousness raising of the women's movement; that is, the older population is entrenched in the traditional values and attitudes that were so vogue in their day and time to a much greater extent than their younger counterparts. Therefore, the effects

of the movement are not expected to be a confounding factor in gender outcomes.

Female Outcomes on Stage 4. Stage 4 is concerned with an individual's competency and confidence regarding work and learning. Women are expected to have difficulty with stage 4 since gender-role socialization emphasizes domestic roles for females instead of educational and occupational achievement. Even though females have higher high school grades than males, females have lower educational aspirations. Holding constant socioeconomic level and academic ability, Sewell (1971) found that "women have lower probabilities of obtaining any further schooling, of attending college, or graduating from college, and of entering graduate or professional school" (p. 796) while males have a greater chance for education than females at every socioeconomic level. Sewell suggests that the main deterrent to female achievement are parents: "parents are less likely to encourage high educational aspirations among their daughters than their sons, and that whenever family funds are short parents are more likely to spend them on the sons' education" (p. 804).

Although parental expectations generally reflect to some degree society's expectations, Hennig (1973) has shown that high achieving women (female presidents and vice-presidents of male-oriented medium-to-large businesses) tend to have parents who highly value both their femaleness and achievement: where being a woman and being a success are not mutually exclusive or in discord. Horner (1972) found that for many women femaleness does not include achievement, but rather fear of success. Essentially, women are caught in a double-bind: if they fail, they are not living up to their own standards of excellence but if they succeed, they are not living up to society's

expectations.

Working women are not expected to be a confounding factor in the outcomes of this study. Even though women have been in paid employment for as long as men, social attitudes toward women working have changed little over the years. For example, in 1836, a National Trades Union Committee urged that female labor be excluded from factories because women in the labor force decreased wages. The committee also explained that women were naturally and morally predisposed to domesticity; only man was designed to perform "that kind of labor" (Kessler-Harris, 1981, pp. 64-65).

The work conditions created and perpetuated by attitudes such as sex-segregated "women's work," receiving less pay for the same job held by a man, and little opportunity for promotion most likely would do little for a woman's sense of self-confidence and competence. A woman working in paid employment under these conditions does not necessarily acquire the sense of usefulness and ability to "make things and make them well" that Erikson (1959, p. 91) deems necessary for completion of stage 4. Thus, the likelihood that women have high levels of self-confidence and competence on stage 4 of the AAAP is very low.

Male Outcomes on Stage 6. Men, just as women, seem to experience a double-bind in our society. Men are socialized to be inexpressive of affection, tenderness, and emotion, to be "manly" by not showing signs of weakness, to be strong and nonintrospective. Komarovsky (1962) has found these descriptions to be true of lower status men more than higher status men. In her study of blue-collar marriage, she found that the lower the education level, income,

and occupational status of the husband, the more difficult it was for the husband to share his feelings with his wife.

Scanzoni (1975), however, found in his research on empathy satisfaction in marriage that the husband's socioeconomic status was not related to empathy satisfaction. Thus, the amount of empathy displayed by husbands may be due more to sex-role socialization than socioeconomic status. Balswick and Peek (1971) point out that "[American] society inconsistently teaches the male that to be masculine is to be inexpressive, while at the same time expectations in the marital role are defined in terms of sharing affection and companionship which involves the ability to communicate and express feelings" (p. 366).

It may be the case that sex-role socialization influences husbands' empathy level more than socioeconomic status. In blue-collar settings, men and women tend to go-their-own-way socially. The men gather at the corner bar with "the boys" while the women visit female friends and relatives to share advice and ideas on cooking, sewing, and children. Similarly, their middle-class counterparts go to cocktail parties where it is not uncommon to find men and women in separate groups with the men discussing politics, business, and sports and the women discussing children, schools, and recipes. The fewer experiences that men and women have in common, the more difficult it is to share and communicate their experiences; thus, the more difficult it is to be empathetic with each other. This seems to be truer, however, of men more than women, since women are socialized to be empathetic.

Even though there is no question that sex-role socialization plays an important part in the extent to which empathy is expressed by the husband,

socioeconomic status may affect how rigid the sex roles are, thereby influencing the amount of empathy expressed between spouses. Scanzoni (1975) found that as SES and education level decreased, sex roles were more traditional; whereas as SES and education level increased, sex roles were more egalitarian. It may be that men, in general, have been socialized to be less empathetic than women, but as education increases, men may be less traditional, thus more empathetic in their marriages.

Empathy is defined as the ability to experience the feelings of another as that person experiences them. Although empathy is not the same as intimacy, the ability to empathize would surely only enhance intimacy between husband and wife. For the purpose of this study, empathy is viewed as comparable enough to use in support of the following hypotheses: (1) men have a significantly lower stage 6 mean than women; (2) however, men in the upper educational group have a significantly higher stage 6 mean than men in the lower educational group.

Overall Male and Female Differences. There seems to be a number of factors involved in how men and women perceive and adjust to old age and aging, thereby making it difficult to predict gender differences. One may be inclined initially to predict that women will have a lower grand mean than men because women have more negative perceptions of old age and aging than men (McTavish, 1971, reported in Bengtson, Kasschau, & Ragan, 1977). Some potential reasons why are: (1) women live longer than men thus they are more likely to be living alone; (2) women lack a comparable employment history to men and have received lower earnings for the work they have done; thus, older,

single, divorced, and widowed women are more likely than men to be living at and below the poverty level. Having to look forward to these living conditions, it can be seen how old age can be perceived as undesirable by women. However, men, as well as women, have to adjust to two major life events--retirement and widowhood--both having to deal with different aspects of each.

Generally, widowhood is thought to affect primarily women, as the living conditions described above can attest. However, it can be very traumatic for men to lose their wives. Men must adjust to managing household affairs if they have not already done so. Since men do not live as long as women, they are not as likely as widowed women to find same-sex companionship. But widowed men are more likely to remarry than a widowed woman because there are three widowed women to every widowed man.

Retirement is generally thought to be more traumatic for men than women, particularly for men who are committed to their work (Simpson, Beck, & McKinney, 1966, cited in Bengtson, Kasschau, & Ragan, 1977). Women tend to be less work- and achievement-oriented than men at all ages whether they are working women or not. Retirement for women then is generally less traumatic than for men. In addition, most women have already experienced one retirement--from the mother role--which seems to prime women for coming role transitions.[1] It must be noted, however, that both men and women in upper

[1] In a 1965 Harris Poll, women reported more than men that they had thought of the possibility of losing their spouse (reported in Bengtson, Kasschau, & Ragan, 1977, p. 335).

status occupations are less likely to want to retire because their jobs offer not only monetary rewards but also personal satisfactions.

In some cases, if retirement is a difficult adjustment for women, it usually means that the women are having to adjust to their husbands being at home. Heyman and Jeffers (1968) suggest that the majority of wives do not look forward to their husbands' retirement. However, Lipman (1961) reports that the wife's adjustment seems to depend on whether her role has largely been instrumental (household maintenance) or expressive (loving, understanding, a companion). The instrumental wife experiences lower morale than the expressive wife, apparently due to the husband's increased participation in the functioning of the household.

Unfortunately few studies seem to compare the adjustment of both men and women at the same social role transitions. There appear to be differences in how retirement and widowhood affect both men and women; however, more seems to be known about how women are affected than men. Due to the lack of definitive data, a difference is expected to be found between the overall psychological development of men and women.

Education Outcomes

Before presenting the rationale for education outcomes it must be noted that the research literature which examines socioeconomic status is used to support hypotheses regarding education effects. Originally, it was planned to use SES as one of the independent variables but the established SES index proved useless in defining groups. Even though education is only one of the three components which comprise SES, education distinguishes the participants

of the study quite well since a little over half were retired university faculty. Furthermore, since a higher income allows the elderly a comfortable living it is assumed that generally a higher education would allow the same. Yet one should be aware that some individuals may have high incomes but a low educational level. And too, as one respondent so aptly remarked, "A high school education in my day was considered what a college education is today." Thus, the results for education outcomes must be interpreted carefully.

Few studies have compared the lower socioeconomic aging groups with the upper socioeconomic groups. Most studies have concentrated on the poor or institutionalized elderly. The following discussion focuses on the research investigating the influence of SES on attitudes toward old age and aging, physical and psychological well-being, and life satisfaction.

One theme consistently appears in the literature: decrements from aging come later in life for higher SES persons than lower SES persons. Some reasons contributing to this phenomenon may be that a higher income allows the elderly to live longer, live independently, in better housing arrangements, and to have better health because they can afford better medical care. Lower SES persons report lower life satisfaction than higher SES persons because of the differences in incomes (Edwards & Klemmack, 1973). Furthermore, the type of work associated with white-collar occupations is not as physically demanding as that of blue-collar jobs. This may also contribute to the better health of higher SES persons in that the physical bodies of higher SES persons deteriorate more slowly than those of lower SES persons of the same age. It should be no great surprise then that higher SES persons hold less negative

attitudes toward old age and aging than lower SES persons (Bengtson, Kasschau, & Ragan, 1977).

Other research on aging has looked at the differences in perceived onset of old age depending on socioeconomic status. Neugarten and Peterson (1957) reported that higher SES persons perceive old age beginning at 70; whereas, lower SES persons perceive old age beginning at 60. Neugarten and Moore (1968) suggest that the timing of life events may account for these differences. Lower SES persons tend to leave home earlier, get married earlier, have children earlier, etc. Thus, they are ready for old age earlier.

The relationship between socioeconomic status and attitudes of old age and aging, physical and psychological well-being, and life satisfaction suggest that the upper educational group has a significantly higher grand stage mean on overall psychological development than the lower educational group.

Summary

The Assessment of Adult Adjustment Patterns is based on Erikson's theory of ego development, thus the eight stages of development are the basis for 8 of the scales on the instrument. The instrument also includes 3 validity scales: the F Scale which measures unusual response patterns; the Social Desirability Scale which measures highly favorable response patterns; and the Consistency Scale which was constructed to measure inconsistent response patterns but did not meet the criterion established for inclusion on the AAAP (Azar, 1982). A multiple factor structure was found for all the stages except stage 1 (23 total factors across 8 stages).

The reliability of the instrument fairs well in light of the high

reliability coefficients found for the eight stage scales from two different samples (Azar, 1982; Valdez, 1983). Reliability coefficients from Azar's study ranged from .68 to .92 with a mean reliability coefficient of .84. And reliability coefficients from Valdez's study ranged from .79 to .94 with a mean reliability coefficient of .87. Another instrument that has been used to measure Erikson's theory of development is called Constantinople's Inventory of Psychosocial Development (1969). Boylin, et al. (1976) used 6 of the 10 items from the Havighurst and Glasser (1972) questionnaire as well as all the items from the intimacy subscale on Constantinople's inventory. Items for generativity and integrity were constructed using Constantinople's format. The item analysis showed that the items making up the intimacy, generativity, and integrity subscales were significantly correlated with the total subscale score.

Although the AAAP is not the first instrument constructed to measure Erikson's theory of development, it is the only one with such a large magnitude of items. Such comprehensiveness must be researched carefully in order to ensure that specific knowledge is being gained about the individual.

Research has shown that age may be an important predictor of psychological well-being. Specifically, it is thought that the older the individual, the more psychologically healthier. Or, in Erikson's terms, the older the individual, the more likely to achieve integrity. Although a longitudinal study could be the best method for determining whether age is a predictor of psychological health, it is not the most practical in terms of time and money. Thus, in the present study an attempt is made to determine the usefulness of

age as a factor by dividing the sample into two age groups. It is expected that individuals who are 65 and older would be in better psychological health than those who are under 65. There is one confounding factor to consider: that people in despair may die sooner leaving only people in integrity to represent the 65 and older age group. The results must be interpreted carefully.

The literature suggests that females should have significantly lower levels of confidence and competence than males. The finding that females have higher grades than males but fewer career aspirations indicates that our society has not encouraged women to the positions outside the home.

In the last 20 years, there has been a turnabout in the work world for women. Although the young women of today still regard wife and mother as future roles, they are less likely to view themselves exclusively in those roles. Many will have taken jobs before marriage and family and will not relinquish those jobs once married and upon the arrival of children.

The women in the present study, however, are not expected to have been affected by the social change taking place in the last 20 years. The research that has shown women to be afraid of success and have higher grades but lower career aspirations than men is thought to represent the social climate that the women of the present study grew up with.

Although it is unlikely that males would have difficulty with stage 4, stage 6 is thought to be another matter. Stage 6 is concerned with the individual's ability to maintain intimate relationships--an area considered to be a weak point for most men.

However, it seems that socioeconomic level and education play a part in a man's ability to express his feelings. Several studies showed that as SES and educational level increased, sex roles became less rigid and husbands were more able to share their feelings with their wives. Thus, the evidence suggests that men would have greater difficulty with intimacy than women. However, men with a higher educational level would have less difficulty with intimacy than men with a lower educational level.

The research evidence showed that both men and women have such aging issues as widowhood and retirement. Widowhood is thought to affect women more while retirement is thought to affect men more. However, both events have implications for how well both men and women did on the AAAP overall.

Widowhood for women may result in a lower standard of living, if not living at the poverty level, with little chance of remarrying. Whereas, for men widowhood can be traumatic, but the trauma usually involves managing household affairs alone. A change in their standard of living is less a threat and the likelihood of remarriage is greater since women generally live longer than men.

Retirement, on the other hand, is generally less traumatic for women for two reasons. First, women have tended to be less achievement-oriented. And second, women have already experienced one retirement--from the mother role. Retirement for women usually entails having to adjust to their husband's retirement.

For the very reasons that retirement is easier on the wife, retirement is more difficult on the husband. That is, men have been more work- and

achievement-oriented, thus they are giving up a greater part of their lives than women are. And men who traditionally have had little to do with the child-rearing role are not primed for retirement from their work by their retirement from the parent role. Since the research evidence showed that both men and women have difficulty with two primary aspects of aging, retirement and widowhood, it is difficult to predict how these may affect certain stage completions as well as their overall psychological development.

Originally, SES was included in the study as an independent variable but due to difficulties in defining groups with the established SES index, education was substituted. It was assumed that, just as a higher income allows a more comfortable living, so does a higher education. Thus, SES studies are used to support hypotheses made regarding the effects of educational level.

There have been relatively few studies conducted comparing the lower SES group with the higher SES group. Of those that have been done, higher SES persons have less negative attitudes toward old age and aging than lower SES persons. Higher SES persons are in better health than lower SES persons, and report greater life satisfaction than lower SES persons. To assess the outcome on education, the grand mean is used, where all the stages are used to determine differences. The research evidence indicates that the higher educational group should have a significantly higher grand mean than the lower educational group.

CHAPTER III

RESEARCH DESIGN

A description of the sample and procedure are presented along with the scoring method used and the reliability coefficients of the AAAP for the present sample. Hypotheses which are expressed in both testable and symbolic form follow and a description of the analysis performed is discussed last.

Sample

A total of 192 subjects participated in the study ranging in age from 48 to 88 ($\bar{X}$ = 69.4) with 43 participants under the age of 65 and 145 who were 65 years of age or above. The participants included Michigan State University retired faculty, residents from an upper income level retirement home, participants in a senior day fair, and senior citizens active in local senior centers and UAW unions. There were 120 females and 72 males with 60 females and 22 males having a high school education (includes trade school) or less, and 59 females and 50 males having at least a year of college education or more. A total of 82 subjects had a high school education while 109 subjects had some college education or more. There were 31 females and 14 males with an age less than 65, and 89 females and 58 males with an age of 65 or above (see Tables 3-1 to 3-3). Most of the sample was white (92.2%) and female (62.5%). The predominant marital status was married (62.5%) followed by widowed at 20.3%. While 76% of the sample had been married only once, there was one individual who reported having been married seven times. Only 13% of the sample had been married twice (see Tables 3-4 to 3-7).

TABLE 3-1

BREAKDOWN OF SAMPLE BY EDUCATION, GENDER, AND AGE

	Male		Female		
Education	Age <65	Age 65+	Age <65	Age 65+	Total
High School & Under	7	15	19	41	82
Some College or More	7	43	11	48	109
SUBTOTAL	14	58	30	89	191*
TOTAL	72		119		191*

*Does not total to 192 because one respondent did not include education information

TABLE 3-2

BREAKDOWN OF SAMPLE INCLUDED IN THE ANALYSIS

	Male		Female		
Education	Age <65	Age 65+	Age <65	Age 65+	Total
High School & Under	7	15	18	40	80
Some College or More	7	43	11	47	108
SUBTOTAL	14	58	29	87	188*
TOTAL	72		116		188*

*Due to missing data, not all 192 respondents were included in the analysis

TABLE 3-3

AGE OF RESPONDENTS

Mean	69.4
Median	70.0
Range	40.0
Standard Deviation	7.55

TABLE 3-4

ETHNICITY OF RESPONDENTS

Ethnicity	Number	Percent
Asian	5	2.6
Black	2	1.0
White	177	92.2
Other	6	3.1
Missing	2	1.0
TOTAL	192	100.0

TABLE 3-5

SEX OF RESPONDENTS

Sex	Number	Percent
Male	72	37.5
Female	120	62.5
TOTAL	192	100.0

TABLE 3-6

MARITAL STATUS OF RESPONDENTS

Marital Status	Number	Percent
Married	120	62.5
Divorced	15	7.8
Widowed	39	20.3
Never Married/Never Lived with Someone	16	8.3
Missing	2	1.0
TOTAL	192	100.0

TABLE 3-7

NUMBER OF TIMES MARRIED

Times Married	Number	Percent
1	146	76.0
2	25	13.0
3	4	2.1
7	1	.5
0	16	8.3
TOTAL	192	100.0

The median income of the respondents was between $15,000 and $20,000 with 18.2% having an income of $10,000 or less, 41.7% having an income between $10,000 and $25,000, and 36.4% having an income of $25,000 or more (see Table 3-8). The median educational level was a bachelor's degree with 42.6% having attained trade school (which includes high school) or less and 56.7% having received some college education (see Table 3-9).

Most of the respondents rated themselves as having a middle social standing (77.1%), as having a healthy physical well-being (63%), and as being happy emotionally (71.9%) (see Tables 3-10 to 3-12). Sixty-five percent reported being satisfied with their jobs and 75% expressed satisfaction with personal relationships (see Tables 3-13 and 3-14).

Procedure

Each participant received a packet of materials containing the AAAP, instructions for filling out the forms, a demographic sheet, a release of information form, and a letter of thanks and guarantee of confidentiality (see Appendices A-C).

Michigan State University retired faculty were contacted by means of the MSU Retired Faculty Directory. Attempts were made to call each local member and each was asked if he or she would like to participate in a study. Each participant was told that the questionnaire that they would receive was actually an instrument being tested for its reliability across populations. Confidentiality was assured and a request that no names be placed on the answer sheets was made. Answer sheets and copies of the instrument were coded such that no other identification was required. The packet of materials was

TABLE 3-8

INCOME OF RESPONDENTS

Income	Number	Percent
Under $4,000	9	4.7
$4-$6,000	6	3.1
$6-10,000	20	10.4
$10-$15,000	44	22.9
$15-$20,000	19	9.9
$20-$25,000	17	8.9
$25-$30,000	29	15.1
$30-$40,000	20	10.4
Over $40,000	21	10.9
Missing	7	3.6
TOTAL	192	100.0

TABLE 3-9

EDUCATION OF RESPONDENTS

Education	Number	Percent
Grade School	6	3.1
Junior High	11	5.7
High School	45	23.4
Trade School	20	10.4
Bachelor of Arts (Science)*	35	18.2
Master of Arts (Science)	30	15.6
Education Specialist	1	.5
Ph.D.	43	22.4
Missing	1	.5
TOTAL	192	100.0

*Includes individuals with less than bachelor's degree

TABLE 3-10

SOCIAL STANDING AS RATED BY RESPONDENTS

Social Standing	Number	Percent
Low	2	1.0
Middle	148	77.1
Upper	41	21.4
Missing	1	.5
TOTAL	192	100.0

TABLE 3-11

PHYSICAL WELL-BEING OF RESPONDENTS

Physical Well-Being	Number	Percent
Unhealthy	8	4.2
Average	63	32.8
Healthy	121	63.0
TOTAL	192	100.0

TABLE 3-12

EMOTIONAL WELL-BEING OF RESPONDENTS

Emotional Well-Being	Number	Percent
Unhappy	8	4.2
Average	46	24.0
Happy	138	71.9
TOTAL	192	100.0

TABLE 3-13

JOB SATISFACTION OF RESPONDENTS

Job Satisfaction	Number	Percent
Dissatisfied	7	3.6
Average	31	16.1
Satisfied	124	64.6
Missing	30	15.6
TOTAL	192	100.0

TABLE 3-14

SATISFACTION WITH PERSONAL RELATIONSHIPS

Satisfaction	Number	Percent
Dissatisfied	2	1.0
Average	44	22.9
Satisfied	144	75.0
Missing	2	1.0
TOTAL	192	100.0

dropped off and later picked up at the homes of MSU retired faculty who were willing to participate.

At the Senior Citizen's Day Fair which is held annually at the Civic Center in downtown Lansing, a booth was set up and the above materials were distributed along with a pre-paid postage envelope to senior citizens who were interested in participating in the study.

The retirement home, senior centers, and UAW unions were contacted and permission was requested to appear at one of their daily group activity events in order to recruit participants for the study. Materials were then made available to those interested in participating in the study, and arrangements for pick-up was made at the time of disbursement.

Instrumentation

The scoring method used on the AAAP and the reliability coefficient found for the individual stage scales follow.

Scoring Method. Dividing the scale score by the number of items per scale equalized the amount of variance associated with an unequal number of items per scale. In effect, a score per item was obtained instead of a score per scale. Dividing the scale scores by the number of items per scale is comparable to standardizing with Z-scores or T-scores. All three methods act to equalize the contribution of each scale such that no one scale contributes more variance to the analysis. Without using some form of standardization, the stage scales would have been weighed according to the number of items per scale which would have erroneously influenced the outcome obtained from the analysis.

Although dividing the scale score by the number of items per scale shrinks the variance to be tested, the variance is no longer biased by the number of items per scale. A larger number of items on a scale produces a larger variance, while a small number of items yields a smaller variance. Thus, in the analysis, the larger variance contributes more but the larger variance may not be necessarily due to variance associated with the effect of the independent variables on the dependent variables. In fact, the number of items per scale becomes a confounding factor in the analysis because it is not known how much variance is introduced by the number of items per scale and how much is associated with the effect of the independent variables on the dependent variables.

Since all the scales except stage scale 4 which consisted of 63 items contained 25 to 36 items, perhaps the amount of variance introduced by scales with unequal items would have been minimal to not having any influence on the final outcomes. However, it was decided to eliminate as much error variance as possible in order to have clearer and less questionable results.

Reliability Coefficients for the Scales on the AAAP. The reliability coefficients for the 8 stages ranged from .46 to .80 with a mean reliability coefficient of .70 (see Table 3-15). Although the reliability coefficients for the present sample are slightly lower than those of Valdez (1983) and Azar (1982), most of the stage scales were not low enough to cause concern about the reliability of the individual scales (see Table 3-16). However, the obtained correlations for stage scales 3 and 7 were considerably lower than the desired range for reliability coefficients, which usually falls in the .80s and .90s.

TABLE 3-15

SCALE STATISTICS OF PRESENT SAMPLE
N = 189

Scale	No. of Items	Mean	Standard Deviation	Standardized Item Alpha
Stage 1	25	72.56	9.11	.7524
Stage 2	36	99.11	13.16	.7423
Stage 3	26	75.59	8.26	.4609
Stage 4	63	186.51	22.87	.8848
Stage 5	33	99.46	10.70	.7111
Stage 6	28	82.89	11.97	.7167
Stage 7	29	84.56	9.80	.5301
Stage 8	25	73.54	9.45	.8031

TABLE 3-16

A COMPARISON OF RELIABILITY COEFFICIENTS FOR THE
EIGHT STAGES OF DEVELOPMENT FROM THREE SAMPLES

Scale	Present Sample	Azar's Sample*	Valdez's Sample**
Stage 1	.75	.88	.83
Stage 2	.74	.91	.89
Stage 3	.46	.87	.79
Stage 4	.88	.95	.94
Stage 5	.71	.90	.90
Stage 6	.71	.90	.90
Stage 7	.53	.89	.85
Stage 8	.80	.85	.85
N	189	354	138

*Azar (1982)
**Valdez (1983)

Since the reliability coefficients for Azar's (1982) and Valdez's (1983) samples were in the desired range, perhaps the lower reliability coefficients found are peculiar only to the present sample. Reasons are not readily apparent for the lower inter-item consistency for stage scales 3 and 7. Valdez's sample included college-aged females only with a mean age of 20.0; Azar's sample included both males and females and psychiatric patients and normals with a mean age of 41.6; and the present sample included older males and females with a mean age of 69.4 (see Tables 2-1 and 2-2 for scale statistics).

Statistical Hypotheses

The following hypotheses were tested:

Hypothesis 1: Age Outcome on Stage 8 (Integrity)

H_{0_1}: There is no difference on the integrity measure between those who are 65 years of age and older and those who are under 65 years of age.

Symbolically: H_{0_1}: $M_1 = M_2$

H_{A_1}: Individuals who are 65 years of age and older score higher on the integrity measure than those who are under 65 years of age.

Symbolically: H_{A_1}: $M_1 > M_2$

Legend: M_1 = 65 & older; M_2 = under 65

Hypothesis 2: Gender Outcome on Stage 4 (Competence and Confidence)

H_{0_2}: There is no difference between men and women on levels of confidence and competence.

Symbolically: H_{0_2}: $M_1 = M_2$

H_{A_2}: Women have a lower mean score on confidence and competence than men.

Symbolically: H_{A_2}: $M_1 < M_2$

Legend: M_1 = women; M_2 = men

Hypothesis 3: Gender Outcome on Stage 6 (Intimacy)

H_{O_3}: There is no difference between men and women on intimacy.

Symbolically: H_{O_3}: $M_1 = M_2$

H_{A_3}: Men have a lower mean score on intimacy than women.

Symbolically: H_{A_3}: $M_1 < M_2$

Legend: M_1 = men; M_2 = women

Hypothesis 4: Male by Education Outcome on Stage 6 (Intimacy)

H_{O_4}: There is no difference between men in the upper educational group and men in the lower educational group on intimacy.

Symbolically: H_{O_4}: $M_1 = M_2$

H_{A_4}: Men in the upper educational group have a higher mean on intimacy than men in the lower educational group.

Symbolically: H_{A_4}: $M_1 > M_2$

Legend: M_1 = men in the upper educational group;
M_2 = men in the lower educational group

Hypothesis 5: Gender Outcome on All 8 Stages
(Overall Psychological Development)

H_{O_5}: There is no difference between the overall psychological development of men and women.

Symbolically: H_{O_5}: $M_1 = M_2$

H_{A_5}: There is a difference between the overall psychological development of men and women.

Symbolically: H_{A_5}: $M_1 = M_2$

Legend: M_1 = men; M_2 = women

Hypothesis 6: Education Outcome on All 8 Stages (Overall Psychological Development)

H_{0_6}: There is no difference between the higher educational group and the lower educational group on their overall psychological development.

Symbolically: H_{0_6}: $M_1 = M_2$

H_{A_6}: The higher educational group has a higher grand mean on overall psychological development than the lower educational group.

Symbolically: H_{A_6}: $M_1 > M_2$

Legend: M_1 = higher educational group; M_2 = lower educational group

Analysis

A general linear model of multivariate analysis of variance (MANOVA) was used to test a 2 X 2 X 2 factorial design with two levels of gender, education, and age. Since there were eight dependent variables (8 stage scales), the simultaneous effect of the independent variables (gender, education, and age) on the dependent variables was tested. Analysis of variance (ANOVA) could be performed separately on the dependent variables but ANOVA does not detect interrelations among dependent variables. Should the dependent variables be correlated, substantial information would be lost. A correlation matrix was used to determine whether the variables were independent.

For the proper use of MANOVA, two assumptions must be met: the dependent variables must have a multivariate normal distribution and the variance-covariance matrix must be the same in each cell. As in the case of the univariate distribution, the following assumptions hold true for the multivariate distribution: the shape of a sampling distribution from a nonnormal population approaches normal as the sample size increases, and the variability of the sampling distribution of $\bar{X}$ decreases as the sample size increases. Since

the sample size of the present study was large, the assumptions of normality and homogeneity of variance can be made. Box's M test which simultaneously considers both the variances and covariances of the dependent variables was used to test homogeneity of variance. And normality was determined by observing individual stem-and-leaf plots.

As a measure of overall difference, the grand stage mean, which is a summation of the stage means divided by the total number of stages, was used:

$$\frac{\text{Stage } 1\bar{X} + \text{Stage } 2\bar{X} + \text{Stage } 3\bar{X}, \ldots, \text{Stage } 8\bar{X}}{8} = \text{Grand Stage } \bar{X}$$

Summary

The sample consisted of 192 participants, all of whom were recruited from MSU retired faculty, an upper income level retirement home, senior citizens attending a senior day fair, and senior citizens active in local senior centers and UAW unions. A brief explanation of the purpose of the study was given and a request for participation was made. Arrangements for the return of the materials was made at the time of disbursement, either postage-paid mail was used or the materials were picked up from the participant's home.

The scale used on the AAAP consists of four possible responses which were written in such a way that some items must be answered positively and others negatively in order to score toward psychological health. Stage means were obtained by summing scores for a particular stage then dividing the score by the number of items that make up the stage. Division was used as a form of standardization since the number of items for each stage varied. The standardization then allowed more equivalent comparisons to be made across stages.

Although the reliability coefficients of the present sample were slightly

lower than those of previous samples, they were not low enough to cause grave concern about the reliability of the instrument. The reliability coefficients for the eight stages ranged from .46 to .80 with a mean reliability of .70.

Seven hypotheses were tested regarding outcomes on stage 8 by age, stage 4 by gender, stage 6 by gender, all the eight stages as measured by grand stage mean by gender and education. One age by education interaction effect was expected as measured by the grand stage mean.

A 2 X 2 X 2 factorial design was examined by multivariate analysis of variance which measures the simultaneous effect of gender, education, and age on the eight stage scales. In order to properly use MANOVA, the normality and homogeneity of variance assumptions must be met. The normality assumption was evaluated by observing the individual distributions of the eight stage scales while the homogeneity of variance assumption was tested by Box's M test. Overall differences were measured by summing the 8 stage means and then dividing by the number of stages (8) which yielded the grand stage mean.

CHAPTER IV

RESULTS OF THE STUDY

In the following chapter the results of the study are presented. First, justification for the use of MANOVA is considered with the presentation of the multivariate test for homogeneity of variance followed by an inspection of individual plots of the eight stage scales for normal distributions. A correlation matrix of the eight stage scales is also included to provide further justification for the use of MANOVA. Second, each hypothesis is presented in written as well as symbolic form followed by the name of the test that was used to reject or accept the null hypothesis.

Outcomes on Tests of MANOVA Assumptions

The multivariate test for homogeneity of variance indicated that the homogeneity of variance assumption was violated, Box's M = 277.86, F(180,9155) = 1.26, p = .011. Inspection of the individual distributions of the dependent variables suggested that the multivariate distribution may be normal (see Appendix D). The dependent variables that make up a normal multivariate distribution are distributed normally when considered jointly; however, their separate distributions may or may not be normal. Thus, it was not known from the individual distributions of the eight dependent variables in the present study whether the multivariate distribution is normal. Although the homogeneity of variance assumption appears to have been violated and the normality of the multivariate distribution can be questioned, the Central-Limit Theorem

states that a sampling distribution approaches normal with mean = 0 and variance = 1 as the sample size increases so long as the population variance is finite; thus, the application of MANOVA was justified since the sample size is large ($N \geqslant 50$). Furthermore, the correlation matrix indicated that the dependent variables were correlated with one another which is necessary for the use of MANOVA (see Table 4-1).

Before presenting the results of each hypothesis, a change in the analysis procedure for assessing overall psychological development must be noted. MANOVA which evaluates the effect of the independent variables or the dependent variables simultaneously made the use of the grand stage mean unnecessary and redundant. Thus, the multivariate F test was sufficient and appropriate for testing the hypotheses concerned with overall psychological development differences. Replacing the grand stage mean with the multivariate F test affected Hypotheses 5 and 6.

Statistical Hypotheses

The result of each hypothesis is presented in written and symbolic form along with the name of the test used to reject of accept the null hypothesis.

Hypothesis 1: Age Outcome on Stage 8

H_{0_1}: There is no difference on the integrity measure between those who are 65 years of age and older and those who are under 65 years of age.

Symbolically: H_{0_1}: $M_1 = M_2$

H_{A_1}: Individuals who are 65 years of age and older have a higher mean on the integrity measure than those who are under 65 years of age.

Symbolically: H_{A_1}: $M_1 > M_2$

Legend: M_1 = 65 & older; M_2 = under 65

TABLE 4-1

CORRELATION MATRIX OF THE EIGHT STAGE SCALES
WITH STANDRD DEVIATIONS ON THE DIAGONAL

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
Stage 1	.35572							
Stage 2	.64804	.36102						
Stage 3	.72812	.67840	.30627					
Stage 4	.52537	.66843	.58113	.35072				
Stage 5	.56569	.67523	.53155	.71962	.31876			
Stage 6	.36171	.40914	.30581	.32584	.48340	.42564		
Stage 7	.28752	.35203	.23389	.34796	.53766	.38841	.32836	
Stage 8	.48034	.54904	.34693	.49502	.61122	.67116	.50482	.37500

The univariate F test for the effect of age on integrity was not significant, $F(1,180) = 1.008$, $p > .05$ (see Table 4-2). Thus, the null hypothesis could not be rejected.

Hypothesis 2: Gender Outcome on Stage 4 (Competence and Confidence)

H_{0_2}: There is no difference between men and women on levels of confidence and competence.

Symbolically: H_{0_2}: $M_1 = M_2$

H_{A_2}: Women have a lower mean score on confidence and competence than men.

Symbolically: H_{A_2}: $M_1 < M_2$

Legend: M_1 = women; M_2 = men

The univariate F test for the effect of gender on competence and confidence was not significant, $F(1,180) = 2.646$, $p > .05$ (see Table 4-3). Thus, the null hypothesis could not be rejected.

Hypothesis 3: Gender Outcome on Stage 6 (Intimacy)

H_{0_3}: There is no difference between men and women on intimacy.

Symbolically: H_{0_3}: $M_1 = M_2$

H_{A_3}: Men have a lower mean score on intimacy than women.

Symbolically: H_{A_3}: $M_1 < M_2$

Legend: M_1 = men; M_2 = women

The univariate F test for the effect of gender on intimacy was not significant, $F(1,180) = .12109$, $p > .05$ (see Table 4-4). Thus, the null hypothesis could not be rejected.

TABLE 4-2

UNIVARIATE F TEST FOR AGE ON INTEGRITY (STAGE 8)

Source	SS	DF	MS	F	Significance of F
Age	25.31	180	.14063	1.008	.317
Error	.14174	1	.14174		
Total	25.45174	181			

TABLE 4-3

UNIVARIATE F TEST FOR GENDER ON COMPETENCE/CONFIDENCE (STAGE 4)

Source	SS	DF	MS	F	Significance of F
Gender	22.14	180	.12300	2.646	.106
Error	.32552	1	.32552		
Total	22.46552				

TABLE 4-4

UNIVARIATE F TEST FOR GENDER ON INTIMACY (STAGE 6)

Source	SS	DF	MS	F	Significance of F
Gender	32.61	180	.18117	.12109	.728
Error	.02194	1	.02194		
Total	32.63194				

Hypothesis 4: Male by Education Outcome on Stage 6 (Intimacy)

H_{O_4}: There is no difference between men in the upper educational group and men in the lower educational group on intimacy.

Symbolically: H_{O_4}: $M_1 = M_2$

H_{A_4}: Men in the upper educational group have a higher mean on intimacy than men in the lower educational group.

Symbolically: H_{A_4}: $M_1 > M_2$

Legend: M_1 = men in the upper educational group;
M_2 = men in the lower educational group

The univariate F test for the effect of gender by education on intimacy was not significant, $F(1,180) = 1.33$, $p > .05$ (see Table 4-5). Thus, the null hypothesis could not be rejected. It is also interesting to note that the multivariate F test for the effect of gender by education on all eight stages was not significant, $F(8,173) = .590$, $p > .05$.

Hypothesis 5: Gender Outcome on All 8 Stages (Overall Psychological Development)

H_{O_5}: There is no difference between the overall psychological development of men and women.

Symbolically: H_{O_5}: $M_1 = M_2$

H_{A_5}: There is a difference between the overall psychological development of men and women.

Symbolically: H_{A_5}: $M_1 = M_2$

Legend: M_1 = men; M_2 = women

The multivariate F test for the effect of gender on the overall psychological development which is measured by the simultaneous consideration of all 8 stages was significant, $F(8,173) = 2.781$, $p = .006$ (see Table 4-6). Thus, the null hypothesis was rejected, indicating that a difference between the overall psychological development of men and women was detected.

TABLE 4-5

UNIVARIATE F TEST FOR GENDER BY EDUCATION ON INTIMACY (STAGE 6)

Source	SS	DF	MS	F	Significance of F
Gender by Education	32.61	180	.18117	1.33	.250
Error	.24141	1	.24141		
Total	32.85141				

TABLE 4-6

MULTIVARIATE F TESTS

Source	F	Significance of F
Gender	2.781	0.006
Education	2.038	0.045
Age	1.002	
Education by Age	.430	
Age by Gender	.552	
Education by Gender	.590	
Education by Age by Gender	.971	

Hypothesis 6: Education Outcome on All 8 Stages (Overall Psychological Development)

H_{0_6}: There is no difference between the higher educational group and the lower educational group on their overall psychological development.

Symbolically: H_{0_6}: $M_1 = M_2$

H_{A_6}: The higher educational group has a higher grand mean on overall psychological development than the lower educational group.

Symbolically: H_{A_6}: $M_1 > M_2$

Legend: M_1 = higher educational group; M_2 = lower educational group

The multivariate F test for testing the effect of education on overall psychological development was significant, $F(8,173) = 2.038$, $p = .045$ (see Table 4-6). Thus, the null hypothesis was rejected, indicating that a difference between the overall psychological development of those with a higher education versus those with a lower education was detected.

Summary

Several hypotheses were tested to determine the effect of education, gender, and age on the psychological development of the older population. Two of the six hypotheses were significant at the .05 level (see Table 4-7). Hypothesis 5 which was concerned with the effect of gender on overall psychological development was significant. The null hypothesis was rejected, thus indicating that a difference was found between males and females on psychological development. Females had a slightly higher grand stage mean than males on psychological development (see Table 4-8).

Hypothesis 6 was concerned with the effect of education on the overall psychological development of the older population. The null hypothesis was

TABLE 4-7

SUMMARY OF THE RESULTS

Hypotheses	Univariate F Test	Multivariate F Test
Hypothesis 1: Age Outcome on Stage 8		
H_{O_1}: $M_{\geq 65} = M_{<65}$	$F(1,180)=1.008$	
H_{A_1}: $M_{\geq 65} > M_{<65}$		
Hypothesis 2: Gender Outcome on Stage 4		
H_{O_2}: $M_w = M_m$	$F(1,180)=2.646$	
H_{A_2}: $M_w < M_m$		
Hypothesis 3: Gender Outcome on Stage 6		
H_{O_3}: $M_m = M_w$	$F(1,180)=.12109$	
H_{A_3}: $M_m < M_w$		
Hypothesis 4: Male by Education Outcome on Stage 6		
H_{O_4}: $M_{m,ue} = M_{w,le}$	$F(1,180)=1.33$	$F(8,173)=.590$
H_{A_4}: $M_{m,ue} > M_{m,le}$		
Hypothesis 5: Gender Outcome on All 8 Stages		
H_{O_5}: $M_m = M_w$		$F(8,173)=2.781$*
H_{A_5}: $M_m = M_w$		
Hypothesis 6: Education Outcome on All 8 Stages		
H_{O_6}: $M_{ue} = M_{le}$		$F(8,173)=2.038$*
H_{A_6}: $M_{ue} > M_{le}$		

*$p < .05$

Legend: ≥ 65 = age 65 and above; <65 = under age 65; ue = upper educational group; le = lower educational group; w = women; m = men

TABLE 4-8

MEANS AND STANDARD DEVIATIONS FOR THE GRAND STAGE MEAN FOR THE ENTIRE SAMPLE BY EDUCATION, BY GENDER, BY AGE

	Education		Gender		Age		
	HS & Under	Some College or More	Female	Male	<65	≥65	Total
Grand Stage Mean	2.85	2.97	2.18	2.15	2.96	2.91	2.92
Grand Stage SD	.252	.273	.284	.249	.225	.282	.270

rejected which indicated that a difference between the upper and lower educational groups had been found. The upper educational group had a higher mean than the lower educational group, suggesting that the directionality of the hypothesis is correct (see Table 4-9).

Means and standard deviations for each stage broken down by education, gender, and age can be found in Appendix E. Standard deviations for the grand stage mean can be found in Table 4-10.

TABLE 4-9

GRAND STAGE MEANS BY EDUCATION, GENDER, AND AGE

	Female		Male		
Education	Age <65	Age ≥65	Age <65	Age ≥65	Total
High School & Under	2.87	2.82	2.98	2.84	2.85
Some College or More	3.06	2.99	3.00	2.92	2.97
Total	2.94	2.91	2.99	2.90	2.92

TABLE 4-10

STANDARD DEVIATIONS OF GRAND STAGE MEANS

	Female		Male		
Education	Age <65	Age ≥65	Age <65	Age ≥65	Total
High School & Under	.220 (n=18)	.248 (n=40)	.171 (n=7)	.318 (n=15)	.252 (n=80)
Some College or More	.238 (n=11)	.314 (n=47)	.218 (n=7)	.237 (n=43)	.273 (n=108)
Total	.242 (n=29)	.297 (n=87)	.189 (n=14)	.260 (n=58)	.270 (n=188)

CHAPTER V

SUMMARY AND DISCUSSION

In the final chapter, a summary of the thesis and the conclusions drawn from the analysis are presented. The results and alternative explanations of the results are discussed as well as the limitations of the generalizability of the study. Finally, implications for future research for further testing and improving the AAAP instrument are given.

Summary

The Assessment of Adult Adjustment Patterns which is a fairly new instrument was designed to assess the psychological development of the individual as theorized by Erik Erikson (1959). Erikson's theory of development has received little social research support, thus research evidence that seemed fairly compatible with the theory was drawn upon from the sociological field to provide the needed support for the research hypotheses.

Since the AAAP is a new instrument, only limited research has been conducted to test its capacity for evaluating and differentiating groups. It was the goal of the present study to research the capacities of the AAAP in order that a better understanding of its strengths and weaknesses might be gained. And it only seemed too reasonable that among the best candidates for assessment were older persons since the underlying theory of the AAAP spans life events from birth to death. In addition to researching the capacities of the

AAAP, it was thought that some knowledge about the development of the older population would be gained.

For purposes of testing the AAAP's capacities, research evidence was drawn from sociological studies that describe the social structure of our society. The three social parameters used in the study that were expected to produce differences among the group of older individuals were age, gender, and education (see Table 5-1). There is research evidence suggesting that age may be an important factor in predicting the psychological well-being of the older individual, i.e., in the early part of old age the individual may be depressed, but with time becomes more satisfied and content with one's life.

As for female outcomes, research evidence has indicated that women have difficulty with stage 4 confidence and competence issues. Since society has not supported women in attaining employment outside the home, nor encouraged women to excel in traditionally male-oriented fields, stage 4 which measures confidence and competence was expected to be particularly sensitive to any discrepancies found between men and women on confidence and competence.

As for male outcomes, research evidence has suggested that men are lacking in nurturant and empathetic abilities. The empathy studies reviewed were used to support outcomes by assuming that empathy was an essential component of intimacy. Stage 6 which deals with intimacy issues was used to test for differences between the intimacy abilities of men and women. In addition, educational level was expected to produce differences on Stage 6 as well, i.e., men with a higher educational level are better able to express intimacy than men with a lower level of education.

TABLE 5-1

STUDIES SUPPORTING THE VARIOUS OUTCOMES ON THE STAGES USED TO TEST THE ABILITY OF THE AAAP TO DIFFERENTIATE GROUPS

Studies Used to Support Age Outcomes	Stages Used to Test Age Outcomes
Bengtson, Cuellar, & Ragan (1977) Havighurst & Glasser (1972) Butler (1963) Boylin, Gordon, & Nehrke (1976) Bloom (1961) Coles (1971) Newman & Newman (1975)	Stage 8
Studies Used to Support Gender Outcomes	**Stages Used to Test Gender Outcomes**
McTavish (1971) Simpson, Beck, & McKinney (1966) Heyman & Jeffers (1968) Lipman (1961)	Stage 1 to Stage 8
Female Outcomes:	
Sewell (1971) Hennig (1973) Horner (1972) Kessler-Harris (1981)	Stage 4
Male Outcomes:	
Komarovsky (1962) Scanzoni (1975) Balswick & Peek (1971)	Stage 6
Studies Used to Support Education Outcomes	**Stages Used to Test Education Outcomes**
Edwards & Klemmack (1973) Bengtson, Kasschau, & Ragan (1977) Neugarten & Peterson (1957) Neugarten & Moore (1968)	Stage 1 to Stage 8

As for gender outcomes in general, it was difficult to predict differences on the overall psychological development of men and women. Both men and women deal with unpleasant life events throughout their lives: retirement, retirement from motherhood, and widowhood, to name some of the major events.

It was assumed that the level of education would produce differences in the overall psychological development of the individual. The studies reviewed which examined the relationship between socioeconomic status and attitudes toward old age and aging, physical and psychological well-being, and life satisfaction suggested that individuals with a higher educational level might be expected to fair better on the AAAP than those with a lower level of education.

A total of 192 subjects participated in the study ranging in age from 48 to 88, $\bar{X}$ = 69.4. The participants included Michigan State University retired faculty, residents from an upper income level retirement home, participants in a senior day fair, and senior citizens active in local senior centers and UAW unions. Most of the sample were white (92.2%) and female (62.5%). The predominant marital status was married (62.5%) followed by widowed at 20.3%. Seventy-six percent of the sample had been married only once while 13% had been married twice. The median educational level was a bachelor's degree with 42.6% having attained trade school (which includes high school) or less and 56.7% having attained at least a bachelor's degree. Most of the respondents rated themselves as having a middle social standing (77.1%), as having a healthy physical well-being (63%), and as being happy emotionally (71.9%). Sixty-five percent reported being satisfied with their jobs and 75% expressed

satisfaction with personal relationships.

Each participant received a packet of materials containing the AAAP, instructions for filling out the forms, a demographic sheet, a release of information form, and a letter of thanks and guarantee of confidentiality. Arrangements were made at the time of disbursement for the return of the materials. A comparison of the reliability coefficients for the 8 stage scales from the present sample as well as two other samples indicated fairly high reliability across three different sample populations.

The hypotheses tested and the results of the statistical tests follows:

Hypothesis 1: Age Outcome on Stage 8 (Integrity)

Individuals who are 65 years of age and older have a higher mean on the integrity measure than those who are under 65 years of age. The univariate F test indicated that the null hypothesis was accepted, thus no difference was found on the integrity measure between those individuals who were 65 years of age and older and those who were under 65 years of age, $F(1,180) = 1.008$, $p > .05$.

Hypothesis 2: Gender Outcome on Stage 4 (Competence and Confidence)

Women have a lower mean score on confidence and competence than men. The univariate F test indicated that the null hypothesis was accepted, thus no difference between men and women was found on confidence and competence issues, $F(1,180) = 2.646$, $p > .05$.

Hypothesis 3: Gender Outcome on Stage 6 (Intimacy)

Men have a lower mean score on intimacy than women. The univariate F test indicated that the null hypothesis was accepted, therefore no difference was found between men and women on intimacy issues, $F(1,180) = .12109$, $p > .05$.

Hypothesis 4: Male by Education Outcome on Stage 6 (Intimacy)

Men in the upper educational group have a higher mean on intimacy than men in the lower educational group. The univariate F test indicated that the null hypothesis was accepted, therefore no difference on intimacy was found between men in the upper educational group and men in the lower educational group, $F(1,180) = 1.33$, $p > .05$.

Hypothesis 5: Gender Outcome on All 8 Stages (Overall Psychological Development)

There is a difference between the overall psychological development of men and women. The multivariate F test indicated that the null hypothesis was rejected, thus a difference between men and women was found on overall psychological development, $F(8,173) = 2.781$, $p = .006$.

Hypothesis 6: Education Outcome on All 8 Stages (Overall Psychological Development)

The higher educational group has a higher grand mean on overall psychological development than the lower educational group. The multivariate F test indicated that the null hypothesis was rejected, thus a difference between the higher and lower educational groups was found on overall psychological development, $F_{(8,173)} = 2.038$, $p = .045$.

Conclusions

The following conclusions were drawn from the study:

1. There is a significant difference between the psychological development of men and women as measured by the AAAP. Females have a slightly higher grand stage mean (2.918) than males (2.915) on the AAAP with a standard deviation of .284 for females and .249 for males. Thus, it appears that the overall psychological development of females is better than that of males.

2. There is a significant difference between the higher educational group and the lower educational group on overall psychological development as measured by the AAAP. The higher educational group has a slightly higher grand stage mean (2.969) than the lower educational group (2.847) with standard deviations of .273 and .252, respectively, thus suggesting that the higher educational group fairs better than its counterparts on overall psychological development.

Although the AAAP was expected to discriminate among groups according to age on stage 8 and gender on stages 4 and 6, the significant findings for gender and education outcomes across the 8 stages indicated some discriminability. However, the question of how adequate is the AAAP's ability to discriminate is difficult to answer for reasons that are addressed shortly.

It is difficult to ascertain the significant finding for gender outcomes on overall psychological development since no ready-made explanation existed before the finding. The significant finding for education outcomes lends support to the notion that individuals with a higher education fair better on

their overall psychological development because they are generally more satisfied with their lives and in better health. However, there may be other explanations.

Before further discussion of the results and alternative explanations can be considered, a brief review of the limitations of the study follows.

Limitations of the Study

One limitation of the study involved the sample representation of the three parameters examined in the study as they occur in the Michigan population. It can be seen in Table 5-2 that for males to have been representative of the Michigan population, 7.2% more should have been included in the study while 7.4% fewer females were needed. For age to have been more representative of the Michigan population, more individuals (36.9%) who were less than 65 years of age should have been included in the study while 47% less of the 65 and older age group were needed. More individuals with a high school education (38.4%) should have made up the sample while individuals with some college or more were over-represented by 38.4%. A breakdown of the representation of the present sample by cells is given in Table 5-3 along with a breakdown by cells in Table 5-4 to show ideal sample representation of the Michigan population which would have helped to ensure better generalizability of the results.

The sample also consisted of a high percentage of physically healthy (63%) and emotionally happy (71.9%) participants which may not be very representative of the population-at-large. The participants were volunteers which most

TABLE 5-2

SAMPLE REPRESENTATION OF THE SOCIAL PARAMETERS EXAMINED IN THE PRESENT STUDY AS COMPARED TO THEIR OCCURRENCE IN THE MICHIGAN POPULATION*

Parameters	Level	Sample Representation	Michigan Population	Difference
Gender	Males	37.8%	45.1%	-7.3%
	Females	62.3%	54.9%	7.4%
Age	<65	23.1%	60.0%**	-36.9%
	≥65	77.0%	40.0%	37.0%
Education	High School or Under	42.9%	81.3%	-38.4%
	Some College or More	57.1%	18.7%	38.4%

*Based on 1980 Census figures for Michigan
**Used the 50 to 64 years of age group to estimate population percentage

TABLE 5-3

PERCENTAGE OF SAMPLE REPRESENTED BY THE SOCIAL PARAMETERS EXAMINED IN THE PRESENT STUDY

	Male		Female		
Education	Age <65	Age ≥65	Age <65	Age ≥65	Total
High School & Under	3.7	7.9	9.9	21.5	42.9
Some College or More	3.7	22.5	5.8	25.1	57.1
Total	7.4	30.4	15.7	46.6	100.0

TABLE 5-4

PERCENTAGE OF MICHIGAN POPULATION CHARACTERIZED BY THE SOCIAL PARAMETERS--EDUCATION, GENDER, AND AGE--AS EXAMINED IN THE PRESENT STUDY*

	Male		Female		
Education	Age 50 to 64	Age ≥65	Age 50 to 64	Age ≥65	Total
High School & Under	21.7%	13.9%	25.6%	20.0%	81.3%
Some College or More	7.0%	2.5%	5.7%	3.6%	18.7%
Total	28.7%	16.4%	31.3%	23.6%	100.0%

*Based on 1980 Census figures for Michigan

likely introduces an element of bias into the sample, particularly among the older population where psychological health is being evaluated. Older individuals who are depressed and unhappy and who are invalid or have ill physical health are not as likely to visit senior centers for social and recreational purposes as their older, active, and more healthy counterparts. In general, the results can only be safely generalized to those individuals with similar characteristics to those sampled.

Discussion

There was discrimination of groups as evidenced by a significant difference by sex and education across all stages. However, the specific hypotheses testing the AAAP's ability to discriminate on certain stages were not significant, suggesting that the AAAP may have limited discriminating ability. It must be remembered that none of the research evidence presented had tested Erikson's theory of development--the theory underlying the AAAP instrument. It could be argued that the evidence presented to support the hypotheses is unrelated to what the AAAP measures. Yet, it is also apparent that the research cited is related to certain stage issues. For instance, studies concerned with empathy which were cited to support intimacy outcomes were shown to be related conceptually to intimacy. It seems reasonable to conclude that Erikson's theory of development describes aspects of social phenomenon that have been researched by others. In addition, intuition alone suggests that differences should have been detected on stages 4 and 6. Thus, an explanation that must be considered is that the items on stages 4 and 6 are not measuring stage 4 and 6 constructs as intended. Careful examination of the items for the two stages is recommended.

Education proved to be a fairly good discriminator on overall psychological development. The discriminability of the AAAP by education can further be seen from the significant results found for several individual stages of development not hypothesized about (see Table 5-5): stage 2 which deals with autonomy issues, stage 3 which deals with initiative issues, stage 4 which deals with work-related issues, stage 5 which deals with identity issues, and stage 7 which deals with generativity issues. The means for each stage was higher for the upper educational group than the lower (see Table 5-6). These results support the findings discussed in Chapter II that individuals with a higher education tend to be more satisfied with life, have more positive attitudes toward old age and aging, and are physically and psychologically healthier. And these results further suggest that individuals with a higher educational level have dealt with the issues of life as described by Erikson's theory of development better than their lower educational counterparts. However, one other explanation must be considered.

Could the AAAP be biased toward a higher level of education, i.e., individuals with a higher level of education appear psychologically healthier due to the contents of the AAAP? Or could individuals with a higher level of education appear psychologically healthy because of their familiarity with test-taking? Should the latter be the case, then it must be asked whether the AAAP measures test-taking ability instead of psychological health, and the Social Desirability Scale which detects respondents who respond in a highly favorable manner must be examined more closely in future studies.

Should the difference in psychological health be due to the contents of the AAAP, then the contents must be examined for possible bias by educational

TABLE 5-5

UNIVARIATE F TESTS FOR EDUCATION
ON STAGES NOT INCLUDED IN HYPOTHESES

Source	SS	DF	MS	F	Significance of F
Stage 2	23.46	180	.13033	4.58	.034
Stage 3	16.88	180	.09380	9.79	.002
Stage 4	22.14	180	.12300	5.23	.023
Stage 5	18.29	180	.10161	4.34	.039
Stage 7	19.41	180	.10782	3.94	.049

TABLE 5-6

MEANS FOR STAGES BY EDUCATION WITH SIGNIFICANT UNIVARIATE F TESTS
NOT INCLUDED IN HYPOTHESES

		Stage				
Education		2	3	4	5	7
High School & Under	$\bar{X}$=	2.666	2.797	2.840	2.947	2.856
	sd=	.356	.291	.329	.291	.345
Some College or More	$\bar{X}$=	2.813	2.988	3.048	3.059	2.953
	sd=	.361	.314	.364	.339	.321

level. Stage 4 particularly comes to mind when considering the possibility of an educational bias. Stage 4 which deals with work-related issues contains items such as, "I can work on ideas for hours" and "I like problems that make me think for a long time before I solve them," which stress aspects of jobs that are usually classified as white-collar occupations. Does this make the individual with more realistic job interests--working with their hands instead of their heads--less psychologically healthy than their more educated counterparts? Stage 6 items which seem to deal more with sexual intimacy than the quality of relationships may not differentiate this particular group because the focus on sex has probably diminished somewhat with age. This is not to say that older individuals do not and cannot have good sex lives but that the emphasis on sex is not as all-consuming as once was. And in general, stage 6 should include items dealing with other aspects of intimacy besides sexual aspects.

Although gender did not discriminate among the individual stages of development as well as education, it is also possible that the instrument could be biased by gender. However, if the AAAP were biased by gender, it seems that males would have faired better than females on psychological development. Particularly since Erikson's theory of development has been criticized for identifying male development as human development and then comparing female development as though it were an anomaly (Williams, 1977).

In addition to the significant difference found between men and women on overall psychological development, three individual stages of development were significantly different (see Table 5-7): stage 5 which deals with ego identity issues, stage 7 which deals with generativity issues, and stage 8 which

TABLE 5-7

STEPDOWN UNIVARIATE F TESTS FOR GENDER ON STAGES NOT INCLUDED IN HYPOTHESES

Source	Stepdown F	Significance of F
Stage 5	4.72	.031
Stage 7	3.80	.053
Stage 8	6.75	.010

deals with acceptance of death and one's life achievements (integrity). The means for all three stages were higher for women than men (see Table 5-8), indicating that women were fairing better than their counterparts on these three stages. The finding that women had higher scores on ego identity than men was particularly interesting. Valdez (1983) found that young college-aged women scored higher on intimacy than ego identity. Could it be that as women grow older their sense of self becomes stronger?

One explanation for why women may be fairing better psychologically than men follows. Women have already experienced one retirement from the mother role, thus they are primed for other major life events. As a consequence of children leaving home, women have had to redefine themselves and their roles. Traditionally, women have become involved in community affairs and organizations. Such involvement can be perceived as a transition from the caring of children to the caring of the community.

Although men experience retirement from fatherhood, fatherhood for men has not been as emotionally laden as for women whose identities have been derived from their role as mother. Men tend to define themselves in relation to their work. Since retirement from work usually occurs later in life, men may not have as much time as women have had to come to terms with their new role, and thus not have enough time to redefine themselves in other ways. Consequently, their ego identities are at a low point during the later life years.

How well women have dealt previously with loss as compared to men is only reflected again in the last stage of life where the final loss--life--and other related issues must be resolved. Women who have had prior experience with loss of the mother role may find it easier to come to terms with loss of

TABLE 5-8

MEANS FOR STAGES BY GENDER WITH SIGNIFICANT STEPDOWN F TESTS NOT INCLUDED IN THE HYPOTHESES

		Stage		
Gender		5	7	8
Male	$\bar{X}$=	2.984	2.839	2.859
	sd=	.314	.315	.368
Female	$\bar{X}$=	3.028	2.957	2.989
	sd=	.330	.339	.377

life while men who have not yet resolved completely their loss of work are not ready to deal with the final loss. And too, mothers have long been aware of the finiteness of life. Carrying life makes women realize that with life comes death. So long before the last stage of life, death and all its finality may have been pondered.

Implications for Future Research

One avenue of study that would prove interesting is further investigation of gender differences. Although the explanation provided here was speculatory, the findings of studies examining the effects of retirement and widowhood have suggested that such a scenario might exist. Further investigation could focus on:

1. Whether experiencing loss, such as children leaving home, earlier in life prepares women for other losses, such as the loss of a spouse and eventually their own death and,
2. Whether retirement from work for men is more traumatic and therefore affects a man's sense of identity as well as how issues concerning death are resolved.

A study that addresses identity issues for men should compare men who have recently retired with men who have been retired for a few years. Such a comparison may shed light on whether men, given enough time, adjust to their new roles as retirees and resolve issues related to death.

One way to approach the problem of determining whether children leaving home has any effect upon later adjustment to retirement and the occurrence of death would be to use a covariate that measures the parent's adjustment to

their children leaving. In this way, the amount of variance that is accounted for by prior experience of loss can be known.

As the above findings have suggested, there may be inherent weaknesses in the instrument that must be further examined. In order to determine whether education is acting only as a discriminator of groups or whether the instrument is biased toward a higher level of education, a more representative sample as well as an item analysis might prove helpful. Since some question about the representativeness of the present sample exists, perhaps a sample more representative of the Michigan population would alleviate concerns about whether the instrument is biased by educational level. In an item analysis study, judges would be asked to rate items according to their overall favorableness toward a particular level of education. An item analysis might also prove helpful in determining the ability of the items to discriminate between men and women, particularly on stages 4 and 6.

Since the reliability coefficients were so low for stage scales 3 and 7, it would be a good idea to conduct a study that would specifically examine the reliability of the instrument. One type of reliability that might be quite informative is the split-half reliability method. For such a study the stage scales would be divided in half and two scores would be obtained for each scale, then correlated by the usual method. Split-half reliability provides a measure of internal consistency with regard to context sampling. Thus, factors specific to a particular selection of items that may affect the scores on the test can be examined by the split-half reliability method.

Two assumptions have been made here: the instrument is in fact accurately

reflecting the theory and, the theory is accurately reflecting human development. Either one or both of these assumptions could be in violation of the actual state of affairs, thus making the outcomes of the study null and void. However, discreditability shoves its foot in the door of every theory and every study that examines the theory. This is why further investigations of theories and in this case, instruments as well, are always necessary.

APPENDICES

APPENDIX A

ASSESSMENT OF ADULT ADJUSTMENT PATTERNS

A
MEASURE OF HOW ADULTS RESOLVE
BASIC DEVELOPMENTAL ISSUES

by
William W. Farquhar, Ph.D.
Frederick R. Wilson, Ph.D.
James A. Azar, M.A.

With special assistance from:

Martha R. Anderson, Ph.D.
John A. Bellingham, M.A.
Elizabeth Parmeter, Ph.D.
Margaret B. Parsons, M.A.

Based on:

Erik Erikson's Epigenetic Developmental Model

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

Example:

1. I believe that people should save money.

ANSWER SHEET

Please ignore

1. (1) (2) (3) (4) (5) this response

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

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

1.	I learn fast.	(1)	(2)	(3)	(4)	1
2.	I generally attend community or school meetings.	(1)	(2)	(3)	(4)	2
3.	I have gone door-to-door collecting signatures on a petition.	(1)	(2)	(3)	(4)	3
4.	I give blood (or would if not medically prohibited).	(1)	(2)	(3)	(4)	4
5.	My life is the result of choices I have made.	(1)	(2)	(3)	(4)	5
6.	When I have to speed up and meet a deadline, I can still do good work.	(1)	(2)	(3)	(4)	6
7.	I generally feel pleased with my performance when I talk in front of a group.	(1)	(2)	(3)	(4)	7
8.	I like children.	(1)	(2)	(3)	(4)	8
9.	I have difficulty in getting down to work.	(1)	(2)	(3)	(4)	9
10.	If I want to, I can charm a member of the opposite sex.	(1)	(2)	(3)	(4)	10
11.	I make it a point to vote in all elections.	(1)	(2)	(3)	(4)	11
12.	I check things out for myself.	(1)	(2)	(3)	(4)	12
13.	When I argue, I use facts to support my position.	(1)	(2)	(3)	(4)	13
14.	When the situation demands, I can go into deep concentration concerning just about anything.	(1)	(2)	(3)	(4)	14
15.	I publicly question statements and ideas expressed by others.	(1)	(2)	(3)	(4)	15
16.	People are more important to me than material things are.	(1)	(2)	(3)	(4)	16
17.	It's easy for me to know whether people really like me.	(1)	(2)	(3)	(4)	17
18.	I enjoy interacting with children.	(1)	(2)	(3)	(4)	18
19.	I have volunteered my name as a witness at the scene of a crime or an accident.	(1)	(2)	(3)	(4)	19
20.	I enjoy being sexually stimulated.	(1)	(2)	(3)	(4)	20
21.	I have actually sought out information about my school board members in order to form an opinion.	(1)	(2)	(3)	(4)	21

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

22.	I do things for my community.	(1)	(2)	(3)	(4)	22
23.	How many friends I have depends on how pleasing a person I am.	(1)	(2)	(3)	(4)	23
24.	I handle myself well at social gatherings.	(1)	(2)	(3)	(4)	24
25.	I can work on ideas for hours.	(1)	(2)	(3)	(4)	25
26.	I have "put myself on the line" in my relations with others.	(1)	(2)	(3)	(4)	26
27.	My social life is full and rewarding.	(1)	(2)	(3)	(4)	27
28.	When things are not going right in my work, I reason my way through the problems.	(1)	(2)	(3)	(4)	28
29.	It is hard for me to keep my mind on what I am trying to learn.	(1)	(2)	(3)	(4)	29
30.	I am confident when learning a complicated task.	(1)	(2)	(3)	(4)	30
31.	If I can't solve a problem quickly, I lose interest.	(1)	(2)	(3)	(4)	31
32.	I like problems that make me think for a long time before I solve them.	(1)	(2)	(3)	(4)	32
33.	I enjoy finding out whether or not complex ideas work.	(1)	(2)	(3)	(4)	33
34.	I like problems which have complicated solutions.	(1)	(2)	(3)	(4)	34
35.	When I was younger, I wanted to run away from home.	(1)	(2)	(3)	(4)	35
36.	I enjoy parties.	(1)	(2)	(3)	(4)	36
37.	I feel self-confident in social situations.	(1)	(2)	(3)	(4)	37
38.	I can work even when there are distractions.	(1)	(2)	(3)	(4)	38
39.	I feel uneasy if I don't know the next step in a job.	(1)	(2)	(3)	(4)	39
40.	I can work under pressure.	(1)	(2)	(3)	(4)	40
41.	I feel that people are genuinely interested in me.	(1)	(2)	(3)	(4)	41
42.	In times of trouble, I have friends I turn to.	(1)	(2)	(3)	(4)	42
43.	It is hard for me to work on a thought problem for more than an hour or two.	(1)	(2)	(3)	(4)	43

Please mark on your answer sheet only.

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4=Definitely not true of me(DNT)

44.	I learn well when someone gives me the problem and lets me work out the details myself.	(1)	(2)	(3)	(4)	44
45.	I have difficulty imagining how other people feel.	(1)	(2)	(3)	(4)	45
46.	People like to work with me.	(1)	(2)	(3)	(4)	46
47.	In times of crisis, I'm one of the first people my friends call for help.	(1)	(2)	(3)	(4)	47
48.	When I was prepared, teachers couldn't fool me with trick questions.	(1)	(2)	(3)	(4)	48
49.	I am dedicated to my work.	(1)	(2)	(3)	(4)	49
50.	In my work I show individuality and originality.	(1)	(2)	(3)	(4)	50
51.	I am proud of my work.	(1)	(2)	(3)	(4)	51
52.	My plans work out.	(1)	(2)	(3)	(4)	52
53.	I get stage fright when I have to appear before a group.	(1)	(2)	(3)	(4)	53
54.	When I'm in a group, I feel confident that what I have to say is acceptable.	(1)	(2)	(3)	(4)	54
55.	I get caught up in my work.	(1)	(2)	(3)	(4)	55
56.	I like to solve problems.	(1)	(2)	(3)	(4)	56
57.	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)	57
58.	I get along with people.	(1)	(2)	(3)	(4)	58
59.	The thought of making a speech in front of a group panics me.	(1)	(2)	(3)	(4)	59
60.	I feel inferior to most people.	(1)	(2)	(3)	(4)	60
61.	For me to learn well, I need someone to explain things to me in detail.	(1)	(2)	(3)	(4)	61
62.	When I took a new course in school, I felt confident that I would do all right.	(1)	(2)	(3)	(4)	62
63.	I play around so much I have a hard time getting a job done.	(1)	(2)	(3)	(4)	63

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

64.	No matter what the task, I prefer to get someone to do it for me.	(1)	(2)	(3)	(4)	64
65.	I feel proud of my accomplishments.	(1)	(2)	(3)	(4)	65
66.	I will probably always be working on new projects.	(1)	(2)	(3)	(4)	66
67.	My judgment is sound.	(1)	(2)	(3)	(4)	67
68.	People expect too much of me.	(1)	(2)	(3)	(4)	68
69.	I feel useless.	(1)	(2)	(3)	(4)	69
70.	I'm interested in people.	(1)	(2)	(3)	(4)	70
71.	I enjoy doing favors for my friends.	(1)	(2)	(3)	(4)	71
72.	I am always a loyal friend.	(1)	(2)	(3)	(4)	72
73.	I do many things well.	(1)	(2)	(3)	(4)	73
74.	I like to participate actively in intense discussions.	(1)	(2)	(3)	(4)	74
75.	When I sit down to learn something, I get so caught up that nothing can distract me.	(1)	(2)	(3)	(4)	75
76.	I know the children who live in my neighborhood.	(1)	(2)	(3)	(4)	76
77.	I think about the big issues of life.	(1)	(2)	(3)	(4)	77
78.	I like to discuss ways to solve the world's problems.	(1)	(2)	(3)	(4)	78
79.	When I decide to do something, I am determined to get it done.	(1)	(2)	(3)	(4)	79
80.	I like to answer children's questions.	(1)	(2)	(3)	(4)	80
81.	I give clothing and other items to charitable organizations such as the Salvation Army.	(1)	(2)	(3)	(4)	81
82.	I lend things to my neighbors when they need them.	(1)	(2)	(3)	(4)	82
83.	I work to make my community better for children.	(1)	(2)	(3)	(4)	83
84.	I have gone door-to-door collecting money for charity.	(1)	(2)	(3)	(4)	84
85.	I see to it that my work is carefully planned and organized.	(1)	(2)	(3)	(4)	85
86.	I find it hard to keep my mind on a task or job.	(1)	(2)	(3)	(4)	86

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

87.	I go at my work without much planning ahead of time.	(1)	(2)	(3)	(4)	87
88.	I am proud of the accomplishments I have made at work.	(1)	(2)	(3)	(4)	88
89.	Completed and polished products have a great appeal for me.	(1)	(2)	(3)	(4)	89
90.	I read a great deal even when my work does not require it.	(1)	(2)	(3)	(4)	90
91.	I have worked on a school committee.	(1)	(2)	(3)	(4)	91
92.	I devote time to helping people in need.	(1)	(2)	(3)	(4)	92
93.	I feel there is nothing I can do well.	(1)	(2)	(3)	(4)	93
94.	I am active in community or school organizations.	(1)	(2)	(3)	(4)	94
95.	Children bore me.	(1)	(2)	(3)	(4)	95
96.	I can stay with a job a long time.	(1)	(2)	(3)	(4)	96
97.	I like curious children.	(1)	(2)	(3)	(4)	97
98.	Young people are doing a lot of fine things today.	(1)	(2)	(3)	(4)	98
99.	I enjoy the times I spend with young people.	(1)	(2)	(3)	(4)	99
100.	Children's imaginations fascinate me.	(1)	(2)	(3)	(4)	100
101.	I have met the leaders of my community and have formed my own opinions about them.	(1)	(2)	(3)	(4)	101
102.	I keep my word.	(1)	(2)	(3)	(4)	102
103.	I do not understand myself.	(1)	(2)	(3)	(4)	103
104.	Because I have to be so different from situation to situation,I feel that the real me is lost.	(1)	(2)	(3)	(4)	104
105.	Children talk to me about personal things.	(1)	(2)	(3)	(4)	105
106.	I am proud of my accomplishments.	(1)	(2)	(3)	(4)	106
107.	I enjoy things that make me think.	(1)	(2)	(3)	(4)	107
108.	I enjoy explaining complex ideas.	(1)	(2)	(3)	(4)	108
109.	I get those things done that I want to do.	(1)	(2)	(3)	(4)	109

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

110.	I am pretty much the same person from situation to situation.	(1)	(2)	(3)	(4)	110
111.	I do not expect people to be consistent.	(1)	(2)	(3)	(4)	111
112.	I have very few good qualities.	(1)	(2)	(3)	(4)	112
113.	Often other people determine the kind of person I am.	(1)	(2)	(3)	(4)	113
114.	My work is usually up to the standards set for me.	(1)	(2)	(3)	(4)	114
115.	I am determined to be the kind of person I am.	(1)	(2)	(3)	(4)	115
116.	I'm just not very good with children.	(1)	(2)	(3)	(4)	116
117.	I am good at solving puzzles.	(1)	(2)	(3)	(4)	117
118.	My happiness is pretty much under my own control.	(1)	(2)	(3)	(4)	118
119.	I feel disappointed and discouraged about the work I do.	(1)	(2)	(3)	(4)	119
120.	I keep up with community news.	(1)	(2)	(3)	(4)	120
121.	Once I have committed myself to a task, I complete it.	(1)	(2)	(3)	(4)	121
122.	I feel more confident playing games of skill than games of chance.	(1)	(2)	(3)	(4)	122
123.	I feel confident when learning something new that requires that I put myself on the line.	(1)	(2)	(3)	(4)	123
124.	I never have serious talks with my friends.	(1)	(2)	(3)	(4)	124
125.	I like the way young children say exactly what they think.	(1)	(2)	(3)	(4)	125
126.	I like to participate in intense discussions.	(1)	(2)	(3)	(4)	126
127.	I feel awkward around members of the opposite sex.	(1)	(2)	(3)	(4)	127
128.	I analyze my own motives and reactions.	(1)	(2)	(3)	(4)	128
129.	I feel deep concern for people who are less well off than I am.	(1)	(2)	(3)	(4)	129
130.	People of the opposite sex think well of me.	(1)	(2)	(3)	(4)	130
131.	I enjoy interacting with children.	(1)	(2)	(3)	(4)	131

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

132.	I find it easy to introduce people.	(1)	(2)	(3)	(4)	132

Please turn over your answer sheet and continue marking your answers.

133.	My table manners at home are as good as when I eat out in a restaurant.	(1)	(2)	(3)	(4)	133.
134.	I am a worthwhile person.	(1)	(2)	(3)	(4)	134.
135.	It is very important that my mate loves me.	(1)	(2)	(3)	(4)	135.
136.	My life is what I made it to be.	(1)	(2)	(3)	(4)	136.
137.	My basic state of happiness is dependent upon me.	(1)	(2)	(3)	(4)	137.
138.	I make my own decisions.	(1)	(2)	(3)	(4)	138.
139.	I can't stand the children who live in my neighborhood.	(1)	(2)	(3)	(4)	139.
140.	It's pretty neat to be me.	(1)	(2)	(3)	(4)	140.
141.	I get a feeling for the meaning of life through contemplation.	(1)	(2)	(3)	(4)	141.
142.	I have not deliberately said something that hurt someone's feelings.	(1)	(2)	(3)	(4)	142.
143.	I like myself.	(1)	(2)	(3)	(4)	143.
144.	Compliments embarrass me.	(1)	(2)	(3)	(4)	144.
145.	I am self confident.	(1)	(2)	(3)	(4)	145.
146.	I am not irked when people express ideas very different from my own.	(1)	(2)	(3)	(4)	146.
147.	Getting along with loudmouthed, obnoxious people is impossible for me.	(1)	(2)	(3)	(4)	147.
148.	Even though I do not like the thought of it, my death does not frighten me.	(1)	(2)	(3)	(4)	148.
149.	I have had experiences in life which were so intense that they were almost mystical.	(1)	(2)	(3)	(4)	149.
150.	I feel good when others do something nice for me.	(1)	(2)	(3)	(4)	150.
151.	I am close to someone with whom I talk about my feelings.	(1)	(2)	(3)	(4)	151.

Please mark on your answer sheet only.

1=Definitely true of me(DT)
2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

152.	I have been so close to somebody, that it is not possible to find adequate words to describe the feelings.	(1)	(2)	(3)	(4)	152.
153.	I don't think I'll ever find someone to love.	(1)	(2)	(3)	(4)	153.
154.	My values change as I discover more about life and the universe.	(1)	(2)	(3)	(4)	154.
155.	I ignore the feelings of others.	(1)	(2)	(3)	(4)	155.
156.	I would not care to be much different than I am.	(1)	(2)	(3)	(4)	156.
157.	I get a feeling for the meaning of life through art.	(1)	(2)	(3)	(4)	157.
158.	My feelings about nature are almost sacred.	(1)	(2)	(3)	(4)	158.
159.	I am sometimes irritated by people who ask favors of me.	(1)	(2)	(3)	(4)	159.
160.	With the person I am closest to, I share my inner feelings of confidence.	(1)	(2)	(3)	(4)	160.
161.	I find myself thinking about things much more deeply than I did in years past.	(1)	(2)	(3)	(4)	161.
162.	There have been times when I was quite jealous of the good fortune of others.	(1)	(2)	(3)	(4)	162.
163.	I keep my word.	(1)	(2)	(3)	(4)	163.
164.	I cannot stand silence.	(1)	(2)	(3)	(4)	164.
165.	When someone says something critical about me, I keep my composure.	(1)	(2)	(3)	(4)	165.
166.	The best times of my life were in the past.	(1)	(2)	(3)	(4)	166.
167.	Even when I am doing something I really enjoy, I can never get totally involved.	(1)	(2)	(3)	(4)	167.
168.	After a lot of hard struggling, I am comfortable being me.	(1)	(2)	(3)	(4)	168.
169.	I enjoy privacy.	(1)	(2)	(3)	(4)	169.
170.	I have been so close to someone that our relationship seemed almost mystical.	(1)	(2)	(3)	(4)	170.
171.	When I get angry at someone, I boil inside without letting them know.	(1)	(2)	(3)	(4)	171.

Please mark on your answer sheet only.

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4=Definitely not true of me(DNT)

172.	As far as I know about myself, once I choose a mate, I do so for life.	(1)	(2)	(3)	(4)	172.
173.	For me to act on a sexual urge, I have to have feelings for the other person.	(1)	(2)	(3)	(4)	173.
174.	I am sensitive to how other people feel.	(1)	(2)	(3)	(4)	174.
175.	When I am alone, silence is difficult to handle.	(1)	(2)	(3)	(4)	175.
176.	I learn from constructive criticism.	(1)	(2)	(3)	(4)	176.
177.	There have been occasions when I felt like smashing things.	(1)	(2)	(3)	(4)	177.
178.	It's good to be alive.	(1)	(2)	(3)	(4)	178.
179.	I have been so close to someone, that at times it seemed like we could read each other's mind.	(1)	(2)	(3)	(4)	179.
180.	I have no one with whom I feel close enough to talk over my day.	(1)	(2)	(3)	(4)	180.
181.	I get a feeling for the meaning of life through beauty.	(1)	(2)	(3)	(4)	181.
182.	I like to be by myself a part of every day.	(1)	(2)	(3)	(4)	182.
183.	I have had experiences in life when I have been overwhelmed by good feelings.	(1)	(2)	(3)	(4)	183.
184.	I trust the spontaneous decisions I make.	(1)	(2)	(3)	(4)	184.
185.	With the person I am closest to, I share my inner anxieties and tensions.	(1)	(2)	(3)	(4)	185.
186.	I play fair.	(1)	(2)	(3)	(4)	186.
187.	I can make big decisions by myself.	(1)	(2)	(3)	(4)	187.
188.	I am amazed at how many problems no longer seem to have simple right and wrong answers.	(1)	(2)	(3)	(4)	188.
189.	I don't worry whether anyone else will like the friends I choose.	(1)	(2)	(3)	(4)	189.
190.	I like being by myself.	(1)	(2)	(3)	(4)	190.
191.	I am a citizen of the world.	(1)	(2)	(3)	(4)	191.
192.	I am basically cooperative when I work.	(1)	(2)	(3)	(4)	192.

Please mark on your answer sheet only.

1=Definitely true of me(DT)
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3=Not true of me(NT)
4=Definitely not true of me(DNT)

193.	It is very important that my mate likes to snuggle.	(1)	(2)	(3)	(4)	193.
194.	When I get angry at someone, it rarely wrecks our relationship.	(1)	(2)	(3)	(4)	194.
195.	I can see little reason why anyone would want to compliment me.	(1)	(2)	(3)	(4)	195.
196.	I am strong enough to make up my own mind on difficult questions.	(1)	(2)	(3)	(4)	196.
197.	I am comfortable being alone.	(1)	(2)	(3)	(4)	197.
198.	I have a person with whom I talk about my deepest feelings about sex.	(1)	(2)	(3)	(4)	198.
199.	The more I look at things, the more I see how everything fits with everything else.	(1)	(2)	(3)	(4)	199.
200.	I find there are a lot of fun things in this world to do alone.	(1)	(2)	(3)	(4)	200.
201.	Even though I am pretty much in touch with who I am, I am always discovering new aspects of myself.	(1)	(2)	(3)	(4)	201.
202.	The inner wisdom of people never ceases to amaze me.	(1)	(2)	(3)	(4)	202.
203.	I feel strongly about some things.	(1)	(2)	(3)	(4)	203.
204.	It is very important that my mate be thoughtful of me.	(1)	(2)	(3)	(4)	204.
205.	I get a feeling for the meaning of life through nature.	(1)	(2)	(3)	(4)	205.
206.	Life gets better as I get older.	(1)	(2)	(3)	(4)	206.
207.	When I get angry at someone, I tell them about it, and it's over.	(1)	(2)	(3)	(4)	207.
208.	There is at least one person in my life with whom I can talk about anything.	(1)	(2)	(3)	(4)	208.
209.	Whatever age I am always seems to be the best.	(1)	(2)	(3)	(4)	209.
210.	With the person I am closest to, I share my inner feelings.	(1)	(2)	(3)	(4)	210.

Please mark on your answer sheet only.

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3=Not true of me(NT)
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211.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	(1)	(2)	(3)	(4)	211.
212.	No matter who I'm talking with, I'm a good listener.	(1)	(2)	(3)	(4)	212.
213.	If someone criticizes me to my face, I listen closely to what they are saying about me before reacting.	(1)	(2)	(3)	(4)	213.
214.	I have had an experience where life seemed just perfect.	(1)	(2)	(3)	(4)	214.
215.	I am outspoken.	(1)	(2)	(3)	(4)	215.
216.	Circumstances beyond my control are what make me a basically unhappy person.	(1)	(2)	(3)	(4)	216.
217.	I can take a stand.	(1)	(2)	(3)	(4)	217.
218.	I have a sense of awe about the complexity of things in the universe.	(1)	(2)	(3)	(4)	218.
219.	I have had moments of intense happiness, when I felt like I was experiencing a kind of ecstasy or a natural high.	(1)	(2)	(3)	(4)	219.
220.	I can remember "playing sick" to get out of something.	(1)	(2)	(3)	(4)	220.
211.	I give help when a friend asks a favor.	(1)	(2)	(3)	(4)	221.
222.	No matter what the task, I prefer to do it myself.	(1)	(2)	(3)	(4)	222.
223.	I like to gossip at times.	(1)	(2)	(3)	(4)	223.
224.	If someone criticizes me to my face, I feel low and worthless.	(1)	(2)	(3)	(4)	224.
225.	I sometimes try to get even rather than forgive and forget.	(1)	(2)	(3)	(4)	225.
226.	I do not intensely dislike anyone.	(1)	(2)	(3)	(4)	226.
227.	I like being able to change my plans without having to check with somebody.	(1)	(2)	(3)	(4)	227.
228.	I see to it that my work is carefully planned and organized.	(1)	(2)	(3)	(4)	228.

Please mark on your answer sheet only.

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4=Definitely not true of me(DNT)

229.	My values are formed from many sources, and I integrate them to give meaning to my life.	(1)	(2)	(3)	(4)	229.
230.	With the person I am closest to, I share my inner feelings of weakness.	(1)	(2)	(3)	(4)	230.
231.	I seem to understand how other people are feeling.	(1)	(2)	(3)	(4)	231.
232.	I just can't be courteous to people who are disagreeable.	(1)	(2)	(3)	(4)	232.
233.	When people express ideas very different from my own, I am annoyed.	(1)	(2)	(3)	(4)	233.
234.	When I was young, there were times when I wanted to leave home.	(1)	(2)	(3)	(4)	234.
235.	Being close to another person means sharing my inner feelings.	(1)	(2)	(3)	(4)	235.
236.	I value the deep relationships I have formed with the opposite sex.	(1)	(2)	(3)	(4)	236.
237.	I sometimes feel resentful when I don't get my way.	(1)	(2)	(3)	(4)	237.
238.	It is very important that my mate likes to touch me and be touched by me (hold hands, hug, etc.).	(1)	(2)	(3)	(4)	238.
239.	I feel free to express both warm and hostile feelings to my friends.	(1)	(2)	(3)	(4)	239.
240.	Being deeply involved with someone of the opposite sex is really important to me.	(1)	(2)	(3)	(4)	240.
241.	How many friends I have depends on how pleasant a person I am.	(1)	(2)	(3)	(4)	241.
242.	I am ashamed of some of my emotions.	(1)	(2)	(3)	(4)	242.
243.	I never like to gossip.	(1)	(2)	(3)	(4)	243.
244.	For me, sex and love are tightly linked together.	(1)	(2)	(3)	(4)	244.
245.	The closest I get to another person is to share my opinions and ideas.	(1)	(2)	(3)	(4)	245.
246.	Reading or talking about sex stimulates me.	(1)	(2)	(3)	(4)	246.

Please mark on your answer sheet only.

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4=Definitely not true of me(DNT)

247.	I get a feeling for the meaning of life through music.	(1)	(2)	(3)	(4)	247.
248.	I have not found a person with whom I can be close.	(1)	(2)	(3)	(4)	248.
249.	As I look back at my past decisions, although I wish I might have done things differently, I realize those were the best decisions I could make at the time.	(1)	(2)	(3)	(4)	249.
250.	My morals are determined by the thoughts, feelings, and decisions of other people.	(1)	(2)	(3)	(4)	250.
251.	I act independently of others.	(1)	(2)	(3)	(4)	251.
252.	I wouldn't enjoy having sex with someone I was not close to.	(1)	(2)	(3)	(4)	252.
253.	I go out of my way to avoid being embarrassed.	(1)	(2)	(3)	(4)	253.
254.	I rarely check the safety of my car no matter how far I am traveling.	(1)	(2)	(3)	(4)	254.
255.	I have been punished unfairly.	(1)	(2)	(3)	(4)	255.
256.	Sometimes I deliberately hurt someone's feelings.	(1)	(2)	(3)	(4)	256.
257.	With the person I am closest to, I share my inner feelings of tenderness.	(1)	(2)	(3)	(4)	257.
258.	I have had experiences in life when I have felt so good that I have felt completely alive.	(1)	(2)	(3)	(4)	258.

Please begin marking your responses on the BROWN answer sheet.

1.	If I were one of the few surviving members from worldwide war, I would make it.	(1)	(2)	(3)	(4)	1
2.	People like me.	(1)	(2)	(3)	(4)	2
3.	No one understands me.	(1)	(2)	(3)	(4)	3
4.	My parents caused my troubles.	(1)	(2)	(3)	(4)	4
5.	It takes a lot to frighten me.	(1)	(2)	(3)	(4)	5
6.	There are questions that interest me which will not be answered in my lifetime.	(1)	(2)	(3)	(4)	6

Please mark on your answer sheet only.

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7.	I must defend my past actions.	(1)	(2)	(3)	(4)	7
8.	It's hard for me to say "no" without feeling guilty.	(1)	(2)	(3)	(4)	8
9.	I feel optimistic about life.	(1)	(2)	(3)	(4)	9
10.	My free time is spent aimlessly.	(1)	(2)	(3)	(4)	10
11.	Feelings of guilt hold me back from doing what I want.	(1)	(2)	(3)	(4)	11
12.	My word is my bond.	(1)	(2)	(3)	(4)	12
13.	I admit my mistakes.	(1)	(2)	(3)	(4)	13
14.	I worry or condemn myself when other people find fault with me.	(1)	(2)	(3)	(4)	14
15.	I am happy.	(1)	(2)	(3)	(4)	15
16.	I believe people are basically good.	(1)	(2)	(3)	(4)	16
17.	My feelings are easily hurt.	(1)	(2)	(3)	(4)	17
18.	Whatever stage of life I am in is the best one.	(1)	(2)	(3)	(4)	18
19.	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)	19
20.	When I feel tense, there is a good reason.	(1)	(2)	(3)	(4)	20
21.	I like being able to come and go as I please.	(1)	(2)	(3)	(4)	21
22.	I have taken time to help my neighbors when they need it.	(1)	(2)	(3)	(4)	22
23.	I worry about things that never happen.	(1)	(2)	(3)	(4)	23
24.	I have feelings of doom about the future.	(1)	(2)	(3)	(4)	24
25.	I trust others.	(1)	(2)	(3)	(4)	25
26.	I am basically an unhappy person.	(1)	(2)	(3)	(4)	26
27.	My family understood me while I was growing up.	(1)	(2)	(3)	(4)	27
28.	Mostly I like to just sit at home.	(1)	(2)	(3)	(4)	28
29.	I am happy with the pace or speed with which I make decisions.	(1)	(2)	(3)	(4)	29

Please mark on your answer sheet only.

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2=True of me(T)
3=Not true of me(NT)
4=Definitely not true of me(DNT)

30.	People hurt my feelings without knowing it.	(1)	(2)	(3)	(4)	30
31.	I take the unexpected in my stride.	(1)	(2)	(3)	(4)	31
32.	I frighten easily.	(1)	(2)	(3)	(4)	32
33.	I eat balanced meals.	(1)	(2)	(3)	(4)	33
34.	I find people are consistent.	(1)	(2)	(3)	(4)	34
35.	My day-to-day frustrations do not get in the way of my activities.	(1)	(2)	(3)	(4)	35
36.	I think the best way to handle people is to tell them what they want to hear.	(1)	(2)	(3)	(4)	36
37.	I worry about my future.	(1)	(2)	(3)	(4)	37
38.	It takes something of real significance to upset me.	(1)	(2)	(3)	(4)	38
39.	My mistakes annoy me, but do not frighten me.	(1)	(2)	(3)	(4)	39
40.	Guilt is a feeling I seem to have outgrown.	(1)	(2)	(3)	(4)	40
41.	I believe the best times are now.	(1)	(2)	(3)	(4)	41
42.	I constantly need excuses for why I behave the way I do.	(1)	(2)	(3)	(4)	42
43.	When I feel worried, there is usually a pretty good reason.	(1)	(2)	(3)	(4)	43
44.	Basically, I feel adequate.	(1)	(2)	(3)	(4)	44
45.	I like people who say what they really believe.	(1)	(2)	(3)	(4)	45
46.	I learn things as fast as most people who have my ability.	(1)	(2)	(3)	(4)	46
47.	People respect my work because I do a good job.	(1)	(2)	(3)	(4)	47
48.	I am picky about my food.	(1)	(2)	(3)	(4)	48
49.	I don't need to apologize for the way I act.	(1)	(2)	(3)	(4)	49
50.	I have a lot of energy.	(1)	(2)	(3)	(4)	50
51.	I am calm.	(1)	(2)	(3)	(4)	51

Please mark on your answer sheet only.

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52.	No matter what the task, I prefer to get someone to do it for me.	(1)	(2)	(3)	(4)	52
53.	I am willing to admit it when I don't know something.	(1)	(2)	(3)	(4)	53
54.	I enjoy being sexually stimulated by someone I don't know.	(1)	(2)	(3)	(4)	54
55.	I am an even-tempered person.	(1)	(2)	(3)	(4)	55
56.	If a clerk gives me too much change, I correct the error.	(1)	(2)	(3)	(4)	56
57.	I punish myself when I make mistakes.	(1)	(2)	(3)	(4)	57
58.	My duties and obligations to others trap me.	(1)	(2)	(3)	(4)	58
59.	I was raised in a happy family.	(1)	(2)	(3)	(4)	59
60.	When it's time to go to bed, I fall asleep easily.	(1)	(2)	(3)	(4)	60
61.	My parents treated me fairly.	(1)	(2)	(3)	(4)	61
62.	I am a stable, dependable worker.	(1)	(2)	(3)	(4)	62

Please mark on your answer sheet only.

APPENDIX B

AAAP SURVEY-FACT SHEET

Please do not write below

Fill out completely, please.

		Write Number	Statistical Use Only
1.	Your age in years:	_____	7-8
2.	Your race: 1=Asian; 2=Black; 3=Caucasian; 4=Other	_____	9
3.	Sex: 1=female; 2=male	_____	10
4.	How many children do you have?	_____	11-12
5.	Age (in years) of youngest or only child (Put X if no children):	_____	13-14
6.	Age (in years) of oldest child (Put X if no children or only 1):	_____	15-16
7.	Marital Status: 1=Married; 2=Living Together; 3=Divorced; 4=Widowed; 5=Never Married or Lived with Someone	_____	17
8.	How many times have you been married or lived with someone?	_____	18
9.	Income (self): 1=Under $4,000; 2=$4000-6000; 3=$6000-10,000; 4=$10,000-15,000; 5=$15,00-20,000; 6=$20,000-25,000; 7=$25,000-30,000; 8=$30,000-40,000; 9=Over $40,000	_____	19
10.	Education (Highest level completed, or equivalent): 1=Grade School; 2=Junior High; 3=High School; 4=Trade School; 5=BS/BA; 6=MS/MA; 7=Ed.S.; 8=Ph.D.	_____	20
11.	Rate your social standing: 1 2 3 4 5 6 7 8 9 (Lower Middle Upper)	_____	21
12.	Rate your sense of physical well being: 1 2 3 4 5 6 7 8 9 (Unhealthy Average Healthy)	_____	22
13.	Rate your sense of emotional well being: 1 2 3 4 5 6 7 8 9 (Unhappy Average Happy)	_____	23
14.	Rate your sense of job satisfaction: 1 2 3 4 5 6 7 8 9 (Dissatisfied Average Satisfied)	_____	24
15.	Rate your sense of satisfaction with personal relationships: 1 2 3 4 5 6 7 8 9 (Dissatisfied Average Satisfied)	_____	25

When you return your completed answer sheet, this card will be removed and filed for reference under conditions of strictest confidence.

Code Number:_____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Phone( ) _____ ( ) _____
Work Home

APPENDIX C

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION · DEPARTMENT OF COUNSELING, EDUCATIONAL PSYCHOLOGY AND SPECIAL EDUCATION

EAST LANSING · MICHIGAN · 48824-1034

Dear Respondent:

Thank you for so generously agreeing to help us in our research on adult development. We desperately need a large sample so we can build norms and refine our instrument. Ultimately we hope to have a way of quickly summarizing an individual's mastery of each of the developmental stages. Your donation of time in filling out the AAAP questionnaire will help us reach our goal.

When we receive your questionnaire we will code your booklet. Thereafter we will remove your identifying data from the Fact Sheet and store it in a locked file cabinet. This way we can maintain the anonymity of your responses.

Again we thank you. Hope all goes well on completing our booklet. If you have any questions, feel free to call (William Farquhar, 353-2045).

Sincerely,

William W. Farquhar

William W. Farquhar
439 Erickson

ASSESSMENT OF ADULT PATTERNS OF ADJUSTMENT

Please read and sign this consent form.

1. I freely consent to take part in a scientific study being conducted by William W. Farquhar, Professor of Education.

2. I have read the letter of explanation of the study, and I understand the explanation and what my participation will involve.

3. I understand that I am free to discontinue my participation in the study at any time. However, in the interest of contributing to the knowledge of how adults develop, I will try my best to finish the part of the study to which I have committed myself, if I can do so in good conscious.

4. I understand that the results of the study will be treated in strict confidence and that after I return the AAAP my responses will be coded and remain anonymous. Within these restrictions, results of the study will be made available to me at my request.

5. I understand that my participation in the study does not guarantee any beneficial results to me.

6. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Please return with your booklet.

Signed _____

Date _____

APPENDIX D

STEM-AND-LEAF PLOT FOR STAGE SCALE 1

```
20   °   0088
21   °   226
22   °   0048
23   °   2666
24   °   0448
25   °   22222666
26   °   0000000004444444448888
27   °   22226666666666
28   °   00000000044444444444888888888888
29   °   22222222226666666666666
30   °   00000000000004444444888888
31   °   22266666666
32   °   0000444488
33   °   226666
34   °   448
35   °   26
36   °   00048
37   °   266
38   °   444
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 2

```
17   °   8
18   °   16
19   °
20   °   0
21   °   1177
22   °   22888
23   °   111366669999
24   °   222222224447777777
25   °   000003333333366668888888888
26   °   1111114444777777799999
27   °   2222222225558888
28   °   111133333333336669999999
29   °   22244444447777777
30   °   03333366688
31   °   11444999
32   °   8888
33   °   33
34   °   22447
35   °   00333
36   °   77
37   °   2
38   °   1
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 3

```
19   °   6
20   °   0
21   °   2
22   °   337
23   °   1158888
24   °   6
25   °   44448888888888
26   °   2255555559999999999
27   °   33333333337777777
28   °   1111111111115555555555888888888888
29   °   2222226666666666666
30   °   0000444444444448888888
31   °   22255999999999999999
32   °   33377777
33   °   1111588
34   °   22
35   °   0048
36   °   225599
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 4

```
18   °   6
19   °
20   °   8
21   °   3
22   °   245
23   °   78
24   °   0134688
25   °   22266999
26   °   0022222233577788888
27   °   000001111333335568888889
28   °   111113334446777799
29   °   000222222224455555577788 8
30   °   00000002222235556688
31   °   013467777799
32   °   1124455799
33   °   025555778
34   °   00133344899
35   °   224466
36   °   02357788
37   °   3
38   °   13
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 5

```
19   °   7
20   °
21   °   258
22   °
23   °   009
24   °
25   °   225588
26   °   111444777
27   °   00000000333336669999999
28   °   2222555555558888
29   °   11111111444444444444447777777777777
30   °   0000000333333666699999
31   °   22222222255555588888888
32   °   11144777777
33   °   00000033366699
34   °   22588
35   °   22258
36   °   1144
37   °   0333
38   °   5
39   °   1
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 6

```
12   °   6
14   °
16   °   5
18   °   9
20   °   4478
22   °   1159226
24   °   3366000004444777
26   °   11144444444888888881111115555599999999
28   °   22222222666666666669999933333333666666666
30   °   000004447777111114448888
32   °   11155555555599999222669999
34   °   33336666000004477
36   °   1114448115599
38   °   29
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 7

```
18   °   3
19   °
20   °   0
21   °   7
22   °   8888
23   °   448
24   °   15888
25   °   2222222255559999999
26   °   22222669999999
27   °   22222666666666669999999
28   °   33333333666666666
29   °   00000000000333333333777777777
30   °   000000003337777777
31   °   00000044444477777
32   °   1111111444888
33   °   114448
34   °   1111115558
35   °   25559
36   °   6
37   °   9
38   °
39   °   3
```

STEM-AND-LEAF PLOT FOR STAGE SCALE 8

```
17   °   2
18   °
19   °
20   °   4
21   °   6
22   °   488
23   °   222666
24   °   00048888888
25   °   222666
26   °   000004444444488888
27   °   222222222222266666
28   °   000004444444448888888888888
29   °   2222222226666666666
30   °   0000000444444488888
31   °   2222222266666
32   °   0000444444888888
33   °   22266666
34   °   00048
35   °   22666
36   °   04444888
37   °   266
38   °   04
```

APPENDIX E

Means and Standard Deviations for Stage 1
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.79	2.78	3.11	2.83	2.82
	sd =	.317	.334	.178	.479	.358
Some College or More	$\bar{X}$ =	3.04	2.95	3.02	2.92	2.95
	sd =	.296	.370	.397	.351	.355
TOTAL	$\bar{X}$ =	2.89	2.87	3.07	2.90	2.90
	sd =	.327	.362	.300	.386	.361

Means and Standard Deviations for Stage 2
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.74	2.62	2.77	2.66	2.67
	sd =	.401	.343	.177	.398	.356
Some College or More	$\bar{X}$ =	2.89	2.83	2.89	2.77	2.81
	sd =	.348	.410	.372	.307	.361
TOTAL	$\bar{X}$ =	2.80	2.73	2.83	2.74	2.75
	sd =	.382	.393	.287	.333	.365

Means and Standard Deviations for Stage 3
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.85	2.74	2.92	2.82	2.80
	sd =	2.80	.303	.192	.299	.291
Some College or More	$\bar{X}$ =	3.04	2.98	3.07	2.98	2.99
	sd =	.312	.353	.304	.278	.314
TOTAL	$\bar{X}$ =	2.92	2.87	3.00	2.94	2.91
	sd =	.301	.349	.256	.286	.318

Means and Standard Deviations for Stage 4
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.79	2.82	3.09	2.86	2.84
	sd -	.313	.322	.333	.344	.329
Some College or More	$\bar{X}$ =	3.01	3.03	3.03	3.08	3.05
	sd =	.297	.414	.251	.343	.364
TOTAL	$\bar{X}$ =	2.87	2.93	3.06	3.03	2.96
	sd =	.322	.387	.285	.355	.364

Means and Standard Deviations for Stage 5
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.97	2.93	3.07	2.91	2.95
	sd =	.303	.284	.117	.356	.291
Some College or More	$\bar{X}$ =	3.19	3.10	3.12	2.97	3.06
	sd =	.338	.352	.222	.330	.339
TOTAL	$\bar{X}$ =	3.05	3.02	3.10	2.96	3.01
	sd =	.330	.332	.172	.335	.324

Means and Standard Deviations for Stage 6
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.99	2.83	3.06	3.00	2.92
	sd =	.356	.330	.371	.487	.377
Some College or More	$\bar{X}$ =	3.18	3.00	3.13	2.92	2.99
	sd =	.348	.538	.538	.373	.462
TOTAL	$\bar{X}$ =	3.06	2.92	3.09	2.94	2.96
	sd =	3.58	.460	.446	.402	.428

Means and Standard Deviations for Stage 7
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	2.84	2.910	2.86	2.72	2.86
	sd =	.293	.348	.269	.413	.345
Some College or More	$\bar{X}$ =	3.06	3.02	2.88	2.87	2.95
	sd =	.284	.350	.355	.276	.321
TOTAL	$\bar{X}$ =	2.93	2.97	2.87	2.83	2.91
	sd =	.304	.351	.303	.320	.334

Means and Standard Deviations for Stage 8
by Education, Gender, and Age

Education		Female Age <65	Female Age 65+	Male Age <65	Male Age 65+	Total
High School & Under	$\bar{X}$ =	3.00	2.91	2.97	2.90	2.93
	sd =	.329	.348	.264	.407	.345
Some College or More	$\bar{X}$ =	3.11	3.03	2.87	2.83	2.94
	sd =	.380	.413	.345	.378	.401
TOTAL	$\bar{X}$ =	3.04	2.97	2.92	2.85	2.94
	sd =	.347	.387	.300	.383	.378

Means and Standard Deviations for the Entire Sample for Each Stage by Education by Gender by Age

		Education		Gender		Age		
Stage		HS & Under (N=80)	BA/BS or More (N=108)	Female (N=116)	Male (N=72)	<65 (N=43)	≥65 (N=145)	Total (N=188)
1	Mean	2.82	2.95	2.88	2.93	2.94	2.88	2.90
	SD	.358	.355	.352	.375	.326	.371	.361
2	Mean	2.67	2.81	2.75	2.76	2.81	2.73	2.75
	SD	.356	.361	.390	.324	.351	.369	.365
3	Mean	2.80	2.99	2.88	2.95	2.95	2.90	2.91
	SD	.291	.314	.337	.282	.287	.327	.318
4	Mean	2.84	3.05	2.91	3.03	2.93	2.97	2.96
	SD	.329	.364	.372	.341	.320	.376	.364
5	Mean	2.95	3.06	3.03	2.98	3.07	3.00	3.01
	SD	.291	.339	.330	.314	.287	.333	.324
6	Mean	2.92	2.99	2.95	2.97	3.07	2.93	2.96
	SD	.377	.462	.440	.412	.384	.436	.428
7	Mean	2.86	2.95	2.96	2.84	2.91	2.91	2.91
	SD	.345	.321	.339	.315	.301	.344	.334
8	Mean	2.93	2.94	2.99	2.86	3.00	2.92	2.94
	SD	.345	.401	.377	.368	.334	.389	.378

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