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Dallman, Sara Elaine Schrock

THE EFFECTS OF AN EXPERIENCING CAREER EXPLORATION ACTIVITY WITH THE AGED ON THE EARLY ADOLESCENT RELATED TO SENSE OF IDENTITY, CAREER DEVELOPMENT, AND KNOWLEDGE AND ATTITUDES TOWARD AGED AND AGING

The Ohio State University

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ACTIVITY WITH THE AGED ON THE EARLY ADOLESCENT RELATED
TO SENSE OF IDENTITY, CAREER DEVELOPMENT, AND KNOWLEDGE
AND ATTITUDES TOWARD AGED AND AGING

DISSERTATION

Presented in Partial Fulfillment of the Requirements
for the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

by

Sara Schrock Dallman, B.A., M.A.

*****

The Ohio State University
1984

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CHAPTER I

INTRODUCTION

Introduction to Problem

"Excellence in Education" has become the challenge and demand of the American public in the 1980's. Newspaper editorials and National Commission on Education reports, politicians, legislators, school boards, educators, parents, and students have cited complaints about the quality of American public education. Merit pay for teachers, law suits against school districts, standardized testing for students and teachers, tax credits for private school attendance, and use of computers are proposed by various interest groups to improve the situation. Others report these "solutions" may only lead to additional educational crises.

The outgrowth of failures in the educational system is exemplified in those young adults who are not equipped to function in a complex technological age. Graduates from the public education system should expect to gain those basic academic skills and attitudes that will enable them to accomplish work tasks and fulfill the demands of higher education or obtain suitable employment. Students are cited as lacking the ability to make decisions and assume responsibility, and lacking respect for, involvement in or commitment to the community and environment.
In the past fifteen years, much has been written about the intellectual, social, psychological, and career development of students and implications for education. Very little has affected the K-12 curriculum in a comprehensive, systematic manner. New approaches have been tried, new buildings designed, and new materials purchased only to be discarded or redesigned. Educational changes have been costly and characterized by trial and error. Sufficient conceptualization, introduction, development and evaluation steps have not been taken to achieve positive, directed K-12 changes in the educational system.

Career education based on human development models and experiencing curriculum models represents an effort to achieve significant changes in the educational system. It provides a conceptual framework for educational programming which is concerned with both the student-learning process and learner outcomes. Developmental needs, individual and stage related intellectual, psychological and social needs, are criteria utilized in program planning. Program activities are toward learner outcomes that prepare the student for a productive, meaningful life in our society. The stages or components of career education include Motivation at grades K-5, Orientation at grades 6-7, and Exploration at grades 8-10. Behavioral objectives are identified at the cognitive, affective, and psychomotor levels and the teaching-learning process is through experiencing activities at the vicarious, simulated and hands-on levels.
Career education based on human development models is a comprehensive educational process which strengthens and builds on the student's growth at each stage. Educational experiences within specific developmental areas are planned to assist the student in meeting the challenges of each intellectual and socio-psychological stage, in learning from and working through them, and in being ready for tasks at the next stage of development.

An early adolescent beginning to face conflicts associated with forming an integrated identity is gradually sorting out and fitting together information about self, the society, the economy, occupations, and educational options toward establishing a career identity. It is a time of rapid growth and change—a time for exploring limits, new options and roles. The career education component which reflects this stage of development is career exploration.

Exploration is a complex process requiring more than cognitive learning, and a difficult educational component to accomplish. Theoretically, an individual with a unique pattern of growth and a unique pattern of interests, abilities, values and goals can benefit most if given the opportunity to explore at a time responsive to and appropriate to these factors. Individual exploration, therefore, is a vital criteria of this component of career education. It requires opportunities for students to participate in individualized and small group career exploration activities based on their commitment to testing out their
interests and capacities in realistic work settings. In the process, they need opportunities to sort out the knowledge, feelings and values, and behaviors they are trying out in new roles and relationships, and opportunities to apply the information in personal decision making.

The career exploration process has significance, therefore, not only for occupational decision making, but also for social, moral, and intellectual decisions and commitments as well. Students have a degree of responsibility and choice for their own learning and exploratory roles that is appropriate to their capability at the particular time. They are provided opportunities to form work and adult role models and to become meaningfully involved in the community.

Individualization as a part of the career exploration component of career education requires communication within the school and with the community, and collaboration among the school and work settings. Within the school, basic career education goals are integrated into each subject area and classroom. Within the community, workers are prepared with school assistance to provide the working-learning environments and situations at various occupational levels from unskilled to professional. The school-community relationship functions to provide environments outside the school which help students discover information about themselves, develop realistic skills, test their interests and abilities, and expand their knowledge about personal options.

Career exploration activities include small group activities based on broad interest areas and, as students learn the process
of exploration, narrow their career options, and are able to make productive use of the experience, individualized exploration activities.

As students gain experience exploring career options, they are able to take on additional roles and relationships of responsibility through concrete exploratory experiences which require performance. Developing a sense of responsibility and ability to make decisions is in part accomplished by actually taking on meaningful responsibility in realistic situations. In a complex, rapidly changing society, students need experiences which help to link what they learn in the classroom or from textbooks with the realities of living and working in a community.

This study examined the changes in knowledge and attitudes of early adolescents who expressed interest in exploration and who were provided the opportunity of a structured small group exploration in a broad career interest area. The study was conducted in a middle to upper middle class midwest community school district which has a comprehensive K-12 career education program based on human development models with an emphasis on exploration at the middle and high school level.

A key to the exploration process for the early adolescents in this study is not an in-depth exploration of specific occupations, which would come later in the adolescent's development as options become more crystallized, nor a general orientation of many occupations in the setting. Rather, the key is the exploration of
the broad function of helping people gained through experiencing within the context of the health field. Students who are engaged in exploring, gain knowledge, acquire or apply realistic skills, and test out attitudes related to the meaning of the helping role within the health field. The information they gain can then be applied toward educational planning and career decision making.

Statement of Problem

It was the purpose of this study to determine what differences exist between those second semester eighth grade students who were interested and participated in the activity (volunteer treatment group), who were interested but did not participate (volunteer nontreatment group), and who were not interested and did not participate (nonvolunteer nontreatment group) following a five week career education exploratory activity with the aged. The areas of study include: 1) student perceptions of self, adults, school, and work; 2) knowledge of aging; 3) attitude toward aging; and 4) attitude toward the aged.

Specifically, the study sought to answer the following questions:

What are the differences in student perception of self among the three groups following the five week experiencing career exploration activity with the aged?

What are the differences in student perception of adults among the three groups following the exploration activity?

What are the differences in student perception of school among the three groups following the exploration activity?

What are the differences in student perception of work among the three groups following the exploration activity?
What are the differences in student exploratory attitude among the three groups following the exploration activity?

What are the differences in student knowledge of aging among the three groups following the exploration activity?

What are the differences in student attitude toward aging among the three groups following the exploration activity?

What are the differences in student attitude toward the aged among the three groups following the exploration activity?

From the questions, the following null hypotheses for the study were generated.

I. There will be no significant differences among the three groups (volunteer treatment group, volunteer nontreatment group, and nonvolunteer nontreatment group) in student perception of self following a five week experiencing career exploration activity.

II. There will be no significant differences among the three groups in student perception of adults following a five week experiencing career exploration activity.

III. There will be no significant differences among the three groups in student perception of school following a five week experiencing career exploration activity.

IV. There will be no significant differences among the three groups in student perception of work following a five week experiencing career exploratory activity.

V. There will be no significant differences among the three groups in student exploratory attitude following a five week experiencing career exploration activity.

VI. There will be no significant differences among the three groups in student knowledge of aging following a five week experiencing career exploration activity.

VII. There will be no significant differences among the three groups in student attitude toward aging following a five week experiencing career exploration activity.

VIII. There will be no significant differences among the three groups in student attitude toward the aged following a five week experiencing career exploration activity.
A secondary purpose of this study was to examine the content and process of exploration as viewed through student journals. While the test measurements indicate to what extent program objectives of the activity are realized, the journals provide a measure of student content and process. Specifically, through a qualitative or descriptive analysis of student journals, the study examined the process and content of student self exploration as described by the student.

For the qualitative analysis of journals, the study examined the following questions:

1. To what extent will students indicate affective responses to Community Village setting, to the elderly partners, and about self in relationship to the partners?

2. To what extent will students address self-identity issues (Eriksonian concepts of the Identity stage) as they write about their experiencing at the Community Village?

3. To what extent will students indicate an application of the process of formal operations in describing the career exploratory experience?

Rationale for Study

Work with persons over sixty-five years of age was determined as appropriate for involving early adolescents in the process of testing out an interest in helping people and/or an interest in a health profession. The situation of the elderly and the relationship of the early adolescent to this age group provides many opportunities for career exploration experiencing activities at the vicarious, simulated and hands-on level. There are several
indications that serve as rationale for this choice of exploratory activities.

First, early adolescents are at an appropriate developmental stage to gain valuable role models from aged individuals. Research suggests that attitudes are more negative and stereotyped among high school adolescents than among young children. Elementary age students were shown to describe the elderly in positive, but stereotypic descriptions, such as might be applied to a loving grandparent. (Hickey, Hickey and Kalish, 1968) High school adolescents studied by Kogan and Shelton (1962) perceived that people over sixty-five years resented them and, therefore, the adolescents attempted to avoid interpersonal contact with older persons. College students exploring occupations involving work with the aged indicated more stereotypic attitudes or misconceptions following the activities than prior to the exposure. (Rosencranz and McNevin, 1969) Implications from research suggest that early adolescents are more open to interacting and learning from older people than later adolescents.

Second, there is an indication that adolescents have a negative view of their own aging process or what it means to grow old in our society. Busse (1968) discusses the unresolved fears that result from false information and "prejudice" about aging and how this fear leads to an inability to appreciate the problems of the elderly and to plan for one's own future. An immediate orientation is reinforced. It would be significant to assist adolescents in gaining a more positive attitude toward and more
information about their own aging process.

According to Erikson, youth's future perspective has an impact on their day to day as well as long term decision making. Gaining an understanding and appreciation of the connectedness of life, the connectedness between now and the future, affects the ease with which they confront predictable life crises. From a relationship with the person who has lived life for over sixty-five years, adolescents can gain a model for how the sameness of one's existence or personhood is experienced through time. (Erikson, 1980)

Third, both the aged and the adolescents have much to offer and to gain from interaction, which enables the formation of a relationship based on mutuality and facilitates the experiencing process. The sixty-five years and older age group is viewed as an invaluable untapped resource in our country. This group is described as having a wealth of information and skills, time and talents to share, and are themselves in the need of services and companionship which could be met by a young person. According to Erikson, this group is at a developmental stage in which the developmental task is ego integrity. Sorting out and passing on the meanings of their life is an important process toward their continued healthy psychosocial growth. (Erikson, 1963)

Havighurst (1968) defines successful aging as successful adaptation. He views the ways in which older persons reconstruct their life history as a factor in adaptation. "The older person
is continually integrating and interpreting his past, attempting to make it a meaningful whole." (Havighurst, 1968, page 71)

Talking with adolescents who are learning communication skills, gathering information for a school history assignment, and exploring helping careers, can provide a situation for mutual growth and understanding. Havighurst cited social interaction as another important factor in adaptation to the aging process among the elderly.

Fourth, learning the process of exploration involves learning to try out new situations and sorting out their meaning for personal decision making. Experiencing activities which involve coming directly in contact with one's own stereotypes in a safe environment can enable a person to explore their thoughts, feelings and actions, and come to new decisions about themselves and others. The process facilitates personal and career development. Nonstereotypic goals and attitudes contribute to positive career development.

American culture has put a premium on youth. The society has portrayed stereotypes of the elderly as fact and, in general, people have accepted these as fact. Adolescents, having been exposed to little factual information to the contrary, are likely to develop these stereotypic attitudes.

Finally, the fact that some day, given normal life spans, each person will some day face old age adds another dimension to understanding the elderly. It gives the misconceptions and negative attitudes a different meaning than if they were applied
to a group of which one knew he/she would never belong. It is more difficult to disassociate self entirely from the elderly minority. This fact has a varying effect on one's affective response to the elderly—from empathy, sympathy or apathy to intolerance, denial, avoidance, and fear.

This situation enables a rather unique educational opportunity. Students can share their perceptions of the aged, their experiences, attitudes, fears, and definitions without censoring themselves because of a stigma that might go with expressing stereotypic thinking about a race or religion. Attitudes can be openly acknowledged, experiencing activities with the aged engaged in, new definitions surfaced to awareness and the meaning and process of aging explored. As part of the study, this educational process takes place within the context of the student developing human relations skills with the aged in the exploratory work role.

This study examined the effects of an experiencing career exploration activity with the aged on the early adolescent related to sense of identity, career development, and knowledge and attitudes toward aged and aged.

**Definition of Terms**

The meanings ascribed to terms used in this study are as follows:

**Interested**—As defined by Webster, a "readiness to be concerned
with." Operationally, interested students are those second semester eighth grade students who desired to participate in this career education exploratory activity. Specifically, the students completed an interest survey requesting to explore working with the aged in the retirement village setting. A career orientation toward working with people, health fields, and/or human services was one criteria for determining interest.

**Me**—As defined by Webster, the objective case of I. I means "the one who is speaking or writing." Operationally, Me is a key word in the NWREL-CEEB Evaluation Instrument (Northwest Regional Educational Laboratory - Career Education Experience Based) semantic differential utilized to determine the student's degree of positive perception of self.

Self as defined by Webster, is "a person in his normal condition" or "the union of elements such as body, emotions, thoughts, sensations that constitute the individuality and identity of a person." As a career education developmental area, the term Self focuses on the individual as subject. Personal feelings, attitudes and values are dealt with and there is an internal orientation to educational activities.

Operationally, the student's score on the Me scale indicates his/her positive perception of self.

**Adults**—Grown-ups. Adults is a key word in the NWREL-CEEB semantic differential. The student's score on the Adults scale indicates his/her degree of positive perception of those people considered grown-ups.
School—The institution in which the process of education takes place. School is a key word in the NWREL-CEEB semantic differential. The student's score on the School scale indicates his/her degree of positive perception of the process of education as it takes place in the middle school institution.

Work—As defined by Webster, work is "activity in which one exerts strength or faculties to do or perform something" or "sustained physical or mental effort to overcome obstacles and achieve an objective or result."

Work was defined by Dr. Kenneth Hoyt as "conscious effort, other than activities involved in whose primary purpose is either coping or relaxation, aimed at producing benefits for oneself and/or for oneself and others." (Hoyt, 1974, page 153) It includes both paid and unpaid work.

Work is a key word in the NWREL-CEEB semantic differential. Operationally, the student's score on the scale Work indicates his/her positive perception of this effort as defined above.

Aged—The group of adults over 65 years of age, also referred to as the elderly.

Knowledge of Aging—Operationally, a student's knowledge of aging is his/her capability of recognizing facts about the aged when given factual statements documented by empirical research concerning basic physical, mental and social facts and the most common misconceptions about aging. (Palmore, 1977) The Palmore Facts on Aging instrument was utilized to measure student knowledge of aging.
Aging Process—The physical, mental, and social process of growing older. Operationally, a student’s score when asked to respond on a semantic differential to the question, "When you think about getting old or about your own aging process, which words best describe your image?" is the measurement of students' positive perception of their own aging process.

Career exploration activity—The career exploration activity studied was one activity within the context of a district-wide career education emphasis infused into the existing K-12 curriculum.

An exploratory activity is operationally defined as one that meets the criteria of career exploration. This includes: 1) introduces in-depth study of career interest areas based on student choice, 2) involves actual work experiences in the community, 3) includes value and interest clarification and reality testing of options with an emphasis on personal decision making.

In the school district studied, exploratory activities reflect an experiencing curriculum. Three levels of activity, vicarious (cognitive), simulated (affective), and hands-on (psychomotor) are conducted as part of the program.

Exploratory Attitude—An orientation toward exploring one’s career options in the community. For the purposes of this study, criteria which determine a positive exploratory attitude include self-confidence in one's ability to communicate and in one's
ability to assume roles in the community, a sense of responsibility, and a future perspective.

Operationally, a student's score on self-perception questions related to these criteria indicates the student's positive attitude toward exploration.

Eriksonian Concepts--For the purposes of this study, Eriksonian concepts include those presented in Erikson's *Childhood and Society*, "Eight Stages of Man," (1950).

Operationally, concepts applied in the descriptive analysis of the student journals are those appearing in Quaranta's list from the "Eight Stages of Man" entitled *Career Motivation* and *Career Exploration* (1978).

In addition is the concept of operational thinking, defined by Piaget, and included by Erikson in his analysis of the identity formation process. The application of formal operational thinking is evidenced for purposes of this study by journal entries in which the student examined complex questions, ideas or problems, concrete and/or abstract, by considering several points of view or options, and deducing logical consequences for his/her own lifestyle, or it is evidenced operationally by journal entries in which the student empathized with or imagined another's life history or relationships.

Experiencing--Webster defined experience as "personal encountering, undergoing, living or passing through events in the course of time," and as "conscious perception of reality or direct observation or participation in events." Mooney (1974) discusses experiencing as "capturing the change that is going on."
through experiencing is at the cognitive, affective and behavioral level and may be evidenced through differences in knowledge, acceptance and/or affirmation.

Journaling is a technique which is used to record experiencing as well as to enhance the process itself, especially at the affective level. (Hedin, 1979)

Achievement—Operationally, the Metropolitan Achievement Test total basic battery score is utilized as the indication of the student's academic level. The MAT/basic total score is a composite of the student's scores on three subtests: reading, language and mathematics. Achievement was examined as a possible independent variable among the three study groups at pretest.

For purposes of this study, MAT scores were converted from percentile rank to Normal Curve Equivalents (NCEs) using a table provided in the test manual. (Prescott, 1978. page 76)

Limitations of the Study

1. This study utilized early adolescent students in a public school system within a middle to upper middle class, white, urban community. It is expected from previous research that students from lower income or rural communities would have a different mean score at pretest in the areas of student perception of self, knowledge of aging, and attitude toward aged. However, it is concluded that the results of the study could still be generalized to these populations because it is firmly based in human development theory.
2. Because of scheduling, or availability for participation in the five week activity, one "house team" of approximately ninety-five eighth grade students in the middle school did not participate in testing during each of the two years of the study. It is not expected that a difference in eighth grade students existed among "house teams" because selection was through a random process. There may, however, by chance be some difference and this is a limitation of the study.

3. The time period during which the educational experiences was conducted is five weeks. This period of time may have limited the amount of attitude change that occurred. The study measure attitude change immediately following participation in the educational experiences. There would be a suspected regression toward the mean over time.

4. Instrumentation was not found which directly measured growth toward a career identity. A semantic differential was utilized with key concepts which relate to career identity. Interpretation required application of the concepts to the theory rather than direct measurement of theoretical criteria. Several changes were also made in the original instruments for usage with middle school students.

Organization of Remainder of Study

The organization of the study consists of five chapters.
Chapter one, above, includes the introduction and rationale, statement of the problem, definitions of terms, and limitations of the study. A review of literature and research which provides the basis upon which the study was developed comprises chapter two. Chapter three describes methodology, including information about the setting, population, sample, procedures and instruments. An analysis of the results is provided in chapter four. The final chapter offers a summary, conclusions, and recommendations.
CHAPTER II

REVIEW OF LITERATURE

Introduction

Chapter two presents a review of literature and research from which the career education exploratory activity and this study were conceptualized and designed.

The review of research and literature consists of two sections: 1) Sense of identity and career development and 2) Adolescent attitudes and knowledge of the aged and aging.

Sense of Identity and Career Development

Erik Erikson's theory of psychosocial development describes adolescence as a time of identity crisis, a "normative conflict" between a Sense of Identity and Role Confusion. Erikson theorizes that growth and development occur through "complex stages of increasing differentiation." (Erikson, 1963, page 271) He describes eight developmental life stages, of which Identity versus Role Confusion is one. The developmental stages are characterized by predictability: the stages are in a predictable sequence, with each stage building on the psychosocial gains of the previous stage, and with predictable conflicts and processes of resolution evolving in their proper time and order. Growth is three dimensional: linear,
relative, and as a result of mutuality. It occurs through a natural process of ordering across time exemplified in biological development, through experiences reexperienced at a later stage in a different manner and level, and through mutuality in relationships such as the mother-child relationship.

Healthy psychosocial growth according to Erikson occurs in the context of and through interaction with society. The community becomes the arena for interaction as the child reaches adolescence. Identity formation involves the moving out from the family and school to roles and responsibilities in a wider arena. Peers and leadership models become increasingly significant. The adolescent experiments toward defining an ideological perspective.

Growth through an interactive process involves reaching out and bringing in. The ego functions to select, process or synthesize incoming information to achieve a consistent view of self. Erikson describes cognitive abilities of formal operation, using the complementary work of Piaget, as the process of reaching out to the environment for the material to cognitively synthesize. Piaget defines formal operations, a capacity which most typically emerges chronologically during adolescence, as the mental ability to apply scientific method, hypothetico-deductive reasoning, to both concrete and abstract problems and situations. Adolescents can hypothesize about past and future events, consider various alternatives, generate possibilities and evaluate consequences, adopt ideologies to reflect an ideal constructed in their mind, and empathize with or imagine another's life history or relationships. (Piaget, 1968)
Miller has analyzed Piaget's and Erikson's contributions to understanding adolescents and concludes that there is at this time of life a need for "increasing independence from environmental regulation so that intelligence can act without reference to concrete materials." (Miller, 1978, page 247) Like Piaget, Erikson sees adolescence as a time of increased autonomy. Mosher and Sprinthall (1970) characterize adolescence as a time for

"...the development of a more complex and more integrated understanding of oneself; the formation of personal identity; greater personal autonomy; a greater ability to relate to and communicate with people; the growth of more complex ethical reasoning; and the development of more complex skills and competencies, in part by trying prevocational and 'adult' roles." (Miller, 1978, page 247)

One of the way adolescents begin to resolve the identity crisis is through achieving a promise of career identity. Erikson states,

"(Adolescents are) primarily concerned with what they appear to be in the eyes of others as compared with what they feel they are, and with the questions of how to connect the roles and skills cultivated earlier with the occupational prototypes of the day...The sense of ego identity, then, is the accrued confidence that the inner sameness and continuity prepared in the past are matched by the sameness and continuity of one's meaning for others, as evidenced in the tangible promise of a 'career.'" (Erikson, 1963, pages 261-262)

Erikson reaffirmed the importance of occupational identity in ego identity formation: "In general, it is the inability to settle on an occupational identity which disturbs young people." In a country such as the United States, where "self-made" identities and extensive choices are prevalent, this particularly is a cultural issue. (Erikson, 1980, page 97)
Hershenson interprets Erikson's theory when discussing the relationship between Sense of Identity, occupational fit and enculturation in adolescence:

"Out of the experiences leading to the development of a 'sense of identity,' and to the attainment of an ego syntonic occupational role, the individual moves toward that stability, integration and recognizability of selfhood, which he has called 'identity.'" (Hershenson, 1967, page 319)

An individual who does not have a sense of well-being, whose plans and goals are not clear in mind, who does not know what he/she wants for the future is in a state of identity or role confusion and has not successfully resolved the conflicts of the identity stage.

Self-identity is in part expressed through a person's career identity. Growth toward a sense of identity is facilitated through 1) career exploration is a variety of occupational roles and 2) reality testing interests and capacities and fulfilling them. (Quaranta, 1978)

Quaranta has identified certain concepts from Erikson's Childhood and Society which serve as criteria for career exploration program development. As youth enter the adolescent years, they can participate in career exploration activities in which they engage in experiences and sort out information about themselves and others in progressively more independent situations. From Quaranta's analysis, an experiencing career exploration activity would include such elements as:

- **Broad environment:** opportunity to participate in the community beyond the school and family.
- **Promise of career/occupational identity:** opportunity to envision one's self in various life roles and to identify
fitting occupations.

Connectedness of skills: awareness of application of skills learned in school to skills needed in adult roles.

Connectedness of roles: awareness of the relationship between one's functioning in roles during school years and roles during adulthood.

Congruity between self-perceptions and others' perceptions of self: opportunities for risk-taking and feedback.

Experiencing in roles/exploration in a wide range of social and occupational roles: opportunities to actively tryout a variety of work and social roles in realistic settings and to consider alternatives, consequences and meanings for one's life.

Experiencing skills/tangible adult tasks ahead: opportunities to actively tryout skills and abilities in realistic work tasks.

Guidance with independence: opportunities for some assistance in sorting out the meaning of one's experiencing for personal and career decisions in the context of free choice and increasing independence.

Peers/adults: opportunities to interact with peers and adults, to use them as comparison figures from which to sort one's own values, ideals, interests, and goals.

Perception of future: abstract thinking applied to one's own future possibilities, options, consequences and decision making.

Stereotypes: opportunities to test out stereotypes with reality and formulate new concepts about individuals and groups.

Quaranta suggests that Eriksonian concepts can be operationally applied to educational planning. Activities which provide opportunities as above can enhance the process of identity formation if appropriate to the student's age and developmental stage.
While there is widespread general acceptance of Erikson's theory of psychosocial development especially as it applies to adolescent development, experimental research relating Erikson's theory and career development is minimal. Similarly, no significant research was found which addressed the application of Erikson's theories to secondary education programs. Several articles indicate the implications of the theory for secondary education. Instrumentation to measure an individual's developmental stage or psychosocial gains has been difficult to develop due to the affective nature of such gains and because of the sequential, hierarchical and concentric nature of developmental growth. Some attempts have been made in this area, however.

Martin and Redmore (1978) tested whether vocational maturity is significantly related to ego development. Vocational maturity as a construct was defined according to Super and Overstreet (1960) as vocational behavior which is more realistic, goal oriented and independent with age. Thirty-two students were administered the *Washington University Sentence Completion Test* and the *Career Maturity Inventory Attitude Scale* in sixth grade and again in twelfth grade. Results showed a significant increase in ego development from sixth to twelfth grade. A significant correlation between sixth and twelfth grade provide evidence for the developmental and sequential nature of the ego. A significant correlation was also shown between ego development and the objective measure of vocational maturity. There did not exist a significant
relation between ego development and reasons for vocational choice. There was a significant relation between ego development and economic status with upper-middle and upper class students measuring higher ego levels.

Munley examined the relation between psychosocial maturity and vocational development by testing 123 males with two instruments to measure psychosocial development and six instruments to measure vocational choice. Munley describes the principal finding as "individuals who show adjusted vocational choices demonstrate a higher level of psychosocial development across Erikson's first six stages than do individuals with problem vocational choices." The adjusted groups was most successful in resolving Erikson's stage crises and in choosing a vocation. The problem vocational choice group indicated low scores across all stages. (Munley, 1975, page 318)

Munley found that students who had been able to make vocational choices even if these appeared to be less than appropriate choices in terms of the criteria used, had been able to resolve the identity crisis more successfully than those who had made no choice. Effects of inappropriate or premature choices most likely would not be apparent until a later developmental stage. Implications are that counselors and teachers who only provide career planning experiences for students who are in conflict about an occupational choice are missing a group of students who will in a later stage need to rework these issues, perhaps with more difficulty or less options. Activities for students must be within the context of a
comprehensive career education program which motivates and orients all students toward growth in career developmental areas.

Munley also found there was a strong linear relationship between career maturity and all the stage crises resolutions. This supports the theory that vocational development takes place within the broader framework of psychosocial development, that vocational maturity is developmental, and that individuals who are successful in resolving the stage crises are also more successful in developing mature career attitudes. (Munley, 1975, page 318)

Leadbeater and Dionne empirically studied the use of formal operational thinking in solving problems related to identity resolution. They hypothesized that "Adolescents who show aptitude, interest and involvement in considering identity-related issues apply formal operational thinking to a greater extent in these considerations." The study involved 92 males ages 17-20 classified into four identity statuses: identity achievement, moratorium, foreclosure or identity diffusion. (Leadbeater and Dionne, 1981, page 111)

Leadbeater and Dionne findings support the complimentary and reciprocal relationship between Piaget's theory of formal operational thinking and Erikson's view of identity resolution. Positive resolution of this stage depends on the opportunities an individual has to consider several possible personal, occupational, sexual and ideological commitments during a period of moratorium from adult responsibilities." (Leadbeater and Dionne, 1981, page 112) Leadbeater and Dionne emphasize that adolescents need skills in
analyzing the consequences of a commitment to a career on one's adult lifestyle. They concluded:

"identity achievement and moratorium subjects exhibit a better performance in formal operational thinking when confronted with problems which reflect identity-related issues...Others were distinguished by a lack of autonomous interest and personal involvement in considering identity-related issues. Foreclosure adolescents seemed to accept roles and ideologies prescribed to them." (Leadbeater and Dionne, 1981, page 119)

It is also suggested by this study that exploration in fields of career interest in which adolescents consider complex issues related to occupational plans, apply formal operational thinking to consider several points of view and to deduce logical consequences for one's lifestyle can assist the student in more fully developing their ability to use formal operational thinking. Piaget hypothesized that an "individual's application of formal operational thinking in a particular field of content is related to his aptitude, interest and involvement in that content."

(Piaget, 1972, page 8)

Hedin and Conrad reported that only 25-50 percent of high school students develop the ability to think abstractly--to apply formal operations.

"A person's system of thinking often tends to 'stabilize' at the level reached in adolescence...Thus the failure to provide stage-appropriate educational experiences which promote psychological growth, limits future growth and development during adulthood." (Hedin and Conrad, 1979, page 4)

A thorough literature review indicated that experiential learning interventions combining direct participation, the application of knowledge to real situations, and active reflection had positive effects.
Leadbeater and Dionne suggested a need for individualization in career development experiences based on readiness.

"Individuals in the identity achievement and moratorium statuses, in their struggle to match their own perceived uniqueness and abilities with a realistic career choice, appear to have the necessary self and community interest and involvement to consider alternative careers as possibilities. For these adolescents, the priorities in vocational guidance might focus on: encouraging and assisting them to find and explore information related to the several careers that interest them, promoting experiences which will aid in their learning about these careers, and assisting them in decision making skills." (Leadbeater and Dionne, 1981, page 119)

For students in foreclosure and identity diffusion statuses, it was suggested that priority be placed on self-awareness and developing a view of the individual in relation to the community.

While there are only a few empirical studies relating Erikson's theory to career development, the research which exists indicates the significance of involving adolescents in the task of identifying and exploring career and lifestyle options.

Newman (1976) writes that in order to assist adolescents in coping with developmental tasks, there must be confrontation between an individual and his environment. In other words, students need to be in situations where they can actively resolve the questions or stress and create new solutions. Applied to career exploration, this means that students must have opportunities for active participation in work roles which can help them sort out their interests and capabilities toward a promise of a career and an understanding of the connectedness between skills and roles experienced now and in adulthood.
Enright and Deist (1979) empirically studied the cognitive processes which adolescents apply when they consider various social possibilities. He defined a more specific process than formal operations for gathering information. He names the process, social perspective taking. His analysis of social perspective taking appears to be an analysis of the way in which a person develops the capacity to cognitively experience mutuality in relationships. The person first perceives the other person or group, then discovers how the other person or group is different from self, then reflects on the self from the others' viewpoint, gains an understanding of self and other, and gradually is capable of reflecting on self from a societal perspective.

Enright and Deist apply their research to educational programming in the following conclusion:

"...if the adolescent is to understand the self (establish an identity) he or she must start by understanding others... Perspectives taken should begin with one significant other then proceed to examining a group such as a peer or family and ending with an exploration of society." (Enright and Deist, 1979, page 520)

Erikson views one dimension of growth as through relationships based on mutuality. Educational programming can facilitate the development and understanding of relationships based on mutuality.

Miller discusses evidence that only fifty percent of the population reach Piaget's stage of formal operations.

"...educational environments can be designed to help, rather than retard human development...It is during adolescence that the individual can reach higher levels of functioning, but if schools do not provide situations conducive to development then the chances are great that the individual will be 'locked' into a lower stage indefinitely." (Miller, 1978, page 240)
He also expresses concern about the "excessive pressure to adopt an early or premature identity" and that teachers play a significant role in the student's resolution of developmental conflicts. They need to be "sensitive to developmental differences...presenting conflicts for students to resolve, and...allowing the students to actively deal with problems..." (Miller, 1978, page 243) Individualized career exploration can provide active involvement in these aspects of identity conflict resolution.

Bronfenbrenner is concerned that there is a disconnectedness in our society between young people and the rest of society which results in isolation and impacts the youth's development. He cites isolation of youth from the world of work as contributing significantly to isolation. "The aim is not vocational education (job training) but rather acquaintance with adults as participants in the world of work." He emphasizes that youth must not only be exposed to adults engaged in demanding tasks but must participate in such tasks. He cited evidence which indicates that children acquire the capability to cope with difficult situations when they have an opportunity to take on consequential responsibilities in relation to others and are held accountable for them. (Bronfenbrenner, 1974, page 60)

Few instruments have been available to measure psychosocial development. Until recently, no instruments were available which satisfactorily measured early adolescents developmental stage according to Erikson's theory. A new instrument has been developed
by Rosenthal (1981) to measure Erikson's stage of psychosocial development. Tested on 622 adolescents, it measures the respondents' resolution of the conflicts associated with the first six psychosocial stages. Initial testing with this instrument shows some promise for its use as an indicator of characteristics of stage resolution. However, the instrument has not been utilized to measure changes as a result of mediating experiences.

Erikson states that a person becomes aware of psychosocial gains, that is, aware of "sense of" i.e. identity, through 1) experiencing accessible to introspection, 2) behaviors observed by self or others, and 3) unconscious states accessible through testing or analysis. (Erikson, 1963, page 251) Because these gains are primarily at the affective level, no single instrument or type of measurement will probably be satisfactory in determining if a person has developed a "sense of" identity.

Journals of reactions, recording observations and what a student has learned in classroom or community experiences, is a means for a student to gain awareness of their own thoughts, feelings, attitudes, and actions. Cognitive and affective learning can be apparent in the journals. Feedback from teachers aid in the process of introspection and integration of experiencing. (Foxley, 1979, page 265)

Mooney (1974) has described experiencing as "capturing the change which is going on." Growth occurs through the interaction of feelings, thought, and behavioral responses within self in the process of reaching out and bringing in through one's interaction
with environment such as another person. Awareness of this process can come through recording critical experiences. A significant experience is described; feelings, thoughts, and behaviors in the situation are identified, and; implications for future are drawn. Through this process a person explores the meaning of their experiencing.

Test instruments for the measurement of specific aspects related to or indicative of identity formation provide information about the direction of a student's stage conflict resolution. Osgood has devised the semantic differential as a technique for measuring affective responses associated with given objects. Osgood writes that how a person behaves in a situation depends upon what that situation "means" or signifies to him. According to Osgood, one of the most important factors in social activity is meaning and change in meaning, "whether that be called attitude, value or something else." (Osgood, 1957, page 330) Attitudes have direction and dimensions within the semantic space, as Osgood defines it, of evaluation, potency, activity and others. Applications of the semantic measurement include attitude assessment and the study of personality traits and patterns of growth.

There does not exist a functional dictionary of connotative meanings for words obtained through research to use in development of semantic differentials. Osgood in his book, Measurement of Meaning, does offer a factor analysis of those polar words which have been studied at this point and words related to ones for which analysis is provided. However, in preparing a semantic differential
for a certain age group such as early adolescents, Osgood indicates substitutions to assure understanding of terms are necessary.

Carroll, while critical of the terminology "meaning," does indicate there is considerable evidence to show the high interscale, interconcept and intersubject consistency of semantic differential measurement. Carroll suggests that it is a useful way to index the individual's experiences with the objective referents of concepts. "Semantic differential results may have important uses in predicting the behavior of individuals insofar as behavior may depend upon 'mediational processes' which reflect experiences." (Carroll, 1959, page 76)

Concepts related to identity formation can be identified and studied using a semantic differential. Affective perceptions of concepts such as self (me), adults, work, exploring in the community, and future perspective are possible referent concepts.

A review of literature to examine studies utilizing the processes and procedure for career exploration as described in the middle school-retirement village career exploration activity revealed a lack of previous research. Some service learning projects had similar aspects. However, a foundation of the study is learning, rather than serving, with results shown in terms of career development, self identity development, and knowledge acquired.

Hedin and Conrad described a study of thirty experiential learning programs involving 4000 students conducted by the Center for Youth Development and Research at the University of Minnesota.
The study examined "all forms of experiential education except vocational programs and the Career Education Experience Based Program (CEEB) which are already extensively evaluated."

Experiential programs were defined as follows:

"...educational programs offered as an integral part of the general school curriculum, but taking place outside of the conventional classroom, where students are in new roles featuring significant tasks with real consequences, and where the emphasis is on learning by doing with associated reflection." (Hedin and Conrad, 1979, page 2)

Research design and instrumentation were utilized that were consistent with experiential learning: these did not rely solely on traditional paper and pencil tools, and utilized multiple measures for assessing each outcome, as indicated from a lack of guidance from previous research. (Hedin and Conrad, 1979)

Examples of measures utilized were qualitative notebooks, questionnaires, a semantic differential on the person or institution with whom the student had primary contact, a semantic differential on the referent Adult to examine bridging the separation between adults in the work world and students, and a third semantic differential on being active in the community.

From a thorough examination of research on the subject of experiential education, Hedin and Conrad concluded that the most persuasive research bearing on experiential education has been within the framework of developmental psychology. Describing the "key" research findings in developmental psychology by Sprinthall and Mosher, Hedin and Mosher wrote:
"In the course of looking for ways to deliberately promote psychological development they 'happened upon' experiential learning by discovering the most powerful school interventions were those combining direct participation and active reflection." (Hedin and Conrad, 1979, page 2)

For purposes of evaluating experiential based programs, the Northwest Regional Educational Laboratory developed a semantic differential with concepts of "me," "community resources," "adults," "school," "learning," "work," and "decision making." The purpose of the instrument was to assess changes in student attitudes toward themselves and toward concepts related to learning and work. A multivariate F test indicated positive and significant change in student attitude as measured by the instrument. (Tigard, 1975, page 50) "Decision making" was the only concept that did not show significant change.

Billingsley (1980) utilized the NWRL semantic differential with slight modifications for the concepts "me," "school," "student," and "work." Respectively, these were shown to have a reliability of .82, .84, .86, and .87. Statistical differences were not found due to race, sex or eligibility for participation in the program, with the exception that black students had a significantly more positive attitude on the concept "me" at the .05 level of significance. (Owens, 1980)

A review of the NWRL evaluation instrument in 1981 conducted by the Northwest Regional Laboratory indicated that the semantic differential should be kept for evaluation purposes with minor revisions. The concept of "me" was dropped because it did not show pre-post changes.
Attitudes and Knowledge of Youth about Aging and Aged

Because of the broad nature of this topic, the relevant research and literature will be presented under three subtopics. These are the condition of the aged in our society; instrumentation to measure attitudes and knowledge about aging and the aged, and; research evidence about youth's perception of the aged and the aging process and effects of educational programming.

Extensive research and comprehensive reviews are available concerning attitudes toward aging and the aged. Fewer studies have been conducted to measure knowledge. This is in part true because stereotypic thinking has made it difficult to determine what is factual information about the aged.

Condition of Aged in Society

In 1965, the U.S. Congress established the Older Americans Act (Public Law 89-73, 1965) with the objective to "...assist our older people to secure 'equal opportunity' in areas relating to personal well-being, social acceptance, and dignity." Research indicates that there still exists a "counterforce of negative or ambivalent attitudes toward aging and the aged." which are "deeply ingrained." (Ward, Fillmer and Ward, 1981, page 355)

Harris (1975) surveyed people over 65 years extensively and reported that the issues which bothered the aged the most included "crime, poor health, not having enough money to live on, loneliness, and fear of dying." (Olejnik, 1981, page 348) While these real problems exist and it is necessary to recognize and solve particular
problems, they cannot be generalized to indicate the experience of aging for all or even a majority of old people. From a study of 1500 adults ages eighteen and older, Harris (1975) reports that both the old and the young have stereotypes about the aged, with old respondents indicating that they are merely exceptions to the rule.

Bennett indicates old people are seen as being a problem rather than having a problem. (Bennett, 1976, page 38) Attitudes toward aging and the aged are seen as contributors to an older person's adjustment and survival, contributing to maladaptive behaviors, negative views of life and self, and possibly premature death. (Eckman and Bennett 1973, Ross 1976)

McTavish suggests that how society defines old age determines whether people "invite or shun, include or ignore, plan for or with, support or attach, reward or negatively sanction" the aged. From a review of 300 research studies on aging, he indicates that negative attitudes and stereotypes toward aging and the aged are prevalent in American society with views that old people are "generally ill, tired, not sexually interested, mentally slower, forgetful, and less able to learn new things, grouchy, withdrawn, feeling sorry for themselves, less likely to participate in activities (except religion), isolated, in the least happy or fortunate time of life, unproductive, and defensive in various combinations and with varying emphasis." (McTavish, 1971, page 90)

Borges and Dutton describe society as "operating under a set of beliefs that are not in line with reality. The grim specter of a
lonely dejected unproductive old age haunts Americans and is reinforced by the youth bias of the mass media." (Borges and Dutton, 1976, page 223)

Kastenbaum and Durkee (64) described old people as in a "confused psychological state" because of trying to compensate for the negative image. (Hickey and Tavish, 1968, page 218) Ross (1976) suggests that the older person unconsciously lives up to the society's expectations.

Tuckman and Lorge (1953) studied the problem that old people are expected to play a decreasingly active role in societal and industrial life. They assume behaviors of the stereotypes they learned about their age group, and the expectations lead to and reinforce the formation of misconceptions and stereotypes about old age. If societal attitudes changed toward the aged, the aged may adapt to aging as a positive stage of life and young people may plan for this stage rather than dread later years. (Ross and Freitas, 1976, page 294) Hickey and Kalish (1968) suggest that the negative attitudes learned when young may affect a person's functioning in old age. Glover (1981) more specifically states that successful aging begins during adolescence. "Clues to whether or not a person will age successfully...are reflected in the adolescent's handling of his/her own development." (Glover, Baffi and Redican, 1981, page 533)

Kogan (1961) from a literature review of minorities, has explored the 'minority group' status of old people in our society.
Using minority group models, he has determined that attitudes toward old people are scalable. Results of research with the instrument he developed indicated some significant relationships between old people and minority groups and some uniqueness which he concludes is because most individuals will eventually belong to the group or have old people as members of their own family.

Statistically, ten percent of the population in the U.S. is sixty-five years or older. By the year 2000, 12.5 percent or thirty million people will be in this age category. This is the fastest growing minority in the U.S. (Glover, Baffi and Redican, 1981, page 533)

Havighurst discusses a series of twenty years of studying on pattern of aging which he conducted with Tobin and Neugartin. He cites the key concept as adaptation, defined as "an active process ruled by the ego." Factors in the adaptation process include: "personality, social interaction, norms and expectations of the subculture in which the person lives, economic security, health and vigor, and societal provisions to assist adaptation." (Havighurst, 1968, page 69) When social activity remains medium or high, greater satisfaction is most often experienced.

Havighurst also discusses the significance of life history. "The older person is continually integrating and reinterpreting his past, attempting to make of it a meaningful whole. Older persons always adapt to the present in terms of a past history." (Havighurst, 1968, page 71) Enabling the older person to be socially involved and review their life experiencing in an accepting
supportive atmosphere would assist in the person's development at this stage of life.

Erikson has described the last state of life as Integrity versus Despair and Disgust. Persons who successfully resolve this crisis have a sense that things and people are taken care of, and that they have "adapted to the triumphs and disappointments of being the originator of others and the generator of ideas and things." They are characterized by having accepted their own life cycle, having accepted other people who had a significant role in their life, having redefined their love for their parents, and having defended the dignity of their own life style from physical or economic threats. They are emotionally integrating the responsibilities of "followship" in participation as well as leadership. (Erikson, 1963)

Concluding from an extensive literature review, Olejnik states that negative attitudes, misperceptions and stereotypes are held toward aging and the aged in our society, and "reversing these negative expectations may be crucial for the psychological adjustment and survival of the elderly." (Olejnik, 1976, page 339) It may also be crucial for the healthy physical and psychosocial development of people from early adolescence throughout adult lifestages, and for the moral strength of our society. (Ross and Freitas, 1976, Glover, Baffi and Redican, 1981)
Instrumentation Related to Knowledge and Attitudes toward Aging and Aged


Tuckman and Lorge (1952) reviewed questionnaires utilized to determine knowledge of aging and found that most were based upon statements regarding the old person's disabilities. The factual basis for statements was minimal.

Tuckman and Lorge developed an instrument, the Tuckman-Lorge Old People Questionnaire. They obtained data from unstructured interviews of fifteen adults, discussions with social workers and nursing home directors, from case histories of clients in health
care, and from a review of literature. They wrote concerning the instrument which they developed, that "for some of these statements there is a valid basis; for others there is sketchy and inclusive evidence; for the majority, experimental evidence is completely lacking." (Tuckman and Lorge, 1953, page 249)

When administered the Tuckman-Lorge Old Person Questionnaire, experts in health, education and social work positions were found by Tuckman and Lorge to hold predominantly negative attitudes. It appeared that information obtained from them for development of an instrument may be opinionated.

Axel and Eisdorfer (1961) showed that only 96 of the 137 items on the Tuckman-Lorge instrument were "valid," and of these, only 88 were significant at the .01 level of confidence. Eisdorfer (1966) found that only 79 were significant in differentiating between the youngest and the oldest reference groups.

Kogan criticized the Tuckman-Lorge instrument because it did not make use of attitude scaling procedures and paid little attention to "psychological correlates of attitudes toward old people." Using minority group models, he developed a Likert scale to enable studies of attitudes toward the aged "with respect to both norms and individual differences." (Kogan, 1961, page 44) Kogan found through testing the Kogan Old People Scale, that attitudes toward old people are scalable and that the use of terms worded in opposite directions permits researchers to test reliability of answers.
Rosencranz and McNevin criticized the Tuckman-Lorge index on the basis of its reliance upon many items which were not examined empirically. Rosencranz and McNevin developed a 32-item semantic differential which "allowed the influence of connotative judgment." (Rosencranz and McNevin, 1969, page 57) Three dimensions were discovered: instrument-ineffective dimension, autonomous-dependent, and acceptable-inacceptable. Shulman (1980) in a literature review recommended the use of the semantic differential with a variety of target age groups to gather more consistent data.

Shulman reports that research has primarily been with college age students. Kogan, Kahana, Shelton and Smith used older subjects. (Shulman, 1980, page 5) Shulman tested high school students using the Rosencranz and McNevin semantic differential scale with three age categories 20-30, 40-55, and 70-85 and found it to be valid and reliable with a high school group.

Signori and Kozak (1976) determined that there existed a factor structure from over 1968 adjectives which elderly were found to use in describing their age cohorts. Five dimensions included integrity (sociable, emphathic, truthful), fortitude (strong, healthy, energetic), social appeal (social skills, sensitivity), dependability (reliance, predictability), and open-mindedness (flexibility, tolerance, willingness to change).

Sheppard (1980) developed a 20 item 4-point Likert scale questionnaire measuring attitudes toward aging. On factor analysis, four dimensions emerged: expected activity, feelings about aging, anticipated satisfaction and death anxiety.
After reviewing available tests and scales Palmore (1977) determined that an instrument was needed which alleviated three common problems:

1) Most instruments were 40-50 questions requiring considerable time to take.

2) Confusion existed between what were factual statements and what were attitudinal statements with arbitrary determination of favorable and unfavorable scores.

3) Factual statements in the instruments were undocumented. (Palmore, 1977, page 315)

Palmore developed the Facts on Aging Quiz, a twenty-five true-false questionnaire. Documentation includes forty research articles and informational sources with each question being thoroughly examined and documented. Five uses for the instrument were cited: 1) stimulate discussion, 2) compare different groups' overall levels of information about aging, 3) identify most frequent misconceptions about aging, 4) measure anti and pro-biases, and 5) measure the effects of course or training material or to measure changes in information or biases over time. (Palmore, 1977, page 318)

Twenty-five studies have been conducted using the Palmore instrument with a total N of 3351. A review of the studies indicated "no general differences between sexes, races or age groups, but the less educated have substantially less knowledge about aging." (Palmore, 1980, page 671) The studies also showed that the group reliability is high but item reliability is low.
Klemmack questioned that item to total reliability was low. In reporting his findings in a study of 202 adult residents of a mid-size Southern city, he concluded that the instrument did not satisfy rules of standardized tests. (Klemmack, 1978, page 403)

Palmore reemphasized the 'edumetric' nature of the instrument as different than a psychometric instrument. Palmore indicated that improving the psychometric qualities would reduce its edumetric qualities and interfere with its major purposes; which he determined were "identifying most frequent misconceptions, measuring levels of information and changes in these levels—quickly and simply."
(Palmore, 1978, page 406)

Palmore reported that most people get one set of questions right and another set wrong, however, if these were removed to increase item-to-total reliability, some of the most basic facts and most frequent misconceptions would be omitted. Results from the use of the instrument indicate that the person who answers more questions correctly has more information about aging than the person who does not. Group score reliability is high, indicated by the consistency with which comparable educational groups have similar scores on the test. The 3351 people who have reportedly taken the test were grouped by education. The mean score of high school and middle school students was 55 (possible 100) with an N of 265.

The validity of Facts on Aging instrument was also questioned by Klemmack (Klemmack, 1978, page 403). The original statistics from representative national studies and information known to gerontologists was cited by Palmore as confirming the validity of
the instrument until contrary evidence is reported. A small number of questions are based on local surveys which may not be representative.

Miller and Dodder examined the terminology utilized in the twenty-five questions. Weaknesses were cited in terminology such as "most" rather than "the majority," in "double-barreled statement" such as socially isolated and lonely, and in the bias direction. (Miller and Dodder, 1980, page 674) Conclusions from a study of 430 college students by Miller and Dodder showed that neither vague terminology nor double-barreled questions made a statistical difference. Changing the direction of the bias did produce an effect. It also made a statistical difference whether respondents considered the statement an objective fact or a self-reported fact such as in the statement, old people say that they.

A review of the modified instrument by Miller and Dodder, however, suggests that by changing the direction, meanings were also significantly changed. For example, a Palmore statement reads, "The majority of old people are seldom irritated or angry," while the Miller-Dodder revision stated, "The majority of older people say they are usually irritated or angry."

Other findings of the review of studies of 3351 people who have taken the Palmore instrument indicate that: 1) The six most common misconceptions are numbers 7, 11, 16, 19, 21, and 24, (See Appendix A); 2) The less educated groups had lower scores; and 3) More knowledge about aging is associated with more positive attitudes
toward the aged, however, there does not exist a direct
correlation between the Palmore instrument and others such as
Kogan's *Old People Scale* or with semantic differential scales.
(Palmore, 1980)

Zigarmi (1979) developed a modified *Facts on Aging* instrument
to administer to early adolescents. Terminology was changed to
avoid misunderstanding of terms. From face validity, however, it
would appear that meanings of the statements were changed
considerably. Palmore's question, "The majority of old people are
seldom angry or irritated," was changed to "Most old people never
get irritated or angry." Zigarmi also put items into subscales
for analysis. Due to item-to-whole reliability data on the
Palmore, this procedure can be questioned.

While attitudes and knowledge of the aged were the key focus of
the above studies, conclusions were also drawn about a person's
attitude toward the aging process. No instruments have been widely
used to measure one's attitude toward his/her own aging process.
Zigarmi (1979), in testing the effects of curriculum on aging with
early adolescents, developed a semantic differential which was
aimed, in part, at determining attitude toward one's own aging
process among middle school students. Zigarmi was particularly
interested in early adolescent attitudes. Using Osgood's (1957)
method and terminology for measuring the "meaning" of a topic to the
respondent, Zigarmi developed a scale of fifty-six bipolar
adjectives relating to four questions.
From a pilot study of the instrument using 174 middle students in which scores were factor analyzed, seventeen of the adjective pairs were dropped. Five major factors were determined to be clustered around each of the four questions. From the pilot study of the instrument using 174 middle school students in which scores were factor analyzed, seventeen of the adjective pairs were dropped. The resulting instrument was determined in Zigarmi's research of 207 middle school students to be reliable.

Instrumentation for studying questions about the aged and the aging process exists and has been statistically documented, but selection of appropriate instrumentation for analysis with specific sample groups and types of instrumentation has not been satisfactorily defined. More research data is needed.

Youth's Perception of Aged and Aging and Effects of Educational Programming

While most research on aging and the aged has not utilized early adolescents as subjects, some studies of elementary, middle and high school students have been conducted. The majority of studies utilize college students as subjects. (McTavish, 1971) Evidence does not provide widely accepted conclusions, however. Despite differences in statistical findings, most studies recommend the need for increased education and contact with the elderly prior to late adolescence.

Elementary - High School Students—Kogan and Shelton (1962) found that neither the old nor the young were particularly interested in forming interpersonal relationships with the other.
In response to what old people need, young people responded assistance and old people responded a positive response from others. In response to what old people tend to resent, the young responded young people, while the old named specific items such as reference to age. The young indicated that they would remain indifferent toward the old rather than engage an older person in conversation.

Lane conducted a study of 400 high school and college youth utilizing the Old Person Questionnaire. Student attitudes were generally neutral. Lane concludes that the implication of the apparent neutral attitude of youth toward the elderly is that aged persons in association with youth may simply be met with tolerance rather than acceptance and responsiveness. (Lane, 1964)

Kastenbaum and Durkee showed that adolescents held predominantly negative attitudes toward the aged and "tended to omit any consideration of the later years of their lives." Old age was characterized as being "unpleasant" and "without significant positive values." (Kastenbaum and Durkee, 1964, page 215)

Hickey, Hickey and Kalish (1968) studied the attitudes of 208 third graders toward the aged by applying content analysis to student stories portraying old people. Stories produced stereotypic descriptions, despite the fact that most were positive, describing stereotypic grandparent-type characters. Hickey and Kalish (1968) determined that elementary age students do perceive differences among adult age groups, however, there was little discrimination between sixty five and eighty five year olds. The older the
adult, the less pleasant was the image. As the student increased in age, his/her image of old age did not grow less pleasant. (Hickey and Kalish, 1968, page 218) Evidence was provided that students from lower socio-economic classes held more stereotypes of the aged.

Thomas and Ymamoto studied 1000 children in grades six, eight, ten and twelve in a midwest environment using a semantic differential and concluded that young people's impressions of the aged are complex and complicated. Overall scores indicated a positive picture, although old people were seen in a less positive position compared to the middle aged and young. On the scales dealing with power, position, and activity, children agreed that the old person is in a negative position. As the target age increased, the characterization became less pleasant, less happy and less exciting, even though the scores for the old person were still above a neutral score. To the question, "How do you feel about getting old?" 32 percent were unable to give a response and 42 percent had negative responses. Because children's impressions were complex and flexible, Ymamoto and Thomas concluded that realistic education relative to contributions old people can and do make in our society could influence children's attitudes toward the aged. (Thomas and Ymamoto, 1975, page 128)

Ross and Freitas compared attitudes of seventy adolescents and sixty-five young adults toward the aged using a semantic differential technique. The age groups of 20-30, 40-55, 70+, and self were compared on social object ratings. The adolescent
population indicated a slightly more positive attitude on the instrumental - ineffective dimension toward the aged and self and the young adults scored a slightly more negative attitude toward the aged and themselves. Both groups viewed the group of persons seventy and older as significantly different than the other age groups on all three dimensions. There was a steady decrease in the acceptability dimension as age increased. (Ross and Freitas, 1975, page 291)

Ivester and King conducted a study utilizing the Kogan Old People Scale with 413 students in grades nine and twelve. The following conclusions were drawn: 1) It was not supported that adolescents tend to have negative attitudes toward the aged, rather, attitudes were neutral. 2) There were no significant differences between the scores of students in grades nine and twelve, which was inconsistent with most research except that conducted by Hickey and Kalish (1968). 3) Contact with grandparents did not affect attitudes. 4) Social class accounted for only one percent of the variation in attitudes. 5) There was no significant difference in results due to sex. This study is limited by the fact that it was conducted in a small rural community in which extended families are still common. (Ivester and King, 1977)

Ivester and King conducted a thorough study of research on attitudes of adolescents toward the aged and described the results as inconclusive.
"It is not clear that adolescents have an entirely negative view of the aged; however, it is strongly implied that adolescents do not have a generally positive attitude...The research shows a strong tendency among adolescents to see the aged as possessing stereotypic traits." (Ivester and King, 1977, page 86)

Trent, Glass and Crockett studied the effects of three different educational experiences on attitudes toward the aged of adolescent 4-H students. The literature review suggested that attitudes were formed through interaction with others, direct experiences with attitude objects, and through increased knowledge (Trent, Glass and Crockett, 1979) and, therefore, three different approaches were utilized: seminars on aging, in-depth interviews with aged subjects over a six-week period, and a combination of seminars and interviews. It was hypothesized that the combination approach would result in the most significant modification of negative attitudes. This hypothesis was not supported. All three methods produced similar and significant positive changes on the Kogan Old People Scale. The only variable which Trent found significant was the student's score on an instrument to measure his/her sense of "Purpose in Life." The results supported the concept that persons who hold a more positive sense of meaning in their own life have a more positive attitude toward life in general and the aged specifically. (Trent, Glass and Crockett, 1979) The conclusion from the study was that attitudes toward aged of early adolescents can be changed significantly through education. The adolescents utilized in this study had a slightly positive attitude toward the aged prior to the study.
Zigarmi showed that educational curriculum can result in positive changes in attitudes toward the elderly and knowledge of the psychological, economical and sociological difficulties and assets of the elderly in society. Zigarmi suggested that curriculum should convey objective information about the condition of the aged in our society and allow opportunities for interaction with the elderly to better understand their condition, skills and desires. Interactions with persons over sixty-five following the intervention were evaluated by students on a semantic differential as more meaningful and positive. (Zigarmi, 1979)

Shulman et al (1980), using a semantic differential, found high school students viewed aging as more personally unacceptable, less autonomous, and more ineffective than did persons who were over sixty-one years of age. However, high school students viewed the seventy year old target as less personally unacceptable than did persons who were over sixty-one.

Olejnik and LaRue studied intergenerational contact between white middle class income midwestern students in grades six, seven, and eight, and persons over sixty years. Boys and girls met with the aged person during the school lunch period for a two month period to share a meal and engage in informal conversation. Results on the Tuckman-Lorge Old People Questionnaire indicated that perceptions of the aged became less negative and less stereotyped. Girls changed perceptions more than boys, and younger adolescents changed perceptions more than older adolescents. Most changes related to physical characteristics and areas dealing with
insecurity among the aged. (Olejnik and LaRue, 1981, page 348)

Olejnik and LaRue questioned the fact that adolescents perceived the aged as being less concerned about the issues which Harris (1975) reported as being of most concern, i.e., health, money, loneliness, and others. They suggested that "Future attempts to change attitudes toward aging...need to be cautious to provide positive and realistic perspectives in fear of simply changing one stereotype for another." (Olejnik and LaRue, 1981, page 347)

Another important concern was raised from this research. Two questions on the Old People Questionnaire changed to more negative attitudes: 1) At the .05 level of significance, the questions, "I like to be with old people," and at the .01 level of significance, "When I am with old people, I feel good," were more negative than prior to contact. As a result, the researchers suggest,

"Opportunities for adolescents to interact with many different older adults under a variety of positive social conditions would be valuable since both age groups could discuss their interests, abilities and fears and thereby reduce negative stereotyped perceptions...through projects that would involve members of young and old cohorts cooperating for important causes." (Olejnik and LaRue, 1981, page 348)

Simply bringing the two generations together is not enough. The context is important as well as the content.

Frequency of contact with grandparents was reported to have no effect on the attitudes toward the aged of high school students (Ivester and King, 1977), which supported similar finds with college students. (Drake, 1957)
Wass, Fillmer and Ward confirmed that children's and adolescents' attitudes toward aging and the elderly as a group are generally negative, particularly with respect to physical appearance and that stereotypic thinking and misconceptions are common. The most prevalent perceptions were that old people sit in wheelchairs, are sick, tired, lonely, bored, grouchy, uninterested, and inactive. (Waas, Fillmer and Ward, 1981)

**College Students**—Tuckman and Lorge (1953) studied 147 graduate students utilizing the Tuckman–Lorge Old People Questionnaire. They concluded that graduate students considered old age as "a period characterized by economic insecurity, poor health, loneliness, resistance to change, and failing physical and mental powers."

(Tuckman and Lorge, 1953, page 260)

Rosencranz and McNevin studied the influence of contact with older persons and found that those who established a "meaningful relationship" with an older person changed their judgments, particularly on the personal acceptability dimension. Thirty members of the treatment group experienced contact in a hospital setting and this type of association, it was concluded, was a negative contact, leading to more negative evaluations of the aged. (Rosencranz and McNevin, 1969)

Naus (1973) concluded that two variables were significant for predicting attitudes toward the aged. These included socio-economic status and contact with older persons other than grandparents.

Weinberger and Millham (1975) determined that undergraduate students indicated a more negative attitude toward a representative
seventy year old than toward a representative twenty-five year old, and the majority of students (N=607) chose to avoid meeting the elderly person. Responses toward a familiar or personalized seventy year old were more favorable than those toward the elderly as a group. The study supported using multiple methods to assess attitudes.

Sheppard (1980) studied 524 students from ages 17-48 with a mean age of 22.1 years using a Likert-type scale. There was a significant relationship between one's view of his/her own aging process and his/her attitude toward the aged.

Tuckman and Lorge (1958) summarized that persons with more direct contact with a variety of old people tend to have less negative attitudes than those who have less or narrow contact. Bennett (1976) conducted an extensive review of literature on attitudes of the young toward the old and concluded that contacts with healthy aged seem to improve attitudes. Spontaneous contacts are more effective than formal contacts such as through courses in gerontology or volunteer programs to serve the sick.

There exists a need for further study of educational interventions involving intergeneration contact to determine how different types of the processes and content effect knowledge and attitudes of young people about aging and the aged.

Summary

Chapter two provides a review of literature and research related to the concepts sense of identity, career development, and
adolescent attitudes and knowledge of the aged and aging. From this knowledge base, the treatment and procedures were designed as described in chapter three.
CHAPTER III

METHODOLOGY

This chapter describes the methodology utilized in conducting this study. Included is a description of the setting of the study, methodology in selecting the sample population, description of instruments used, procedures for data collection and treatment, and data analysis.

Setting

The exploratory activity was a cooperative activity of the public school district and the retirement village. The community in which the public school is located is a middle to upper middle class white urban community, located adjacent to a major university.

The school district has a strong commitment to a comprehensive career education program based on human development models involving teachers at all grade levels and in all subject areas. Materials and transportation for this exploratory activity were paid in part by federal career education funds. Support for career exploration within the community of 42,000 residents has been through contributions of time, materials, facilities and professional expertise.
Individualization is an important element of the career exploration component of career education in this school district. As students reach a point where they express interest in testing out their interests and abilities in realistic work settings, the school responds with opportunities in the community that reflect to the students' awareness of how to explore, ability to make the commitment to the process and skill in making the experience worthwhile.

At first these exploratory learning experiences are highly structured, aimed at preparing the student for independent exploration. They are more structured than later exploratory experiences: greater proportion of time is devoted to clearly defined instructional lessons and activities with close supervision by teachers, counselors or trained staff; small groups of students with an expressed or measured common interest participate together; assignments focus on helping the student to process the meanings of the activities with teachers and counselors; and purposeful situations are created for developing work roles and relationships. These initial more structured exploratory activities are designed for students to gain awareness of the exploration process, its purpose, content, and possibilities, and to allow them to try out the skills needed for more independent exploration, including attitudes which would enable them to then make productive use of independent, individualized career exploration.
These first opportunities for exploration are closely integrated to classroom activities, with assignments that relate to classroom activities, and are participated in by groups of students who want to begin testing out their career interests. The career exploration for these students is built around a broad area, such as interest in working with people or in health fields, so that a group of students who are ready to begin this reality testing process can participate in a group exploration activity. As students gain skills in exploring, and as they are fully involved in the developmental tasks of identity formation, the exploration is individualized exploration.

The retirement village was selected as an exploration site because of its location near the school district, its previous involvement in educational programs, and the enthusiasm of the village staff. The staff cooperated with two teachers and a guidance counselor from the middle school in outlining the details of the program and recruiting volunteers from the village.

The exploratory activity was conducted twice, during the spring semesters of two school years. The activity was conducted during regular classtime, off campus at the retirement village.

**Population**

Three hundred and eighty-seven second semester eighth grade students at the middle school level participated in the study during the two school years of the administration of the exploratory activity. An additional 189 eighth grade students
were enrolled during the two year period but were not available for testing and/or participation in the activity. Because classes at this middle school were randomly assigned without reference to achievement level, there was no indication that the students who did not participate were different than those who did, except by chance.

The population for this study consisted of second semester eighth grade students who were interested in participation in the exploratory activity and did participate, students who were interested in participation but who did not participate, and students who were not interested in participation.

**Sample**

During year one of the exploratory activity, 194 eighth grade students were eligible for participation. Of these, fifty-five students expressed an interest and submitted requests to participate. Thirty students were drawn at random from the eligibility population to become the participant or volunteer treatment group. The remaining twenty-five interested nonparticipant students were determined to be comparable in academic achievement levels and were grouped as nonparticipants (volunteer nontreatment) solely on the basis of the lottery results. All other students were grouped as uninterested (nonvolunteer nontreatment) students.

During year two of the exploratory activity, 193 students participated in pre- and posttesting. However, only a group of
ninety-six students could be available for actual participation in the off-campus exploratory activity. Of the ninety-six, twenty-three expressed an interest and submitted a request to participate. The twenty-three interested students became the "volunteer treatment" group and participated in the exploratory activity. Seventy-seven students became part of the "nonvolunteer nontreatment" group.

From the remaining ninety-seven pre- and posttested students, those who expressed interest but were not available for scheduling reasons were matched by sex and academic achievement level with students in the treatment group. These students became the "volunteer nontreatment" group. All other students became part of the "nonvolunteer nontreatment" group.

The exploratory activity was conducted in the second semester of the two school years. Student data were collected each year and categorized for each year into three groups: volunteer, treatment, volunteer nontreatment and nonvolunteer nontreatment.

Through statistical procedures including chi squares to determine if groups were balanced in composition by sex and year of treatment, and Pearson Correlation coefficients to determine the effects of achievement test scores, year of treatment and sex, it was established that there was a high degree of similarity between each category of group established for year one and that same category for year two. The groups in the same category from the two years were collapsed into one, thus making a volunteer treatment group of forty-seven and a volunteer nontreatment group.
of forty-one. The total N of uninterested students for the two years was 254. From this nonvolunteer student population, a random sampling using a random numbers table was taken to establish a nonvolunteer nontreatment group of fifty students for comparative analysis.

**Instruments**

The pre- and posttest instrument contained four sections. Part one is a modification of the Semantic Differential developed at the Northwest Regional Educational Laboratory for evaluation of the Community Based Career Education Program. The Semantic Differential included four key words each followed by a set of ten adjective pairs on a five-point scale. Part two, Exploratory Attitude, is five questions each followed by one adjective pair on a five-point scale. The five questions are based on criteria which indicate an orientation toward exploration. Part three is the Palmore measure of Knowledge on Aging, containing twenty-five true/false items. Part four contains a semantic differential of four questions each followed by a set of eight to eleven adjective pairs on a five-point scale.

**Quantitative Instruments**

The derivations of each part of the pre- and posttest instruments used for quantitative analysis of this study are described as follows:

- **Modified NWREL-CEEB Semantic Differential Instrument**—The Northwest Regional Educational Laboratory developed a Semantic
Differential Instrument to assess changes in student attitudes toward various concepts likely to be influenced by program participation as a part of the NWREL Experience Based Career Educational Evaluation Instrument Package. The original Semantic Differential measured changes related to the concepts of "me," "school," "student," "work," "community resources," "learning," and "decision making." Fifteen polar adjectives were listed after each concept or key word. Each word pair was separated by five check points on which students indicated with an "X" how closely they thought the words described the key word.

The instrument, described in the EBCE Evaluation Handbook, 1975, evidenced high internal consistency as measured by Cronbach's alpha coefficient of reliability, running between .84 to .92. A multivariate F test was described as indicating a positive significant change in student attitude as measured by this instrument. "Decision Making" was the only concept not measuring significant growth. MANCOVA analysis of experimental and control group data, however, indicated no significant differences in change scores between those two groups on the semantic differential. (Northwest Regional Educational Laboratory Evaluation Instrument Package, 1975)

In 1980, Dr. Thomas R. Owens used the instrument to assess Project Leap (Learning Experiences and Academic Progress), a full year exploratory work experience. Using the scales "me," "school," "student," and "work," he reported Cronbach alpha reliability levels of .86 to .94 with each indicating high
reliability. He also reported that differences by race were statistically significant at the .05 level only for the concept of "me" with black students expressing a more positive attitude. (Owens, 1980)

In 1981, some document changes were made in the NWREL EBCE Evaluation Instrument Package. One significant deletion was to drop the concept "me" with the rationale that it did not show pre-post change.

For purposes of the middle school-retirement village evaluation, it was determined that the scales related to the concepts "me," "school," "adults," and "work" were most likely to assess objectives found in this particular career exploration activity. Considering plans to utilize the instrument with junior high students rather than high school students and to use it in the evaluation of a five week community based activity rather than a full year work experience program, it was decided to examine the polar adjectives carefully.

Dr. Richard McCaslin at the National Research Center for Vocational Education reviewed the instrument. After discussing specific program objectives with the school district's Director of Career Education, consulting Osgood's categorization of polar adjectives for specific word choices, and considering the vocabulary level of the students to be studied, Dr. McCaslin modified the instrument for usage in this program evaluation. The format and directions were not changed.
The original scales for concepts me, adults, school and work included:

- interesting-boring,
- unfriendly-friendly,
- good-bad,
- easy-difficult,
- scary-fun,
- tense-relaxed,
- reasonable-unreasonable

sad-happy,
wise-foolish,
irrelevant-relevant,
open-closed,
painful-pleasurable,
important-unimportant,
weak-strong, and
warm-cold.

The revised scale for the concepts me and adults listed the polar adjectives:

- interesting-boring,
- unfriendly-friendly,
- humorous-serious,
- relaxed-tense,
- responsible-irresponsible,
- optimistic-pessimistic,
- unsuccessful-successful,
- unreasonable-reasonable,
- sad-happy,
- intelligent-unintelligent,
- eager-indifferent,
- cold-warm,
- foolish-wise,
- weak-strong,
- lazy-motivated,
- important-unimportant,
- kind-cruel,
- selfish-unselfish,
- closed-open, and
- capable-incapable.

The revised scales for the concepts school and work included:

- interesting-boring,
- unfriendly-friendly,
- helpful-harmful,
- easy-difficult,
- tense-relaxed,
- meaningless-meaningful,
- free-confined,
- unimportant-important,
- painful-pleasurable, and
- reasonable-unreasonable.

Cronbach alpha reliability levels to determine the internal consistency on the new scales using an N of 342 were: Me .857, Adult .857, School .784, and Work .669.

**Exploratory Attitude**—Part two of the instrument consists of five questions, each followed by a semantic differential of one adjective pair separated by five check points. The questions were locally written and were designed to measure the student's exploratory attitude. Dr. McCaslin, National Research Center for
Vocational Education, and Ms. Erlanger, Career Education Staff, determined the specific questions and using Osgood's Measurement of Meaning, selected adjective pairs. For purposes of this study, exploratory attitude is measured by responses to questions concerning one's attitudes toward his/her own: communication skills, importance in the community, ability to handle responsibility, ability to form new relationships with people, and future perspective. A Cronbach's alpha to determine the internal consistency of the scale with an N of 342 was .669.

**Palmore Measure of Knowledge on Aging**—The Palmore quiz (1977) is a true-false instrument consisting of twenty-five items. It was designed to determine a person's knowledge of basic facts about aging and ability to distinguish fact from the common misconceptions about the aged. The instrument was used to determine the change in level of knowledge about aging acquired by students participating in the five week exploratory activity.

Despite some research with middle school students which has factored out subscales of the twenty-five items, it was determined because of the nature of the instrument that it would be more useful to report findings on the instrument as one score. It was not designed primarily to place a person relative to a normative group on a relatively stable trait. Statistical analysis of item to total correlation supported this decision. The subscales identified by Zigarmi, however, do indicate the general concepts included in the true-false items. She has described these as:
1) Comparison: "measurement of the respondents' perceptions of factual comparisons that can be made between younger and older people, such as learning rate or strength."

2) State of Being: "...perceptions of stereotypes they may hold about the older person's existential condition," such as bored.

3) Work Skills and Desires: "...perceptions of stereotypes they may hold about the older person's attitudes and capacities towards work."

4) Health and Social Conditions: "...perception of stereotypes they may hold about the older person's health or social conditions in the present or future." (Zigarmi, 1979, page 11)

These were areas of knowledge about aging consistent with the objectives of the school-retirement village program.

The language of the Palmore was not modified for usage with junior high students. One question was omitted in statistical analysis because it was discovered that the questions contained a critical typing error.

Zigarmi Semantic Differential—Dr. Drea Zigarmi conducted a study in 1979 in which she analyzed what seventh and eighth grade students "know and feel about their own aging process," and how they were affected by a particular interdisciplinary unit as a part of the school curriculum. She developed a semantic differential to "assess possible changes in feelings that occur as a result of the... unit on aging." (Zigarmi, 1979, page 12)

For a pilot study, a semantic differential consisting of four question each followed by fourteen polar adjectives on a six-point scale was administered to eighty-five students. The group's scores were factor analyzed. Several changes were made in
the instrument as a result. Zigarmi presents these as described below.

Seventeen adjective pairs were dropped. The remaining items resulted in five major factors, clustered around each of the four questions. Two factors clustered around question number three. Those questions on the semantic differential were:

1) When you think of getting old or about your own aging process, which words best describe that feeling? Eight adjective pairs factored out and had an internal reliability coefficient of .61.

2) When you think back to the last interaction you had with a person over 65 and not a relative, which words best describe that interaction or person? Eight adjective pairs factored out and had an internal reliability coefficient of .76.

3) When you think of the problems that older people have in our society, which words best describe these problems? Thirteen adjective pairs with two sub-factors were produced with internal reliability coefficient of .62 and .45.

4) When you think back to the last interaction you had with your grandmother or grandfather, which words best describe that interaction or person? Ten adjective pairs factored out with an internal reliability coefficient of .49. (Zigarmi, 1979, page 11)

The Zigarmi study for which this semantic differential was developed had a slightly different focus and a considerably different process than the middle school-retirement village activity. Therefore questions three was rewritten to focus more on the people themselves than on their problems. The adjective pairs remained the same. The question was changed to read: When you think of older people in our society, which words best describe these individuals?
Minor changes were made in questions one and four. In question one, the phrase, "describe your feeling" became, "describe your image." In question four, an addition after grandfather read "or oldest relative if not grandparents living." However, because question four did not relate to the questions in this study, it was dropped from analysis.

Procedures

Data Collection Procedure

For quantitative analysis during the first year of the study, pre- and posttests were administered to 194 students during a regularly scheduled class period immediately prior to and following the five week treatment. Classroom teachers and a career education staff member monitored the test administration. All volunteer treatment pre- and posttests (N=30) and volunteer nontreatment pre- and posttests (N=25) were useable. 124 nonvolunteer nontreatment student pre- and posttests were useable.

For quantitative analysis during the second year of the study, pre- and posttests were administered to 193 students during a regularly scheduled class period immediately prior to and following the five week treatment. Classroom teachers and a career education staff member monitored the test administration. Seventeen volunteer treatment pre- and posttests were useable, and six were not because of absences during either pre- or posttest administration.
Sixteen volunteer nontreatment student tests were useable. These sixteen tests represent those volunteer nontreatment students who were matched with the seventeen participant students whose pre- and posttests were useable. One of the seventeen volunteer nontreatment student tests was not valid due to response set. 130 nonvolunteer nontreatment student pre- and posttests were useable.

For qualitative analysis, the treatment groups for both treatment years recorded their experiencing in daily journals. A teacher read the students' journals on a regular basis and provided feedback to stimulate introspection. Daily journals from fifty-two participants were utilized for a content and process analysis. Entries for each day of the five week exploratory activity for each of the fifty-two participants were evaluated. Statements in the journals were marked and recorded on three grids prepared to quantify responses related to the questions.

Treatment

In the spring of the two school years, interested eighth grade students spent two periods of their regular school day for a five week period in a supervised community setting, the retirement village. Programming was based on a career education experiencing curriculum model. There was a balance of developmental objectives at the knowledge, acceptance and affirmation levels, and a balance of experiencing curriculum activities at the vicarious, simulated, and hands-on levels.
Based on a concept of mutuality as fundamental for personal growth and for developing roles and relationships, goals were identified for both the students and the older adults.

Student goals included:

To learn more about older people and what it is like to grow old and retire.

To gain a greater appreciation of the past and present contributions of older people in society.

To improve listening and speaking skills, particularly through active listening and purposeful nonverbal communication.

To discover and affirm good things about themselves and to practice sharing these assets with others.

To examine fears and attitudes related to death and dying.

To learn some history from a living source.

To explore career opportunities which involve working with older persons.

To examine myths and stereotypes related to old age.

To examine various living options for older persons, with a retirement center as one focus.

To gather information about the aging process and examine possible ways to react to it gracefully and healthfully.

To form and enjoy new relationships.

To develop skills of group planning and decision making.

Older adult goals included:

To enjoy new relationships with other human beings.

To learn about current interests, thoughts and school experiences of the junior high generation.

To learn more about the school district in which the village is located.
To share knowledge and experience with eager young learners.

To share thoughts and values with adolescents who are developing their own values.

To plan and enjoy group experiences.

Specific treatment activities included:

1) Eight individual visits with residents of the village. Each student was linked with two village partners. Each student visited one partner on Tuesday of each week and one partner on Thursday for four weeks. Exchange was the key to these visits. For example, a student might read to a visually impaired older person and that person might demonstrate a few gardening tricks to the student.

2) Ten academically oriented sessions.
   (a) Seminars were designed to deepen students' understanding of the aging process.
   (b) Sessions were conducted in which village workers and community professionals exposed students to careers associated with operating the village facility and responded to student inquiries about their educational background and experience.
   (c) A simulation was enacted in which students withstood the effects of a physical disability common among older persons, such as hearing loss, arthritis, and sensitivity to glare for a three hour period. Program staff provided instruction for empathizing with each impairment. Results were tape recorded.
   (d) After conducting an "oral history" interview with their partners, students reported their findings to their fellow students not in the program during history class.
   (e) Sessions were held to assist students in processing the meanings associated with their changing relationship with their partners and to provide them with feedback on the journals they wrote daily.

3) Six group experiences mixing all students and residents. These included films and discussions, older adult panel discussions, and a concluding party. Some topics were serious such as a discussion of death and dying, and some were lighter, such as a songfest, or "bake-in."
While attending the exploratory activity, students did not attend regular English and American history classes. These academic subjects were learned through such assignments as daily journals, history interviews and reports.

As a part of the school district's career education curriculum, the activity was designed for students to explore their career interest area of human service and health occupations. They were able to observe, gain information about and perform actual work responsibilities associated with a wide range of job tasks at the retirement center.

Underlying the above treatment activities was the very real and meaningful responsibility placed on the student in their work roles at the village and in their new relationship with an older person. While the academic oriented activities were teacher or village staff led, the individual meetings with the partners and special large group functions required planning, decision making and initiative from the student. As part of the treatment, each student was to reflect on the meanings of the day's activities, roles and relationships through writing in a daily journal. A teacher read the student's journal on a regular basis and provided written feedback to acknowledge, show acceptance and reinforce the student's exploration of the personal meanings of their new roles and relationships.

In addition, small group processing with a focus on discussing and resolving problems, such as communication, and
sharing feelings was conducted regularly by a teacher and
counselor.

Evaluation to determine that the treatment procedure was
consducted as designed included the following data collection:

1. Verification by teachers and a career education staff
   member that the scheduled sessions, assignments, and
   group activities took place.

2. Completion by the village staff and participating
   teachers and counselor of an environmental analysis
   form.

3. Verification of participation in activities through
   reading student daily journal entries.

4. Tape recordings of certain group activities and
   student end-of-program oral evaluations.

5. Collection of and records on written assignments
   and reports.

Village staff took responsibility for the realization of the
older adult goals. While not a part of this study, there was
careful preparation and ongoing support of the older adult for
this type of encounter with the youth.

Data Analysis

For the purposes of this study, two types of data were
collected, comparative and descriptive. The comparative data
analysis examines the career exploratory activity objectives
planned by the developers of the activity. Research questions
relate to student perception of self, adults, school, and work,
knowledge of aging, and attitudes toward aging and the aged.
Analyses were made of the data to examine differences among the
three study groups, volunteer treatment, volunteer nontreatment,
and nonvolunteer nontreatment prior to and immediately following the five week exploratory activity on nine scales.

The descriptive data analysis examines the content and process of students self exploration as described by the student in daily journal entries.

Quantitative Analysis—First an examination was made to determine if correlations existed between sex, basic achievement test scores, year of treatment, or group and the pretest mean scores on the nine scales. An alpha level of .05 or better was used as the level of significance for the study.

A one-way analysis of variance (ANOVA), utilizing the Statistical Package for the Social Sciences (SPSS), was computed on each of the nine pretest scales for the three groups. A one-way analysis of variance (ANOVA) of the Metropolitan Achievement Test/basic total scores for the three groups was computed to determine if significant pretest differences existed among the three groups. A chi square of the three groups utilizing the variables of sex and year of treatment were calculated to determine differences in the composition of the three groups.

A one-way analysis of variance utilizing SPSS was then computed with the three groups on each of the nine posttest means scale scores to determine significant differences among the three groups at posttest. Finally, a one-way analysis of covariance (ANCOVA) was computed to determine posttest mean differences among
the three groups after taking into account variances of sex, MAT/basic total scores, year of treatment and pretest mean scores. Covariance was established from the original correlations.

Qualitative Analysis—Fifty-two journals were assessed for process and content. Affective statements were marked in the journals and tabulated on grids relating to three research questions. Simple descriptive reporting or recording of events was not determined to indicate affective level responses.

One grid was used to tabulate process concepts—affective level responses to the retirement village setting, to the elderly partners, and about self in relationship to the partners. Another grid was used to tabulate content. Criteria were self-identity concepts from Erikson's Identity stage as listed by Quaranta. A third grid was used to tabulate four criteria related to Piaget's concept of formal operations.

To determine the degree to which students indicated the concepts on each grid, the total number and percent of student journals which contained one or more entries related to a particular criteria were computed.

Summary

Chapter three has described the methodology utilized in this study. Chapter four is devoted to the presentation of the findings of the study.
CHAPTER IV

FINDINGS

Analysis of Data

In this chapter the data collected in the study are presented and analyzed in two sections: (1) Analysis of Comparative Data, and (2) Descriptive Analysis of Student Journals.

Section one includes an analysis of the three groups, volunteer treatment (Group 1), volunteer nontreatment (Group 2), and nonvolunteer nontreatment (Group 3), at pretest and posttest utilizing a computer analysis planned with the assistance of Dr. Raymond Hall, Evaluator, Northern Colorado Educational Board of Cooperative Services. Procedures utilized include chi square, Pearson correlations coefficients, one-way analysis of variance, and one-way analysis of covariance. All statistics except chi square were calculated with the Statistical Package for the Social Sciences (SPSS). Chi square were manually calculated.

The independent variables were group, sex, basic achievement test score, and year of treatment. The dependent variables for the study were mean group test scores for nine scales related to the eight hypotheses. Significance for the purposes of this study was established at the .05 level of confidence or better.
The nine scales included: perception of self, perception of school, perception of adults, perception of work, exploratory attitude, knowledge of aging, attitude toward aging, attitude toward aged—personal interaction, and attitude toward aged—in society.

Following the presentation of statistical data, the data will be given as it relates to each hypothesis.

Section two includes a descriptive analysis of student journals utilizing data gained through tabulating journal entries. The study sought to examine the process and content of student self exploration as described by the student. Data are presented as they relate to each of the following research questions.

1. To what extent will students indicate affective responses to the retirement village setting, to the elderly partners, and about self in relationship to the partners?

2. To what extent will students address self-identity issues (Eriksonian concepts of the Identity state) as they write about their experiencing at the retirement village?

3. To what extent will students indicate an application of the process of formal operations in describing the career education exploratory activity?

Analysis of Comparative Data

Independent Variable Group—First the data were examined for mean test score differences among the three groups, volunteer treatment (Group 1), volunteer nontreatment (Group 2), and nonvolunteer nontreatment (Group 3) at pretest. A one-way analysis of variance (ANOVA) was completed on each of the nine
# Table 1

**Analysis of Variance**

**Pretest Scales**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>42.6119</td>
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<td>.259</td>
<td>.7724</td>
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<tr>
<td>Within Groups</td>
<td>11113.5112</td>
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<td>82.3223</td>
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<td></td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>341.7441</td>
<td>2</td>
<td>170.8721</td>
<td>1.552</td>
<td>.2155</td>
</tr>
<tr>
<td>Within Groups</td>
<td>14861.7921</td>
<td>135</td>
<td>110.0873</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>17.7237</td>
<td>2</td>
<td>8.8618</td>
<td>.219</td>
<td>.8036</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5463.2691</td>
<td>135</td>
<td>40.4687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>99.6731</td>
<td>2</td>
<td>49.8365</td>
<td>1.716</td>
<td>.1837</td>
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<tr>
<td>Within Groups</td>
<td>3920.6582</td>
<td>135</td>
<td>29.0419</td>
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<td></td>
</tr>
<tr>
<td>Exploratory Attitude</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>40.8580</td>
<td>2</td>
<td>20.4290</td>
<td>2.209</td>
<td>.1138</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1248.6782</td>
<td>135</td>
<td>9.2495</td>
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<td></td>
</tr>
<tr>
<td>Knowledge of Aging</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>22.0911</td>
<td>2</td>
<td>11.0456</td>
<td>2.064</td>
<td>.1309</td>
</tr>
<tr>
<td>Within Groups</td>
<td>722.3799</td>
<td>135</td>
<td>5.3510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward Own Aging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>73.1206</td>
<td>2</td>
<td>36.5603</td>
<td>1.447</td>
<td>.2389</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3410.6186</td>
<td>135</td>
<td>25.2638</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward Aged--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>248.9221</td>
<td>2</td>
<td>124.4610</td>
<td>4.997</td>
<td>.0081</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3611.0797</td>
<td>135</td>
<td>24.9049</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward Aged--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Society</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Group</td>
<td>246.1952</td>
<td>2</td>
<td>123.0976</td>
<td>3.106</td>
<td>.0480</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5350.1236</td>
<td>135</td>
<td>39.6305</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
pretest scales utilizing the three groups. Data for seven of the
nine scales demonstrated no significant pretest mean score
differences among the three groups. Data for scales 8 and 9
demonstrated significant pretest mean score differences among the
three groups at the .05 level of confidence or better. (see Table 1)

Scale 8 measured the student’s attitude toward the last
interaction he/she has with a person over sixty-five years of age
not a relative. The data indicated that the three groups differed
as shown in Table 2.

TABLE 2
GROUP MEAN SCORE PRETEST ON ATTITUDE
TOWARD AGED—PERSONAL INTERACTION SCALE

<table>
<thead>
<tr>
<th>Group No.</th>
<th>Name</th>
<th>N</th>
<th>Group Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Volunteer Treatment</td>
<td>47</td>
<td>33.9149</td>
<td>4.3481</td>
</tr>
<tr>
<td>2.</td>
<td>Volunteer Nontreatment</td>
<td>41</td>
<td>32.6829</td>
<td>5.4242</td>
</tr>
<tr>
<td>3.</td>
<td>Nonvolunteer Nontreatment</td>
<td>50</td>
<td>30.7400</td>
<td>5.1816</td>
</tr>
</tbody>
</table>

Based on their interest, students in Group 1 and 2
volunteered to participate in the career education exploratory
activity with the aged. Students in Groups 1 and 2 demonstrated
higher group mean scores than Group 3 on scale 8, indicating a
more positive attitude toward their last interaction with a nonrelative person over sixty-five years. At pretest it is logical that students who volunteered to interact with the aged through participation in this activity would demonstrate a more positive attitude in this area.

If a one-way analysis of variance (ANOVA) achieved or exceeded the .05 confidence level, the Student-Newman-Keuls test was applied. The Student-Newman-Keuls procedure indicates homogenous subsets of groups whose highest and lowest means do not differ by more than the shortest range for a subset of that size at the .05 level of confidence.

No significant differences in mean pretest scores existed between Groups 1 and 2. No significant differences in mean pretest scores existed between Groups 2 and 3. Group 3 formed a homogenous subset with Group 2. The volunteer treatment group was significantly different in mean pretest score on attitude toward aged in society from the nonvolunteer nontreatment group, but was not significantly different than the volunteer nontreatment group. The data from the Student-Newman-Keuls procedure on scale 8 pretest mean scores were considered in the analysis of posttest results.

Scale 9 measured the student's attitude toward aged people in our society. The data indicated that the three groups differed as shown in Table 3.
### TABLE 3

**GROUP MEAN SCORE AT PRETEST ON ATTITUDE TOWARD AGED—IN SOCIETY SCALE**

<table>
<thead>
<tr>
<th>Group No.</th>
<th>Name</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Volunteer Treatment</td>
<td>47</td>
<td>37.9362</td>
<td>6.2115</td>
</tr>
<tr>
<td>2.</td>
<td>Volunteer Nontreatment</td>
<td>41</td>
<td>39.5366</td>
<td>6.4773</td>
</tr>
<tr>
<td>3.</td>
<td>Nonvolunteer Nontreatment</td>
<td>50</td>
<td>36.2400</td>
<td>6.2223</td>
</tr>
</tbody>
</table>

Group 2 demonstrated the highest mean score in attitude toward aged in our society. The Student-Newman-Keuls procedure was applied to determine homogenous subsets at the .05 level of confidence.

No significant differences in mean pretest scores existed between Groups 1 and 3 or between Groups 1 and 2. The data indicated there was a significant difference between sets of groups but no single group formed an independent subset. There was a significant difference in mean pretest scores between Groups 2 and 3. The data from the Student-Newman-Keuls procedure on scale 9 pretest scores were considered in the analysis of posttest results.

**Independent Variable Metropolitan Achievement Test/Basic Total Score**—It was of additional interest to determine if the
Metropolitan Achievement Test/basic total score demonstrated significant pretest differences among the three groups at the .05 level of confidence or better. The MAT/basic total scores had been entered as Normal Curve Equivalents (NCEs) which are normally distributed. A one-way ANOVA of the three groups' MAT/Basic Total Scores demonstrated no significant differences. (F Probability at .7701 level of confidence.)

Independent Variable Sex—A chi square of the three groups using the variable sex demonstrated no significant differences in the male/female composition of the three groups. (Chi square .20 level of confidence - 4.0188)

Independent Variable Year of Treatment—A chi square of the three groups by year of treatment demonstrated no significant differences in the composition of the three groups by year of treatment. (Chi square .80 level of confidence - .3395)

Dependent Variables Posttest Results—A one-way analysis of variance was computed on the mean scores of the three groups on each of the nine posttest scales. Eight of the nine posttest scales demonstrated significant mean differences among the three groups at the .05 level of confidence or better. The scale which measured the student's perception of Self (Scale I) was the only scale which did not show significant mean score differences.

The pre- and posttest mean scores for the three groups, the direction of change in mean scores, and the Student-Newman-Keuls procedure subset results provided further data for interpretation.
of results. Analysis of variance of posttest mean scores on the
nine scales for identification of significant differentiation
among groups at the .05 level of confidence are shown in Table 4.

From the data as shown in Tables 4 through 6, the following
results were demonstrated.

1. On six of the nine scales, Group I volunteer treatment,
was determined to be significantly different than the
other two groups at the .05 level of confidence as
indicated by the Student-Newman-Keuls procedure results,
which classified homogenous subsets at the .05 level of
confidence. This indicates that the treatment group
mean posttest scores on six scales were significantly
higher than the mean posttest scores of the other two
groups. The six scales included student perception of
adults, exploratory attitude, knowledge of aging,
attitude toward aging, attitude toward the
aged--personal interaction and attitude toward the
aged--in society.

2. On scale 1, student perception of self, there was no
significant difference among the three groups at
posttest. (F Probability at .1020 level of confidence)
The difference between the posttest mean scores of Group
1 with each of the other groups did increase at
posttest, but the difference was not significant.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability</th>
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<tr>
<td><strong>Self</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Between Group</td>
<td>425.1919</td>
<td>2</td>
<td>212.596C</td>
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<td>Within Groups</td>
<td>12363.1921</td>
<td>135</td>
<td>91.5792</td>
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<td><strong>Adults</strong></td>
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<td>Between Group</td>
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<td>108.3137</td>
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<td><strong>School</strong></td>
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<td>Between Group</td>
<td>196.9737</td>
<td>2</td>
<td>98.4868</td>
<td>3.267</td>
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<td>Within Groups</td>
<td>4069.4973</td>
<td>135</td>
<td>30.1444</td>
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<td><strong>Work</strong></td>
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<tr>
<td>Between Group</td>
<td>270.3998</td>
<td>2</td>
<td>135.1999</td>
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<td>Within Groups</td>
<td>3880.3442</td>
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<td>28.7433</td>
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<td><strong>Exploratory Attitude</strong></td>
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<tr>
<td>Between Group</td>
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</table>
3. On scale 3, student perception of school, there was a significant difference in mean score among the three groups at posttest. (F Probability at .0411 level of confidence) The mean score at the posttest of Group 1, however, was not significantly different than the mean scores of Groups 2 and 3.

4. On scale 4, student perception of work, there was a significant difference in mean score among the three groups at posttest. (F Probability at .0106 level of confidence). The data indicated that there was a significant difference between sets of groups, however, no group stood out as independent. No significant differences existed between the posttest mean scores of Groups 1 and 2, and there were no significant differences between the posttest mean scores of Groups 2 and 3. There was a significant difference at the .05 level of confidence between the scores of Group 1 and Group 3.

Analysis of Covariance—Because two of the nine scales had a significant pretest difference among the three groups, it was necessary to complete an analysis of covariance (ANCOVA). Analysis of covariance removed the pretest group differences of these two scales upon the same posttest scale results. While these two scales had significant posttest differences among groups in the preceding ANOVA, they may not have been significant after taking pretest differences into account.
As recommended by Kerlinger (1973), an analysis of covariance, ANCOVA, was completed on all nine posttest scales. In addition to the two scales with significant pretest differences, the independent variables of sex, MAT/basic total scores, and year of treatment were examined to determine if they were correlated with posttest mean score results for the nine scales. The independent variables with a significant relationship to a posttest scale also served as a covariate for that scale.

As would be expected, the scores on all pretest scales had a significant correlation (.05 level of confidence or better) with their corresponding posttest scores when Pearson correlation coefficients were calculated. Scale 6, as expected from previous research utilizing the Palmore Knowledge of Aging instrument, had a low correlation (+.27).

Correlations of sex, MAT/basic total scores, year of treatment and posttest mean scores were examined. The following results were demonstrated:

1) Sex demonstrated only one correlation with a scale which was significant at the .05 level of confidence. This was still a low correlation of +.19.

2) The MAT/basic total scores demonstrated significant posttest correlations (.05 level of confidence or better) with two posttest scales. Both of these were also low correlations (+.20 and +.19).
3) Year of Treatment had a significant correlation with three scales at the .05 level of confidence. Two of the three scales were quite low (+.16) while the third was higher (+.32).

A one-way analysis of covariance (ANCOVA) was conducted for each of the nine posttest scales utilizing the corresponding pretest score. In addition, if the scale had a second variable such as sex, MAT/basic total score, or year of treatment which was significantly correlated to posttest scores, this variable formed a second covariate. One scale, 6, had two related variables in addition to the pretest. These two were year of treatment and MAT/basic total score. The year of treatment was so much more highly correlated that it was used as a second covariate.

As with the one-way analysis of variance (ANOVA), the analysis of covariates of the differences in posttest mean scores among the three groups on the nine scales indicated significant posttest mean differences on all scales except scale 1 at .05 level of confidence or better. (See Tables 7-15)

The findings from the analysis of comparative data are summarized as they relate to each of the eight hypothesis.

Hypothesis I—There will be no significant differences among the three groups in student perception of self following a five week experiencing career exploration activity.

The data indicate that at pretest the mean scores of scale 1, perception of self, among the three groups, volunteer treatment, volunteer nontreatment, and nonvolunteer nontreatment, were not significantly different. All three groups demonstrated a
### TABLE 7
ANALYSIS OF VARIANCE
POSTTEST SELF SCALE

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<tr>
<th>Covariates</th>
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### TABLE 8
ANALYSIS OF VARIANCE
POSTTEST ADULTS SCALE

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**ANALYSIS OF VARIANCE**

**POSTTEST SCHOOL SCALE**

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### TABLE 10

**ANALYSIS OF VARIANCE**

**POSTTEST WORK SCALE**

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**ANALYSIS OF VARIANCE**
**POSTTEST EXPLORATORY ATTITUDE SCALE**

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### TABLE 12

**ANALYSIS OF VARIANCE**
**POSTTEST KNOWLEDGE OF AGING SCALE**

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**ANALYSIS OF VARIANCE**
**POSTTEST ATTITUDE TOWARD OWN AGING SCALE**

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### TABLE 14

**ANALYSIS OF VARIANCE**
**POSTTEST ATTITUDE TOWARD AGE—PERSONAL INTERACTION SCALE**

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<td>602.670</td>
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<td>602.670</td>
<td>37.338</td>
<td>.001</td>
</tr>
<tr>
<td>Between Groups</td>
<td>559.371</td>
<td>2</td>
<td>279.686</td>
<td>17.328</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2162.865</td>
<td>134</td>
<td>16.141</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covariates</td>
<td>Sum of Squares</td>
<td>DF</td>
<td>Mean Square</td>
<td>F</td>
<td>Probability</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------</td>
<td>----</td>
<td>-------------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>Pretest Attitude Toward Age--In Society</td>
<td>1211.589</td>
<td>1</td>
<td>1211.589</td>
<td>49.591</td>
<td>.001</td>
</tr>
<tr>
<td>Between Groups</td>
<td>1366.548</td>
<td>2</td>
<td>683.274</td>
<td>27.967</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3273.834</td>
<td>134</td>
<td>24.432</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
positive perception of self. On a scale of 100, pretest mean scores ranged from 80.72-81.66. The positive orientation of the three groups persisted at posttest with scores ranging from 79.18-82.55.

The direction of change shows the treatment group scores improved at posttest. There was, however, no statistically significant difference among the three groups at posttest. The null hypothesis as measured on scale 1 was confirmed.

A further investigation of scale 1 was conducted to determine if subsets existed within the scale. Both pre- and posttest scores indicated high internal consistency of .86 and .88 respectively. With these high reliability coefficients, there was no indication that subsets existed within the scale.

Hypothesis II—There were no significant differences among the three groups in student perception of adults following a five week experiencing career exploration activity.

Hypothesis II was not confirmed by the statistical analysis. While no significant difference in mean scores existed among the three groups at pretest on scale 3, a significant difference among the three groups beyond the .01 level of confidence existed at posttest. Mean posttest scores of the treatment was significantly different and higher than those of the two nontreatment groups. Mean posttest scores for groups 2 and 3 were not significantly different from each other.

Hypothesis III—There will be no significant differences among the three groups in student perception of school following a five week experiencing career exploration activity.
The data indicate that while no significant differences in mean scores existed among the three groups at pretest on scale 3, there did exist a significant difference at the .0411 level of confidence among the three groups at posttest. The null hypothesis appeared to be rejected, however, the results of the Student-Newman-Keuls procedure show that there was not a significant differentiation of the treatment group from the other two groups.

All three groups indicated a slightly positive perception of school at pre- and posttest with mean scores on a scale of 1-5 ranging from 3.67-3.74 at pretest and 3.55-3.81 at posttest.

Hypothesis IV—There will be no significant differences among the three groups in student perception of work following a five week experiencing career exploration activity.

Hypothesis IV was not confirmed by the statistical data. While no significant differences in the mean scores of the three groups existed at pretest on scale 4, a significant difference at the .0106 level of confidence existed in the mean scores among the three groups at posttest. There was no significant difference between the posttest mean scores of Groups 1 and 2 or between groups 2 and 3. A significant difference existed between the volunteer treatment group and the nonvolunteer nontreatment group with the treatment group’s scores being significantly higher.

Hypothesis V—There will be no significant differences among the three groups in student exploratory attitude following a five week experiencing career exploration activity.

The data indicate at pretest there was no significant mean score differences among the three groups in scale 5—exploratory
attitude. At posttest a significant difference existed among the three groups beyond the .05 level of confidence. The results indicate the treatment group mean score was significantly higher than that of the other two groups. No significant differences at the .05 level of confidence existed between the mean posttest scores of the two nontreatment groups.

Hypothesis VI—There will be no significant difference among the three groups in student knowledge of aging following the five week experiencing career exploration activity.

The pretest mean scores of the three groups showed no significant differences at the .1309 level of confidence in knowledge of aging. The pretest mean scores were similar to those scores reported by Palmore of 265 middle and high school students previously administered this instrument. (Of 100, Palmore group mean scores = 55. Of 96, the volunteer treatment group = 58.9, the volunteer nontreatment group = 56.0, and the nonvolunteer nontreatment group = 55.2)

The treatment group mean posttest score was significantly different and higher than the two nontreatment groups. The volunteer treatment group mean score increased to 74.47. Volunteer nontreatment group mean posttest scores were significantly lower than the treatment group and significantly higher than the nonvolunteer nontreatment group. The data indicate that the hypothesis is rejected. The results clearly separate the treatment group from the other two groups.
Hypothesis VII—There will be no significant differences among the three groups in student attitude toward aging following a five week experiencing career exploration activity.

Hypothesis VII was not confirmed. Following the five week career exploration activity, there was a significant difference in mean scores among the three groups. No significant difference was demonstrated at pretest. The volunteer treatment group mean score was determined to be significantly different and higher than those scores for Groups 2 or 3 at posttest. The volunteer nontreatment and nonvolunteer nontreatment groups were not significantly different in posttest mean score. The treatment group was significantly different than the other two groups following the exploratory activity as measured on the posttest scale 7.

Mean test scores at pretest indicated that students in the three groups held neutral attitudes toward their own aging process. (Item mean scores on a scale of 5: volunteer treatment = 3.33, volunteer nontreatment = 3.30, and nonvolunteer nontreatment = 3.33) The volunteer treatment group mean score became positive (3.87) at posttest while no changes occurred in the two nontreatment groups.

Hypothesis VIII—There will be no significant differences among the three groups in student attitude toward the aged following a five week experiencing career exploration activity.

Hypothesis VIII has two factors and data were collected from two scales to determine the confirmation or rejection of the null hypothesis. The first factor, scale 8, indicates student attitude toward the aged gained through considering one's last interaction with a person over sixty-five not a relative.
The data indicate that at pretest the means scores on scale 8 among the three groups were significantly different. An analysis of variance indicated that a significant mean score difference beyond the .01 level of confidence existed among the three groups on scale 8 at posttest. Because of pretest differences, an analysis of covariance was computed to account for the pretest differences. The posttest difference among the three groups was confirmed beyond the .01 level of confidence. The treatment group mean posttest scores were shown to be significantly different and higher than those of the nontreatment groups. The nontreatment groups formed a single member subset when the Student-Newman-Keuls procedure was applied. The hypothesis was rejected.

The pretest mean scores indicated a slightly positive attitude toward last interaction with a person over 65 years not a relative among the three groups. At posttest, nontreatment group scores showed no change (within .50 of pretest score) or slight decrease. The volunteer treatment group item mean score increased to a strong positive attitude score of 4.56 (scale of 5).

Scale 9 was also utilized to gather data to determine the confirmation or rejection of Hypothesis VIII. On scale 9, the second factor, students indicated attitude toward aged by considering adjectives to describe older people in the society.

At pretest, significant differences did exist among the three groups on scale 9. An analysis of variance at posttest indicated a significant difference in mean scores beyond the .01 level of confidence among the three groups. Because of pretest
differences, a one-way analysis of covariance was conducted to remove the pretest differences. The posttest analysis of variance was confirmed beyond the .01 level of confidence indicating that significant differences existed among the three groups at posttest. Hypothesis VIII was rejected.

The volunteer treatment group mean posttest scores were significantly different than those of the two nontreatment groups. The mean posttest score of Group 2 differentiated it from Group 3 at the .05 level of confidence.

The volunteer treatment group item mean score at pretest was neutral (3.45 on a scale of 5). At posttest this strengthened to a 4.04, indicating a positive attitude toward aged in our society. The nonvolunteer nontreatment group indicated a neutral attitude toward the aged at pretest (3.295) and the item mean score did not change at posttest (3.296). The volunteer nontreatment group score was in the neutral range at posttest.

The findings in this study are presented in two sections. The second section contains a descriptive analysis of student journals.

Descriptive Analysis of Student Journals

The study sought to examine the process and content of student self exploration as described by the student in the daily journal. Three questions were considered:

(1) To what extent will students indicate affective responses to the retirement village setting, to the elderly partners, and about self in relationship to the partners?
(2) To what extent will students address self-identity issues (Eriksonian concepts of the Identity stage) as they write about their experiencing at the retirement village?

(3) To what extent will students indicate an application of the process of formal operations in describing the career education exploratory activity?

Data and interpretation are presented to address each question.

Entries for each day of the five week exploratory activity for each of the fifty-two participants were analyzed. Complete copies of student journals were made for analysis. Statements in the journals were highlighted in colored pen to indicate relevance to question 1-3, numbered according to concept, and then recorded on grids prepared to quantify responses related to each question. Only statements which indicated affective responses were considered. Simple descriptions or reports of factual events were not considered affective responses. This method required a degree of subjective decision making by the researcher. The researcher took a conservative approach to evaluating specific statements.

Question I—To what extent will students indicate affective responses to the retirement village setting, to the elderly partners, and about self in relationship to the partners?

A study of the fifty-two journals indicated that the process of student self exploration as described by the student was an experiencing process. Affective responses recorded in the journals were first about the setting as students reached out to explore the environment. These descriptions included concrete observations and reactions to the retirement village—a description of the physical layout of the village and general
characteristics of the elderly group of people living at the village and the student's feeling about observations at the village. An example from the journals of an entry marked for this criteria reads: "This was the day we went to the convolarium. To me it was a place of sadness, of surrender, and I disliked it."

Secondly, responses in the journals were about the specific elderly partners assigned to each student. The students in the journal explored the thoughts, feelings and actions of the elderly partner, as a person separate from self. Student entries showed sensitivity to realistic issues which were important to the elderly partner (family relationships, physical health, travel experiences, economic concerns, feelings of loneliness, concern for deceased loved ones and others). Examples from the journals of this criteria include: "She seemed very positive toward most everything. She doesn't really enjoy talking to people who talk totally about their ailments. But she loves to talk about her family...It will be fun to talk with her again."

Thirdly, as the students became increasingly involved in the exploration activities and as the five weeks progressed, student responses were about self in relationship to the partner. The students began to indicate or examine the connections between themselves and the elderly partners. Students indicated their own feelings, thoughts and actions as they were affected by the partners and as they affected the partners. An example from the journals of this criteria is: "I am unhappy how the time went so fast. It causes me great distress to just to know the person and
just pack up and leave. I feel so awkward leaving because I had a real love for both my partners. I have signed up as a volunteer here next summer so I can see my partner."

Table 16 indicates the extent to which students indicated affective responses to the setting, to the elderly partners and about self in relationship to the partners. It must be noted that these figures are all very high, above 80 percent, especially when it is considered that for many students this was their first experience journaling and that some types of learners are more able to express themselves in words than others.

**TABLE 16**

**EXTENT TO WHICH STUDENTS INDICATED AFFECTIVE LEVEL RESPONSES TO THE RETIREMENT VILLAGE SETTING, TO THE ELDERLY PARTNERS AND ABOUT SELF IN RELATIONSHIP TO THE PARTNERS**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number of Journals with Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Village Setting</td>
<td>45</td>
<td>87</td>
</tr>
<tr>
<td>Elderly Partner</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>Self-in-relationship to Partner</td>
<td>44</td>
<td>85</td>
</tr>
</tbody>
</table>

**Question II**—To what extent will students address self identity issues (Eriksonian concepts of the Identity stage) as they write about their experiencing at the retirement village?
Criteria used for data collection are those concepts presented in Erikson's *Childhood and Society*, "Eight Stages of Man" (1950). Operationally, concepts applied to the descriptive analysis of student journals are those listed in Quaranta's criteria from Erikson's chapter about the Identity stage entitled *Career Exploration*. Criteria found in student journals in this study include:

1. Promise of career/occupational identity: opportunity to envision one's self in various life roles and to identify fitting occupations.
2. Broad environment: opportunity to participate in the community beyond the school and family.
3. Connectedness of skills: awareness of application of skills learned in school to skills needed in adult roles.
4. Connectedness of roles: awareness of the relationship between one's functioning roles during school years and roles during adulthood.
5. Congruity between self-perceptions and others' perceptions of self: opportunities for risk-taking and feedback.
6. Experiencing in roles/exploration in a wide range of social and occupational roles: opportunities to actively tryout a variety of work and social roles in realistic settings and to consider alternatives, consequences and meanings for one's life.
7. Experiencing skills/tangible adult tasks ahead: opportunities to actively tryout and skills and abilities in realistic work tasks.
8. Guidance with independence: opportunities for some assistance in sorting out the meaning of one's experiencing for personal and career decisions in the context of free choice and increasing independence.
9. Peers/adults: opportunities to interact with peers and adults, to use them as comparison figures from which to sort one's own values, ideals, interests, and goals.
10. Stereotypes: opportunities to test out stereotypes with reality and formulate new concepts about individuals and groups.


Table 17 indicates the results of student responses related to each concept. Concept eleven above was not considered here because the application of abstract thinking is dealt with in detail as a part of Question III. Concepts which were presented in 85-96 percent of the journals included concepts 2, 6, 9, and 10.

All students by nature of taking part in the career exploration activity were involved in learning in the community beyond the classroom. Criteria 2, therefore, was to examine to what extent students experienced a sense of community among their peers and elderly in the retirement community. Most journal entry indications of this concept were related to the planning and presentation of the culminating appreciation party. Students wrote about their admiration for the elderly, their pride in their fellow students, their joy that everyone worked hard to make the program a success, their feelings about the village staff and their teachers, their growth as a result of helping and learning from their partners, their hopes to continue relationships at village, their disappointment if their partner could not attend and other responses that reflected a community spirit, based on caring and mutual respect. Examples from the journals read: "I feel proud and privileged to be a part of this remarkable group,"
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Journals with Criteria</td>
</tr>
<tr>
<td>1 Promise of Career/Occupational Identity</td>
<td>18</td>
</tr>
<tr>
<td>2 Participation is the Community</td>
<td>45</td>
</tr>
<tr>
<td>3 Connectedness of Skills</td>
<td>3</td>
</tr>
<tr>
<td>4 Connectedness of Roles</td>
<td>6</td>
</tr>
<tr>
<td>5 Congruity Between Self-Perceptions and Others' Perceptions of Self</td>
<td>2</td>
</tr>
<tr>
<td>6 Exploration in a Range of Social Occupational Roles</td>
<td>48</td>
</tr>
<tr>
<td>7 Experiencing Skills/Tangible Adult Tasks</td>
<td>13</td>
</tr>
<tr>
<td>8 Independence and Guidance</td>
<td>11</td>
</tr>
<tr>
<td>9 Peers/Adults-Opportunities to Interact</td>
<td>50</td>
</tr>
<tr>
<td>10 Stereotypes</td>
<td>49</td>
</tr>
</tbody>
</table>
and "I was very proud of our group...It was very exciting to see people using their talents."

Ninety-two percent of the student journals contained responses that showed attention to the identity issue number 6, experiencing in roles and exploration in a range of social and occupational roles. Students were aware that they were exploring occupational roles as a part of their village experience. They indicated gaining information about occupations and careers from speakers, realistic work tasks, participation-observation and from discussions with their partners. Thirty-five percent of the journals contained statements indicating that the student was beginning to envision him or herself in a particular occupational roles (Concept 1). Examples of concepts 6 and 1 include: "Today was really interesting. I learned very much about several jobs in the village," and "I was introduced to a career I am very interested in. Actually it's work I've wanted to do for a long time—physical therapy. Now I must decide which science class to take next year."

Opportunities to interact with peers and adults, to use them as comparison figures from which to sort out one's own values, ideals, interests and goals—Concept 9—was found to be the most evident identity issue in student journals. Journal entries were specific and direct in stating how students felt about having the opportunity to interact with their elderly partners. The personal meaning of encounters were identified. Enthusiasm was expressed for shared interests. A sense of discovery was indicated at
learning how "alive" and lively the elderly partner was. Students wrote about learning from the elderly such as how to take pictures, garden, or play pool, and learning about the past, about countries traveled or lived in, about government, about caring for one's health, about education and careers, and about the importance of family.

Students wrote about new and realistic awarenesses of what it means to grow old such as the value of exercise and social relationships, family, continued interests developed when young, loneliness, and economic, living conditions and health concerns. Many students indicated plans to continue communication with their partners. A group of students volunteered as summer workers at the village. Examples from the journal entries are: "I didn't know older people had that much to offer about themselves to us before this," and "They were interesting to talk to because their roots are in (this community)."

The experience of testing out stereotypes with reality and formulating new concepts about individuals and groups—concept 11—was another identity issue found in 49 of 52 journals. Students identified their stereotypic ideas about the aged and then explored these during their various activities and encounters at the village. Journal entries indicate the reconsideration of the misconceptions and stereotypes. An example from the journals written after group processing states: "I was particularly pleased with how impressed Wes and Sean were with their Thursday partner. I think it's super that he was able to make the two boys overlook
his disability and to really dazzle them with his knowledge in electronics."

While only six percent indicated concept three in their journals, an awareness of application of skills learned in school to skills needed in adult roles, in a final evaluation questionnaire, fifty percent cited communication skills as an area in which they most improved as a result of participation in the career exploration activity. This concept may have been difficult to detect in student daily journal entries, or the program activities did not encourage this process. Thirty-seven percent indicated experiencing skills and/or tangible adult tasks.

Table 17 indicates the extent to which students addressed self-identity issues. Because the students were early adolescents just entering the Identity stage, it would not be expected that students would examine all of these concepts. It is important that this exploration activity provided the opportunity for many students to experience some of the identity formation criteria and write about their experience (as indicated by Concepts 2, 6, 9, and 10). However, the lack of involvement in other criteria raises a number of questions for career education programming and the application of Eriksonian concepts to early adolescent experiencing.

Question III—To what extent will students indicate an application of the process of formal operations in describing the career education exploratory activity?

The concept of operational thinking as defined by Piaget and included by Erikson in his analysis of the identity formation
process is the basis for Question III. The study sought to
determine to what extent operational thinking was indicated in
journal entries as a part of the process of student exploration.
The application of formal operational thinking is related,
according to Piaget, "to his aptitude, interest and involvement in
that content" (Piaget, 1972, page 8). Hedin and Conrad reported
that only 25-50 percent of high school students develop the
ability to think abstractly. (Hedin and Conrad, 1979, page 4)

The application of formal operational thinking is evidenced
for purposes of this study by journal entries in which the student
examined complex questions, ideas or problems, concrete and/or
abstract, by considering several points of view or options and
deducing logical consequences for his/her lifestyle, or by entries
in which the student empathized with or imagined another's life
history, situation or relationships.

Table 18 lists the criteria and data collected for this
descriptive analysis. Criteria 2 and 3 were most commonly found
in student journals. Sixty percent of the student journals
contained statements in which the student reported others'
ideological approaches to life and examined these for meaning in
their own life. These entries indicated abstract thinking applied
to one's own future possibility. Approaches to one's own health,
education, career choice, personal values and attitudes, family,
aging were most commonly explored. Examples from the journals
that shows abstract considerations about future are: Kathryn gave
me her wise advice. She told me that there is a thread deep
inside everyone of us...I learned to stand up for myself...my individuality because I must follow (or sew) my thread...," and "She eats health food, plays the piano, sings and walks around all the time. I plan to be very active too when I grow old."

### TABLE 18

**EXTENT TO WHICH STUDENT INDICATED APPLICATION OF FORMAL OPERATIONAL THINKING**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number of Journals with Criteria</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Applied hypothetico-deductive reasoning to concrete or abstract situations</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>2. Explored ideological constructs</td>
<td>31</td>
<td>60</td>
</tr>
</tbody>
</table>
| 3. Empathized with or imagined another's life history situation or relationships -
  a.) Elderly Partner                                                     | 25                               | 48      |
  b.) Handicapped                                                         | 46                               | 88      |

Forty-eight percent indicated responses showing empathy with or imagination of their village partner's life histories or relationships (3a). Responses revealed the student as gaining understanding of the love and loss the partner felt for a deceased
spouse or children, or understanding the person's experience
during historical events such as the depression, a flood, or
working in the local community many years ago. Examples from the
journals which indicate this criteria include: "I think the
Benson's really enjoy talking with us. They seem to miss being
close to their great grandchildren...I believe that for them, Beth
and I are a substitute for their real family," "I felt deeply for
the boy and this father because it must have been a very painful
time for both of them," and "I felt very interested in learning
about her life...She told us about some frightening moments."

Criteria 3b was recorded when the student indicated empathy
with or imagination of the life situation of people with
handicaps such as those most often experienced by elderly due to
arthritis, bone deterioration, and hearing loss. As part of the
treatment, an extensive simulation in which students had to
perform everyday tasks which were made difficult with the
constraints of the simulated handicaps was conducted. Eight-eight
percent of the student journals indicated not only the events of
the simulation, but newly discovered awareness and imagination of
what it would be like to be handicapped. Statements from the
journals are provided as an example: "I have just come out of
being blind for three hours and I got a real good taste of what a
blind person goes through in a day, but what about his whole life?
I think most people take advantage of having good sight or any at
all—I feel really lucky," and "I felt like I couldn't do
anything—like I should be ashamed of myself or something...It was
frightening...I never realized how much strain and pain is placed on an individual who is handicapped."

A lesser percent, twenty-seven percent of the journals indicated application of hypothetico-deductive reasoning to concrete or abstract situations. An explanation for these lower percents may be that students wrote about their conclusions in given situations rather than about the steps to reach conclusions. Another explanation may be that the career exploration programming did not encourage the application of analytical reasoning skills.

Summary

Chapter four presented findings which examine the differences among three groups of early adolescents, those who were interested and participated in the career education exploration activity, those who were interested but did not participate, and those who were not interested and did not participate, with regard to the student's development as measured by the student's perception of self, school, adults, and work; with regard to the student's attitude toward exploration; and with regard to the student's knowledge of aging, attitude toward aging, and attitude toward the aged. In the analysis of comparative data, the three groups, volunteer treatment, volunteer nontreatment, and nonvolunteer nontreatment, were examined on nine scales prior to and immediately following the treatment, a five week exploratory activity. After taking into account pretest differences, posttest results indicated that for eight of the nine scales, significant
differences existed among the three groups at the .05 level of confidence or better.

Chapter four also presented the examination of the content and process of exploration as viewed by the student in student journals. Three questions were addressed in the qualitative analysis.

Chapter five offers a summary of results, conclusions for practice, and recommendations for further research.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Career exploration is the career education component which reflects the stage of career and personal development of adolescents. An early adolescent, beginning to face normative conflicts associated with the forming of an integrated identity, is gradually sorting out and fitting together information about self, the society, education, career and life options toward establishing a career identity. The sphere of exploration is beyond the classroom to the community.

In the school district where this study was conducted, career exploration activities are designed to provide students with opportunities to explore in the community, to gain realistic information about self such as interests, skills, values, and goals, and about the world from which to make meaningful life choices. This study examined the influence of a small group experiencing career exploration activity conducted at the middle school level with students who expressed an interest in careers helping people and/or health field.

The volunteer early adolescent participants in the exploratory activity assumed helping-learning roles within a
retirement village setting with persons over sixty-five years of age. The five week treatment engaged students in an experiencing curriculum.

The analyses in this study addressed the questions: What impact does the treatment have on the student's development as measured by the student's perception of self, adults, school and work? What effect does the treatment have on the student's attitude toward exploration? What process and content do students experience as they engage in the career exploration activity?

Because students were involved in an experiencing curriculum in which they engaged in work roles and relationships with elderly persons based on mutual benefit for the youth and the elderly, this study sought to examine the effect of this kind of encounter on the student's knowledge about aging, attitude toward aging, and attitude toward the aged. What impact did the exploratory role and relationship have on the student's knowledge and attitudes about the aged and the aging process?

For purposes of this study, three groups of early adolescents were studied: volunteer treatment group (N=47), volunteer nontreatment group (N=41), and nonvolunteer nontreatment group (N=50). Prior to and immediately following the five week exploratory activity, a four section instrument was administered. Part one measured the student's perception of self, adults, work and school utilizing a modified semantic differential development by the Northwest Regional Educational Laboratory as part of the Career Education Experience Based Evaluation Instrument Package;
Part two measured exploratory attitude and was developed with the assistance of a consultant from the National Research Center for Vocational Education; Part three was the Palmore Knowledge on Aging Quiz and; Part four contained a semantic differential to measure attitudes toward one's own aging and the aged, developed by Zigarmi.

Analysis of the pre- and posttest data showed that participation in the career exploration activity had a significant and positive influence on the interested early adolescent treatment group when compared with the other two groups who did not participate. With pretest differences relative to sex, year of treatment, and achievement score, and pretest mean score taken into account, eight of the nine scales utilized in this study showed significant posttest differences among the three groups at the .05 level of confidence or better.

On six of the nine scales, the treatment group mean posttest scores were shown to be significantly higher than those of the two nontreatment groups at the .05 level of confidence or better. These scales measured perception of adults, exploratory attitude, knowledge of aging, attitude toward aging, attitude toward the aged gained through personal encounter and attitude toward the aged in our society. The scale to measure student perception of self did not show a significant posttest mean score difference.

The treatment group mean posttest score was also shown to be significantly different than the nonvolunteer nontreatment group
at the .05 level of confidence on the scale measuring perception of work.

One of the null hypotheses was accepted and seven were rejected. Hypothesis I was accepted. Because the three study groups indicated high positive scores on perception of self at pretest, little positive change could be shown on the scale relating to this hypothesis.

Hypothesis II-VIII were rejected. The study showed that the activity which engaged interested students in interaction with the elderly and in exploring realistic work roles had a positive effect on the student's perception of adults, exploratory attitude, attitude toward their own aging, knowledge of aging, and attitude toward aged, thus differentiating them from the group of students who were interested but did not participate and the group of students who were neither interested nor participated.

The results related to Hypothesis III were unclear. While the null hypothesis was rejected, there was not a statistically significant separation among the groups when the Student-Newman-Keuls statistical procedure was applied. The exploration activity did, however, reinforce a positive attitude toward school; the direction of change in the treatment group pre- and posttest mean score was positive.

Hypothesis IV was rejected. However, results showed that while the volunteer treatment group had a significantly more positive perception of work than the nonvolunteer nontreatment group, it was not significantly more positive than the other
volunteer group which did not participate. This suggests that volunteer status affected the posttest score even though it was not a factor at pretest. The results indicate that the treatment is one educational activity which has a positive effect on the student's attitude toward work. However, the students interested in this career exploration opportunity but unable to participate achieved these gains from other involvements.

In addition to the quantitative analysis of pre- and posttest data, a qualitative analysis of student daily journals was conducted to determine the content and process of student exploration as reported by the student. The content and process of exploration as found in the journals is summarized as follows:

The most frequently occurring content areas of student experiencing included:

(1) Broad environment: opportunity to participate in the community beyond the school and family. 87 percent.

(2) Experiencing in roles/exploration in a wide range of social and occupational roles: opportunities to actively tryout a variety of work and social roles in realistic settings and to alternatives, consequences and meanings for one's life. 92 percent.

(3) Peers/adults: opportunities to interact with peers and adults, to use them as comparison figures from which to sort one's own values, ideals, interests and goals. 96 percent.

(4) Stereotypes: opportunities to test out stereotypes with reality and formulate new concepts about individuals and groups. 94 percent.

During the career education exploratory activity, students were confronting self-identity important for personal and
career development. Other issues including promise of an occupational identity, connectedness of skills and roles, congruity between self perceptions and other's perceptions of self, experiencing skills and independence with guidance were reported, but not frequently.

The process as described by students in the journals was an experiencing process. Students indicated awareness and exploration of the environment, openness to knowing the partners as thinking, feeling and acting individuals, and examination of self-in-relationship to the partners. Students explored their own feelings and thought as they interacted in situations with the partners.

The process as described by the students in their journals indicated application of certain criteria of formal operational thinking as described by Piaget. One fourth of the journals contained evidence of hypothetico-deductive reasoning. Sixty percent explored ideological approaches to life and examined these for meaning in their own life, present or future. Forty-eight percent of the student journals indicated empathy with an elderly partner or imagination of the partner's life history, situation or relationship.

About ninety percent indicated empathy with or imagination of the situation or life experience of a person with a handicap. Students indicated awareness that they were engaged in an experiencing process, and that they had "felt" what it might be
like to be handicapped as a result of participation in a simulated activity as part of the treatment. They reported these as new understandings.

Conclusions

Based on the findings presented in this study, the following conclusions can be drawn. Each of these conclusions is presented and discussed.

First, based on the findings that the treatment group scored significantly higher at posttest than the two nontreatment groups on the the Palmore Facts on Aging instrument, it can be concluded that educational intervention can have a positive effect on the student's knowledge about aging. Specifically, regarding students' knowledge about aging, an experiencing curriculum for early adolescents who expressed interest in this type of career exploration can have a positive effect.

The experiencing curriculum activity involved students in a balance of learning activities at the cognitive, affective and psychomotor level. The intervention took place in the community setting of the retirement village. Because individualization is an important factor in exploration, student participation was based on each student's stated interest in exploring the broad occupational skill of helping people and/or careers in the health field.

The strong positive findings on the Palmore Facts on Aging instrument showed that the treatment students gained
both knowledge of empirically founded facts about aging and the ability to differentiate common misconceptions and stereotypes from facts. As a result of this intervention, the student has the factual knowledge to be more discriminating in a society which holds stereotypic thinking about the aged. Since the population of aged in this society is growing faster than any other group, knowledge about aged may assist students in confronting the problems and challenges which will arise in American society due to this shift in population demographics.

Second, regarding the effect on student attitude toward the aged, it can be concluded that the present study was valuable in providing information on the effects of educational program with intergenerational contact. The analysis of data in this semantic differentials indicated that the treatment group held a significantly more positive attitude toward aged, through personal interaction and from a societal perspective, than the nontreatment groups. Three areas of discussion relate to this second conclusion.

(1) The findings from the semantic differential on perception toward the quality of interaction with an elderly person indicated that the activity had a positive effect on the student's attitude toward personal interaction with aged; early adolescents who assumed the helping work role and relationship in the experiencing career exploratory activity considered personal interactions to be significantly more positive, important and meaningful than nonparticipants.
It is suggested by this finding that intergenerational contact based on student interest in exploring career options in the broad areas of health and/or helping people had a positive effect on the adolescent's willingness to interact with the aged. Previous research indicated that students can gain a more positive attitude toward aged as a result of education intervention, however, such statements as "I like to be with old people," and "When I am with old people, I feel good," indicated they were not interested in future personal interaction. Follow up discussions with the retirement village staff indicated that many of the participants of this study served as volunteers at the village during the summer months, worked with the elderly on community projects, visited the partners on a regular basis for a year following the activity.

(2) The findings from the semantic differential on perception toward old people in society showed that the activity with intergeneration contact had a positive effect on the student's attitude toward elderly in our society. In previous studies which showed a change in student attitude, the change was most often from a negative to neutral score. The literature review suggests that a neutral attitude may indicate apathy or lack of concern for the real issues, or a statement of noninvolvement.

In this study, prior to the activity, early adolescents in the three study groups indicated item mean scores on the semantic differential in the neutral range. This was consistent with
previous research which has shown college students to hold
predominantly negative attitudes, adolescents predominantly
negative or at best neutral attitudes, and primary grade students
slightly positive yet stereotypic attitudes.

It is important that in this study the mean score of the
treatment group increased to a strong positive score following the
treatment. The item mean scores of the two nontreatment groups
remained in the neutral range.

(3) A final aspect of the second conclusion indicated that
the intervention which included both structured and spontaneous
interaction with healthy aged in a realistic setting had a
positive effect on the early adolescent's attitudes toward aged in
society and attitude toward interaction with the aged. These
attitudes were most likely not based on stereotypic thinking.
They were strengthened by realistic rather than stereotypic
understanding or knowledge about the aged as shown by the
treatment group's high posttest mean score on the Palmore Facts on
Aging instrument and supported by journal entries describing the
elderly. Evidence indicates students did not merely substitute
positive stereotypes for negative stereotypes and misconceptions.

Previous studies with college students exploring careers
fields with aged and participating in gerontology courses report
that these structured educational interventions had negative
effects on student attitude toward the aged and attitude toward
working with the aged. The interventions took place in hospital
settings. Another study engaged children in unstructured
one-on-one discussions with healthy old people in the school cafeteria. Effects of this study on attitudes were positive, yet somewhat positively stereotypic.

Third, it can be concluded that the experiencing exploratory activity engaged students in sorting out their own ideological approach to aging, and had a positive effect on the student's attitude toward his/her own aging.

Based on an assessment of student journals, it was found that sixty percent of the student journals contained statements which indicated abstract thinking applied to one's own future possibilities. Approaches to one's own health, education, and values, and how these approaches can determine state of being, health and lifestyle when aged were discussed in journals.

Another aspect of this third conclusion was based on findings from the semantic differential on perception of one's own aging process. This showed that the quality and experience of growing old was perceived as significantly more positive by the treatment group than by the two nontreatment groups. A previous study with early adolescents which focused more on the situation and problems of aged in society did not find that the treatment had an effect on the student's attitude toward his/her aging.

The task of developing a future perspective is a factor in the resolution of the identity crisis. The literature review suggests that an orientation of immediacy is a normal part of adolescence, but can impede positive personal development if it is accompanied by fear, denial or negative attitude toward growing
older. A youth's ability to form a future perspective, to develop a concept of the connectedness of skills and roles throughout one's lifetime, has an impact on day-to-day as well as long term decision making.

Fourth, it can be concluded based on the findings concerning knowledge and attitudes toward aging and aged that student interest in working with the aged in the exploration activity--volunteer status--was not a factor in the positive effects of this study. The volunteer treatment group was found to hold significantly higher mean scores on all scales related to knowledge and attitudes toward aging and the aged when compared with both the volunteer nontreatment group and the nonvolunteer nontreatment group.

Evidence indicated, however, that in two areas, knowledge of aging and attitude toward aged in our society, the volunteer nontreatment group while significantly lower than the treatment group, was also significantly different and more positive at posttest than the nonvolunteer group. There was no statistical difference among the three groups at pretest.

Fifth, from findings on attitudinal scales to determine exploratory attitude and student perception of adults, it can be concluded that the experiencing career exploration activity had a positive effect on the student's willingness to engage in the process of exploration, a critical developmental task toward forming a career identity. Two areas of discussion support this conclusion.
Evidence from the attitudinal scale on exploratory attitude indicated that participant early adolescents had a significantly more positive perception than nonparticipant groups of their role in the community, ability to handle responsibility, and ability to develop new relationships with people. Adolescents who are more open to exploration in the community will more readily involve themselves in the identity formation developmental tasks of exploring careers in a wide variety of occupational areas and reality testing interests and capabilities toward fulfilling them. In concrete behaviors, it is expected that students with a positive attitude would take advantage more readily of options offered by the school district for exploration in the community than other students, seek to apply information gained about self to career, personal, and educational decision making, and take a more active, responsible role in the community gained through realistic meaningful involvement in a community work setting. These are important factors in psychosocial and career development during the adolescent years.

In the process of this study, informal followup evaluations by teachers and counselors indicated that student participants in this initial structured career exploration activity have requested more individualized career exploration activities and are found in these program options to a greater degree than students who did not have this early exploratory experience.

A second aspect of this fifth conclusion is based on evidence from the semantic differential on student perception of
adults which indicated that the activity had a positive effect on the early adolescent's attitude toward adults. The process of career exploration requires students to explore a wide variety of occupation roles and to test out interests and capabilities in realistic settings toward fulfilling them.

Adolescence is a time to learn from positive adult work role models and to gain leadership models. It is helpful to have a positive attitude toward adults, especially considering that adolescence is also a time when youth tend to put adults in adversary roles from which they can differentiate their own stances.

Sixth, based on the qualitative methods applied in this study, it can be concluded that student self-reporting provides valuable information for understanding the context and process of student exploration. The qualitative information provided the following evidence:

(1) Student reports showed that students were engaged in an interactive process of experiencing in relationship with the elderly. They gained awareness and responded to the setting, then focused on describing thoughts, feelings and actions of their village partners, and gradually began to acknowledge personal awarenesses about self in relationship to the partner such as their own feelings, thoughts and actions as they were affected by the partner or as they affected the partner.

Critical personal experiencing is a foundation for healthy, growth-producing human relationships. Journals indicate students
were exploring skills in developing healthy human relationships. Skills in this area are obviously important for personal psychosocial development. For students exploring career options related to the helping professions it is not only a primary skill needed, but it is also one which the student can benefit from testing out in realistic work settings to determine if the application of this skill in the helping role is an appropriate career direction.

(2) The qualitative dimension of this study, the journal assessment, showed that the students were involved in only certain self-identity issues as defined by Erikson, while others were reported infrequently.

One explanation may be that the early adolescents were just reaching the stage which Erikson named Identity vs. Identity Confusion. As students grow through adolescence and engage in exploring options through planned and unplanned activities, they will address additional issues. Another explanation may be that the early adolescents are ready to explore and confront additional issues but the activity did not encourage them to do so.

While Erikson's theoretical constructs have wide influence on understanding about human development, and educational programs have been significantly influenced by his models, relatively little research has been done of many aspects of his theory. A major problem has been difficulty in operationalizing and measuring his constructs. Criteria which were applied for the
journal assessment in this study may be a useful method for gathering an information base about Erikson's various stages. (3) A final aspect of this sixth conclusion relates to the fact that students applied formal operational thinking processes as they engaged in the developmental task of exploration in an interest area. The processes most frequently reported in student journals involved the examination of ideological stances. Conclusions were drawn about approaches to aging, and empathy was expressed for the elderly partner's life history or situation.

The data from journals support Piaget's theory and previous research which indicate that the development of formal operational thinking is through application in areas of interest. Previous research has also concluded that the adolescent's use of formal operational thinking in identity related issues is a factor in identity resolution.

From the conclusions for this study, several implications can be drawn for educational programming. Educators have a role in providing opportunities beyond the classroom for early adolescents to explore career options in broad interest areas and in encouraging the development of a positive orientation toward the process of career exploration. Ideally all students as they are ready to express interest should have a small group exploration during middle school or early high school based on an interest in a broad career field or work function.

Educators also have a role in creating cooperative programs between the school and community settings based on benefits for
both parties. While not a part of the data analysis of this study, the retirement village staff reported marked progress in the ability of the elderly to adapt to their own aging as a result of being an elderly participant in the program. The process for the elderly of life review as they share with the adolescents seemed to reaffirm the elderly's sense of integrity. The retirement village staff reported that the elderly began to initiate ways to interact with youth through other activities. Such programs, therefore, should focus on the recipient of exploration as well as on the student. The quality and potential educational gains for both the students and the community participants can be considered in educational programming.

As a result, setting such as the retirement village can also assume a role in financial support of this type of educational program.

Finally, educators need to be called upon to provide the developmental framework and models from which programming such as this experiencing career exploration activity can emerge. The strength of this educational activity is probably a direct result of a strong conceptual framework.

**Recommendations for Further Research**

The following suggestions for additional study for the purpose of expanding on the findings reporting in this study are offered:

First, it is recommended that investigation be conducted of the effects of other experiencing career exploration activities with
early adolescent small groups to further determine gains in knowledge, skills and attitudes. As in this study and previous studies, multiple measures for assessing results are suggested.

To support the value and effectiveness of activities such as this, it is recommended that additional instrumentation or measurement procedures be designed or identified to measure developmental and academic gains through exploration. This may include measurement of the ability to take responsibility, rather than self perception of ability; measurement of the ability to apply information to personal and career planning and decision making; and measurement of specific skills that the student utilized as a part of these exploration such as math skills, communication and writing skills or art skills. The use of a new inventory for examining Erikson's stages of psychosocial development, the Erikson Psychosocial Inventory Scale (EPSI) is also suggested to determine student growth in this area which has previously been difficult to measure. Testing with the EPSI may begin at middle school and continue each year through high school.

A second recommendation is that further studies of experiencing curriculum activities both in the classroom and community be assessed through qualitative analysis. Student journals provide valuable data about the student's experiencing and growth. The criteria identified in this study are useful criteria for the assessment. Where activities are conceptualized utilizing human developmental frameworks such as Erikson's or Piaget's, certain criteria would be expected to be found as part of the student's
experiencing. As more baseline data is collected from student journaling, the journal assessment can be important not only to determine student growth, but also to evaluate the success of the program in encouraging student attention to psychosocial developmental issues.

Third, it is recommended that future studies investigate the effects on the elderly participants of this educational intervention which brings interested early adolescents together with the elderly in a nonclinical setting, a retirement village. The study may focus on psychosocial development factors such as personal and social adjustment, attitude toward aged, toward the aging process, and toward youth state of being, as well as on concrete behaviors which the elderly adopt or change as a result of participation.

The final three recommendations relate to further research about knowledge and attitudes toward aging and the aged. It is recommended that a longitudinal study be conducted of this educational intervention to determine the effect on student knowledge and attitudes toward aging and the aged over time. A study is suggested to determine if early adolescents in different socio-economic settings such as innercity or rural will demonstrate results as reported in this study. Finally, it is recommended that the length of treatment time be examined to determine if the results could be obtained in a less than five week activity.
APPENDIX A

Pre- and Posttest Instrument
This test is intended to measure your view of yourself, of others, of certain activities in your life, and of the aging process. It is **not** intended to create any pressure; it is simply a way to help you indicate your feelings and knowledge at two different points in time. In a few months you will be asked to answer a similar set of questions. Your responses may or may not change.

There are several sections for you to complete. If you have questions about any of the instructions or any of the words used, please ask for assistance. Thank you for your cooperation.

**INSTRUCTIONS FOR PART ONE**

Part One consists of the next four pages. At the top of each page a **Key Word** is identified. Below it are several pairs of words for you to use in describing the key word. Each pair of words represents the opposite ends of a scale. Between the words are five blanks to help you indicate how closely you think either of the words describes the Key Word. Use an "X" in one blank per line as shown below.

If the **Key Word** is very accurately described by a word at one end of the scale, mark as follows:

Key Word: CURFEW S

FAIR __ __ __ __ __ UNFAIR or FAIR __ __ __ __ __ X UNFAIR

If you think the **Key Word** is only slightly described by the word at the end of the scale, mark as follows:

FAIR __ __ __ __ __ UNFAIR or FAIR __ __ __ __ __ X __ __ UNFAIR

If the words in a pair seem equally descriptive, or if neither is very descriptive of the **Key Word**, place your "X" in the center blank:

FAIR __ __ __ __ __ UNFAIR

Remember: Never put more than one "X" on any line. Also be sure to mark every item clearly in one of the blanks, not in between. If you are undecided about a response, use the center blank; do not leave the line blank.
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PART TWO

For numbers 1-5, use the words and scales as you did in Part One.

1. How would you rank your own communication skills?

WEAK _______ _______ _______ _______ _______ STRONG

2. How important is it for you to feel active and helpful in the community?

IMPORTANT _______ _______ _______ _______ _______ UNIMPORTANT

3. How much responsibility do you feel you can handle?

LITTLE _______ _______ _______ _______ _______ MUCH

4. How confident do you feel when you try to form new relationships with people?

CONFIDENT _______ _______ _______ _______ _______ FEARFUL

5. How confident do you feel about your own future?

CONFIDENT _______ _______ _______ _______ FEARFUL

6. Which statement below best describes your current thinking about careers? Check one item only.

_____ I am very undecided about career choices and have not narrowed down the possibilities yet.

_____ I am beginning to identify some careers that I would probably like and some that I would probably not.

_____ I am pretty certain about the career(s) that interest(s) me.

7. If you marked the second or third blank in #6, please specify the career(s) that currently appeal to you:

____________________________________________________________________________________

____________________________________________________________________________________
PART THREE

PAJMORE MEASURE OF KNOWLEDGE ON AGING

Circle T for True or F for False. The term "older people" refers to those over 65.

1. The majority of older people are senile (have confused memories, times of scattered or disturbed thinking).
2. All five senses tend to decline in old age.
3. Most older people have no interest in sexual relations.
4. Lung capacity tends to decline in old age.
5. The majority of older people feel miserable most of the time.
6. Physical strength tends to decline in old age.
7. At least one-tenth of the elderly live in long-stay institutions such as nursing homes, mental hospitals, and homes for the aged.
8. Older drivers have fewer accidents per person than drivers under 65.
9. Most older workers cannot work as effectively as younger workers.
10. About 80% of the aged are healthy enough to carry out their normal activities.
11. Most older people are set in their ways.
12. Older people usually take longer to learn something new.
13. It is almost impossible for most older people to learn new things.
14. The reaction time (time needed to respond to stimulus) of most older people is slower than reaction time of younger people.
15. In general, older people are pretty much alike.
16. The majority of older people are seldom bored.
17. The majority of older people are isolated and lonely.
18. Older workers have fewer accidents than younger workers.
19. About 5% of the U.S. population is now over age 65.
20. Most medical practitioners (doctors, nurses, etc.) tend to give low priority to the aged (less attention than to younger people).
21. The majority of older people have incomes below the official poverty level.
22. The majority of older people are working or would like some kind of work (housework, volunteer work, etc.) to do.
23. Older people tend to become more religious as they age.
24. The majority of older people are seldom angry.
25. The health status of older people in the year 2000 will probably be about the same as now.
PART FOUR

On each line below, use the pairs of words and scales in between to mark your response. These responses should be marked as in Parts One and Two.

1. When you think about getting old or about your own aging process, which words best describe your image?

   GOOD _______ _______ _______ _______ _______  BAD
   PAINFUL _______ _______ _______ _______ _______  PLEASURABLE
   HEALTHY _______ _______ _______ _______ _______  SICK
   WEAK _______ _______ _______ _______ _______  STRONG
   ACTIVE _______ _______ _______ _______ _______  PASSIVE
   SLOW _______ _______ _______ _______ _______  FAST
   SAD _______ _______ _______ _______ _______  HAPPY
   INDEPENDENT _______ _______ _______ _______  DEPENDENT

2. When you think back to the last interaction you had with a person over 65 and not a relative, which words best describe that interaction or person?

   GOOD _______ _______ _______ _______ _______  BAD
   IMPORTANT _______ _______ _______ _______ _______  UNIMPORTANT
   MEANINGLESS _______ _______ _______ _______ _______  MEANINGFUL
   WEAK _______ _______ _______ _______ _______  STRONG
   NEAT _______ _______ _______ _______ _______  UNTIDY
   EXCITABLE _______ _______ _______ _______ _______  CALM
   UNSELFISH _______ _______ _______ _______ _______  SELFISH
   CRUEL _______ _______ _______ _______ _______  KIND
3. When you think of older people in our society, which words best describe these individuals?

| LOVED          | ____ | ____ | ____ | ____ | ____ | UNLOVED          |
| WEAKE          | ____ | ____ | ____ | ____ | ____ | STRONG           |
| INSANE         | ____ | ____ | ____ | ____ | ____ | SAME             |
| POOR           | ____ | ____ | ____ | ____ | ____ | RICH             |
| HAPPy          | ____ | ____ | ____ | ____ | ____ | SAD              |
| ACTIVE         | ____ | ____ | ____ | ____ | ____ | PASSIVE          |
| INTERESTING    | ____ | ____ | ____ | ____ | ____ | BORING           |
| SLOW LEARNER   | ____ | ____ | ____ | ____ | ____ | FAST LEARNER     |
| PRODUCTIVE     | ____ | ____ | ____ | ____ | ____ | UNPRODUCTIVE     |
| SUPPORTED      | ____ | ____ | ____ | ____ | ____ | IGNORED          |
| DEPENDENT      | ____ | ____ | ____ | ____ | ____ | INDEPENDENT      |

4. When you think back to the last interaction you had with your grandmother or grandfather (or oldest other relative if no grandparents living), which words best describe that interaction or person?

| UNGRATEFUL    | ____ | ____ | ____ | ____ | ____ | GRATEFUL         |
| WEEk           | ____ | ____ | ____ | ____ | ____ | STRONG           |
| HUMOROUS       | ____ | ____ | ____ | ____ | ____ | SERIOUS          |
| NEAT           | ____ | ____ | ____ | ____ | ____ | UNTIDY           |
| SLOW           | ____ | ____ | ____ | ____ | ____ | FAST             |
| INTERESTING    | ____ | ____ | ____ | ____ | ____ | BORING           |
| UNUSUAL        | ____ | ____ | ____ | ____ | ____ | USUAL            |
| BRAVE          | ____ | ____ | ____ | ____ | ____ | AFRAID           |
| USEFUL         | ____ | ____ | ____ | ____ | ____ | USELESS          |
| CRUEL          | ____ | ____ | ____ | ____ | ____ | KIND             |
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