THE RELATIONSHIPS AMONG SELF-CONCEPT, CAREER AWARENESS, CAREER ATTITUDE, SOCIAL COMPETENCE, AND ACADEMIC ACHIEVEMENT IN A COMPREHENSIVE CAREER EDUCATION PROJECT

DISSERTATION

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* * * * *

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CHAPTER I
INTRODUCTION

Discussions of the relative merits of career education and
general education have been recurring since Dewey addressed the issue
in the 1930's. Proponents of liberal arts curricula debate with
supporters of career and vocational programs, and educators of all
persuasions have positions on the continuum between them. A related
issue is the controversy between humanists, who are increasingly being
attacked for supporting "non-academic" programs, and the moral
majority, who believe the schools should focus solely on teaching "the
basics." Each viewpoint has merit, but the answer to providing
students with the skills they will need as adults—the real purpose of
education—may best be found in an infusion of career education with
academic education and affective learning with cognitive. Hoyt
(1977b) fused a definition of career education into a broad
educational goal when he stated that career education "refocus(es)
American education and the actions of the broader community in ways
that will help individuals acquire and utilize the knowledge, skills,
and attitudes necessary for each to make work a meaningful, productive
and satisfying part of his or her way of living" (p. 9).

This infusion of career education into the general curriculum
has as its purpose fostering the development of cognitive, affective,
and behavioral learning in all academic areas through a planned program of education for choice and education for work. A successfully planned career education program which is designed to fit such a comprehensive goal must be developmental in nature, acknowledging students' levels of maturity and needs as they progress from kindergarten through grade twelve and, in some cases, beyond. Activities and experiences as well as the personnel necessary to implement them will differ between grades K-6, 7-8, 9-10, and 11-12, but at all levels the process will focus on increasing knowledge, encouraging healthy attitudes, and developing employability skills.

At the elementary level, the emphasis is on creating awareness of and a motivation to work. Career education in the middle and junior high school years is designed to orient youngsters to the world of work through relating academic study to gainful employment. Exploration in grades nine and ten includes actual work experiences, and in grades eleven and twelve intensive job preparation or curriculum choice for higher education is emphasized. Throughout such a program from Career Awareness to Career Preparation, self-understanding, valuing, and decision-making are woven into the academic curriculum along with career information. In short, a career-infused curriculum is comprehensive, developmental, and value-based, supporting and enhancing the goals of general education in meeting the needs of the whole student.

The present study explored the relationship between several components of a comprehensive, integrated career education program as described above. The components have been designated earlier (Makay,
1980). The first component was academic achievement, or a measure of competence in mathematics and English. The centrality of that goal to career education is attested to by its being the first ten learner outcomes taken from the U.S. Office of Education's Policy Paper on Career Education. Whatever the ultimate career path taken by any student, the major purpose of schooling is to ensure that all students are "competent in the basic academic skills required for adaptability in our rapidly changing society."

The second component under study was student self-concept, the central of the Seven Developmental Areas of Ohio's Career Education Model. In a special issue of the Phi Delta Kappan devoted to the heritage and future of American education, Arthur W. Combs (1981) discusses this component as it relates to the increasing importance of personal fulfillment as an American value. He sees educators as having a responsibility to perceive students not just as learners of facts, but as persons with a need to know and understand themselves. He says:

The future demands effective problem solvers and citizens willing and able to deal effectively with themselves and each other in the solution of human problems. It requires open system thinking and an emphasis on values, processes, human problems and the human condition. Furthermore, an educational system that hopes to prepare youth adequately for the future must be concerned with student feelings, attitudes, beliefs, understandings, values—the things that make us human—as well as with student behavior (p. 372).

The third component of the career education program was social competence or adjustment. It is likely that a student who is personally independent and socially responsible, who is both a self-sufficient and a cooperative well-accepted worker in school will
carry those competencies to the world of work. The importance of social competence to work adjustment makes it an important component of a career education project. Two of Ohio's Seven Developmental Areas acknowledge the importance of social adjustment—Employability and Work Adjustment and Individual and Environment. A major project undertaken by the National Center for Research in Vocational Education (NCRVE) is a study of employability skills. Early results indicated that social adjustment on the job, including employer/employee relationships, was a key factor in getting and keeping a job.

The interaction of the preceding three components, academic achievement, self-concept, and social competence, along with the cognitive and affective components of the career education project, formed the basis for the present study. As students progress through each developmental stage and participate in activities implemented by a variety of "actors" in the educational program, it is expected that they will grow in academic and career knowledge, develop healthy attitude toward self and work activity, and learn the value of living in cooperation and harmony with their peers. Efforts directed toward the attainment of any one of these goals should enhance the chances of achieving all others. The vehicle was the career education program.

Statement of the Problem

The major purpose of this study was to describe the present status of seventh grade students who have had three years' involvement in a career education project and to investigate changes that may have taken place between fourth and seventh grade with regard to selected
variables. Data were analyzed for the group as a whole as well as by sex and by target. Target refers to students who were identified as being low in self-concept in fourth grade and who were given special intervention aimed at improving their self-concept. The variables being investigated were:

I. Career Awareness
   A. Career Knowledge
   B. Career Attitudes

II. Self-concept

III. Social Competence/Social Adjustment
   A. Peer Reputation
   B. Teacher Evaluation

IV. Academic Achievement
   A. Reading Comprehension
   B. Mathematics Computation

Within this broad purpose, the following research questions focused on specific aspects of the project under study.

1. How can the status of seventh grade subjects be described in terms of their fourth grade performance on the variables of Career Knowledge, Career Attitude, Self-Concept, Social Adjustment, and Academic Achievement and their present performance on the variables of Career Knowledge, Career Attitude, Self-Concept, Social Competence, and Academic Achievement?
2. How are the fourth grade variables of Self-Concept, Social Adjustment, and Academic Achievement associated with the variables of Career Knowledge and Career Attitudes?

3. How are the seventh grade variables of Self-Concept, Social Competence, and Academic Achievement associated with the variables of Career Knowledge and Career Attitudes?

4. What changes have taken place in the relationships between these variables after three years' involvement in a Career Education program?

5. Are differences in the relationships between these variables noted when data are examined by sex and students targeted as being low in Self-Concept?

Rationale

The rationale for this study was based on the belief that career education is more than a scattered series of events carried out intermittently by well-intentioned teachers and counselors. It assumed the position that a systematic program wherein career education is infused into the curriculum taking into account the characteristics and developmental levels of the learners, will accomplish educational reform by making learning more relevant to the "real world."

In Ohio, career education programs are delivered through the Seven Developmental Areas of: Self, Employability and Work Adjustment, the World of Work, Education and Training, Economics, Decision-Making, and the Individual and Environment. Each area has
the potential for program implementation in grades K-12. Curriculum and guidance activities in the classroom may be enhanced by in and out-of-school community activities in order to produce a total career education curriculum at each developmental level. For example: In Motivation, K-6, the key concepts are self-awareness, appreciation for work, and motivation toward task completion. In Orientation, 7-8, the goal is to develop positive attitudes toward self, work, and society and to understand the relevance of school subjects to the work world. In Exploration, 9-10, actual work experiences in a broad range of occupations are made possible by flexibility in scheduling and community cooperation. In Preparation, 11-12, vocational education and pre-professional training are provided.

The program under investigation in this study was based on the preceding rationale and employs its design. Program components in the study were not limited to curriculum infusion and community cooperation, however. In-service education for faculty, a heavy focus on guidance, and a special component emphasizing the elimination of sex-role bias were also included. Finally, an important dimension of this comprehensive program was its emphasis on knowledge, attitudes, and skills as they are acted out by students on the three learning levels of knowledge, acceptance and affirmation.

No program is complete without a strategy for assessing its operation and impact. Hoyt (1976) says "Career education, no matter how great the conceptual and operational programs are, cannot avoid the necessity for careful and conscientious evaluation efforts" (p. 42).
The present study was such an effort. It explored the outcome of three years of career-infused curriculum on the two dimensions of Career Awareness--Career Knowledge and Career Attitudes--as they relate to the three other program components of Academic Achievement, Self-Concept, and Social Adjustment.

**Academic Achievement.** The most obvious purpose of education is to enable every child entering school to grow to his or her maximum academic potential. Intellectual development is the primary purpose of education. Since the beginning of this century, American schools have increased the percentages of school-age-eligible youth actually attending school from 20% to over 90% and the average number of years of school attended from 8.1 to 12.4 (Poston, 1981). Attending school occupies a major part of the life experience of a substantial segment of our population. Citing eight major accomplishments of this century ranging from improved quality of life to increased length of life, Poston concludes "All the world's advances and improvements have their beginnings in, are nurtured by, and come to fruition because of education" (p. 350).

For some students, maximum academic achievement will enable them to simply function in society in a minimal way. For others, the outcome of maximum intellectual growth will mean new scientific discoveries, new creative works, or enlightened political leadership. For every student, however, development of maximum academic achievement is the goal of the school.

How is achievement to be assessed? Since the 1940's the most widely accepted method of measuring academic achievement has been the
use of standardized tests. Ease of administration, the availability of norms by which teachers can compare their students' progress with national numbers, and the ability to compare students in a single system over time are some of the advantages. Although standardized tests are available in a host of subject areas, the most frequently used are tests of verbal (reading) and non-verbal (mathematics) achievement. When career education is infused into the curriculum, educators expect to see growth in Career Awareness accompanied by gains in mathematics and reading achievement. This, then, is the goal of educational reform through career education, supporting the goal of academic achievement.

Self-Concept. Including self-concept as a variable worthy of study in an educational setting and as it relates to Career Awareness necessitates limiting the term to the conscious self-concept and avoiding the area of psychoanalytic theory and the philosophy of the soul/spirit. Therefore, the focus in this study was on the individual student's subjective knowledge, understanding, and evaluation of him or herself. These cognitions are measurable and quantifiable and have an influence on or a relationship to a student's academic achievement, socialization, and career development. Most modern self theory supports the position that the self is an organized structure of perceptions of specific aspects of self (self as mathematician, self as friend, self as male) combined with ideal self-wishes and real interaction with the environment which together form an overall or global self-regard. The resultant concept of self then serves as a motivator to all behavior. Relevant to the present study is behavior
including new knowledge and attitudes about careers, academics, self, and society.

Humanistic educators further propose that the self-concept not only has impact on, but can also be impacted by, structured school experiences. They propose that development of a healthy self-concept is a legitimate educational goal. In practice this position assumes that like the intellect, the self-concept is amenable to change, given the right set of circumstances. Therefore, the affective component of Career Awareness is given equal weight with the cognitive component in determining a student's level of career awareness, and experiences which will enhance student self-concept are integrated into the Career Education program.

Social Adjustment. Socialization, or good social adjustment, is the third important consideration in students' total development. Learning in schools occurs primarily in a group setting, whether it be in a classroom, a large lecture hall, or in a small group discussion. Except in special circumstances, the tutorial setting is the exception rather than the rule. Similarly, students' lives outside of school are primarily a function of their group membership—the family, the peer group, church, or interest groups, such as scouts, band, or athletic teams. The impact of these groups on an individual member, or its converse—the impact of any given member on forming the "personality" of the group—cannot be ignored when teaching and learning are going on. Nor can interaction among group members be ignored, for it is a powerful force for human growth and development—personally, socially, and intellectually.
For the past twenty years, however, the overriding social theme of youth has been "do your own thing." At best, that has engendered a spirit of individuality and personality responsibility. At worst, it has fostered self-centeredness and isolationism. Many students still verbalize that viewpoint, reluctant to acknowledge the importance of group approval and acceptance which their behavior indicates. Yet a rising social consciousness on the one hand, and a movement toward reaffirmation of values of family and church on the other, may signal a new understanding of the human need for community and for positive social interaction.

Social adjustment in the schools, or the degree to which students can move freely in a learning situation between independent thought and action and cooperative group work, is an essential goal of education. Improving human relationships, sensitizing students to the needs of others and their role in meeting those needs, and instructing in the skills of cooperative learning deserve educators' attention. Career education is a natural vehicle for social learning, for students can readily see that little pleasure is gained from work when the workers lack the skills for harmonious social living. Teachers and counselors have the responsibility to weave into the curriculum opportunities for social growth at each developmental level.
Definition of Terms

The following terms were used in the study as they are defined below.

Career education -- a comprehensive, integrated, developmental, value-based educational experience the purpose of which is to enable students to make wide decisions about life work and life style. Career education was operationally defined as the career education project on which this study is based.

Career awareness -- a student's present level of career knowledge and career attitudes. Career awareness was operationally defined in this study as the total score on the Ohio Career Education Inventory.

Career knowledge -- a student's present level of cognitive understanding about careers. Career knowledge was operationally defined as a score on the cognitive section of the Ohio Career Education Inventory.

Career attitude -- a student's present attitude(s) toward careers. Career attitude was operationally defined as a score on the affective section of the Ohio Career Education Inventory.

Academic achievement -- the level of competence in mathematics and reading which students have presently achieved. Academic achievement was operationally defined as the totality of scores on the reading comprehension and mathematics computation subtests of the Stanford Achievement Test.
Self-concept—the individual as experienced by him or herself, a dynamic and conscious evaluation of self, including both the authentic and idealized self. Self-concept is operationally defined as a student's score on the Piers-Harris Children's Self-Concept Scale.

Social competence—the ability to be personally independent and socially responsible, to behave in a self-sufficient manner and also to work cooperatively with and serve others. Social competence was operationally defined as a student's score on the Teacher Rating of Social Competence.

Social adjustment—the extent to which students are perceived by their peers either to get along or not to get along with other students in the classroom. Social adjustment was operationally defined by the number of choices a student received on selected criteria on the Peer Reputation Form.

Limitations of the Study

Certain limitations of the study are related to the original population. Results based on a sample taken from that population are generalizeable only to the original or to similar narrow populations. Specifically, the community in which the career education project was implemented is primarily white, affluent, academically-oriented and college-educated. A nearby university is a major influence on the system, and strong links between the community and the schools provide unique program support.

With regard to the sample itself, it was found that some elementary schools had more mobile student bodies than others. The
result was that random sampling of the whole system produced unequal numbers in each of the elementary schools of subjects who had been in the original population. Results of the sampling indicated that the study was dominated by students from one area of the community, an older more established section. There is some data to support the fact that students who move more frequently and for longer distances tend to have lower self-concept.

A second source of limitations was the fact that the present study compared performance on fourth grade measures with performance on related seventh grade measures. The career education program was implemented during the subjects' fourth, fifth, and sixth grades in six different elementary schools. Although leadership for the project was constant and materials and in-service for classroom teachers were identical, each school building may have emphasized or implemented the program in its own way, causing between-school differences unrelated to the relationships between the variables themselves.

Third, all limitations of internal validity accruing to longitudinal studies apply in the present study. Students are lost from the original group and the sample becomes less representative of the original population. Also, incidents occur to the entire sample or to individual subjects which impinge on the measures under study, confounding the results either in the desired or the not desired direction. Students mature between fourth and seventh grades, and much of the change in knowledge and attitude may not be the result of the project, but simply of growing up.
Instruments used in the study have limitations in themselves. First, the "Guess Who" rating used in the fourth grade study is a near-sociometric instrument which does not define criteria for the traits being measured. The resultant Social Adjustment score was a peer rating. In the present study, teachers rated their students on a Social Competence rating instrument. Although both are measures of socialization, relationships between those measures and other fourth and seventh grade variables may not be comparable. Teacher ratings of social competence could be influenced by class behavior and achievement, whereas peer ratings of social adjustment are likely to be influenced by interpersonal likes and dislikes. Both groups operate from a different frame of reference.

The Ohio Career Education Inventory (OCEI) used in the present study has not been examined for reliability and validity across forms. Limited norms are available because of the newness of the instrument. The fourth grade version was a pilot instrument. Each instrument had different numbers of items phrased in different terms. At present, the OCEI has no seventh grade form and the form chosen for use in the present study is the eighth grade form. Although the mean IQ of the sample was above average, which was the rationale for using an eighth grade rather than a sixth grade form, administering it at the beginning of the seventh grade may have resulted in lower scores. Finally, comparisons between the two instruments and interpretation of the results must be made in light of the fact that they are different tests.
The final instrument, the *Piers-Harris Self-Concept Scale*, has all the limitations which the literature discusses with regard to self-report measures of self-concept, most importantly, a desire by the subjects to "look good." Items on the instrument, which was also used in the fourth grade to measure the same variable, are phrased in quite simple language, which may have caused subjects to completing it hurriedly or not to approach it with a positive attitude. Finally, questions have been raised in the literature regarding the meaningfulness of a global measure of self-concept. Results of the study should be interpreted with those reservations in mind and with the global definition of self-concept employed in construction of the instrument.

**Summary**

This chapter introduced the study through a brief discussion of the components of a career education program. The position was taken that career-infused curriculum is the most effective program overall. The rationale was that such a curriculum assists in the growth of academic learning, healthy attitudes toward self and work, and meaningful social relationships. The purpose of the study was stated as an investigation of subjects' performance on career education variables and changes resulting in their performance as a result of three years' involvement in a career education project. Chapter Two reviews the literature and research relevant to the variables in the present study. Chapter Three is an explanation of the methodology employed in conducting the study. Chapter Four summarizes the
findings by means of text and tables. Chapter Five presents a summary, conclusions, and recommendations.
CHAPTER II

REVIEW OF THE LITERATURE

This chapter is organized around the variables of career awareness, self-concept, social competence, and academic achievement. Part One addresses career awareness through a presentation of the historical background of career education, theoretical framework of the present study and model programs in career education and guidance. Part Two presents a brief history of self-concept theory and a discussion of self-concept as a construct in research. Part Three focuses on social adjustment as defined by Makay (1980) and social competence as defined by Doll (1953), and discusses socialization as an educational goal. Part Four presents relationships between self-concept, socialization, and academic achievement, and the role of career education as a vehicle for enhancing self-concept.

Career Awareness

This section discusses the history of career education, a theory of career education, selected career education programs, and results of research on career education programs.

History of Career Education. Career education had its beginnings in the educational reform of the late Nineteenth Century, a time which began to address the growing public charge that education was "too
bookish and unrelated to the real world" (Herr and Cramer, 1979). The Morrill Act of 1862 was the first major piece of legislation which attempted to address the issue. It became the legislative benchmark for the vocational education movement, out of which career education grew. It provided federal funds for the development of agricultural and mechanical colleges, and was followed by a series of Congressional acts which substantially expanded post-secondary education. Similarly, the Smith-Hughes Act of 1917 was a Congressional attempt to solve the social and manpower needs voiced by the American Federation of Labor and the National Education Association through legislation in the secondary education arena. Congress and the nation were beginning to support the role of public schools as a vehicle for training students for the work force. A dramatic account of a little-known piece of legislation relevant to the point was written by Barlow (1975) regarding the Page Bill of 1912. Based on responses to hundreds of letters to superintendents of public instruction, prominent educators, governors and labor leaders, Carroll S. Page of Iowa in a three-hour speech to the Senate proposed a bill to retain eighth graders in school and to prepare them for the work force. Although he never used the term "career education," Page maintained that vocational preparation was a school responsibility and was inevitably linked to a good general education. The core of his testimony, noted below, is strikingly similar to the career education proposals of the 1970s and 1980s.
Career education has strong social and economic value. Education can be improved by attention to the future work responsibilities of youth. Most of the youth in school are shortchanged in vocational preparation. Career awareness, exploration, and preparation must be provided. Career education is generally more acceptable to business, industry, agriculture, and the public at large than to educators. Career education has a strong citizenship component. The place to begin career education is in the elementary school. Vocational guidance over a prolonged period is imperative. Earning potential is increased. The community is the laboratory of career education. Career education is needed to maintain pace with economic and technological needs. Career education is a lifelong process.

(Barlow, 1976, p. 38-39)

At the same time that Congress was responding to labor's call for an answer to manpower problems in a growing industrial society, Parsons (1909) began the first venture into career guidance. In keeping with the viewpoint of the day, he assumed the posture that vocational guidance meant fitting person to job. He developed the trait-factor theory of career guidance in a straightforward matching of a individual's interests and abilities to job tasks. This approach to career guidance persisted through the first half of the Twentieth Century with three trends being noted. First, vocational guidance in those years emphasized the study of occupations, not individuals. Second, vocational educators were also vocational guidance counselors. Third, vocational educators/guidance counselors were complimentary components of the same concept (Herr and Cramer, 1979). Thus, the link was tightened between job training and guidance, but not between
vocational education and general education. In spite of the spirit of the Page Bill and its forward-thinking approach, vocational education persisted in being viewed as something apart from general education.

The "Life Adjustment" movement of the 1930's and 1940's (Herr, 1972) advocated relating the skills and attitudes from all aspects of life to student learning and problem solving. Philosophically, it attempted to merge the academic and work worlds. Relevant to career education as it is practiced today were the concepts of student self-direction, skill in the use of tools and machinery, and the building of life coping skills. The National Youth Administration set vocational goals for youth and the U. S. Office of Education conducted a series of conferences on the future direction of vocational education. More attention was being directed nationally to the movement.

Legislation in the late 1950's and the 1960's reflected a major shift in attitude, perhaps because of the writings of career development theorists who proposed that vocational psychology differed from the psychology of occupations. They offered social and psychological explanation for career choices. Passage of the National Defense Education Act in 1958 also provided counselors in the public schools who could help identify and direct scientifically talented students in particular toward careers which would serve the national interests. In 1963 Congress passed the Vocational Education Amendments, but a major report five years later, just prior to the passage of the 1968 Amendment indicated that vocational education
under the Act had not adequately met its goal of being sensitive and responsive to a changing economy and world situation.

A total commitment to the concept of career education in the schools came with the Career Education Incentives Act of 1977 which opened the way for the infusion of career education in the general curriculum through the awarding of grants to states for demonstration projects. The present focus is not that career education should first serve the needs of the economy, but rather that it should promote the total development and understanding of the individual and his or her place in the work force. Articulation in career education programming thus became increasingly important.

A theory of career education. Conceptualizing career education programs begins with adopting a theoretical stance with regard to career development. Osipow (1973) proposed four categories of career theories: Trait-factor, Sociological, Self-concept, and Personality. A study of the proposals selected as demonstration projects under the 1977 Career Education Incentives Act reveals that the majority of them were apparently based on the self-concept or developmental theory. The present study is in that mainstream.

Super (1953) has most clearly conceptualized, organized, and researched careers from the developmental perspective. He based his theory on two premises. First, he proposed that one selects or rejects an occupation according to its congruence or incongruence with one's views of self. Second, based on the work of Buhler (1951), he proposed that human development consists of distinct and discrete
stages characterized by specific developmental tasks. The most detailed application of his theory was the Career Patterns Study focusing on vocational maturity in adolescence, which he termed the "Crystallization" stage of career development (Super and Overstreet, 1960). Their longitudinal study indicated that vocational maturity was positively correlated with intelligence, school achievement, and parental occupational level and negatively correlated with peer acceptance. Most important for the purposes of this study was the suggestion that factors operating in vocational maturity in adolescence are the result of a process of development beginning much earlier in childhood.

In Career Development, Self-Concept Theory (1963) Super described the elements and the processes of career development in self-concept terms. Self-concept formulation begins in infancy through the process of "Exploration." The exploration of self, according to Super, continues throughout life in a series of exploratory tasks which can be explained in vocational choice terms. The second phase of human development is called "Self differentiation" which occurs in early childhood. Vocationally in later life, it is exemplified by an individual noting and acting on those aspects of self which make him/her unique. Simultaneously, the "Identification" stage is the process of sexual identify through a person's identification with older models or the same and opposite sex. "Role Playing" is the stage which follows, with a child behaving in the manner of those with whom identification has been made. Finally, "Reality Testing" affords an opportunity to try out the self-concept in occupational ways and to
strengthen or modify the developing self. This developmental process thus is translated into occupational terms by identification, actual role experience, and awareness of one's attributes as they are employed in specific occupations.

Career development, then, can be overlaid on the broad process of human development. Herr (1972) offered the following relevant assumptions.

1. Career development is an ongoing process which extends from infancy through at least young adulthood.

2. Career development can be described in terms of learning tasks, frequently culturally defined, which are important at each stage of development.

3. Career education is modifiable.

4. Since career development is tied to physical and personality development, its facilitation should not be compartmentalized or isolated.

5. Because the potential exists to identify the attitudes, knowledge and skills which make up career maturity or development, it is possible to develop objectives which encompass these factors.

6. Where career development theories have direct implications for education, vocational education or guidance, is as they focus on the students and adult understanding (p. 65, 66).

Models of Career Education. Although the U. S. Office of Education did not officially adopt a comprehensive statement on career education until 1974, over 60% of the states had already defined and budgeted for career education by the beginning of the decade (Herr and Cramer, 1979). The approaches which the states adopted for their own
career education model projects are organized by Herr and Cramer as:

1. The School-Based or Comprehensive Career Education Model.
   In this model career education is infused into the curriculum K-12 with the goals of instilling a sense of purpose and direction, establishing self and societal identity, increasing basic skills and knowledge and developing a comprehensive awareness of career options and the ability to enter them. Woven into these goals is the acknowledgement of the importance of guidance and counseling.

2. The Employer-Based or Experience-Based Model. The assumption in this model is that many students, aged 13-18, are not functioning well in the formal educational structure and would be better served by learning in a community setting. This model provides an alternative, employer-based, educational setting which would achieve the goals of reviving educational interests, affords a wide range of adult contacts, develops strong self-concept, and provides multiple opportunities for relevant learning. It is an individualized approach to career education which also has a career guidance component.

3. The Home/Community-Based Model. This model, unlike the others, is not concerned with direct teaching. Increased employability is achieved through the mass media, referral centers, individual counseling and community resources. The model serves the adult population on an outreach basis.
4. The Rural/Residential-Based Model. This model impacts the entire family in an intensive effort to improve economic and social conditions. Day care, parent education, consumer education, medical services, counseling, academic skills diagnosis and tutoring, and placement and follow-up are provided. Only one site, Glasgow, Montana, has employed this model.

It is obvious that the only model with application across the entire school system is Model I. All others have limited application to the educational mainstream. The comprehensive, K-12 models have the capacity to accomplish the following outcomes of career education, as described by the U. S. Office of Education, which recommends that all programs ensure that students will:

1. be competent in academic skills.
2. be equipped with good work habits.
3. possess good work values and the desire to work.
4. have good career decision-making and job-hunting skills.
5. make choices based on self-understanding.
6. be aware of continuing education possibilities.
7. have a successful placement.
8. incorporate work values into personal values.
9. actively seek to find meaningfulness through work.
10. be aware of means for changing career options (Hoyt, 1974).

In 1975 and 1976 a series of mini-conferences on career education were conducted through the National Center for Research on Vocational
Education. The purpose of the conferences was one of determining accountability. Two questions were posed to the participants. What have you done with career education, or what is career education? What have been its benefits? The rationale for the conference was that because career education assumes long-range benefits and results by the end of grade 12 it is important to evaluate programs and process along the way. Three problems of career education evaluation noted in the conference report are relevant to this study, which itself is an interim study of a career education program. Those problems were instrumentation, expectations, and implementation (Hoyt, 1977a).

With regard to instrumentation, Hoyt noted the major purpose of most projects involved attitude change, a factor which is hard to measure. Expectations of career education programs are by their nature as broad as the goals of general education and involve the question of what the proponents of career education are really after. Expectations are thus difficult to deal with. Finally, implementation of the concept of career education is most often done through infusion, requiring a process, not a project, evaluation, and indications are that product evaluations are the preferred mode.

Hoyt also noted the variety of program evaluations which have been made of federally funded projects. For example, in Jefferson County, Kentucky, a process evaluation attempted to measure the actual amount of teacher in-service which was actually put into use in the classroom. A similar attempt was made in Madison, Wisconsin. In Pontiac, Michigan, Karkuff's model was used by students simulating job
interviews. Results indicated that those students from a career education project did significantly better in the simulated interviews. A Convina Valley, California, project evaluated the career plans of eighth graders after one year's involvement in the project. They found a drop from 50% to 2% in the number of students having no definite career plans. An evaluation of a Sioux Falls, South Dakota, comprehensive career education program reported reduced occupational sex stereotyping among K-3 females and improved self-concept in fourth to sixth graders of both sexes. Finally, a survey of Cincinnati, Ohio, teachers involved in an elementary school career education project indicated that teachers could not agree on what children should know about careers, most teachers believing that they should teach facts, not attitudes and values, about work. The Cincinnati system, however, is committed to the development of a work values inventory for elementary students.

Bhaerman (1979) summarized Herr's major findings on the status of funded career education projects as follows.

1. Career education at the state and local level has continued to grow since 1971.

2. Most funding has been with local and state dollars or federal flow-through monies.

3. Survey of parents, teachers, and students have been positive.

4. There are presently few comprehensive K-12 projects.

5. Little evidence is available on results of career education projects with special populations.
6. There is little evidence of a theoretical base for most programs, most borrow from national demonstration projects.

7. "Career" is a misused term in a number of cases; most programs emphasize short-term goals.

8. Successful programs are community-cooperative.

9. Many evaluations only describe type and amount of involvement, not quality.

10. Parents are still most influential in their children's career development.

11. Results are mixed on significant change in knowledge and attitudes. Self-concept, academic achievement and changes in career development are less significant.

12. In the case of academic achievement, sometimes career education helped, and sometimes not, but it never hurt.

13. Experience-based and multi-component career education projects were well-liked and showed attitude and achievement gains, although general academic achievement was still not clearly affected.

14. In career-education infused curriculum students did as well as or better than non-career infused students on academic achievement, attendance, and attitudes.

15. Better career decision-making and course planning were evident in students in career education projects.

16. Few evaluations were made of learning resource materials, more was done on sex and racial bias.
17. Audio-visual materials alone were ineffective.

18. More projects used in-service rather than pre-service and the result depended greatly on the type of in-service.

Since these findings were published, there has been an even greater decrease in K-12 demonstration projects and an increase in projects for special populations and adult retraining. The project which is the focus of the present study is one of those few which was re-funded. In the first year of its funding, 137 others also received federal monies, but presently it is one of only twenty-one K-12 demonstration projects. The $80 million allocated for the project will be used for the comprehensive program of Orientation, Exploration, and Preparation with a placement and follow-up component. That project is described in detail in Chapter III.

Two earlier studies and an internal evaluation have been conducted on this project. The first published study (ZumBrunner, 1979) measured students’ perception of, involvement in, and attitude toward career education activities in relation to academic achievement and self-concept. Three significant findings were reported. First, students did not accurately report their involvement in career education activities. Second, differences in attitude toward career activities differed by grade and sex. Third, high self-concept was positively related to good attitudes toward career education activities. The study most relevant to the present one was conducted by Makay (1980) who investigated Career Knowledge, Career Attitude, Academic Achievement, Self-Concept, and Social Adjustment of fourth
graders over a seven month period. Results indicated short-term gains in Career Knowledge and Career Attitude, and significant relationships between Academic Achievement, Career Attitude, and Career Knowledge. Overall, students targeted low in self-concept increased in self-concept, career knowledge and career attitude. The present study followed up on those results.

**Self-Concept**

This section begins with a discussion of the history of self theory and the self-concept in research literature. It concludes with a report of studies examining the self-concept and those variables relevant to the present study.

**Self Theory.** One can reach into history at almost any point to begin a discussion of self theory. However, beginning with Descartes' statement, "I think, therefore, I am," is not entirely arbitrary, for he was the first to point clearly to the human capacity for viewing self as object and contemplating one's own existence. Descartes objectified the nonphysical aspect of humanity and suggested that the mind or Soul which is capable of contemplation is a separate entity from the body which is a machine. He originally posed the mind/body question and then explained it with the notion of "interaction" by which he said though interacted with body through the pineal gland. Thus, the non-physical influenced the physical.

Diggory (1966) in his comprehensive review of the history of self theory said that in the Seventeenth and Eighteenth Centuries theories about the self were primarily developed through introspection by the
theorists themselves, observing and commenting on their own thought processes. He noted that Spinoza explained the mind/body problem by stating that they are the same entity, only conceived under two different attributes—thought and extension. Other philosophers assumed that only one principle could account for all thought and action, but they could not agree as to whether the principle was psychic or physical. Berkeley offered a parsimonious explanation when he said that experience determines all that is known and persons can alter their experiences. Given that assumption, all person's minds must be independent, having their own experiences. The concept of mind as "self" was thus proposed. Those experiences which one cannot alter by will, e.g., the weather, are explained by the will of God.

In the Nineteenth Century, James Mills and John Stuart Mills described a tie which they believed binds memory of experience to present sensation and which is the best possible explanation of Self or Ego. The tie is a joiner which "has" experiences and is aware of them. Hume, on the other hand, viewed Self as a process, believing that an objectified Self was beyond or understanding of the nature of thought. He proposed that Self is not a thing before which experiences are presented but that the presenting is the Self.

It was at about this time that philosophers began looking outside their own cognitions to construe explanations of Self from a developmental perspective. Pierce and Wundt observed that children recognize their capacity to effect change, or cause experience, and termed this awareness the "consciousness of Self" (Diggory, p. 12). This position was in opposition to that of another major philosopher
of the time, Emmanuel Kant, who persisted in the view that one cannot attain an understanding of the Self at all as it is related to any experience.

The writings of William James on the "Consciousness of Self" (1890), linked the old thinking with the new. In attempting to clarify and objectify prior thinking, he made the assumption that all experience is objective, whether it is experience of one's self or non-self. The thought is the thinker, James proposed, and all thoughts are an intermingled stream of consciousness which is the Self, the feeling of personal identify. James conceived of the empirical self—everything that a person calls "me" or "mine"—as having components such as the spiritual Self and social Self which are ordered in terms of their importance to an individual's self-esteem. James believed that the spiritual Self was one's psychic powers, or what one truly seems to be. The social Selves are as numerous as the social groups about which one cares. However, they are secondary in importance to the spiritual Self in determining self-esteem. He said "We take a purer self-satisfaction when we think of our ability to argue and discriminate, or our moral sensibility and conscience, or our indomitable will, than when we survey any of our other possessions" (Diggory, p. 15). Feelings of self-esteem are the ratio between one's successes and one's pretensions, in other words, the place one believes he or she has in the world.

The origin of modern-day self theory can be found in the study and writings of Sigmund Freud. His influence of the present understanding of human nature cannot be overemphasized. His finest
contribution was to bring inquiry, observation, and scientific principles to what had heretofore been philosophical thought. It was his use of the word Ego which lifted its definition from that of a small part of the notion of Self to its present comprehensive and extended use. In *The Ego and the Id*, Freud first laid down a comprehensive theory of personality (Alexander and Selesnick, 1966). According to Freud, people are born with chaotic and conflicting demands (drive) that may or may not have any relationship to reality. They simply demand gratification in what Freud called the "pleasure principle." These drives are collectively called the Id. In the process of growing and experiencing reality, a child learns the necessity of compromise between these conflicting needs and learns to forego gratification of some needs in order to gratify others. The Ego is that part of the personality coordinating the compromise process. It represents reality and serves both to please the Id and at the same time to ensure that the "reality principle" is in operation. A third component of the personality is the Superego which patterns itself primarily after the child's parents. It is the outgrowth of the settlement of the Oedipus complex wherein the child internalizes the values of the same-sex parent in resolving sexual feelings for the opposite-sex parent. Freud made clear the point that the Superego is not a conscience, for like the Id it is part of the individual's unconscious. In some ways, the concept of the Freudian Ego appears to be similar to the concept of Self proposed by earlier philosophers, particularly James. The Ego experiences, thinks, and
organizes experiences, partly consciously and partly unconsciously, in order to both gratify the Id and placate the Superego.

Although originally a protege of Freud, Jung left the Viennese Neurological Society founded by Freud in order to develop his own form of analytic psychology. Specifically, Jung conceived a further extension of Freud's unconscious in which the personal unconscious is seen as the repository of all experiences an individual has actually had, and the impersonal unconscious houses images which are common to all persons, and perhaps all living things, by virtue of the similarities of their nervous systems. These images or "archetypes" are part of the human collective unconscious and may be such things as gods, heroes, spirits and even usual social relationships. With regard to the present discussion of Self, Jung's explanation of the "individuation process" or the development of whole and genuine persons is particularly relevant. He proposed that the psyche is a self-regulating system in which the conscious Ego and the unconscious Self, both personal and collective, engage in a process of reconciliation aimed at striking a balance, or an accord, of genuine individuality. The Self in broadest terms is what persons could become if such an accord were realized (Campbell, 1978).

After a relatively unproductive period in self psychology, a period in which most writing about the nature of the Self consisted of review and synthesis of previous theories, three psychologists, Henry Murray, Gardner Murphy, and Gordon Allport, emerged as leading modern creative theorists and psychologists. Allport (1968) in particular
has had a profound effect on self theory because of his work on motivation, or purposeful behavior. His position is that all people have unified, integrated systems of action tendencies, which he called "traits." These traits are functionally autonomous of their original formulation in childhood and in adults operate on their own. Being ego-involved in a situation means perceiving, understanding socializing and integrating experience into one's own belief system as it develops. The primary motivation of behavior, therefore, is not any specific reward, but the satisfaction of the Ego, which grows and develops with the person. Allport took an important step into modern science when he proposed a "heuristic realism" which emphasized the need for and possibility of investigating "traits" by empirical methods and thereby understanding the Ego in a more pragmatic way.

Arthur W. Combs and his colleagues have, for the past forty years, been involved in study, research, and writing on the nature of the Self. In 1949 Snygg and Combs published their first major work in this vein, Individual Behavior, in which they emphasized the importance of the individual's frame of reference or phenomenal field in determining human behavior. The phenomenal field is best defined as the universe as seen by the individual. Because the individual Self is part of the total universe, Snygg and Combs determined that there exists a phenomenal Self which is made up of all that a person understands to be him or her, particularly the parts or characteristics which are fairly stable. In phenomenological psychology, one's concept of Self is dependent on one's own frame of reference. This self-concept is what determines how one interacts
with the rest of the universe. Since 1949, research has gone on at the University of Florida extending this first proposal into the entire realm of humanism, phenomenology, and the helping relationship in general, all work being based on the concept of the centrality of Self concept in human motivation, the explanation of human behavior, and the development of human potential.

Self-concept was also at the core of client-centered therapy as conceptualized by Combs' mentor, Carl Rogers (1947, 1951, 1959). In 1951 Rogers stated nineteen propositions which summed up his thinking about personality to that date and which illustrated his emphasis on the self-concept. He proposed that every individual is the center of his or her own unique set of experiences and that those experiences are seen from unique perceptual fields. All behavior is the individual's attempt to satisfy needs as they are experienced in the phenomenal field as it is perceived. Need satisfaction involves emotion in proportion to the intensity of the need. Within the total perceptual field, a part becomes differentiated as the Self, which grows, develops, and acquires values as a result of its interaction with perceived reality, whether it is true or distorted. Only experiences which are perceived to be related to the self-structure are internalized and only behaviors which are consistent with the self-concept are engaged in. Rogers explained the role of the Self in mental and emotional troubles and closed his book with the following.

This theory is basically phenomenological in character, and relies heavily upon the concept of the Self as an explanatory construct. It pictures the end-point of
personality development as being basically a congruence between the phenomenal field of experience and the conceptual structure of the Self (p. 532).

In 1959, Rogers defined the self-concept again, this time as the "organized, consistent, conceptual Gestalt composed of characteristics if the "I" or "me" and the perception of the relationship of the "I" or "me" to others and to various aspects of life, together with the value attached to these perceptions" (p. 200). He stressed in this chapter the importance of having positive self regard and congruence between one's real and ideal Self. His operational definitions have helped immeasurably in the conduct of therapy in the client-centered mode, but according to Patterson (1977) they are not conducive to testable hypotheses for research.

**The Self-Concept as a Construct in Research.** Combs (1962) in a review of Wylie's first printing of *The Self Concept: A Critical Survey of Pertinent Research Literature* (1961) described the state of research in the realm of the self-concept as "chaotic." He determined that a reading of the 493 publications reviewed by Wylie left the reader more bewildered at the end than at the beginning. His major reservation about the work was that the greater number of the studies were not accurately defined as studies of the subjects' self-concept per se, but of the subjects' self report. Assuming the self-concept to be what an individual believes he is, he argued that most studies were actually based on "what the subject is ready, willing, able, or can be pushed to say he is," and furthermore, that "psychology turned its back on introspection as a valid technique for personality study.
two generations ago" (p. 53-54). Combs made the point that the conscious self-concept is only a part of the total phenomenal field which is more accurately described as consisting of all levels of consciousness.

In 1979, Wylie responded to that criticism in part by proposing that one either abandons self-referent constructs in research or makes the changes necessary to render them more respectable scientifically. She opted for the latter, maintaining her position that self-referent constructs have an important role in accounting for human behavior, particularly in everyday life situations such as home and school. Unfortunately, she noted, some self constructs have been too broad or too vague to lend themselves easily to scientific inquiry.

Acknowledging the overall lack of significant findings in correlational and predictive research involving the self-concept and other variables, Wylie offered some tentative explanations, beginning with the assumption that global self-concept is a "plausible construct." The first explanation was that methodologically, overall self-regard might be measured in most studies by too narrow a range or with too few intervals on the measurement scale. Second, psychologically, the self-concept may be more crucial than has been supposed, so that necessary nuances in designing research have been overlooked. That is, traditional research may have been too simplistic. Wylie suggested multivariate analysis as a fruitful technique, proposing that interaction between sex, socioeconomic status, academic achievement, body types, parental expectations, and so on, may more accurately determine one's self-concept.
A third explanation of the weak relationship between self-concept and other variables was that in most research correlations were made between externally determined variables (teacher reports of good behavior and/or documented family income) and self-concept self-report. In actuality, significantly higher correlations have been found between self-concept and self-reported measures of good behavior, popularity, and students' estimated family income. Phenomenologically, these findings make good sense, for a child's self-esteem is more a function of perceived, than of real, status in a group. Objective reality is less predictive of behavior than subjective reality according to both phenomenological and social learning theorists.

Fourth, Wylie offered the explanation that low correlations may be due to the phenomenon of an unconscious self-regard being truly correlated with other variables, and research not measuring the unconscious. Presently, there is no way to refute that contention, nor validated instruments to accurately measure the unconscious self-concept. Wylie concluded her discussion on the topic by suggesting that research on specific aspects of the self-concept might yield more significant results than research on global self-concept.

An additional explanation of the inconclusive research results can be extracted from the review of Shavelson, Hubner, and Stanton (1976). They imply that inconclusive findings in self-concept research may be due to the developmental nature of the construct. Hansen and Mayoar (1973) said "A person is not born with a
self-concept, but forms one as a result of his experiences" (p. 26). They went on to chronicle the development of the self-concept from infancy through adolescence and concluded by saying that although there is some self-concept stability in pre-adolescence and adolescence, there are also periods of instability. Relatedly, Gold, Brush, and Spratzer (1980), reported finding sex differences, developmentally, in self perception. This developmental nature of the self-concept, coupled with its intermittent instability, must be taken into consideration when interpreting research results.

In conclusion, neither Wylie or Shavelson, Hubner, and Stanton provided a definitive answer to the question of whether a global self-concept factor has or can be found. Some studies have examined the problem. Lynch and Chaves (1975) evaluated the SEI and the PH, deriving a self-concept factor which accounted for 6% of the variance. However, Marx and Wynne (1978), working with the SEI, PH, and the TSCS did not conclude that a general factor had been found. They proposed that either the factor was too complex to measure or that items from the instruments available to measure it could not be combined to produce the factor.

Social Adjustment and Social Competence

This section gives brief attention to the concept of social adjustment as it was defined by Makay (1980). That variable was one of those included in the data collected on the subjects in the present study when they were fourth graders, and the subjects will be described on that dimension. The related measure, social competence,
is given more detailed treatment in this section because it was the variable employed in the present study as a socialization correlate of career awareness. The subjects are also described with regard to their performance on that dimension.

Social Adjustment. Social Adjustment was defined as "the extent to which students are perceived either to get along or not with other students in the classroom, to be concerned or worried, to be productive, to be selective as friends" (Makay, p. 14). The measure of that construct, the Peer Reputation Form, was a near-sociometric technique of the "Guess Who" variety (Gronlund, 1959) for assessing how subjects were perceived by their peers. In this technique, items were chosen relative to the purpose of the assessment, and the strength of the characteristic being measured was determined by the number of times a subject was named as having that characteristic. The result was the subject's "peer reputation." Makay reported that the technique grew independently of the sociometric movement founded by Moreno, although Moreno was cited as the originator of the general technique for measuring the "psychological properties of populations" (Makay, p. 55).

The sociometric movement was introduced in this country with the publication in 1934 of Moreno's Who Shall Survive? In this book, he proposed that socialization is a developmental process, marked by three distinct phases, the first centering around eight years of age, the second at about fourteen, and the third between sixteen and seventeen. The measurement of socialization, Moreno suggested, can best be accomplished within the social milieu, both as individuals and
the entire group which they comprise move and grow toward maturity. He was able to quantify and thus measure group social behavior.

Because teachers often find it difficult to get an accurate picture of the group structure of their classrooms and the places individual children have in the structure, Thorndike and Hagen (1977) suggested that teachers employ peer ratings as measures of group socialization. They described the nominating technique as a simple yet valid method for constructing a sociogram which can give a clear visual picture of the group, its isolates and cliques. Because a group is not static, particularly in younger children and at the beginning of a school year, such a technique can be used to help improve the socialization of the isolated members, although subtlety in implementing a program to improve school adjustment is essential.

A second method of assessing socialization is that in which every group member is asked to react to every other group member, and responses are pooled to arrive at a group rating for each individual. Finally, Thorndike and Hagen refer to the "Guess Who" or "Casting Characters" technique which was used in the Makay study. Strengths of this method are its simplicity with younger, unsophisticated subjects and its ease of scoring—-a simple tallying of nominations is all that is necessary.

Significant correlations between high sociometric standing and positive psychological and academic attributes have been noted for many years (Gronlund, 1959, Barclay, 1966). Self-concept, grade point average, incidence of home problems, and aggression are among those
variables which have been studied in relation to peer acceptance and/or approval. The constellation of positive peer approval, academic success, and positive self-concept has caused those individuals characterized by all those attributes to be termed "stars" (Gronlund, 1959), "mentally healthy" (Grinker, 1962) and "the successful ones" (Caulfield, 1980).

Some people, however, are not "stars" and without intervention, youngsters who are negatively appraised or isolated by their peers tend to remain in those positions throughout their school years. Caulfield, in an eleven-year longitudinal study the purpose of which was to develop intervention techniques, followed students from fifth grade until four years after their graduation. He employed a simple sociometric measure designed to determine which students made significant gains in sociometric standing over time. Interviews with those who had become "successful ones" revealed that increased activities, physical changes in desired directions, and reduced parental protectiveness (independence) were important factors. It follows that students who already are considered involved, physically attractive, and independent might be initially evaluated by their peers in a positive way. In support of this, Northway (1967) found that evidence of a lack of involvement and independence, that is, shyness, to be more frequently associated with peer rejection.

Social Competence. The present study examined the concept of social acceptance/approval from a different perspective. Rather than approaching it from a peer evaluation perspective, this study focused on teachers' perception of subjects' social competence. The method
for arriving at a social competence score was of the pooled rating type mentioned by Thorndike and Hagen (1977) in peer rating.

The question of what constitutes social competence has been considered for some time (Anderson and Messick, 1974). In 1973 the Office of Child Development appointed a panel to try to define social competence in children. Although IQ is often used as a measure of development, arriving at a total abilities concept was the goal of the panel. They found numerous problems in the task, among them the confounding effects of values on the constitution of social competence, that is, they observed that specific behaviors are not universally prized. A second problem was distinguishing between typical and maximum performance; a third was recognizing that descriptors for personal characteristics often do not have specific meanings. The panel finally had to deal with the fluid, developmental nature of behavior. The result of their deliberation was a list of twenty-nine general competencies on which an assessment of social competence could be made. Anderson and Messick concluded their report with the plea that results of the work be implemented programmatically.

The categories they listed were not unlike those of Doll (1953) whose categories were used for the present social competence measure. Doll developed his detailed scale of measurable behaviors to assess levels of personal independence and social responsibility—his definition of social competence. He approached the concept developmentally, describing the process as one of social maturation. He said it had three dimensions: 1) dependence to independence, 2) irresponsibility
to responsibility, and 3) incompetence to competence. Doll also pointed out that many factors contributed to social maturation—intelligence, experience, motor facility, environment—but stated his goal in devising a scale was to measure the social effects of those variables in an integrated whole. That whole, or central factor, was determined to be progressive self-determination. The specific components, or competencies, which made up the central factor were: self-help, free and open movement, constructive occupation, self-direction, peer acceptance, and appropriate communication.

Doll acknowledged the importance of the group in determining social competence in the following excerpt.

Social competence naturally involves social relationships since the expression of individual adequacy matures within a social setting. Few if any persons are more than partially or temporarily independent of their social environment. Consequently the exercise of personal independence and personal responsibility must always be gauged with reference to the social group as well as to the age level within which these performances are displayed. Indeed, the social competence of the individual from one point of view is indicated by the extent to which he is accepted among his fellows as equal, inferior, or superior to his age and cultural-economic level.

(Doll, 1953, p. 32)

Evaluating subjects on such a complex construct is a difficult task compounded by the problems inherent in subjective evaluations. Specifically, Doll cautioned the reader that examiner effects biased results of his validation studies in some cases. He reported that some teachers tended to equate social competence with estimates of students' intelligence. Although teachers can accurately rate students' personal academic characteristics (Taylor, Whetstone, and
Jackson, 1981), those ratings may be erroneously extrapolated to personal qualities in general.

Shertzer and Linden (1979) also cautioned the users that the systematic error sources inherent in rating techniques reduce both its validity and reliability. Specifically, a general bias for rating high or low, interaction between the rater and the subject, and the rater's attitude toward the trait being measured or the rating task itself will bias results. They suggested pooled ratings, a minimum of three per subject, as the best means of correcting the situation.

Socialization as an Educational Goal. Socialization is a generally accepted goal of education regardless of the educator's personal bias as to what constitutes "good" social adjustment in the classroom and beyond. Indeed, as Coles (1976) has pointed out, schools cannot avoid assuming a socializing role, as they are the one common experience of virtually all young Americans. The schools have always had the task of teaching children to practice good citizenship, cooperation, independence, loyalty, and similar socially-acceptable beliefs and behaviors. As a 12-year-old boy interviewed by Coles stated:

This is the best country in the world. That's what the teachers say . . . . They say they try to be fair, and they tell us you shouldn't just salute the flag and pledge allegiance and sing the national anthem. You should read your books carefully and be independent when you decide what you believe. They believe that this is they best country . . . she shows us the evidence
and tells us not to believe her, but weigh the evidence
and decide for ourselves . . . that's what America is
all about: freedom, a chance to think for yourself . . .

(Coles, p. 15)

Although the young man correctly identified the social value
being taught as one of independence coupled with patriotism, most of
the socialization that is done by schools is either covert or
incidental to some other primary educational goal. The Humanistic
movement in education has addressed the topic directly, however,
giving birth to a body of literature spelling out the circumstances
conducive to the teaching of interpersonal values associated with
healthy social development. Humanists see the most important first
step as that of creating an atmosphere and relationship in the
classroom which will enable students to learn a basic concept—that
people are for the most part good and positively motivated, that given
a nurturing atmosphere they will be able to work toward both
individual fulfillment and the common good, and that children are
people, too.

Balancing the Humanistic view which fosters both cooperation and
personal fulfillment against the "hidden curriculum" (Etzioni, 1979),
which emphasizes high grades, all-out athletic competition, and
winning at all costs is a sensitive issue in education. Speaking for
a redirection in the hidden curriculum Etzioni questioned what
socialization lessons students learn when teachers encourage a "win
at all costs" attitude, whether it be for grades, test scores, or
popularity contests. Childhood competition was the subject of a study
by Nelson and Kagan (1972) who rewarded five to ten year old children
for working cooperatively on a task. They reported that the children
grew progressively more competitive with age, working against their
own best interests in the pursuit of personal goals. The children's
socialization emphasized competition, rather than cooperation.

The question of cooperation/competition is made more complex by
the findings of Fry and Preston (1981) who employed a digit symbol
task with seven to nine year olds and discovered that competition and
achievement were positively correlated with children's negative
affect, and the cooperation and achievement were correlated with their
positive affect. The conclusion was that the social climate is
crucial in determining whether cooperation or competition is the
better method for improving achievement. These results raise the
question of what social values are to be taught in the classroom.

A second consideration is that of who does the teaching of
socialization in the schools. The institution, through the overt or
hidden curriculum is certainly one answer. The second answer is that
socialization is done by the peer group. Elkind (1971) reported that
from age seven through adolescence social and family relations are
marked by increasing importance of peers and vacillating
relationships with the family, although a general tendency toward less
family involvement is marked. The importance of the peer group in
socializing young people was described by the developmental
psychologist, Grace Craig:

A peer group is not just any gathering of children. Its
size is somewhat limited by the qualification that all of
its members interact with one another. In addition, a
peer group is relatively stable; it lasts over a period
of time. Its members share many values; and there are
common norms which govern the members’ interaction and influence each child. And finally, some degree of status differentiation governs the group’s interaction; there is at least a temporary division into leaders and followers. Therefore, when we speak of a peer group, we are not talking about just any "bunch of kids."

(Craig, 1979, p. 402)

The peer group is a social microcosm of the world. In it, young people learn roles which they will play in the adult world, try out work habits, test values, learn to follow or lead, cooperate or be antagonistic. They learn their place, or status, in the group. The peer group is a powerful force for socialization operating both in the school setting and outside.

The process of conforming or not conforming to group norms due to the effects of peer pressure and influence is different for each child. Drawing conclusions about who does and does not conform is a difficult task according to Craig. She does offer the following conclusions, however, based on the work of Hartup. Children with low ego strength more readily conform and the converse is also true; children with low anxiety and low social sensitivity are less conforming. Girls tend to conform to the group more readily than boys, except when physical prowess is the norm. In that case, boys are more apt to want to be part of the "physical" crowd.

In conclusion, two important needs, apparently conflicting ones, are evident in late childhood. They are a need for peer acceptance and a need for independence. These two needs do find their outlet in the peer group, which provides a milieu for the learning of both cooperative and independent skills.
Correlates of Self-Concept and Career Education as an Enhancing Program

This section explores the relationships between the variables of self-concept, social competence, and academic achievement. It also discusses the role of career education in enhancing student self-concept.

**Self-Concept and Academic Achievement.** The school is second only to the home in influencing individual's self-concept. After a child enters school, teachers and peers assume the great role in that developmental process, and the school becomes the yardstick by which success and failure are measured. If the feedback from the school is primarily negative, the child will tend to appraise him or herself negatively, and the converse is also true.

In Wylie's chapter on global self-concept and various indices of achievement, ability, and creativity, she observed that intuition would support a positive correlation between self-concept and those indices because of the effect of reciprocal feedback. Theoretically, too, the correlations would appear to make sense, for, as Rogers has noted, people maintain a consistency between self-concept and environmental feedback even when it becomes necessary for them to fail in order to remain congruent. However, the interrelationship is probably more complex than these phenomena would indicate. For example, one's overall self-concept may be interacting with a quite limited environmental reference group. An "average" person in a relatively homogeneous group of high achievers may imperfectly assess his or her ability as average, when in fact it is quite high as
compared with a broadly distributed group. Teachers evaluating this same homogeneous group of individuals may make a similar evaluation, rating some of the group high, some average, and some low achievers without acknowledging the existence of the larger reference group.

Another factor to be considered is the need to maintain self-esteem in the face of evidence that one is not achieving. Distortions in self-estimates of achievement and ability may be the result of attempts to protect the self-concept. Based on these arguments, Wylie made two predictions with regard to the correlations between self-concept and achievement which are borne out by the literature. First, even the best correlations will be modest. Second, correlations between self-concept and achievement should be highest for a specific "achievement" self-concept and school achievement and lower for global self-concept and school achievement. She suggested holding ability constant when studying the relationship between the two variables, and discussed research in which this has and has not been done.

In the present study, ability was not held constant, therefore, those studies are most relevant. Most of them show approximately a +.30 correlation between global self-concept and grade point average. Wylie reported that Coopersmith found his Self Esteem Inventory (SEI) to be significantly related (.05) to grade point average among ten to twelve year olds. Trowbridge found significant correlations of +.35 and +.45 between the SEI and grade point average for children of various socioeconomic levels. Two other studies comparing a modified version of the SEI and grade point averages had conflicting results as
reported in Wylie. Kunce, Gelsinger, and Miller found the variable to be significantly correlated with grade point averages of ninth graders during the first, second, and third grading periods, but Perkins and Shannon's study of seventh grade boys indicated no significant relationships using the same measures. Studies using the Self Social Esteem Scale (SSES) found no significant correlations between measured self-concept and objective test scores and class discussion ideas. The only study using the Piers-Harris and grade point average was too limited to be relevant.

Wylie pointed out that research on self-concept and standard achievement measures is even more limited that that employing grade point average correlates. Using the Adjective Check List (ACL), Brunken and Shere found nine of the 24 scales to be significantly related to a measure of reading, but self acceptance was not one of the nine. Coopersmith found the SEI to be significant at +.01 with results of the Iowa Achievement Test. Similar significant correlations were found by Simon and Simon using the SEI and the SRA Achievement series for fifth graders and by Lewis and Adank for the SEI and the Stanford Achievement Test for fourth, fifth, and sixth graders. Trowbridge correlated SEI scores and the Iowa Test of Basic Skills for various socioeconomic level. She found that scores correlated significantly within individual socioeconomic levels but not when socioeconomic levels were combined. Again, the modified version of the SEI was found to be insignificantly correlated, this time in a study using the Metropolitan Achievement Test scores for middle-socioeconomic level sixth graders.
Williams and Cole reported the *Tennessee Self-Concept Scale* (TSCS) to be significantly correlated with the reading and math subtests of the *California Achievement Test* for sixth graders and Piers and Harris, in the manual for their self-concept instrument, report significant correlations with an unnamed achievement test for all sex and grade levels with the exception of a group of sixth grade girls. Their 1964 summary on the development of the instrument reports that third and tenth graders had higher self-concepts than sixth graders. No sex differences were noted and correlations with IQ and achievement measures were low but positive, $p < .01$ for the sixth grade and $p < .05$ for achievement for third graders, who also had the widest dispersion of scores.

Finally, Wylie reported several studies in which idiosyncratic measures of self-concept were used in achievement studies which did not control for ability, but concluded that results were flawed because of a lack of information about the measures. In the studies of specific, as opposed to global, self-concept correlations are higher, as was anticipated; however, the broad spectrum of specific self-concept studies do not lend themselves to comparison with one another, a fact which renders generalizations about them only tentative.

Support for the relationship was given by Purkey (1970), who pointed out that "For generations, wise teachers have sensed the significant and positive relationship between a student's concept of himself and his performance in school" (p. 14). Research bears out
that observation. An early study on the consistency of the self-concept (Lecky, 1945) revealed a tendency of students to maintain corresponding levels of school performance and self-concept. Poor self-concept and low academic achievement were significantly related.

A longitudinal study by Brookover, Shailer, and Patterson (1964), on student self-concept, ability, and achievement supported Lecky's findings on the relationship between self-concept and achievement. More importantly, they found ability to be less important in determining level of achievement that student perception of ability (a specific self-concept). Indeed, ability self-concept was shown to be the most significant predictor of academic success or failure. The causality question was raised, but is yet to be answered. It still is not clear whether poor self-concept precludes high achievement or whether negative feedback from teachers results in a reduced level of self-esteem. Most probably, the relationship between self-concept and school achievement is circular, one enhancing or undermining the other.

Jersild (1952) used a combination of students' writings, teacher reports, interviews, group discussions, and observations in acquiring the data for his study on the role of the school in promoting self-understanding. His purpose was to find out what students liked and disliked about themselves and to use those findings to improve student self-appraisal. His findings illustrated the overwhelming amount of negative feedback schools give to children, much of it, he determined, contrived. He reported that students more often mentioned school as something they did not like about themselves, and tended to
attribute that finding to the presence of an "unhealthy standard of evaluation."

Purkey (1970) cited evidence of the "persistent and significant" interrelationship between self-concept and school achievement in an effort to encourage teachers to influence school performance through the enhancement of self-concept. He quoted research indicating that as students advance through the grades they become less and less proud of their work, develop less positive images of their schools, and decrease in their own self-regard. Those findings regarding strong correlations between self-concept and academic achievement had been reported earlier (Caplin, 1969) and were later substantiated by Gordon (1977). Purkey proposed six factors which could be employed by teachers who want to develop positive self-concepts in their students and thereby increase learning.

1. Order--teachers let students know they care by keeping order in the classroom.

2. Challenge--asking of students what they are capable of giving engenders feelings of competence.

3. Success--students need positive feedback.

4. Respect--students need to know that teachers believe they are worthwhile.

5. Warmth--by expressing friendliness, the teacher lets the students know they belong.

6. Self-discipline--when students have opportunities to set limits on themselves they become independent and confident.
Emphasis on these factors, he proposed, will lead to improved academic achievement which then can serve as a positive feedback to enhance self-concept.

Recently, Zarb (1981) explored the relationship between the two variables in the study on the non-academic predictors of academic achievement for middle-class tenth grade students. A regression analysis of academic, peer, and family self-concepts, acceptance of the educational system, and motivation on grade point average was conducted. He found that only academic self-concept contributed significantly to grade point average, and that peer and family self-concept were not significant in the relationship. His conclusion was that realistic perception of academic success and good study habits were the crucial factors in academic success.

**Self-Concept and Social Competence.** Children's self-concepts develop in a social setting, through interpersonal relationships (Sullivan, 1947; Horney, 1945), first through interaction with parents and siblings, later with peers, teachers, and other significant adults. They receive evidence of how they are evaluated by others, and internalize beliefs about themselves on which they then act. They decide if they are good or bad, followers or leaders, competent or incompetent as they progress from one developmental level to another based on input from their social contacts.

Little research is available on the degree to which social competence or ability correlated with measures of self-concept. Specific social variables, such as socioeconomic status, sex roles,
race, and family structure have been studied as they relate to self-concept, but they are of limited relevance in the present study. The situation may be due to the intimate ties between the two variables, and a tendency not to see them as distinct constructs. Whatever the reason, pertinent research has tended to investigate the role of the social group in shaping a child's behavior and self-esteem rather than on measures of actual social competence and self-concept.

Why some children are responsive to the norms of the peer group and some are not is a difficult question to answer. Basing his conclusions on the identity theory of Ausubel and subsequent research on child development, Bergonsky (1978) in an opinion paper on adolescent social development concluded that ego strength and self-esteem develop through "sattelization" or parental acceptance, and that valuing is the major factors in differentiating between adolescents who are influenced and those who are not influence toward antisocial behaviors as adolescents. He cited empirical evidence that although peer influence is a major force in adolescence, those who have received unconditional acceptance as children and who successfully "desattelize" or break away from parents, have the strong self-concept needed to resist group pressure.

Two recent studies on self-concept and peer influence those of Chassin and Young (1981) and Bernstein (1981). Chassin and Young noted the difference between younger and older children in terms of their personal self definition. Young children were found to define
themselves in terms of their physical characteristics and older children and adolescents to define themselves in terms of their social roles. They did not find cognitive development to be associated with delinquency and concluded that self-concept is a function of social adjustment and is developmental in nature. They had two adolescent groups in this study, normal and deviant (psychiatric), who completed the "Who Am I?" instrument. Significant differences were found in self-concept for the two groups; the deviant group members were less "socialized" in their self-concepts.

Bernstein (1981) also studied deviant and non-deviant adolescents with regard to self-perception, peer perception, and delinquency. He proposed that self-awareness depends upon communication and role taking which in turn involves seeing self as other do. The process is one of socialization. Using forty delinquent and non-delinquent males as subjects, he conducted interviews with a task-oriented instrument designed to study the self-system. His results supported Chassin and Young's in that the cognitive developmental variable was not significantly correlated with delinquency. Psychopathology was related to self-perception. He concluded that "the development of age-appropriate self and social cognitions (among delinquents) may be hindered by a lack of social concern." (p. 553).

Studies on "normal" populations also indicate influence on self-concept by social groups. Albrand and Doyle (1976) argued that because self-concept and social adjustment had been shown to be positively correlated (Guardo, 1969), grouping along social variables
should improve self-concept. In a study of fourth, fifth, and sixth
graders, subjects were grouped regardless of grade level according to
teacher-determined non-academic characteristics, such as "ability to
get along with others." This grouping took place during the second
year of the three-year project; traditional grouping was employed in
the first and third years. Pre- and post-tests showed that more
students had positive self-concepts at the end of the third year and
that more students were named on sociometric rating scales as positive
choices.

Ross and Parker (1980) identified 147 gifted fifth to eighth
graders and administered the Sears Self-concept Inventory. Based on
the results of that instrument, they reported that gifted students had
significantly lower expectations for social than academic success,
regardless of sex or grade. They conjectured that the positive
feedback such students receive for academic success encourages them to
continue their efforts in that sphere in order to receive continued
adult approval. In addition, they hypothesized that the
academically-gifted may experience discomfort and ambivalence with
regard to their place in a group. Strategies for enhancing the
self-concept of these students were recommended, particularly in the
area of classroom interaction.

In a recent factor analytic study of the Coopersmith Self-Esteem
Inventory, Kokenes (1978) found the instrument to be factorially sound
and noted that the home was only cited as a major source of positive
self-esteem for fourth grade males and sixth grade females.
Pre-adolescents and adolescents cited the peer group as a powerful force in determining self-esteem.

**Other Correlates of Self-Concept.** Several recent studies have been conducted on the relationship between sex and self-esteem. Montsi (1978) found that females in early adolescence had significantly higher scores on the Tennessee Self-Concept Scale (TSCS) than did boys of the same age and older girls. The opposite trend was noted by Pomerantz (1979) who found that both eighth and tenth grade females scored significantly lower on self-esteem than did males in the same grade level. Stoner and Kalser (1978) found that eleventh grade males scored significantly higher than females on three of the TSCS subscales. Investigating the process of sex stereotyping and self-perception of intelligence and self-confidence, Gold, Brush, and Sprotzer (1980) found self-concept differences between third, fifth, and eighth grade males and females that were unexplained by sex stereotyping. By fifth grade, they reported, males described themselves as smarter and more self-confident than did females.

Conflicting results such as these support the position that self-concept is developmental in nature as well as the conclusion of an important study by Engel (1959) which concluded that clear-cut sex differences in global self-concept do not exist when all other variables are held constant. In the present study, data were examined by sex in order to evaluate that conclusion.

Research relevant to the sample in this study was carried out by Jackson (1979). He found that students who perceived their material
goods needs (car, TV) to be fulfilled scored significantly higher on the TSCS than did students who reported that they lacked such goods. Biedsoe (1980), studying eighth and twelfth grade economically disadvantaged black students, also found that economic status was related to scores on the TSCS. That is, lower socioeconomic black students scored lower on self-concept. Subjects in the present study live in a white, affluent community, and based on the foregoing research should be expected to score higher in self-concept.

**Self-Concept and Career Education.** The acknowledged leader in the area of career development from a self-concept perspective is Donald Super. For the past twenty years his work has focused on career development theory and research, and although he has been accused of neglecting the social aspects of career development (Pappas and Crites, 1978), his work is the most comprehensive on the relationship between career education and self-concept. He drew five major conclusions from his work and that of others on the relationship between the two. Their research showed that:

1. Agreement between the self-concept and one’s own occupational concepts is related to occupational preferences and to both internal and external criteria of success and satisfaction.

2. Agreement between the self-concept and the occupational role concept of important persons has so far tended to be related to external criteria of success.

3. Vocational self-concepts are a function of perception of the occupational role expectations of important persons, and are related to level of attainment in an occupation.
4. Agreement between self-concepts and other measures of the same characteristics, that is, self understanding, increases at varying rates with age in adolescence and is related to the strength of certain needs.

5. Adolescents' parent identification (agreement between self-concept and concept of parents) are related to type of vocational interests.

(Super, 1963, p. 11)

Franklin (1977) challenged Super on a theoretical level, noting that Super's definition of Self implies a passive recipient of events, a limited view, in Franklin's opinion. He asserted that Super's view of Self is responsible for the failure of career education to achieve its goals, and proposed that a dynamic, active Self as conceptualized by Mead is a more appropriate basis for career education programming, one which will more generally assure success. Franklin did not present evidence that career education programs have been ineffective, nor did he support his assertion that the preponderance of programs are based on Super's conception of Self. In fact, a review of the literature indicates that most programs gave scant attention to their theoretical bases, and results of success in achieving significant results were mixed.

Research on school-based career education/self-concept programs are most prevalent in the literature. Furthermore, specific variable of importance to the researcher, such as race, sex, and socioeconomic status are often used as co-variates. A researcher-designed Career Awareness program for eighth grade girls in three rural junior high schools utilized the Piers-Harris and the Career Maturity Inventory to
assess self-concept and career maturity at the end of a ten-week program (Wingett, 1974). Results showed a significant main effect for school. The researcher concluded that how to present the material was more important than what material was presented. The present study also examined the effect of program by school and found no significant differences. Wingett also reported no significant differences between experimental and control groups on the Career Awareness measure and concluded that rural students have special needs in career maturity programs. She did report significant gains in self-concept as evidence of the program’s effectiveness on that dimension.

Socioeconomic status was the variable studied as a correlate of career maturity, self-concept, work values, and academic achievement in a study by Moore (1980). She used three groups of sixth graders, one using career education alone, one using career education with developmental guidance, and one as a control. Results of her study indicated gains in career maturity as measured by the Vocational Development Inventory, and in self-concept as measured by the Piers-Harris. Furthermore, socioeconomic status was found to be a reliable indicator of self-concept, work values, and career maturity.

Putnam, Hasel, and Hansen (1978) studied sex differences in self-concept and vocational attitude maturity. They enlisted eleventh and twelfth grade boys and girls from four high schools in conducting the research. Results indicated no sex differences in overall self-concept as measured by the Tennessee Self-Concept Scale. The relationship between vocational maturity and self-esteem was significant for both sexes, but higher for males. The specific
moral-ethical self was a common contributor to self-esteem and vocational maturity for both sexes.

An interesting study in a non-school environment was conducted by Groves (1980) who evaluated self-awareness as a component of self-concept with 105 high school participants in a Conservation Leadership Conference. Independent variables in the study were mood, quality of instruction, and work productivity. He found significant improvement in self-awareness for three groups: most significant, primitive camping group; second, amateur ecologist group; third, awareness group. The conclusion was that active involvement and newness and diversity of experience are strongly related to changes in self-awareness.

Two studies which are closely related to the present study and those previously carried out with the same population were those of Cohen (1977) and Henderson and Shively (1980). Cohen worked with a three-year state grant, the purpose of which was to evaluate the self-concept and career interests of elementary school inner-city youth. Career education was incorporated into the curriculum for the experimental group, and the Piers-Harris and the Comprehensive Career Assessment Scale were instruments used in the post-test-only design. Although gains were found for both variables, they were not significant, nor were correlations between the two measures significant.

The Appalachia Education Laboratory has been the home site for extensive research on a variety of projects across the nation.
Henderson and Shively (1980) examined results of the Experience Based Career Education (EBCE) project and the self-concept of those students participating in it. In this study, attention was given to the theoretical basis for including self-concept in career education through a discussion of Super's work. The program treatment was comprehensive and experiential, carried out on five sites across the nation. Results of post-testing indicated significant differences in attitude toward school program, with the EBCE students reporting more positive attitudes. Self-concept differences between experimental and control groups were not significant, however, and the researchers reported methodological and instrumentational problems which probably confounded results.

Summary

This chapter discussed the history and theory of career awareness, citing model program. It also presented a history of self theory and self-concept as a construct in research. Two approaches to the study of social adjustment were suggested and the role of the school in social development was discussed. Research studying the relationships between the variables of self-concept, academic achievement, social adjustment, and career awareness was brought together in the final section and warranted drawing certain conclusions. First, most studies reported positive relationships between self-concept, social adjustment, and academic achievement, although in many cases correlations for global self-concept were low. Second, the school as an institution was seen as a force for promoting
both social adjustment and academic achievement. Third, because positive self-concept in children was linked to success in school, the school was seen to have a role in developing healthy self-concept. Fourth, career education was determined to be a viable method for improving self-concept. Chapter III presents the methodology in the present study.
CHAPTER III
METHODOLOGY

The purpose of this study was to examine the relationships among the variables of career attitude, career knowledge, academic achievement (reading comprehension and mathematics computation), social competence, and self-concept among seventh graders who had been included in a three year comprehensive, curriculum-infused, career education program. This section presents the method employed in collecting, organizing and analyzing the data which was used to describe and compare subjects' performance subsequent to and following the three year period. The section is organized around five major areas: setting, subjects, procedures, instrumentation, and statistical analysis of data.

Setting

The educational community of the study is made up of five elementary schools (formerly six), two junior high schools, and one senior high school. Elementary schools have a total pupil enrollment of 2,713 students, 164 teachers, 6 principals, registered nurses, and media specialists. Three elementary school counselors serve all six schools and are responsible for career education activities and teacher in-service. One of the two junior high schools has an
enrollment of 851, the other an enrollment of 742. Each has a principal and an assistant principal, a registered part-time nurse, a full-time media specialist, and three counselors. One counselor in each building is responsible for career education. The overall student-teacher ratio is twenty-five to one.

Students in each elementary and junior high school may elect to be educated in an informal or traditional classroom setting. The curriculum content is similar in each setting, but the classroom activities differ. In addition, special education programs are provided at all grade levels for eligible students wherein curriculum is geared to each student's individual needs.

The high school has a total school enrollment of 1,574 students in grades 10 through 12, with a staff of one principal, three assistant principals, 114 teachers, a full-time registered nurse, three media specialists, and six counselors, one of whom is responsible for career education. The school system offers a full range of academic, general, and vocational choices. Vocational programs in grades 11 and 12 are provided through a contract with Columbus Public Schools and students may elect to attend any of the five vocational career centers located in the central city and in each city quadrant. Tax money from the community helps to support these centers.

The school system is heavily involved in a total career education and guidance program. The program is under the direction of a Career Education Director who organizes and directs project activities which
are implemented by the designated career education counselors in each of the buildings through a process of infusion. The Director also maintains liaison with the community, which has evidenced its support by investing time and energy in the project.

Because of this unique partnership in the career education project, it is important to consider the following data regarding the community:

1. The community of 35,648 citizens is largely residential, with homes ranging in value from $70,000 to $200,000 of which 85% are owner-occupied.

2. Residents are largely white, Anglo-Saxons; 84% are professional and white-collar workers. The majority of women, 64%, are employed outside the home. Mean family income is approximately $31,000, second highest per capita in the state.

3. Median adult educational level is 16.4 years of school, the highest in the state for a community of this size.

4. The city council/manager government and city services are supported primarily through taxation of real property. The city government supports a host of civic, cultural, and recreational activities as well as educational programs in cooperation with the schools.

Subjects

The population from which the subjects were drawn consists of those students who were in the fourth grade during the 1977-78 school year, and who at the time of this study were in the seventh grade.
Table 1 gives a breakdown of the population by sex and group, targeted and non-targeted. One hundred seventy-nine of the subjects were targeted as being low in Self-concept by their elementary school teachers or by scores on the Piers-Harris Children's Self-Concept Inventory.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted</td>
<td>71</td>
<td>108</td>
<td>179</td>
</tr>
<tr>
<td>Non-Targeted</td>
<td>130</td>
<td>133</td>
<td>263</td>
</tr>
<tr>
<td>Total</td>
<td>201</td>
<td>241</td>
<td>442</td>
</tr>
</tbody>
</table>

Those students were selected by teachers and career education consultants in a processing session after the administration of the test instruments in October, 1978. The targeted subjects, received a special intervention program to enhance their self-concept which was planned by consultants and implemented by consultants and teachers together.

A table of random numbers was used to select from this population a sample of 105 subjects for the study. Of the original 105 subjects,
10 were eliminated, 9 from Hastings and 1 from Jones, from the final statistical analysis. Eight were eliminated due to lack of parental permission and 2 were eliminated due to random or inappropriate test responses. The final sample of 95 seventh grade students is shown in Table 2. It indicates the 42 females and 53 males by sex and elementary school attended by the subjects.

TABLE 2
Description of Sample by Sex, Elementary School, and Total

<table>
<thead>
<tr>
<th></th>
<th>Elementary School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
</tr>
</tbody>
</table>

This sample of present-day seventh grade students was selected for the research in order to conduct a follow-up study on students who three years ago were measured on the variables of: career knowledge, career attitude, self-concept, academic achievement, and social adjustment by peer reputation. All of the subjects had been involved in the comprehensive Career Education Project for a total of three years. Thirty-eight, or 40%, of the total sample were those who were targeted as low self-concept subjects (Table 3).
TABLE 3

Description of Sample by Sex, Targeted/Non-Targeted Groups, and Total

<table>
<thead>
<tr>
<th>Sex</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted</td>
<td>11</td>
<td>27</td>
<td>38</td>
</tr>
<tr>
<td>Non-Targeted</td>
<td>31</td>
<td>26</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>53</td>
<td>95</td>
</tr>
</tbody>
</table>

Procedures

This section is organized into two parts. First, a description of the career education project in which the subjects have been involved for the past three years is given. Second, the methods used to collect data for the present study is described.

Career education project. This project is one of twenty-one demonstration projects, K-12, which were funded under Section 406, PL 93-380, the Career Education Incentives Act of 1974. Responsibility for the project is assumed by a wide range of community, university, and school personnel who are organized into advisory councils, ad hoc committees, and building-level teams under the supervision of a Career Education Director. This group approach is central to the project and illustrates the total community's commitment to an on-going comprehensive program which provides activities for all "actors" in the project.
Using the Eighteen Goals adopted by the school system, which encompass skills (cognitive) and personal/social (affective) components, these groups plan, implement, and conduct on-going evaluations of the Career Education Project for grades K-12. Three approaches are utilized in the program: 1) curriculum infusion, 2) guidance strategies, and 3) career education activities. The activities themselves are implemented in three ways. First is implementation through the K-12 teacher-planned activities which are based on selected learner outcomes in the areas of knowledge, skills, and attitudes. The learning activities themselves are vicarious, simulated, and experiential, addressing through the cognitive, affective, and behavioral domains. Second, implementation is effected through the involvement of other actors—administrators, parents, community members, business and industry personnel, university staff, counselors and other support personnel. Third, activities are implemented in career education centers in the junior highs and high school and through a placement and follow-up service in the high school.

Visualizing the career education activities in a developmental framework illustrates their differential focus by developmental levels: K-6 Awareness/Motivation, 7-8 Orientation, 9-10 Exploration. At each level the curricular and guidance activities are supplemented by in and out of school community activities to form the total career education curriculum. Within this framework, the Seven Developmental Areas of the Ohio Career Development Model (1970): Self, Individual
and Environment, Economics, World of Work, Education and Training, Work Adjustment, and Decision-Making Skills are used to determine program needs at each developmental level. During Phase I of the program which began in 1976-77, more than 3000 elementary school students were involved in vicarious, simulated, and hands-on career-related activities based on an Experiencing Curriculum Model.

Ten program components formed the core of Phase I of the Career Education Project. Each component was a separate unit with its own emphasis, activities, design, and evaluation, and is based on the needs of the learner at each developmental level. Although the ten program components of the first phase of the project have since been condensed into six, the originals are listed below because they were employed during the time period under study.

Project Coordination--The coordinator is supported by the local school district funds and provides leadership for the career education staff.

K-6 Career Motivation Component--This component emphasizes curriculum infusion of career education to all subject areas in each elementary classroom.

7-8 Orientation Component--This provides for the establishment of a Career Information System and a Career Education Center in each of the district's two junior high schools, and the initiation of career orientation activities through each subject area.

9-10 Exploration Component--This provides for the development of a system for identifying field sites for exploratory experiences, defining career exploration activities and assessing decision making skill development and application of exploratory experiences.

11-12 Preparation, Placement and Follow-up--This provides for the development of a job placement and follow-up system for the high school, preparation for educational planning and placement skills, and the infusion into subject areas of career education preparation activities.
Guidance—Each of the three secondary schools has developed a program of guidance services which defines the roles and responsibilities of the counselors in each building.

Teacher Education—This component addresses the needs of pre-service teacher candidates assigned to the schools for field placements.

Teacher Development—This includes activities to assess teachers in their own career planning and development and to enhance their career educator skills.

School-Community Collaboration—This consists of a wide range of successful opportunities for students at all age levels. The activities available are in the areas of education, recreation, social and cultural needs.

Project Evaluation—The project is evaluated for the extent to which the objectives are accomplished by means of a formative and summative evaluation plan.

(Comprehensive Career Education Project, 1978).

Activities occurring in the K-6 Career Motivation component during the years 1977 to 1981 are of major importance in this study for they are those experiences which were designed to effect change in the subjects. During that period, career education building teams were formed; teachers were oriented to the objectives of career education; career education centers were developed; career activities were infused into all areas of curriculum; career education materials and media were developed with attention to sex-bias in both products and procedures; career guidance activities focused on self-awareness and understanding; self-esteem and decision-making activities were carried out in groups and classrooms; parents and community representatives facilitated activities.

A study of the project was conducted in 1977-1978 by Makay (1980) who assessed the level of career awareness, self-concept, social
adjustment by peer reputation, and academic achievement of all fourth graders, including the subjects in the present study. She and a team of trained career education consultants gathered data on those variables and met with teachers to interpret the results. Students scoring low on the Piers-Harris and/or designated by their teachers as being low in self-concept were selected for limited intervention activities designed to improve self-concept (Appendix A). Consultants employed a systematic intervention format in periodic meetings with teachers to evaluate students' progress and to reinforce and encourage implementation of the intervention. Topics for the teacher meetings included self-worth, caring, understanding, identifying, and recognizing. In general, results of the study indicated short-term gains in career awareness as well as positive relationships between self-concept, career awareness, and social adjustment by peer reputation.

The project has moved into Phase II, two objectives of which are:

1. to conduct continuous monitoring of the project components,
2. to assess the effectiveness of the career education treatment.

Implementing these objectives involved conducting an extensive needs assessment based on the Seven Developmental Areas. The Phase II program objectives and the guidance-related recommendations of the needs assessment were the basis of the present study. Specifically, guidance recommendations made by evaluation teams which surveyed students, teachers and parents at the K-6 Awareness/Motivation level
of the Career Education project were as follows:

The group surveyed indicated a need for assistance with students' self esteem, ability to assume responsibility, peer relationships, parent relationships, and critical thinking skills. Other needs received notice, but these were the areas of greatest congruence (Project, p. 15).

Data Collection

In the present study, the 105 subjects were assembled in the junior high school which they attend, 45 at Hastings and 60 at Jones Junior High School, and were informed as to the purpose of the study, the method used for their selection as subjects, and procedures which would be followed in collecting data. Each subject received a letter of parental permission (Appendix B) to participate in the study which was returned to the designated counselor at each junior high school.

Data on the subjects was gathered by three junior high school guidance counselors. They administered the Ohio Career Education Inventory (OCEI), Form A, the Stanford Achievement Test, Form A, Advanced, subtests Two and Four, and the Piers-Harris Children's Self-Concept Scale. Subjects were tested in groups of 18 to 25 in each of the two junior high schools during October, 1981, in the Career Centers of each building over a two-day period. After each day the students were treated to doughnuts and milk.

Student data from the Teacher Rating of Social Competence, an experimenter-designed rating scale based on the Vineland Social Maturity Scale, were gathered in another manner. The scale, along with a cover sheet defining social competence by observable traits was given to each of the subjects' eight teachers (See Appendix C). Those
teachers each made independent judgments on a 5 point Likert scale as to the social competence of the subjects they had in class. Teachers were given three days in which to rate the subjects and to return the rating scales to the designated counselor in each junior high school building. A mean score for each student was calculated by summing all scores and dividing by 8, the number of teachers who rated every student.

The related social adjustment instrument, Makay's version of a "Guess Who" technique (See Appendix D), was used as the fourth grade measure of social adjustment by peer reputation. In that study students were asked to list classmates on three positive and two negative dimensions: Most Happy, Works Best, Most Fun, Most Worried, and Picks on Others. Scores were arrived at by summing the number of votes each subject received on those dimensions, and adding a constant of ten to eliminate negative scores.

The decision not to duplicate the "Guess Who" measure in the present study was made for two reasons. First, students in the present study did not have equal opportunity to know one another and, therefore, were not able to make judgments as to one another's social adjustment because instruments were administered to incoming seventh grades at the beginning of the school year. More importantly, behaviors by which social adjustment is measured necessarily differ from fourth to seventh grade, requiring the development of a new instrument in any case.
Instrumentation

The Ohio Career Education Inventory (OCEI). Form A was used to measure two aspects of career awareness—career knowledge and career attitudes (Appendix E). This instrument was developed in its present form from an item pool of cognitive and affective statements about careers which have been field tested by the Ohio Department of Education, Division of Guidance and Testing since 1977. The inventory in its present form was first field tested in 1980.

The OCEI items, several hundred in all, are available in four forms for each grade level—three, six, eight, and ten. Each form consists of 56 items which are randomly selected according to difficulty level by the computer, four in each of the cognitive and affective domain for the seven Developmental Areas, for a total of fourteen categories. The entire inventory takes approximately thirty minutes to complete and computer scoring is available through the Ohio Department of Education, Division of Guidance and Testing.

Results are reported as raw score summaries and item response summaries to facilitate criterion-referenced comparisons by class, building, and school district. Norm-referenced comparisons can be made by the use of published state averages in all fourteen categories. The instrument is used in the Ohio Program Review for Improvement, Development, and Expansion in Vocational Education and Guidance (PRIDE) reviews and for assessing strengths and weaknesses in career education programs. The decision to administer the eighth grade version rather than the sixth grade version, which was the other
option, was made on the basis of the above-average reading level of the seventh grade students who comprised the sample.

Items were developed as a result of field observations of career education program objectives and curriculum review. They were then field tested with students who had and had not been involved in career education projects and discriminating items were retained for the item pool. Lastly, sixteen career education program coordinators validated the categorization of items, and the keyed responses, and determined the importance of the objective each item was tailored to measure. The final pool was thus the result of both objective and informed subjective evaluation. State means for Grade Eight, Form A are: Cognitive Domain, 15.4; Affective Domain, 17.4; Total 32.9.

Career knowledge and career attitudes were measured in fourth grade by the original Ohio Career Development Test (OCDT), Intermediate Level Six, a forerunner of the OCEI. This instrument was chosen for the original program evaluation in the school district as part of its pilot testing. The OCDT, which is no longer in use, consisted of 70 items, 35 in the cognitive and 35 in the affective domain. Subjects responded agree/disagree to a series of statements about careers. Because the inventory was being field-tested for further development, reliability and validity data were not available. State norms were published in 1980 for the first version of the OCEI which was taken directly from the OCDT. Total mean scores for the state were: Cognitive Domain, 18.5; Affective Domain, 19.2; Total, 37.7.
The Stanford Achievement Test (SAT), 1973 Edition, Form A, Advanced. Subtest Two (Reading Comprehension) and Subtest Four (Mathematics Computation) were selected as instruments used to measure subjects' academic achievement. Subtests from the same series, Primary Level III, were administered to the subjects in the fourth grade. The battery is available in six levels, Primary I to Advanced, and in Three Forms, A, B, and C. The Advanced level contains nine subtests which are geared to the curriculum at the junior high level (grades 7.0 to 9.6). The two subtests chosen for this study tap the verbal and non-verbal achievement of the subjects and serve as measures of academic achievement.

Subtest Two, Reading Comprehension, consists of 74 multiple-choice questions. Time limit for the subtest is 35 minutes. The test measures: comprehension of global meaning, comprehension of the meaning of detailed information, comprehension of implied meaning, use of context for word and paragraph meaning, and drawing of inferences. Subtest Four, Mathematics Computation, consists of 45 multiple-choice questions. Time limit for the subtest is 20 minutes. The content reflects the latest mathematical trends, and the items stress operational usage. Answers to both subtests were made on computer scored answer sheets. Raw scores for each subject were converted to percent of items correct.

The Technical Data Report for the SAT emphasizes the importance of content validity in achievement tests, and describes in detail the instructional objectives on which the content was based in the
Stanford Index of Instructional Objectives. How those objectives were selected is not described. The authors recommend that test users compare the tests instructional objectives with those of local curricula. Reliability coefficients also are reported in the Technical Data Report. Coefficients for Form A Advanced, beginning of grade seven, are reported as .94, or .93 with the Kuder Richardson 20 correction for the reading comprehension subtest, and .84 for the math computation subtest. All but one of the subtest reliabilities are above .90. The correlation between the two subtests administered to the subjects is .72, one of the lower intercorrelations among all subtests on the complete battery.

The authors report having drawn norm groups with respect to geographic distribution, size of city, socioeconomic status, type of school system, and school population numbers. Selection of the final norm group population duplicated the ratio these characteristics as they appeared nationally. The total norm group consisted of 61,000 pupils in 1,445 classrooms in 47 schools. Norms are provided for all tests in percentile ranks, stanines, scaled scores, and grade equivalents.

The Piers-Harris Children’s Self-Concept Scale (The Way I feel About Myself, P-H). This instrument was used to measure self-concept in both the fourth and the seventh grade studies. It was developed in 1969 by Ellen Piers and Dale Harris and has continued in its present form since that time. Designed for research on the development of children’s attitudes, it consists of 80 declarative statements to which the subject responds “Yes” if it is true of him or her, and “No”
if it is false. The test was designed for a broad age range but the reading level is third grade. It requires about 20 minutes to complete and answers are recorded on hand-scores answer sheets. In both studies raw scores were converted to percent of items responded to in an "adequate" or positive direction for computational purposes.

The Manual reports that original item testing was done on third, sixth, and tenth grade students in a large city school system and analysis of the results reduced to 80 the original 164 statements concerning was children likes/dislikes about themselves. The authors caution the test administrator on three points with regard to test interpretation. First, only persons knowledgeable about self-theory should do interpretations. Second, considerable variability in means between groups makes comparisons of limited value. Finally, the authors note less variability for samples at the upper grade levels.

The Manual also provides sample validity data. Content validity was established by correlating scores with an established children’s self-concept scale. Construct validity was established by comprising results from specific populations. Test-retest reliability of the original items after a four-month interval resulted in coefficients of .72 and .71. After the final version was written, the test-retest reliability was found to be .77. The average reported standard deviation of samples is 13, causing the authors to recommend that small changes in scores over time be ignored.

Bentler, in Buros' Seventh Mental Measurements Yearbook (1972), described the instrument as psychometrically adequate and the Manual as being written in a direct and honest manner. He based his
judgement on the validity of the test on results of internal consistency tests, test-retest, correlations with other instruments, and low correlations with social desirability. The question of unidimensional self-concept measures as opposed to specific self-concept measures was addressed through the discussion of the possibility of six factors being present in the scale. Weighing evidence of those factors, Bentler concluded that the weight of proof favored the use of a total score.

**Teacher Rating of Social Competence**, (TRSC). The final instrument used in the study was designed by the researcher (Appendix C). It is a rating scale for social competence based on the Vineland Social Maturity Scale. For the purposes of rating subjects in the study, an instruction sheet giving the purpose and procedure for the rating and a definition of social competence was given to each teacher who had the subjects in class. Social competence was defined as having the following components:

1. **Self-help**—An individual who attends to immediate personal needs.
2. **Movement**—An individual who moves openly and freely within the environment.
3. **Occupation**—An individual who occupies time constructively when alone and works well with others.
4. **Self-direction**—An individual who works productively with minimum supervision.
5. **Socialization**—A person who is accepted by his/her peers.
6. **Communication**—An individual who communicates appropriately with peers and adults.
Each of the subjects' eight teachers rated his or her students on a Likert scale ranging from 1: one of the most socially competent individuals in the class, to 5: lacks social competence; noticeable lack of criterion behavior. The ratings for each subject were totaled, divided by 8 (the number of teachers each student had), and a mean social competence score was recorded for each student.

Summary and Data Analysis

This chapter presented the methodology in the present study, describing the setting, subjects, Career Education Project procedures, collection of data, and instrumentation. The following chapter analyzes the data with respect to the research questions posed.

Data were analyzed with respect to the research questions posed. Question one was answered with descriptive statistics regarding the sample's performance on the variables measured in fourth and seventh grades. Fourth grade statistics are presented to provide a reference point for later comparative measures. Questions two and three were answered by the calculation of Pearson product-moment correlations and stepwise multiple regressions for the purpose of examining relationships between the variables at the two grade levels. Question four was answered through t-test comparisons of means between fourth and seventh grades and by comparing results of the Pearson product-moment correlations and the multiple regression statistics. Question five was answered by application of the t-test comparisons by sex and targeted subjects.
CHAPTER IV
ANALYSIS OF RESULTS

Introduction

This chapter contains the results of the study. The purpose of the study was to describe the status of seventh grade subjects who had three years' exposure to a Career Education Project and to investigate changes that may have taken place during that time with respect to Career Knowledge and Attitude, Self-concept, Academic Achievement, and Social Adjustment or Competence. The results are reported for each of the five research questions drafted in the statement of the problem. The first question is answered by describing the subjects' performance on the variables in fourth and seventh grades. Questions two and three show the relationship between the variables in those two grades. Question four presents changes in the relationships among the variables over the three-year period. Data are examined for total sample and by sex and targeted low self-concept subjects in question five.

A summary of the process employed in changing raw data into data used for statistical analyses is given below.

1. Raw scores for Career Knowledge, Career Attitude, Self-concept, Reading Comprehension, and Mathematics Computation were converted to percent of items correct.
2. Reading Comprehension and Mathematics Computation percents were totaled and divided by two to arrive at the Academic Achievement score.

3. Self-concept percents were converted to z scores.

4. Social Adjustment was calculated by totaling positive and negative peer nominations and adding a constant of 50.

5. Social Competence was calculated by summing the ratings of each subject's eight teachers and calculating a mean score.

**Question 1.** How can the status of seventh grade subjects be described in terms of their fourth grade performance on the variables of Career Knowledge, Career Attitude, Self-Concept, Social Adjustment, and Academic Achievement and their present performance on the variables of Career Knowledge, Career Attitude, Self-Concept, Social Competence, and Academic Achievement?

Data regarding the subjects' performance on fourth grade variables are presented as summary statistics in Table 4. Career Knowledge (CK) and Career Attitude (CA) are the two sections of the *Ohio Career Development Test*. The CK score indicates the percent of items in the cognitive domain answered in the desired direction. CA indicates the percent of items in the affective domain answered in the positive direction. The mean percent correct for the total sample on CK was 46.61, and the mean for CA was 57.70. Subjects answered slightly less than half of the cognitive items and slightly more than half of the affective items correctly.
Self-concept (SC) shows the percent of self-concept items answered in the desired direction. The fourth grade mean of this variable was 72.51, or at the 95th percentile of the norms reported in the Piers-Harris Manual. This highly skewed distribution prompted the decision to use a calculated z score in further statistical analyses.

The fourth measure, Academic Achievement (AA) was the total percent of correct responses on the Reading Comprehension and Mathematics Computation subtests of the Stanford Achievement Test. The fourth grade AA mean was 6.14; the standard deviation was 15.13. Comparisons with the Stanford Research Report #8 mid-year norms for grade four indicated the subject sample scored at approximately the 85th percentile.

The mean reported for Social Adjustment (SA), unlike the preceding four measures, was not a percent but was calculated by summing positive and negative peer nominations for each subject. To eliminate negative scores occurring when subjects were nominated for more negative than positive attributes, a constant of 50 was added to each score. The SA mean for grade four was 52.70; the standard deviation was 9.30. In other words, the "average" student received more positive than negative nominations.

Seventh grade Career Awareness scores as measured by the Ohio Career Education Inventory are also shown in Table 4. Mean scores for percent of items correct are higher than they were in grade four for both Career Knowledge, which had a seventh grade mean of 57.50, and for Career Attitude, which had a mean of 62.72. Standard
TABLE 4

Summary Table: Performance of Subjects on Test Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fourth Grade</th>
<th></th>
<th></th>
<th></th>
<th>Seventh Grade</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
<td>S.D.</td>
<td>Mean</td>
<td>Range</td>
<td>S.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Knowledge</td>
<td>46.61%</td>
<td>4-71</td>
<td>12.11</td>
<td>57.50%</td>
<td>14-86</td>
<td>17.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Attitude</td>
<td>57.70%</td>
<td>17-88</td>
<td>15.52</td>
<td>62.30%</td>
<td>18-93</td>
<td>15.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Concept</td>
<td>72.51%</td>
<td>17-99</td>
<td>22.94</td>
<td>75.96%</td>
<td>8-98</td>
<td>13.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>69.14%</td>
<td>11-99</td>
<td>15.15</td>
<td>53.63%</td>
<td>16-92</td>
<td>14.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Adjustment*</td>
<td>52.70</td>
<td>27-80</td>
<td>9.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Competence*</td>
<td></td>
<td>2.66</td>
<td>1.13-4.88</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Not calculated as a percent; refer to text.

... deviations were higher also, particularly for Career Knowledge. Self-concept is the percent of items answered in the desired direction. It had a seventh grade mean of 75.96 and a standard deviation of 13.81. This mean is at the 98th percentile on the Piers-Harris norms table. The Social Competence variable, a mean rating by each of the subjects' eight teachers on a five-point Likert Scale, had a calculated mean of 2.66 or slightly above the mid-point of the scale. Academic Achievement, the average of Reading Comprehension and Mathematics Computations percents, showed a mean of 69.14 and a standard deviation of 15.13. Stanford Achievement Test beginning-of-year norms for grade seven indicate that this mean is at...
approximately the 67th percentile, lower than subjects' grade four percentile mean.

Question 2. How are the fourth grade variables of Self-Concept, Social Adjustment, and Academic Achievement associated with the variables of Career Knowledge and Career Attitudes?

Question Two was first examined by calculating Pearson product-moment correlations (r) among the five variables. Career Knowledge and Career Attitude were considered dependent variables, and Social Competence, Social Adjustment, and Academic Achievement were considered independent variables. Table 5 presents the results of this analysis.

TABLE 5

Pearson Product-Moment Correlations of Career Knowledge and Career Attitude, with Self-Concept, Social Adjustment, and Academic Achievement at Fourth Grade

<table>
<thead>
<tr>
<th>Variable</th>
<th>Self-Concept</th>
<th>Social Adjustment</th>
<th>Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>Career Knowledge</td>
<td>+.048</td>
<td>+.192</td>
<td>+.300</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.031</td>
<td>.002</td>
</tr>
<tr>
<td>Career Attitude</td>
<td>+.289</td>
<td>+.081</td>
<td>+.401</td>
</tr>
<tr>
<td></td>
<td>.002</td>
<td>NS</td>
<td>.001</td>
</tr>
</tbody>
</table>
Significant positive relationships were found between Career Knowledge (CK) and Social Adjustment (SA) \( (r = +.192) \) and Academic Achievement (AA) \( (r = +.300) \). CK and AA are cognitive measures, one being an understanding of careers and the other a mastery of academic information. The SA measure asked subjects to nominate peers whom they thought to be happy, industrious workers. Results indicated that the most frequently chosen subjects were also those who scored higher on the cognitive variables. That is, subjects who, in the opinion of their peers, exhibited positive and appropriate learning behavior were more likely to have learned more about careers.

A significant positive relationship was also noted between the affective measure of Career Attitude and subjects' Self-concept \( (r = +.289) \). Positive attitudes toward careers were associated with positive attitudes toward self. The strongest relationships for both measures of Career Awareness, however, were with Academic Achievement, which was related +.404 with Career Attitude and which was the only one of the independent variables significantly associated with both. High achieving students were those most likely to have greater knowledge of and better attitudes toward the career education program.

Another way of looking at the relationship between the variables is by the use of a multiple regression statistic which allows for analyzing the relationship between each of the dependent variables—Career Knowledge and Career Attitude—and the whole set of independent variables—Self-concept, Social Adjustment, and Academic Achievement. Table 6 illustrates the linear contribution of
TABLE 6

Stepwise Regression Table of Independent Variables on Fourth Grade Career Knowledge

<table>
<thead>
<tr>
<th>Career Knowledge</th>
<th>Multiple R</th>
<th>R Square</th>
<th>R Square Change</th>
<th>Simple R</th>
<th>Beta</th>
<th>F Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>.300</td>
<td>.090</td>
<td>.090</td>
<td>.300</td>
<td>.271</td>
<td>9.175</td>
<td></td>
</tr>
<tr>
<td>Social Adjustment</td>
<td>.304</td>
<td>.092</td>
<td>.003</td>
<td>.192</td>
<td>.058</td>
<td>4.680</td>
<td></td>
</tr>
</tbody>
</table>
independent variables to Career Knowledge and Table 7 presents the same information for Career Attitude.

The tolerance level was set at close to one to allow for the inclusion of all variables. It can be seen in Table 6 that Academic Achievement explained 9% of the variance in Career Knowledge and Social Adjustment only added a fraction of 1% to that explanation. Although the correlation between Career Knowledge and Social Adjustment was statistically significant (See Table 5) it added little to an explanation of the relationship between the set of independent variables and Career Knowledge.

Table 7 shows that Academic Achievement again was the most significant correlate of the dependent variable, explaining 16% of the variance in Career Attitude. Self-concept added another 5% for the total explained variance of 21%. In this computation, Social Adjustment was not a contributor. Results of conducting the two regressions added little to the understanding of the relationship between the variables already gained from the Pearson correlation. It can be seen in Tables 6 and 7, however, that the independent variables were more predictive of performance in Career Attitude that in Career Knowledge.
<table>
<thead>
<tr>
<th>Step Variable</th>
<th>Career Attitude</th>
<th>Multiple R</th>
<th>R Square Change</th>
<th>Simple R</th>
<th>Beta</th>
<th>F Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>.404</td>
<td>.163</td>
<td></td>
<td>.404</td>
<td>.470</td>
<td>18.12</td>
<td></td>
</tr>
<tr>
<td>Self-Concept</td>
<td></td>
<td>.465</td>
<td></td>
<td>.216</td>
<td>.289</td>
<td>12.69</td>
<td></td>
</tr>
</tbody>
</table>
In summary, Academic Achievement was most strongly related to acquisition of career knowledge and positive career attitudes. Peer reputation in fourth grade had a low but positive relationship with Career Knowledge. Apparently students correctly identified and approved of students who were successful in the Career Awareness program. Finally, students who had positive self-concepts also had positive attitudes toward careers.

**Question 3.** How are the seventh grade variables of Self-Concept, Social Competence, and Academic Achievement associated with the variables of Career Knowledge and Career Attitudes?

Table 8 presents the results of a Pearson product-moment correlation (r) between Career Knowledge and Career Attitude and the independent variables of Self-concept, Social Competence, and Academic Achievement as they were measured in seventh grade.
TABLE 8

Pearson Product-Moment Correlations of Career Knowledge and Career Attitude, with Self-Concept, Social Adjustment, and Academic Achievement at Seventh Grade

<table>
<thead>
<tr>
<th>Variable</th>
<th>Self-Concept</th>
<th>Social Competence</th>
<th>Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>Career Knowledge</td>
<td>+.118</td>
<td>+.384</td>
<td>+.525</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Career Attitude</td>
<td>+.224</td>
<td>+.449</td>
<td>+.349</td>
</tr>
<tr>
<td></td>
<td>.014</td>
<td>.001</td>
<td>.001</td>
</tr>
</tbody>
</table>

Academic Achievement was again seen to be substantially related to Career Knowledge \(r = +.525\) and moderately but significantly related to Career Attitude \(r = +.349\). Social Competence, the teacher assessment, was similarly related to both Career Awareness measures. Teachers assessed the students who had greater knowledge and better attitudes toward career education as being more socially competent students. Self-concept again had a low but significant correlation with Career Attitude \(r = +.224\) but the relationship with Career Knowledge was not significant. The self-concept measure was related to affect, but not to cognition, on the career awareness instrument.
Tables 9 and 10 present the multiple regression results for the subjects’ seventh grade scores. Table 9 shows that Academic Achievement was again the variable most strongly related to Career Knowledge, explaining 27.5% of the variance, with Social Competence adding only 2%. The influence of Self-concept was negligible in the equation. The total explained variance was 29.9%.

Career Attitude had as its most powerfully related variable Social Competence which explained 20% of the variance in the dependent variable. In this regression, students who were evaluated by their teachers as being socially competent were also most likely to express positive attitudes toward careers. Academic Achievement added another 2% and Self-concept added 1% to the total explained variance of 23.7%. This was the only regression in which all three independent variables made a contribution. It was also the only one calculated in which Academic Achievement was not the most significant predictor.

In sum, Academic Achievement in seventh grade was most significantly related to, and thus most predictive of, high scores on Career Knowledge. Although Social Competence was also related, it was not so strongly predictive. The reverse was true for the dependent variable of Career Attitude. For this variable, Social Competence was the most predictive and Academic Achievement, although statistically significant, added less to the explained variance.
### Table 9

**Stepwise Regression Table of Independent Variables on Seventh Grade Career Knowledge**

<table>
<thead>
<tr>
<th>Career Knowledge</th>
<th>Multiple R</th>
<th>R Square</th>
<th>R Square Change</th>
<th>Simple R</th>
<th>Beta</th>
<th>F Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>0.525</td>
<td>0.275</td>
<td>0.275</td>
<td>0.525</td>
<td>0.448</td>
<td>35.30</td>
<td></td>
</tr>
<tr>
<td>Social Competences</td>
<td>0.546</td>
<td>0.298</td>
<td>0.023</td>
<td>0.384</td>
<td>0.173</td>
<td>19.57</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 10
Stepwise Regression Table of Independent Variables on Seventh Grade Career Attitude

<table>
<thead>
<tr>
<th>Career Attitude</th>
<th>Multiple R</th>
<th>R Square</th>
<th>R Square Change</th>
<th>Simple R</th>
<th>Beta</th>
<th>F Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>.474</td>
<td>.225</td>
<td>.023</td>
<td>.349</td>
<td>.156</td>
<td>13.35</td>
<td></td>
</tr>
<tr>
<td>Self-Concept</td>
<td>.487</td>
<td>.237</td>
<td>.012</td>
<td>.224</td>
<td>.115</td>
<td>9.44</td>
<td></td>
</tr>
</tbody>
</table>
Question 4. What changes have taken place in the relationships between these variables after three years' involvement in a Career Education program?

A comparison of the results of the Pearson correlations and the four multiple regressions at grades four and seven indicate that Academic Achievement was the only independent variable consistently showing significant correlations with both dependent variables. By seventh grade, however, its correlation with cognitive variable, Career Knowledge, was higher and its relationship to the affective variable, Career Attitude, was lower. The strength of Academic Achievement as a correlate of Career Knowledge likewise increased from its ability to explain 9% of the variance in fourth grade to explaining 27.5% of the variance by seventh grade. With respect to Career Attitude, Academic Achievement was able to account for 16% of the variance in fourth grade, but it only added 2.5% to the explained variance in seventh grade. There is apparently more differentiation between cognition and affect at grade seven than at grade four.

In fourth grade, the Social Adjustment measure, Peer Reputation, was not significantly related to Career Attitude and it also had little impact on explained variance for Career Knowledge, adding only a fraction of one percent. It can be assumed that peer reputation was not a powerful correlate of either of the two dependent variables. Similarly, Self-concept in grade four was not significantly related to one of the dependent variables, Career Knowledge, and had a low correlation with the other, Career Attitude. Of the three independent variables in this study, Academic Achievement was most significantly
correlated with measures of the cognitive and affective components of Career Awareness.

The pattern of relationships between Self-concept and the dependent variables remained constant over the three-year period. It had a non-significant relationship with Career Knowledge and a low positive correlation with Career Attitude at both grades. It was also highly negatively skewed at both grades.

The greatest change between fourth and seventh grades was noted in the socialization measure, which in seventh grade was more strongly associated with both Career Knowledge and Career Attitude than in fourth grade. The difference may be due in part to the different nature of the two rating instruments, one peer rating and one teacher rating, or it may be a function of the greater importance of social skills in seventh grade as compared to fourth grade.

It might be hypothesized that higher intercorrelations between the independent measures of Academic Achievement and Social Competence in seventh grade \( r = +.477 \) accounted for the strong relationship between Social Competence and Career Awareness measures, but Table 11 shows a similar high correlation between the fourth grade measures of Academic Achievement and Social Adjustment \( r = +.495 \). At that grade Social Adjustment was not significantly correlated with Career Attitude and it had a low correlation \( r = +.192 \) with Career Knowledge.
TABLE 11
Pearson Correlations of Dependent and Independent Variables for Grades Four and Seven

<table>
<thead>
<tr>
<th>Variable</th>
<th>CK7</th>
<th>CK4</th>
<th>CA7</th>
<th>CM4</th>
<th>AA7</th>
<th>AAA</th>
<th>SC7</th>
<th>SC4</th>
<th>SoC7</th>
<th>SoA4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p^2</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>Career Knowledge 7</td>
<td>.375</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Career Knowledge 4</td>
<td>.579</td>
<td>.249</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Attitude 4</td>
<td>.525</td>
<td>.395</td>
<td>.349</td>
<td>.390</td>
<td>.390</td>
<td>.390</td>
<td>.390</td>
<td>.390</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement 7</td>
<td>.466</td>
<td>.300</td>
<td>.404</td>
<td>.404</td>
<td>.404</td>
<td>.404</td>
<td>.404</td>
<td>.404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement 4</td>
<td>.118</td>
<td>.055</td>
<td>.224</td>
<td>.164</td>
<td>.224</td>
<td>.017</td>
<td>.017</td>
<td>.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Concept 7</td>
<td>.120</td>
<td>.048</td>
<td>.207</td>
<td>.289</td>
<td>.169</td>
<td>.151</td>
<td>.309</td>
<td>.309</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Concept 4</td>
<td>.384</td>
<td>.254</td>
<td>.449</td>
<td>.259</td>
<td>.477</td>
<td>.497</td>
<td>.213</td>
<td>.254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Competence 7</td>
<td>.384</td>
<td>.254</td>
<td>.449</td>
<td>.259</td>
<td>.477</td>
<td>.497</td>
<td>.213</td>
<td>.254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Adjustment 4</td>
<td>.231</td>
<td>.192</td>
<td>.097</td>
<td>.081</td>
<td>.465</td>
<td>.495</td>
<td>.205</td>
<td>.238</td>
<td>.489</td>
<td>.489</td>
</tr>
</tbody>
</table>

* all r are positive
Comparisons between the fourth and seventh grade scores on the Career Awareness measures must be made with differences between the fourth and seventh grade instruments in mind. The Ohio Career Development Test used in fourth grade, although a forerunner of the Ohio Career Education Inventory used in seventh grade, was at the time of its use being field-tested by the school district in this study. Numbers and wording of items are different in the two versions of the test. However, according to one of the test developers, comparisons can be made with that caution in mind. T-test comparisons which were conducted between fourth and seventh grade percents of items correct on Career Knowledge and Career Awareness are displayed in Table 12.

The mean score for Career Knowledge in grade four was 46.61 and for grade seven was 57.50. Subjects showed significant gains in Career Knowledge over the three-year period (p < .001). The Career Attitude mean in grade four was 57.70 and in grade seven was 62.27. This was significant beyond the .01 level. Over the three-year period, subjects improved in both cognitive and affective learning about careers. Results are particularly significant in view of the fact that the seventh grade instrument was the eighth grade version of the Ohio Career Education Inventory.

Question 5. Are differences in the relationships between these variables noted when data are examined by sex and students targeted as being low in Self-Concept?

According to Table 12, gains in Career Knowledge were significant for both males and females. However, females made significant gains in Career Attitude (t = 3.44) and males did not. Their t-value of .55
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Fourth Grade</th>
<th>Seventh Grade</th>
<th>t-value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Career Knowledge</td>
<td>95</td>
<td>46.61</td>
<td>12.11</td>
<td>57.50</td>
<td>17.71</td>
</tr>
<tr>
<td>Males</td>
<td>53</td>
<td>48.43</td>
<td>11.50</td>
<td>57.68</td>
<td>19.32</td>
</tr>
<tr>
<td>Females</td>
<td>42</td>
<td>44.31</td>
<td>12.61</td>
<td>57.27</td>
<td>15.70</td>
</tr>
<tr>
<td>Career Attitude</td>
<td>95</td>
<td>57.70</td>
<td>15.52</td>
<td>62.27</td>
<td>15.99</td>
</tr>
<tr>
<td>Males</td>
<td>53</td>
<td>60.38</td>
<td>14.68</td>
<td>61.62</td>
<td>16.05</td>
</tr>
<tr>
<td>Females</td>
<td>42</td>
<td>54.31</td>
<td>16.06</td>
<td>63.10</td>
<td>16.08</td>
</tr>
</tbody>
</table>
was not significant at the established .05 level. That is, overall
gains in Career Attitude for the entire subject group can be
attributed to strong gains by only the female subjects, such gains
being substantial enough to carry the males, who, as a group, did not
show significant change in attitude.

Data were examined with regard to the changes that may have taken
place with those students who, because they were identified as being
low in self-concept in grade four, received a special intervention
planned and implemented for the purpose of improving their
self-concept. The population was tested prior and subsequent to that
intervention (Appendix A). It is relevant to review those data with
regard to changes in self-concept for the targeted students. Makay
(1980) reported significant improvement in Self-concept for the
targeted students by pre and post-test in fourth grade. She reported
that although her population as a whole did not make significant gains
in self-concept, showing only a .66 point improvement in the
Piers-Harris, the targeted group gained 3.82 raw score points for a t
value of 3.82 (p > .001).

The present study compared those pre-test scores for the sample
taken from the fourth grade population with results of a seventh grade
administration of the same instrument. Table 13 displays results of a
t-test comparing fourth and seventh grade scores for targeted and
non-targeted students in Self-concept as well as on the dependent
variables of Career Knowledge and Career Awareness. It can be seen
that no significant differences were apparent by target with regard to
<table>
<thead>
<tr>
<th>Variable</th>
<th>Fourth Grade</th>
<th></th>
<th>Seventh Grade</th>
<th></th>
<th>t-value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
<td></td>
</tr>
<tr>
<td>Career Knowledge</td>
<td>95</td>
<td>46.61</td>
<td>12.11</td>
<td>57.50</td>
<td>17.71</td>
<td>6.13</td>
</tr>
<tr>
<td>Targeted</td>
<td>38</td>
<td>43.42</td>
<td>13.35</td>
<td>53.05</td>
<td>19.00</td>
<td>3.14</td>
</tr>
<tr>
<td>Non-targeted</td>
<td>57</td>
<td>48.74</td>
<td>10.82</td>
<td>60.46</td>
<td>16.30</td>
<td>5.44</td>
</tr>
<tr>
<td>Career Attitude</td>
<td>95</td>
<td>57.70</td>
<td>15.52</td>
<td>62.27</td>
<td>15.99</td>
<td>2.58</td>
</tr>
<tr>
<td>Targeted</td>
<td>38</td>
<td>53.26</td>
<td>15.69</td>
<td>59.55</td>
<td>17.06</td>
<td>2.04</td>
</tr>
<tr>
<td>Non-targeted</td>
<td>57</td>
<td>60.65</td>
<td>14.81</td>
<td>64.09</td>
<td>15.12</td>
<td>1.61</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>95</td>
<td>72.51</td>
<td>22.94</td>
<td>75.96</td>
<td>13.81</td>
<td>1.47</td>
</tr>
<tr>
<td>Targeted</td>
<td>38</td>
<td>59.68</td>
<td>24.85</td>
<td>72.89</td>
<td>12.73</td>
<td>3.32</td>
</tr>
<tr>
<td>Non-targeted</td>
<td>57</td>
<td>81.05</td>
<td>17.00</td>
<td>78.00</td>
<td>14.23</td>
<td>-1.20</td>
</tr>
</tbody>
</table>
Career Knowledge; both targeted and non-targeted students made gains on that variable during the three year program. On the Career Attitude variable, however, the non-targeted students did not change their attitudes toward careers to the degree that the targeted students did. Interestingly, it is only when the total group of 95 subjects are examined as a whole that the change in Career Attitude becomes significant at the .01 level. Most importantly, although the non-targeted students did not make significant gains in improving their self-concept through the Career Education program, those students targeted for special intervention did ($t = 3.32$). It should be noted that the $t$ value for the fourth grade pre and post-test for targeted students was 3.82.

**Summary**

The major findings regarding relationships among variables reported in this chapter indicate that Academic Achievement continued to be a significant correlate of Career Knowledge and Career Attitude at both the fourth and seventh grades. In fact, Academic Achievement was significantly related to all variables in the study at both grade levels with the exception of fourth grade self-concept. The other cognitive measure in the study, Career Knowledge, was not significant to Self-concept at the fourth and seventh grade level, although it was significantly related to all but the cognitive variables. The fourth grade Social Adjustment measure was related to all other measures with the exception of fourth and seventh grade Career Attitude scores. The most interesting variable in terms of relationships proved to be the
experimenter-designed Social Competence score, which was the only variable significantly related to all others in the study, being related to success in the cognitive, affective, and interpersonal aspect of school life.

By grade seven, more of the variance in the dependent variables could be explained by the independent variables, particularly for Career Knowledge. The seventh grade cognitive variables were more strongly correlated at that grade level. Social Competence emerged as a strong correlate of Career Attitude in grade seven but all three independent variables contributed to explained variance in that computation.

With regard to the purpose of the Career Education project, data indicated significant gains were made between fourth and seventh grades for both Career Knowledge and Career Attitude. When the data were examined by sex, however, it became clear that Career Attitude gains had been made by the girls to such an extent that it influenced results for the entire group. Finally, gains were noted in Self-concept scores of targeted subjects who had received a special intervention, but were not noted for subjects who had not received the intervention. Those gains in self-concept were compared to similar gains made by the population after the fourth grade intervention strategies.
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the research study, including the findings, conclusions drawn from the findings, and recommendations for future research.

Summary

The broad purpose of this study was to examine the effects of a comprehensive Career Education Project on a sample of seventh-grade subjects who had been exposed to the project since fourth grade. The specific purposes were to describe the subjects' status in fourth and seventh grades to determine relationships between the measured variables at the fourth and seventh grades, to identify changes which occurred between fourth and seventh grade performance, and to investigate differences with regard to sex and self-concept. The variables under study were: Career Awareness, including Career Knowledge and Career Attitude, Self-concept, Social Adjustment and Competence, and Academic Achievement.

The rationale for the study was based on the belief that an integrated program of career education, taking into account the characteristics and developmental level of the learners, would be effective in improving both knowledge of and attitude toward careers
and at the same time support the academic program. Also, it was assumed that such a program would have implications for enhancing the self-concept, social adjustment, and academic achievement of students in the project by making education more relevant to the world of work.

The setting for the study was an upper-middle-class suburban community adjacent to a large state university. School-community-university linkage was strong, and Career Education was an important component of the total school curriculum. Teacher in-service, use of community resources, sex equity projects, and consultant services were all available during the three-year period.

Subjects were selected by a table of random numbers from two junior high schools in the school system, drawing from a population of 442 students who had been in the system since they were in fourth grade. The total sample was 95, 42 females and 53 males. Thirty-eight students were identified in the fourth grade as being low in self-concept. They were identified as targeted subjects and received a special intervention aimed at improving their self-concept. Targeted subjects were of both sexes and represented all six of the elementary schools in the system.

Data were collected by an administration of the Ohio Career Education Inventory, the Piers-Harris Children's Self-Concept Inventory, and the Stanford Achievement Test, Subtests Two and Four. Subjects were tested in small groups over a two-day period. All subjects' teachers completed the Teacher Rating of Social Competence, an experimenter-designed rating scale based on Doll's Vineland Social
Maturity Scale. Each subject was rated by eight teachers. Scores from the subjects' fourth grade test instruments on the same variables were made available through the school system.

The Career Education Project under study included both skill (cognitive) and personal/social (affective) components. Components were implemented through three approaches: curriculum infusion, guidance strategies, and career education activities. The activities themselves were vicarious, simulated, and experiential, focusing on career awareness and motivation. Seven Developmental Areas of the Ohio Career Education curriculum were included in the project: Self, Individual and Environment, Economics, World of Work, Education and Training, Work Adjustment, and Decision-Making. In addition, consultants aided teachers in a special intervention aimed at improving self-concept for targeted students through the topics of: self-worth, caring, understanding, identifying, and recognizing.

Summary statistics included Pearson product-moment correlations and stepwise regressions to investigate relationships between the variables at fourth and seventh grades, t-test comparisons of means and subjective analyses based on results of the statistics, for whole group, sex, and targeted students.

The calculation of means scores for grades four and seven showed that subjects scored higher on Career Attitude that on Career Knowledge at both grade levels. Mean Self-concept scores were above the 95th percentile at both grade levels. In the fourth grade, the Academic Achievement mean was at approximately the 85th percentile on
national norms; in the seventh grade, the Academic Achievement mean was at approximately the 67th percentile.

Relationships among the test variables in fourth grade indicated significant positive relationships between Career Knowledge and Social Adjustment and between Career Knowledge and Academic Achievement. Social Adjustment, the peer reputation measure, was positively related to Career Knowledge and revealed that subjects attributed positive behavior to students who scored high on Career Knowledge.

With regard to relationships among the variables in grade seven, significant positive relationships were found between Career Knowledge and the independent variables of Social Competence and Academic Achievement. The dependent variable of Career Attitude was positively related to all three dependent variables, most significantly to Social Competence and Academic Achievement, but also to Self-concept. The Self-concept variable had a low but significant correlation with Career Attitude, but was not significantly correlated to Career Knowledge. The stepwise regression showed that Academic Achievement explained 27.5% of the variance in Career Knowledge with Self-concept adding only 2% more. A significant intercorrelation between Academic Achievement and Social Competence may have accounted for the small added variance in view of the significant correlation between Career Knowledge and Social Competence calculated by the Pearson product-moment correlation. A stepwise regression of the independent variables on Career Attitude included all three, with Social
Competence explaining approximately 20% of the variance. Academic Achievement added 2.5% and Self-concept another 1%.

Some changes in the relationships among the variables were noted over time. One relationship was constant at both grade levels, that between Academic Achievement and the dependent variables of Career Knowledge and Career Attitude. The multiple regression showed an increase in explained variance over time between Academic Achievement and the cognitive measure, Career Knowledge. At grade four Academic Achievement explained 9% of the variance, and at grade seven it explained 27.5% of the variance.

Little differences were seen between Self-concept and the dependent variables over time. It had a non-significant relationship with Career Knowledge and a low positive relationship with Career Attitude at both grades. It should be noted that the variable was highly negatively skewed at both grades. Relationships among the independent variables indicated Self-concept was not significantly related to Academic Achievement at grade four, but was significantly related at grade seven.

Comparisons between social measures at fourth and seventh grades were made cautiously, because the fourth grade measure was peer reputation and the seventh grade measure was teacher assessment. Also, the seventh grade measure was one of competence, rather than of reputation. Given these constraints, some comparisons may be tentatively made. In fourth grade, social reputation was not significantly related to Career Attitude but it had a low significant
correlation with Career Knowledge, adding .2% to the explained variance. In seventh grade, however, Social Competence, as measured by the subjects' teachers, correlated beyond the .001 level with both dependent variables. Along with Academic Achievement, Social Competence had a significant relationship with Career Knowledge and Career Attitude. It was also the only measure significantly related to all other variables at both grade levels.

Significant changes were made in Career Knowledge and Career Attitude scores over time indicating increase in cognitive and affective learning about careers. There was a 10% increase in Career Knowledge means over time, and approximately a 4.5% increase in Career Attitude mean over time. Both increases are attributable to greater change by the females in the group, particularly in Career Attitude. On that measure, male subjects showed no significant gains over time.

Students targeted for special intervention on Self-concept showed significant gains over non-targeted students on that variable in a t-test comparison of means. Non-targeted students showed no significant gains; indeed, the Self-concept mean at grade seven was lower than at grade four. Targeted students also showed a significant increase in Career Attitude scores, whereas non-targeted students did not. The overall significant change for the sample was attributable to the targeted students primarily, although the size of the group, N = 95, was instrumental in arriving at the significant p value. Finally, both targeted and non-targeted students made significant change in Career Knowledge.
Conclusions

This section presents the major conclusions drawn from the data and the educational implications arising from those conclusions.

The data showed a significant relationships between the components of Career Awareness, i.e., knowledge and attitude, leading to the conclusion that programs can address both components at the same time. Correlations were higher between Career Knowledge and Career Attitude individually at each grade level than they were between each measure at different grade levels, illustrating the global nature of Career Awareness at a given point in a student's educational development. Implications are that comprehensive, integrated programs can be viable curriculum components across elementary school grade levels, assisting in the development of both cognitive and affective learning.

The data showed that Academic Achievement was associated with Career Knowledge and Career Attitude at both fourth and seventh grades. The conclusion is that Career Awareness programs, like academic subjects, may have components skills which can be taught. Although Academic Achievement was related to Career Awareness measures at both grade levels, seventh grade correlations were higher with Career Knowledge than Attitude; at that time cognitive measures were more clearly differentiated from attitude measures. The implication can be made that if attitude change is desired, it might need to be approached from other than a traditional, information-based perspective.
Data regarding Social Adjustment showed it had a low relationship with Career Knowledge and a non-significant relationship with Career Attitude at both fourth and seventh grades. The reputation which students had with their peers was not particularly indicative of their performance either prior to or after three years in the Career Awareness Program. However, Social Adjustment was related to Academic Achievement at both grades and to Social Competence in the seventh grade. The conclusion can be made that positive peer evaluation can be related to both academic achievement and positive teacher evaluation over time. The implication is that peers and teachers alike can differentiate between those students who are and will be academically successful. Strategies aimed at improving academic performance can be implemented on the basis of assessment of social adjustment as determined by peers.

Social Competence, the seventh grade socialization measure, also had its highest correlation with Academic Achievement. Unlike the fourth grade measure, it had a significant relationship to Career Knowledge and Career Attitude. In fact, it was the only variable significantly related to all other variables in the study at both grade levels. From these data, it can be concluded that a pooled rating of teacher's assessments of students' competence can be a meaningful measure of performance in the academic, affective, and social domains. If groups of teachers can distinguish among socially competent students after having had them in class for less than a month, intervention can be implemented for the purpose of improving
performance in all three domains before unsuccessful patterns have been established.

Data indicated that the students exhibited high levels of self-concept at both grade levels and that both self-concept scores were negatively skewed. Relationships with other variables in the study may have been affected by that circumstance but tentative conclusions can still be drawn. Non-significant or low positive correlations between Self-concept and Career Knowledge, Career Attitude, and Academic Achievement raise the question as to whether changes in self-concept or learning might have reciprocal effects on each other, particularly in fourth grade.

By grade seven, a significant relationship was shown between Self-concept and Academic Achievement, indicating that academic success became increasingly related to students’ self-concept in the upper elementary grades. Educators need to be aware of the increased importance of Self-concept in regard to Academic Achievement as students mature. The sustained, although low, relationship between Career Attitude and Self-concept may be a function of the affective nature of the two measures, although attitude appeared to be more closely related to academic success than did Self-concept at both grade levels. It might be concluded from these data that programs directed toward improving students’ self-concept and thereby impacting and enhancing Academic Achievement and Career Awareness may not be as effective as one’s aimed at improving their social competence.
With regard to changes over time, the data indicated that students tended to be consistent with regard to all measures taken at the fourth and seventh grades. Relationships between scores at those grades on Career Knowledge, Career Attitude, Self-Concept, Academic Achievement, and the two socialization measures, Social Adjustment and Social Competence, were significant over time. It can be concluded that for the group as a whole, cognitive, affective, and social status remained relatively stable between fourth and seventh grades. Educators need to be sensitive to the possibility of students settling into a niche and remaining there as well as to their own responsibility for effecting positive change in students.

The data showed greater actual mean differences between fourth and seventh grades in Career Knowledge than in Career Attitude, but significant gains were made in both components over time for the sample as a whole. When data were examined by sex, both males and females showed significant gains in Career Knowledge. For this sample, the infusion of career education in the curriculum was associated with increases in knowledge about careers. The implication for educators is that comprehensive, integrated career education programs can be a means for increasing knowledge about careers, supporting the purpose of education by broadening students' knowledge base. A second conclusion is that maturation was instrumental in effecting change as students mature, their interest in and attitude toward career information may perhaps grow.
Career Attitude gains were significant for females but not for males, but mean attitude scores of males were higher than for females in fourth grade. Although males also showed gains over the three year period, they had begun at a higher mean level and the gains were not so great as those of females. Perhaps the sex equity components of the project had the desired effect on the girls, enabling them to feel more positive about a broader range of career options. Developmentally, boys at the fourth grade already apparently have assimilated career attitude to a greater degree than girls.

Comparisons between the fourth and seventh grade scores for targeted and non-targeted students on Career Knowledge, Career Attitude, and Self-concept indicated gains in Career Knowledge for both groups. Whether data were broken down by sex or self-concept, the total student group gained in Career Knowledge during the three-year period. Differences similar to those noted by sex for Career Attitude were also noted by target. Targeted students showed significant gains and non-targeted students, although they improved in Career Attitude as evidenced by higher seventh grade means, did not improve significantly. Differences between targeted students' fourth and seventh grade scores were small but significant. As expected statistically, the targeted students also made significant moderate gains in Self-concept over the non-targeted students, who showed a slight, insignificant decrease.

These data indicated that the targeted students improved both in the affective component of Career Awareness and in Self-concept.
Self-concept and Career Awareness were significantly related to each other statistically and are related conceptually as well, both being affective in nature. Because non-targeted students did not make significant gains on either measure, it can be concluded that there were differential effects over time for low self-concept students. Targeted students had received a special intervention in fourth grade and their teachers had been made aware of their special needs and strategies for dealing with them. The gains made over the three-year period were not as great as those made in just the fourth grade. It might be concluded that virtually all of the change in Self-concept for targeted students may have occurred at grade four. It can be concluded that students who are singled out for special treatment might be expected to improve in self-concept and attitude when they are part of a Career Awareness project. On the other hand, regression toward the mean is a statistical phenomenon and the Hawthorne effect is a research phenomenon which may have accounted for increases in targeted subjects' Self-concept scores.

The data showed that the targeted students were predominantly male. Approximately 50% of the male subjects and 30% of the female subjects were targeted. This fact is associated with results of performance on the variable of Career Attitude. Targeted subjects showed significant gains in Career Attitude but male subjects did not, although the targeted subjects were predominantly male. It might be concluded that the females who were targeted made great enough changes in Career Attitude to influence results for the targeted group as a whole. It might also be conjectured that an awareness program
emphasizing attitude change could be more successful for girls in grades four through seven than for boys. The assumption could also be made that being singled out for special attention is more effective for elementary school girls. A final conclusion based on these data is that perhaps girls made greater developmental changes, attitudinally, at this age than did boys. It is important for educators to keep in mind the uneven rates of maturation for the sexes in planning intervention strategies aimed at effecting change.

This study assumed the position promoted by Humanistic educators that schools should assume the responsibility for educating the whole child. In this study, that premise was addressed by including Self-concept as a variable. Also, the project itself had a strong counseling component. Not only the cognitive but also the affective domain was important. Career Awareness, Academic Achievement, and Self-concept were all addressed in the project and special emphasis was placed on Self-concept. Interventions aimed at improving Self-concept were implemented by teachers and counselors with the ultimate purpose of improving academic performance. However, the data showed Social Competence, not Self-concept, to be the variable most significantly related to the other measures. The conclusion can be made on the basis of that evidence, that intervention aimed at improving Social Competence would perhaps be more effective than that aimed at improving Self-concept for grades four through seven.

Developing in students the ability to be personally independent and socially responsible, to behave in a self-sufficient manner, and also to work cooperatively with others could be a useful goal for education
and counseling. Considering the importance of the peer group, activities designed to accomplish this goal could be effected through cooperative projects and simulations and through counseling experiences.

Recommendations for Further Research and Program Improvement

It is recommended that further research address the relationship between Career Knowledge, Career Attitude, and the component parts of Academic Achievement, i.e., reading and mathematics. It may be possible that cognition and affect are differentially related to verbal and non-verbal competencies.

It is recommended that future research be conducted using the socialization measure, Social Competence, in such a manner as to provide a vehicle for the improvement of performance in the academic, affective, and social domains. It is suggested in the findings of this study that pooled rating can be a meaningful measurement of student performance. Strategies could be developed and implemented using the concept of social competence as a guide.

It is recommended that an other global self-concept instrument be used in conducting further research on similar populations. One of the limitations of the study was that the self-concept instrument used did not provide a fine enough discrimination between the subjects.

It is recommended that research be conducted on the impact of sex-equity activities on the attitudinal development of subjects at these grade levels. Differential results for Career Attitude indicate that the sex equity program component may have influenced results.
It is recommended that further research be conducted using the same independent variables, Self-concept, Academic Achievement, and Social Competence, and the same dependent variables, Career Knowledge and Career Attitude, with other age groups. Some findings of this study indicate that the changes could have been the result of maturation.

It is recommended for program improvement that research be conducted using the same independent and dependent variables on a more heterogenous group of subjects and/or on other stratified groups. The subjects in this study functioned at above-average levels on several of the variables. Perhaps the relationships and changes noted are only true for similar narrow samples.

It is recommended that intervention at grades four through seven be implemented through group study and group counseling. In view of the importance of self-direction and independence in achievement evidenced in this study, such group work could focus on developing leadership skills and effective decision-making.

It is recommended for program improvement that intervention strategies employed with this sample in fourth grade be extended to fifth and sixth grades as well. Since the self-concept of targeted students increased significantly, the program could possibly further enhance those students who exhibit low self-concept because of sex-role stereotyping, teacher bias, or in maintaining low self-concept for the sake of congruency.
It is recommended for program improvement that a different approach to the Career Attitude component be introduced for boys in grades four through seven. Perhaps the Motivation level activities for boys could include more action-oriented experiences, such as service-learning.
APPENDIX A

INTERVENTION STRATEGY IN SELF-CONCEPT
Career Education Evaluation

Self-Concept Improvement: Self, Work Adjustment, Decision-Making

In order to have self-worth, students have a need for:

1. Caring and being cared for
2. Being aware of their role in life
3. Having a positive self-concept
4. Having a willingness to learn/change
5. Fulfilling personal, pro-social goals
6. Being an independent person
7. Being pro-social in decision-making
8. Being industrious

The professional educator can help students meet their needs in several ways:

Caring

1. Greet students at the door.
2. Listen to students by focusing, clarifying and accepting.
3. Speak to the shy person every day with a friendly smile.
4. Know and use student's preferred name.
5. Write positive comments on papers in addition to grades.

Understanding

1. Notice non-verbal indicators that the child is happy, sad, glad, tired, etc. and communicate these observations.
2. Place success within reasonable reach for every child.
3. Give children an opportunity to aid their views, or share their hidden agendas.
4. Have students interview each other and report discoveries to class.
5. Allow class to interview you.
6. Encourage the sharing of feeling words.
7. Have caring and feeling words around the rooms.
8. Use Magic Circles techniques.
9. Share lunch with a child.
10. Reverse roles with students.
11. Show that mistakes are legitimate.
Identifying

1. Have lower-ability children tutor lower grade children.
2. Encourage students to write special goals for themselves for the next day and follow through on these goals.
3. Encourage each child to keep a daily journal and respond in writing.
4. Provide each child with a space to display his/her work. The displays can be rotated at the discretion of the students when they have a replacement.
5. Make pictures or profiles of children and have other children write positive comments about that person on it.

Recognizing

1. Let students choose someone to work with and share the other person's success with the teacher.
2. Send notes of praise home to the parents.
3. Find a strength or interest in the child and give recognition for this, as well as provide opportunities to extend it.
4. Let children work as teacher assistants.
5. Praise in a positive manner any efforts of the child; use rewards, badges.
APPENDIX B

PERMISSION LETTER
For the past three years your son/daughter has been part of a career education program in the Upper Arlington school system. This year the project is undergoing an Evaluation, a part of which involves re-administering several tests similar to those which were first given in fourth grade. We will be assessing career awareness, scholastic achievement, self-concept and social relationships.

Results of this study will be used both in the career education program evaluation and as the basis for dissertation research. The study has the approval of Dr. Charles Wilson, Executive Director of Pupil Personnel, and the junior high school building principals. Mr. Steve Phillips will be assisting with the testing.

I am requesting your permission to include in this evaluation and would be pleased to share my findings with you at the end of the school year if you would like. If you have any questions, feel free to call me at Jones Junior High School.

Sincerely,

Richard E. Hague

ED OGRA 264

Doug Ambler, Principal

[Signature]

Yes, has my permission to participate in the study described above.

[Signature]

Please return to Mr. Hague at Jones or Mr. Phillips at Hastings by September 22nd.
APPENDIX C

TEACHER RATING OF SOCIAL COMPETENCE
TEACHER RATING OF SOCIAL COMPETENCE*

PURPOSE: The purpose of this rating scale is to establish a general estimate of students' social competence at this point in their development.

PROCEDURE: All seventh grade teachers who have students listed on the attached sheet in class are being asked to make a judgement regarding each student's social competence based on the criteria which follow. Ratings by all seventh grade teachers will be pooled and a total computed for each student.

DEFINITION OF SOCIAL COMPETENCE: Social competence is the ability to be personally independent and socially responsible. This means both to behave in a self-sufficient manner and also to cooperatively work with and serve others.

Specific components of social competence are:

1. Self-help--An individual who attends to immediate personal needs.

2. Movement--An individual who moves openly and freely within the environment.

3. Occupation--An individual who occupies time constructively when alone and works well with others.

4. Self-direction--An individual who works productively with minimum supervision.

5. Socialization--A person who is accepted by his/her peers.

6. Communication--An individual who communicates appropriately with peers and adults.

DIRECTIONS: Rate each student on the following scale of 1 to 5. Please circle only one number for each student. Rate on the basis of a student's typical behavior, not what he or she is capable of.

RATING SCALE:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>one of the most socially competent individuals in the class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>quite competent socially, above average on the criteria noted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>average social behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>less than competent socially than most individuals in the class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>lacks social competence; noticable lack of criterion behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NAME

RATING SCALE

Thank you very much for your time and cooperation. Please return these ratings to Mr. Mague at Jones or Mr. Phillips at Hastings by October 15th.
APPENDIX D

GUESS WHO
GUESS WHO

1. These three classmates are most happy.

2. These three classmates work best in class.

3. These three classmates are the most fun on the playgroup.

4. These three classmates seem the most worried.

5. These three classmates are always picking on others.

6. Three best friends in class are:

*Item was not included in this study.

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APPENDIX E

OHIO CAREER EDUCATION INVENTORY
The Ohio Career Education Inventory (OCEI) is more than one test. It is a computerized test development system containing several hundred test items in each of four grades: three, six, eight, and ten. Items are catalogued into one of 14 categories: seven career developmental areas in two domains (cognitive and affective).

Five parallel forms of the OCEI are developed annually for each of the four grades. Each form consists of 56 items selected by the computer to match certain equivalent specifications, such as content and difficulty. For example, each of the seven developmental areas is represented on each form by eight questions: four cognitive and four affective. Furthermore, the average difficulty level of each set of questions approximates the average difficulty level of all items in that category of the item bank.

Score reports include a Raw Score Summary and an Item Response Summary for each participating class, building, and school district. The Raw Score Summary permits criterion-referenced comparisons of class, building or district averages with the maximum score in each of the 14 categories, in each of the seven developmental areas, and in the two domains. State averages for all categories are also provided to permit a norm-referenced interpretation of the class, building, and district averages.

The Item Response Summary shows for each class, building, and district the number and percent of students who choose each possible response. Other information provided on this report includes the preferred response (or key), the total size of the group (N), and the percent of students in the state who chose the preferred response.

Since there are so few items measuring each developmental area, no information is reported for individual students. Rather, the instrument is designed to assist teachers and administrators in identifying class strengths and weaknesses or career education program strengths and weaknesses.

Beginning in 1981, every school which is scheduled for a PRIDE review the following year participates in the March assessment program by administering the inventory to a sample of students at each of the four grades.

ERT:rjc
2/9/82

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OHIO CAREER EDUCATION INVENTORY
1981

Directions:

This inventory is divided into two parts. Read each question carefully and mark your answers on the special answer sheet. Do not make any marks on this booklet. Complete the example below:

Example:

E 1 Which worker brings mail to people?

1. farm worker
2. factory worker
3. hospital worker
4. post office worker

Find the right answer. What is the number beside the right answer? Yes, 4 is the number beside post office worker. At the bottom of your answer sheet beside E 1 find the one with a 4 inside. Darken that circle. It looks like this:

E 1  o  o  o  ●  o

Do not mark E 2 yet.

You will mark your answers to Part 1 in exactly the same way. Decide which answer is right. In the row of circles numbered the same as the question, find the right circle and darken it.
PART 1

1. A STEAMOGRAPHER USUALLY WORKS
   1. A LIBRARY
   2. AN OFFICE
   3. AN OPERATING ROOM
   4. A RESTAURANT

2. AUTOMATION CAN BEST BE DESCRIBED AS
   1. RUNNING MACHINES OVERTIME
   2. USING MOMENTS TO CONTROL DIFFERENT MACHINES
   3. RUNNING A BUSINESS IN A VERY EFFICIENT WAY
   4. USING MACHINES INSTEAD OF PEOPLE FOR JOBS

3. A VICE PRESIDENT, A SUPERVISOR, AND A PERSONNEL DIRECTOR ARE ALL PART OF A COMPANY'S
   1. EXECUTIVE BOARD
   2. UNION
   3. MANAGEMENT
   4. BOARD OF DIRECTORS

4. A CITY IS NEW AND EXPANDING RAPIDLY. THIS MEANS THAT ONE OF THE OCCUPATIONS THAT WILL BE IN THE HIGHEST DEMAND IS
   1. OUTFIT DESIGNER
   2. ZIP KEEPER
   3. APARTMENT
   4. MOVIE DIRECTOR

5. ALL OF THE FOLLOWING TYPES OF EQUIPMENT ARE MAINTAINED BY CITY EMPLOYEES EXCEPT
   1. FIRE ENGINES
   2. POLICE VEHICLES
   3. TELEPHONE LINES
   4. BUSES

6. A PERSON INTERESTED IN BECOMING A SECRETARY SHOULD BE ESPECIALLY GOOD IN
   1. SCIENCE
   2. LANGUAGE ARTS
   3. MATH
   4. FOREIGN LANGUAGES

7. A PERSON WHO ENJOYS GOING TO PLAYS AND HAS A TALENT FOR WRITING MIGHT CONSIDER BEING
   1. AN ENGINEER
   2. A DRAMATIST
   3. A MUSICIAN
   4. A CONDUCTOR

8. A QUALITY NECESSARY FOR BEING AN ACCOUNTANT IS
   1. A RICH IMAGINATION
   2. A DESIRE FOR ORDER
   3. A SENSE OF HUMOR
   4. AN APPRECIATION OF BEAUTY

9. BODY COORDINATION IS MOST IMPORTANT TO A
   1. BANK TELLER
   2. FIRE FIGHTER
   3. LAWYER
   4. SECRETARY

10. DUE TO FINANCIAL PRESSURES THE PRESIDENT OF THE BOARD HAS ANNOUNCED HE WILL HAVE TO FIRE HALF OF THE TEACHERS. THIS WILL NOT MEAN THAT
    1. THERE WILL BE LARGER CLASSES
    2. THERE WILL BE FEWER CLASSES
    3. THE REMAINING TEACHERS WILL GET MORE MONEY
    4. THE LEVEL OF EDUCATION WILL SUFFER

GO ON TO THE NEXT PAGE.
11. DISCRETIONARY INCOME IS THE AMOUNT OF INCOME LEFT OVER AFTER YOU HAVE PAID FOR:
1. YOUR HOUSE
2. YOUR FAMILY'S FOOD EXPENSES
3. ALL YOUR YEARLY EXPENSES
4. ALL ESSENTIAL LIVING EXPENSES

12. FOR MOST OCCUPATIONS IN THE FIELD OF PRINTING, SUCH AS BOXWORKING AND PHOTOCOPYING, A PERSON NEEDS AT LEAST FIVE YEARS OF:
1. GRADUATE SCHOOL COURSES
2. APPRENTICESHIP
3. UNDERGRADUATE SCHOOL COURSES
4. EXPERIENCE

13. IT COSTS MORE IN TERMS OF TIME AND MONEY FOR EDUCATION TO BECOME AN INDUSTRIAL ENGINEER THAN TO BECOME:
1. A ARCHITECT
2. A PATHOLOGIST
3. AN INSURANCE BROKER
4. A MEDICAL LIBRARIAN

14. IT IS NECESSARY FOR A PERSON AND HAS MOVED FROM AN ENTRY LEVEL JOB TO ONE THAT HAS MORE RESPONSIBILITY TO KNOW HOW TO:
1. BECOME THE FRIEND OF ALL WORKERS ON THE SAME LEVEL
2. CURTAIN AND COMPLIMENT AT THE SAME TIME
3. GIVE ORDERS WITHOUT OFFENDING
4. PROMISE WHAT COVERS THE SAME PROMOTION

15. MOONLIGHTING MEANS WORKING AT A SECOND JOB WITHOUT INFORMING YOUR EMPLOYERS. THE MAIN REASON EMPLOYERS ARE AGAINST MOONLIGHTING IS:
1. THE EMPLOYEE WILL MAKE MORE MONEY THAN THE EMPLOYER
2. THE EMPLOYEE WILL BE TOO TIRED TO PERFORM HIS DUTIES WELL
3. THE MOONLIGHTERS ARE TAKING JOBS AWAY FROM OTHERS WHO ARE UNEMPLOYED
4. THE EMPLOYEE WILL NOT HAVE TIME TO SPEND WITH HIS OR HER FAMILY

16. MONEY CHARGED TO BORROW MONEY IS CALLED:
1. TAX
2. FINDER'S FEES
3. INTEREST
4. PREMIUM

17. PEOPLE ARE CONSIDERED RELIABLE WHEN THEY:
1. ARE ALWAYS ON TIME
2. ARE WELL DRESSED
3. ALWAYS ARE FRIENDLY
4. ENJOY WORKING WITH OTHERS

18. THE LEAST EFFECTIVE PROCESS OF DECISION MAKING IS TO:
1. MAKE THE CHOICE YOU HOPE WILL BE THE BEST
2. GATHER INFORMATION ON ALL THE CHOICES
3. JUDGE BY YOUR OWN AND OTHER PEOPLE'S EXPERIENCES
4. ELIMINATE THE POORER CHOICES

... ON TO THE NEXT PAGE...
19. THE RESULT OF A SURVEY ABOUT
HOW PEOPLE FEEL CONCERNING A
CERTAIN PERSON OR AN IDEA IS
S货L
1. AN ELECTRIC RESULT
2. A PUBLIC MEXULATION
3. THE FINAL OPINION
4. A CONSENSUS

22. WHICH OF THE FOLLOWING
PLACES IN A LARGE BUSINESS
ESTABLISHMENT OR DEPARTMENT
WOULD YOU GO TO GET A
JOB APPLICATION?
1. CREDIT OFFICE
2. PERSONNEL DEPARTMENT
3. UNION OFFICE
4. PAYROLL DEPARTMENT

21. WHEN TEENAGERS HAVE TROUBLE
INITIATING FRIENDSHIPS, THEY
SHOULD
1. TRY TO BE CONTENT WITH THE
FRIENDS THEY ALREADY HAVE
2. WAIT UNTIL OTHERS APPROACH
THEM
3. ASSUME THAT THEY WILL
CHANGE AS THEY GROW OLDER
4. THINK ABOUT WHAT THEY ARE
AFRAID OF

20. WHICH OF THE FOLLOWING
ACTIVITIES IS OFTEN
SPONTANEOUS?
1. RESCUE THE FASTEST
SATCHEL IN YOUR SCHOOL
2. MAKING A NEW FRIEND
3. LEARNING HOW TO TYPE
4. HAVING A MUSIC LESSON

23. WHEN CHOOSING FRIENDS, WHICH
OF THE FOLLOWING IS USUALLY
CONSIDERED BY STUDENTS TO BE
AN UNDESIRABLE TRAIT IN
OTHERS?
1. HAVING SELF-RESPECT
2. BEING CONSIDERATE
3. BEING RESPONSIBLE
4. BEING DISHONEST

24. WHICH OF THE FOLLOWING
COMPUTER TASKS IS SOMETHING
WHICH MUST BE DONE BY AN
INDIVIDUAL RATHER THAN A
MACHINE?
1. COLLECTING DATA
2. ANALYZING INFORMATION
3. ORGANIZING INFORMATION
4. DRAWING CONCLUSIONS

25. WHICH OF THE FOLLOWING IS
LEAST LIKELY TO BE AN
IMPORTANT CONSIDERATION WHEN
YOU ARE TRYING TO DECIDE ABOUT
POSSIBLE CAREER CHOICE?
1. YOUR ABILITY TO WORK WITH
OTHER PEOPLE
2. YOUR VALUES AND INTERESTS
3. THE DRESS OR CLOTHING
REQUIREMENTS OF THE JOB
4. THE LOCATION OF THE JOB

26. WHICH OF THE FOLLOWING IS A
PART OF THE DECISION MAKING
PROCESS?
1. GATHERING INFORMATION
2. KNOWING WHAT YOU WANT
3. DEVELOPING A PLAN OF ACTION
4. ALL OF THE ABOVE

GO ON TO THE NEXT PAGE.
27. WHICH OF THE FOLLOWING IS AN
OPINION, NOT A FACT?
1. RECOGNIZING A OBESTRUCTION REQUIRES
A COLLEGE DEGREE.
2. A PERSON MUST BE IN JU VOPE
IN 1943.
3. A PERSON MUST GO TO COLLEGE
TO GET A GOOD JOB.
4. A FOURTEEN YEAR OLD CANNOT
WORK IN A FACTORY.

28. WHICH OF THE FOLLOWING HEALTH
OCCUPATIONS IS THE MOST HIGHLY
PAID?
1. PEDIATRICIAN
2. STERILE PRODUCT PROCESSOR
3. PSYCHIATRIC AIDE
4. DENTAL LABORATORY TECHNICIAN

PART 2

Directions: Read each statement below. Decide whether you agree, don't agree, or are
not sure. If you agree, mark the circle with a 1 inside; if you are not sure whether you
agree, mark the circle with a 2 inside; if you disagree, mark the circle with a 3 inside.
Complete the example below:

EXAMPLE:

E 2 Most parents never have to work.

Mark your answer to E 2 in the EXAMPLES section on your answer sheet. Your
answer sheet will look like one of these:

If you AGREE -- E 2 1 1 1 1
If you ARE NOT SURE whether you agree or
don't agree -- E 2 1 0 0 0
If you DON'T AGREE -- E 2 0 0 0 0

You will mark all of your answers in Part 2 this way. Now finish Part 2.

29. THEUALI IN THE
JUDGMENT DECREASE RAPIDLY UPON
REACHING THE AGE OF
SIXTEEN.

JO. A GIRL IS MARRIAGE MARY IF
SHE STRIVES TO REACH IT.

11. A JOB CAN AFFECT YOUR
PERSONALITY.

12. AUTOMATION WILL NOT TAKE A
PERSON'S JOB AWAY NO MATTER
HOW SIMPLE IT IS.

GO ON TO THE NEXT PAGE.
13. A SMART CONSUMER NEEDS TO KNOW
    SOMETHING ABOUT ADVERTISING
    METHODS.

34. ADVERTISING IS A GOOD WAY TO
    HELP CUSTOMERS MAKE CHOICES.

15. A PERSON WHO CHANGES JOBS MORE
    THAN 2 TIMES EVERY TWO YEARS IS
    IMPROBABLE.

30. BEING A RECEIPTIST COULD
    HELP A PERSON DEVELOP SOCIAL
    SKILLS.

17. CHEERFUL WOMEN CAN MAKE GOOD
    CUSTOMER SERVICE WORKERS.

14. EVALUATING YOUR JOB WORK IS
    SOMETHING YOU WILL NOT DO
    AGAIN AFTER YOU GET OUT OF
    HIGH SCHOOL.

19. ENTHUSIASM IS AN IMPORTANT
    CONTRIBUTION TO A TEAM EFFORT.

40. GIVING SOMEONE MONEY IS THE
    BEST WAY OF SHOWING AFFECTION.

41. IT IS IMPOSSIBLE TO GET A JOB
    WHICH IS REALLY SUITED TO YOUR
    PERSONALITY.

42. IT IS GOOD TO SEEK ADVICE
    BEFORE MAKING A DECISION THAT
    WILL HAVE A MAJOR EFFECT ON
    YOUR LIFE.

43. IT IS POSSIBLE TO MAKE OVER
    $30,000 A YEAR WITHOUT GOING
    TO COLLEGE.

44. IT WOULD BE NICE TO WORK IN A
    CAREER WHERE YOU COULD IMPROVE
    AT WHAT YOU DO AS YOU GET
    OLDER.

45. IF YOU STUDY AS LONG AS YOUR
    CLASSMATE DOES, YOU WILL KNOW
    THE SUBJECT AS WELL.

46. IN MOST JOBS, IT'S MORE
    IMPORTANT TO BE ABLE TO READ
    FAST THAN TO UNDERSTAND
    WHAT YOU READ.

47. IF A PERSON IS EXTREMELY
    SLOPPY, HE OR SHE SHOULD GET A
    JOB WHERE NEATNESS IS
    REQUIRED.

48. LEARNING ABOUT THE WORLD OF
    WORK MAKES SCHOOL WORK MORE
    MEANINGFUL TO YOU.

49. MOST JOBS REQUIRE A PERSON TO
    MAKE DECISIONS EVERY DAY.

GO ON TO THE NEXT PAGE.
50. There is such a thing as being overeducated for a job.

51. The longer you work in a factory, the more interesting it gets.

52. People should be given responsibilities because they usually "rise to the occasion."

53. One of the reasons for a job being well is admiration from others.

54. There are very few jobs in which you can always express yourself.

55. The best career choice for someone interested in science or medicine is becoming a doctor.

Only young people worry a lot about how others feel about them.
BIBLIOGRAPHY


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