AN ASSESSMENT OF SELF-CONCEPT CHANGES DURING FIRST TERM ATTENDANCE OF STUDENTS IN A RURAL, APPALACHIAN COMMUNITY COLLEGE

by

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Chapter 1

INTRODUCTION

Numerous educators and psychologists believe that the key to an individual's behavior and performance can be found in an analysis of the perception or concept that the individual holds of himself (Combs and Snygg, 1959; Fitts, 1972a; Padgett, 1974; Wylie, 1961). It is a widely held conviction that individuals who have developed a healthy self-concept have removed for themselves one of the major barriers to development of personal potential.

Sweeney (1971) applied these beliefs, regarding the implications of self-concept, to academic settings; he found that students with low self-concepts are likely to experience difficulty or failure in school. It was his opinion that educators must be aware of the meaning of self-concept, and must design success experiences for students determined to have low self-concepts, in order to promote positive change of those self-perceptions.

Although the ramifications of self-concept are important to the educational community, it is probable that no academic setting lends itself more to the need for consideration of this abstraction than does the community college.

An increasing number of students from diverse socioeconomic and educational backgrounds are enrolling in institutions of higher

education, particularly at the community college level (Thornton, 1972). According to Simon and Grant (1973), and Astin, King, Light, and Richardson (1974), there were enrollment increases, during the 1972-74 period, ranging from one and one-half to five percent within the categories of first-time students who were above the age of 22 (Thornton, 1972, stated that as many as 40 percent of the full time students in community colleges were over 30 years of age), students whose fathers were non-high school graduates, and those whose fathers were in unskilled, semi-skilled, skilled, or service worker occupational groups. Enrollment increases were also noted within categories of students who voiced concern about the financing of their education.

Thornton (1972) also observed that numerous academically ill-prepared students were entering college, particularly at the community college level. Utilizing national data and norms from School and College Ability Tests (SCAT), he reported that 64 percent of students enrolled in community college occupational curricula scored below the 30th percentile, and 44 percent of community college transfer program students scored below this point.

Accompanying this dissimilarity of individuals comprising today's college student body is an increased interest in vocational-technical curricula of one and two years' duration. Frankel and Beamer (1974) reported that enrollment in occupationally oriented courses increased from 229,000 in 1962 to 950,000 in 1972, with degree-credit enrollment

also showing a steady increase during this period.

As an open-door institution with relatively low tuition schedules, and as an institution that generally provides a wide variety of course and curriculum offerings, the community college has contributed greatly to the college enrollment increases of the past few years (Gleazer, 1974; Cross, 1971; Thornton, 1972). According to Grant & Lind (1974), enrollment in public, two-year colleges has risen from 167,874 in 1950, to 392,310 in 1960, and 1,694,465 in 1972. Frankel and Beamer (1974) predicted that enrollment in these institutions will increase to 2,146,000 by 1982.

The emergence of the community college as an equal partner in the business of higher education has helped to stimulate the growth of innovative educational services such as learning laboratories, developmental courses, non-traditional learning centers, and greater emphasis on student development programs, so that the student can be accepted "where he is" and assisted in the movement toward realization of his potential (Cross, 1971; Gleazer, 1968; O'Banion and Thurston, 1972). However, the high rates of attrition and the disenchantment of many young people with higher education (Cohen, 1969; Cross, 1971; Schwab, 1969), and lackadaisical movement through their program by many students who possess the ability to do outstanding work suggest the need for more in-depth awareness by educators of those specific factors and approaches which seem to be

most conducive to the student's progress toward his educational objectives.

Any attempt to identify the approaches in higher education that will lead to the ultimate achievement of individual student potential should begin with an examination of the current state, in terms of what is known about students and the current trends of educating those students. As will be illustrated later in this study, two of the major tasks of the community college--educating students for immediate job entry (through vocational-technical programs) and educating other students for continuation of studies at senior institutions (through transfer programs)--are well defined. The variations in approach to the educational process within these two groups of curricula will also be described. An extensive data base regarding the diversities of characteristics of students also is available and will be discussed later in this chapter.

If attention is to be given to the importance of self-concepts of students enrolled in a community college, the task that exists at this point is to assess the individual self-concepts of entering students. These reflections of individual self-concepts might then be compared with later assessments in an attempt to determine whether or not there is significant change in the self-concepts of students with varied characteristics who are exposed to either of the two major educational approaches in a community college, and whether this change is in a positive direction.

The Need for Research

According to Cross (1971), more than half the students in a recent survey indicated the pursuit of occupational training as their most important goal in college. Statistics reported by the Virginia Department of Community Colleges (1973, 1974a, 1975) reflect that this tendency toward greater student interest in vocational-technical curricula is also evident within the Virginia Community College System. During the Fall Quarter of 1972, approximately 52 percent of full-time and 65 percent of part-time students in Virginia Community Colleges were enrolled in vocational-technical curricula. By the Fall Quarter of 1974, these enrollment figures had increased to approximately 60 percent and 70 percent, respectively. Additionally, unpublished enrollment data from a specific institution of the Virginia Community College System, Southwest Virginia Community College (1968-1974a), reveals that, over a six year period, the ratio of vocational-technical students to transfer students has changed from approximately 35/65 percent to nearly 60/40 percent. As these statistics indicate, there is a trend in some community colleges toward greater enrollment in vocational-technical curricula, but there is, by no means, complete desertion of transfer curricula.

According to Cohen (1969), Collins (1972), Cross (1971), Gleazer (1968, 1973), and Thornton (1972), the shift in career interests of students is being accompanied by a change in the composition of

student bodies, especially at the community college level. Numerous factors, such as policies of open-door admissions operating in many community colleges, generally lower rates of student tuition, and the availability of student financial assistance, have contributed to great numbers of students from lower socioeconomic backgrounds and from lower levels of academic performance finding greater access to higher education programs within the community college.

Close scrutiny of the student body profile within a community college today reveals the existence of rather wide ranges of characteristics. Reports by Astin, King, Light, and Richardson (1974), Collins (1972), Cross (1971), Southwest Virginia Community College (1968-1974a), The Virginia Department of Community Colleges (1973, 1975), and Wade (1974) indicate specific patterns of change toward greater diversification of student characteristics. These diversities (reported nationally, unless noted otherwise) include:

1. Age--although a majority of the community college student body falls within the traditional college-student age range of 18-22, as many as 30 to 50 percent of the students attending some two-year colleges are in their late 20's, 30's, 40's, and even beyond.

2. Sex--the majority of students attending community colleges are male; however, increasing numbers of females are enrolling. Total national female enrollment in public, two-year institutions increased 29 percent from 1970 to 1972.

3. Marital Status--in conjunction with the changing age and sex characteristics of community college students, many of today's students are married. Among first-time students enrolled in public, two-year institutions in the Fall of 1974, 3.5 percent were married, reflecting an increase from 2.3 percent in 1972. There appears to be a trend toward enrollment of greater numbers of older, male and female married students.

4. Employment--growing numbers of community college students are employed, many on a full-time basis, while attending. In the Fall of 1974, 15.7 percent of first-time students reported income from a full-time job.

5. Socioeconomic Status--as previously mentioned, greater numbers of students from more diverse socioeconomic backgrounds are enrolling in community colleges. More than half the students at most community colleges come from families of lower socioeconomic levels. Included in this category of varying characteristics are:

A. Educational Level of Parents--although the parents of many community college students have completed high school and achieved various levels of post-secondary education, more than 50 percent of entering students have surpassed their parents' educational levels. Nearly 28 percent of new, 1974, Fall Term students reported that

the educational level of their father was below that of high school graduation.

B. Occupation of Parents--the occupations of community college students' parents range from unemployed or unskilled to professional, with the majority of fathers being unskilled, semi-skilled, skilled, or service workers. Fall, 1974, first-time, public, two-year college student data reflected that 63.4 percent of those enrolled reported that their father's occupation was either skilled, semi-skilled, unskilled, service worker, unemployed, or a category other than professional, clergy, or military.

C. Family Income--prior mention was made of the fact that lower tuition rates and accessibility to financial assistance have served to expose greater numbers of students to higher education within the community college. Although adequate family income enables many community college students to pay their own way, 57.5 percent of 1974 first-time, public, two-year college students reported that finances were of some concern or of major concern. Of that total enrollment, 13 percent reported their parents' estimated annual income to be under $6,000.

6. Education Background--the lack of selective admissions policies, or the open-door philosophy, was previously cited as a

factor contributing to greater accessibility of post-secondary education. Although individuals with average and above average records of academic performance attend the community college, many--perhaps a majority--were not among the top one-half of their high school graduating class; in fact, numerous community college students either failed to graduate from high school or achieved the General Equivalency Diploma (GED).

A total of 2.8 percent of 1974, first-time, public, two-year college students reported that they were either GED recipients or non-high school graduates. Of those who attended high school, 32.4 percent reported average grades to be C's and D's.

Efforts to provide equalizing educational experiences and opportunities for lower achievement students have given rise to remedial or developmental programs in the community college, and to such federally-funded programs as Special Services for the Disadvantaged (in addition to financial need, low academic background is viewed as a criterion for participation in this program; provision of tutorial assistance is a basic component of the program).

7. College Choice--while many community college students would not have chosen to enroll in any other post-secondary institution, many others considered the two-year college as a second or third choice, and, whether because of financial, academic or other limitations, settled for enrollment in the community college. Twenty-

six percent of those students discussed above reported the community college as a second, or lower, choice.

8. Enrollment Status--paralleling the diversities in a number of other trait categories is the pattern of wide variation in credit hour or course loads. Some community college students take as few as one course per term while others register for as many as seven or eight. National enrollment data for public, two-year colleges reflected that 23 percent of students enrolled in these institutions in 1972 were part-time (fewer than 12 hours per term), an increase of 29 percent over 1970.

The egalitarian philosophy of higher education, which encourages college attendance by many students who, a few years ago, could not have afforded to attend, could not have met general college admission requirements, and, due to socioeconomic status, did not perceive of themselves, nor were they perceived by others, to be "college material" (Hodges, 1970), plus the great diversity of other student characteristics, have suggested the need for even greater attention to a pertinent question: What is the community college's obligation to these, and to all students, once they have been attracted to the institution?

Educators have, for years, argued the merits of academic education which provides opportunities for the mastery of the sciences

and knowledge of the humanities and social sciences (Chase, 1963), versus practical education through greater emphasis on vocational and technical courses (Venn, 1964). The recent developments of expansion of the range of student characteristics and a movement toward greater interest in vocational-technical education are serving to focus even greater attention on the difference in the philosophical bases of these two camps by exploring the practices of educating students--providing instruction in the arts and sciences--as opposed to certifying them--providing basics and licensing students to enter an occupation (Jencks and Riesman, 1969).

Although the controversy surrounding the most important emphases in education continues, there is agreement that educational institutions have an obligation to help each student achieve his or her potential within the realm of interests, abilities, aptitudes, motivation, and desire (Venn, 1964).

As community colleges attempt to meet this obligation, they must also search for the answer to the question regarding the characteristics of the individual and his behavior--the characteristics which will either impede or promote his movement toward realization of potential during the learning process. As was previously mentioned, it has been postulated by many educators and psychologists that perhaps the most dominant individual characteristic influencing behavior is self-concept--the way the individual perceives himself (Combs and

Snygg, 1959; Fitts, 1972a; Johnson and Vestermark, 1970; Padgett, 1974; Patterson, 1973; Rogers, 1951, 1961; Schultz, 1971; Shaffer and Shoben, 1956; Stefflre and Grant, 1972; Stein, 1961; and Wylie, 1961).

A comprehensive review of numerous research studies, spanning a period of more than 40 years, revealed that nearly one-half the students enrolling in American colleges and universities dropped out prior to completion of a degree (Summerskill, 1962). This report indicated that only about one-third of the dropouts were due to academic difficulty; maladjustment in personal, emotional, and social areas--factors which can be related to self-concept--were cited as contributors to attrition.

The attrition rate among public school students (fifth grade to high school graduation) was approximately 30 percent during the 1960's, according to Cross (1971). She theorized that fear of failure was a major contributor to the public school attrition rate. This characteristic, too, can be related to the individual's perception of himself.

The findings of studies relating to causes of attrition, at the public school and college levels, have definite implications for community college educators (Collins, 1972; Cross, 1971). If the prevailing purpose of the community college is to help each individual develop his potential to the fullest (Southwest Virginia Community College, 1974b; Thornton, 1972), then attention must be given to the removal of barriers, such as low self-concept, which could prohibit

the development of this potential.

Padgett (1974) and Fitts (1972a) stated that the individual will behave in such a way as to perpetuate the image, or concept, that he holds of himself. Furthermore, it has been determined that an individual's self-concept can be positively or negatively changed through the use of structured experiences, in studies reported by The Florida Educational and Research Council (1971), Harvey, Kelley, and Shapiro (1957), Levenway (1955), Maehr, Mensing, and Nafzyer (1962), Soares and Soares (1970), Tschumi (1973), and Videback (1960). This knowledge can be valuable to community college educators who, with some awareness of the general characteristics and levels of self-concept of their entering students, seek to structure educational experiences which will have positive impact on student development.

Although there is general agreement that development of self-concept is influenced by similar factors among most individuals (Karnes, Zehrbach, Reid, and Jones, 1971), attention must be given to the culture of specific individuals and groups in order to better understand the dynamics of this development.

The setting of this particular study, to be more fully described in Chapter Three, is rural Appalachia. According to institutional student records, more than 95 percent of the subjects are native to the immediate area and have lived most or all of their lives in the area. A description of the background and culture of the white,

Appalachian native, to be presented in Chapter Two, suggests that the forces influencing the self-concepts of these subjects are of importance to educators.

The Statement of the Problem

Since it has been suggested that self-concept is a major determinant of behavior, community college educators might further their mission by assessing the level of self-concept held by students upon entry, and again after an academic term of exposure to the educational concepts and processes encountered within their specific curricula. Although there are likely to be numerous influences, both internal and external to the community college, which have effect on the individual's self-concept, it is assumed that college enrollment, as a totally new experience, and the academic experiences encountered early, as the student attempts to adjust, are primary factors affecting self-concept at this point in time.

Since two of the major thrusts of the community college are fairly well defined--vocational-technical education (including business and public and health services) which prepares students for immediate job entry, and transfer education preparing students to enter the third year of baccalaureate degree programs--the assessment of changes in self-concept might best be investigated by a comparison of the different groups of students comprising the vocational-technical curricula and

the transfer curricula of the community college.

Although the general purposes of the educational programs of community colleges tend to be similar (Thornton, 1972), there is variation regarding the approach to the educational process between the two groups of programs embracing vocational-technical and transfer curricula. One apparent disparity is reflected in the limited number of general education courses required within vocational-technical curricula, as compared with transfer curricula.

As was previously mentioned, vocational-technical curricula have, as a primary purpose, the teaching of job skills which prepare the student for immediate entry to the world of work. The result of this objective is that students enrolled in these curricula begin, during their very first term of attendance, taking specialized courses related to their immediate career goal. Although these students are required to take general education courses such as communication skills, government, psychology, and economics, these courses usually comprise no more than 15 to 25 percent of the students' total curriculum (Harris, 1964; Virginia Department of Community Colleges, 1974a), and are distributed throughout the duration of the student's one or two-year program.

In contrast to the limited number of general education courses and the immediate exposure to specialized coursework in vocational-technical curricula is the course schedule format of transfer curricula.

Since most students enrolled in these curricula plan to continue their education as juniors at four-year institutions and, often, will make final career decisions at that point, very few, if any, specialized courses are offered in transfer curricula during these students' two years at the community college. The only notable exceptions might be those students in transfer engineering or music programs, where some specialized courses are taught along with the extensive general education requirements, or students who choose a major which is related to one or more courses required within the general education specifications. The vast majority of prescribed courses within transfer curricula, however, fall within the realm of general education, with such courses as English, mathematics, literature, history, laboratory sciences, speech, psychology, sociology, foreign languages, physical education and/or philosophy, and some electives, comprising the bulk of student schedules.

Less apparent, but important, differences between the two groups of curricula relate to the contrast in the number of scheduled, contact hours that students in vocational-technical curricula spend with specific instructors, as opposed to those of students in transfer curricula.

The Southwest Virginia Community College catalog (1974b), and the Southwest Virginia Community College Fall Quarter Class Schedule (1974c), reveal that students enrolled in vocational-technical curricula

generally spend 50 percent or more of their scheduled class time with one instructor. Since this community college is relatively small, with an enrollment of 1562 students in 25 different curricula (Southwest Virginia Community College, 1974a), one major professor is generally employed in each of the College's vocational-technical curricula for the purpose of teaching the majority of the related, specialized courses in those curricula. Since students enrolled in transfer curricula generally do not take many specialized courses during their two years at the community college, they usually spend less scheduled time with individual instructors; it is not uncommon for these students to have a different instructor for every class in which they are enrolled.

There is also a general contrast existing in class sizes (Southwest Virginia Community College, 1974a). Most vocational-technical curricula courses enroll 15 to 20 students, while transfer courses, especially non-laboratory ones, generally have a capacity of 35 to 40 students.

These differences in the academic structure within the community college lead to a stimulating question regarding the difference in impact that each approach might have on the student and his self-concept.

In view of the tendency toward greater interest in vocational-technical curricula and substantial continued interest in transfer curricula, the expanding range of characteristics of students enrolling

in the community college, the impact of the individual student's self concept on his behavior, the discoveries that self-concept can be changed, and the variation in approaches to the educational process within vocational-technical curricula versus transfer curricula, answers to the questions posed in the following section of this paper should hold great significance for the community college educators.

The Purpose of the Study

The purpose of this study was to attempt to discover the answers to the following questions:

1. Are there significant differences in changes in the level of self-concept, as assessed by a self-concept instrument, during the period of the initial quarter of attendance, between students enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college?

2. Are there significant differences in changes in the level of self-concept, as assessed by a self-concept instrument, during the period of the initial quarter of attendance, between students enrolled in a rural, Appalachian community college who are polarized within each of the characteristics of age, sex, marital status, employment status, fathers' educational level, fathers' occupational level, student financial aid, participation in a Special Services for the Disadvantaged Program, level of choice of the community college, and enrollment

status?

3. Are there significant differences in changes in the level of self-concept, as assessed by a self-concept instrument, during the period of the initial quarter of attendance for students belonging to each of the above polarized categories between those enrolled in vocational-technical curricula and those enrolled in transfer curricula of a community college?

These questions are stated as the hypotheses of the study in Chapter Three.

Summary

The community college has emerged as an institution which attracts students from broad socioeconomic and educational backgrounds, and who possess wide ranges of individual characteristics. In an attempt to serve the educational needs of these students, the two-year institution offers a variety of courses and programs, primarily within the vocational-technical and transfer curriculum groups. Although the community college's reputation has grown, as evidenced by steadily increasing enrollment patterns, there are questions existing regarding the impact of the institution's varied educational approaches on its diverse student body.

Numerous educators and psychologists have advanced the theory that the individual's behavior will be determined by his self-concept--

the way he sees himself. This theory holds significance for the community college educator in that an assessment of students' self-concept at the point of entry to the college, and further assessment of any changes in self-concept after a term of exposure to an educational program can help to reveal the impact of the educational program.

Presented in the following chapter (Chapter Two) are discussions of literature and previous studies which relate to the implications of self-concept for educators. Also discussed, in Chapter Three, is the methodology used for assessment of changes in self-concept among students with varying characteristics who are enrolled in vocational-technical or transfer curricula of a community college. Recorded in Chapter Four are the findings of the study; a summary and implications of the study, and recommendations for further studies are presented in Chapter Five.

Chapter 2

RELATED LITERATURE AND RESEARCH

Introduction

Self-concept, by that label or by other labels or components of the total self-concept, such as self-awareness, self-image, self-perception or self-esteem, is one of the central themes in many books and scholarly papers available today about the individual, his personality and/or his behavior. Although the term has become somewhat common, it is elusive as the subject of scientific study since it cannot be counted, physically measured, or even observed. However, behavioral scientists do seem fairly secure in their belief that they can define self-concept, can identify the causative factors in its formation, can devise instruments that will elicit accurate self-reports or self-descriptions of the self-concept, can relate self-concept to behavior and performance, and can illustrate for all who are interested the implications of high or low self-concept.

Reports of the literature and research which describe the self-concept and its formation are presented in this section. Since the general purpose of the study is to assess the level of change in the self-concept of specific groups of students enrolled in a rural, Appalachian community college, attention will also be given in this

section to the relationship of self-concept to the individual's behavior and performance, changes in self-concept, and self-concept research relating to student groups with specific characteristics. Also of importance to this study is the relationship of socioeconomic status and self-concept, and the actual assessment of the self-concept; literature and research relating to these areas are also discussed.

The Self-Concept - Definition and Description

Self-concept is perhaps one of the more universal terms in behavioral science. Stemming from suggestions by James (1890) and Freud (1920) that perceptions of self were important to individual behavior, self-theory, or self-concept, has received much attention during the past quarter-century as an important construct. Although the terminology sometimes varies, most writers arrive at the same point in defining the self-concept. Combs, Avila, and Purky (1971) were brief and all-encompassing when they defined the term as relating to all those aspects of the perceptual field to which is referred when the individual says "I" or "me." Yamamoto (1972) helped to illustrate the manner of arriving at the same point by typifying self-concept as the symbolic representation of self, and then defining self as including the concepts of "I" or "me."

Fredenburgh (1971) interpreted self-concept as a pattern of attitudes and relevant behaviors which are learned in the same ways

as any other kinds of attitudes and behaviors. Although Fredenburgh's implication was that such attitudes were primarily introspective, Jersild (1952) was much more explicit in the internalization of self-concept when he called it a composite of the thoughts and feelings constituting a person's awareness of his individual existence, his conception of who and what he is. Horrocks and Jackson (1972) interpreted the construct in a similar way by defining it as a process by means of which the organism derives and constructs self-products which, taken together, represent the organism's interpretation and meaning of itself.

Purkey's (1970) definition, which was a composite of others, held that self-concept is a "complex and dynamic system of beliefs which an individual holds true about himself, each belief with a corresponding value."

Numerous writers have related self-concept theory to the concepts of phenomenology, the study of direct awareness. Wylie (1961), who defined self-concept as the "individual who is known to himself," classified self-concept theorists as phenomenologists because of their emphasis on the importance of conscious perceptions, cognitions, and feelings. Wylie cited Combs and Snygg (1959), Lecky (1945), and Rogers (1951) as outstanding phenomenological theorists due to their stress of the role of the conscious self-concept in determining behavior.

Rogers' (1951) description of the self-concept and its relationship to phenomenology was revealed in his statement that:

> The self-concept, or self-structure, may be thought of as an organized configuration of perceptions of the self which are admissable to awareness. It is composed of such elements as the perceptions of one's characteristics and abilities; the percepts and concepts of self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; the goals and ideals which are perceived as having positive or negative valence.

Although self-concept theory includes body-image, the perception one has of his body (Combs and Snygg, 1959) and self-esteem, the evaluation of the perceived self (Coopersmith, 1967), the self-concept seems to be generally accepted as the image one holds of himself with regard to his attitudes, values, and behavior--the kind of person he is and how he feels about himself as that kind of person.

The Self-Concept - Formation and Development

The self-concept, as a set of beliefs about the self, is learned in the same fashion in which all other perceptions are learned--through the experiences of life. Combs, Avila, and Purkey (1971) stated the belief that even the unborn child begins to make distinctions between himself and his environment, and that, shortly after birth, he begins to distinquish between what is "me" and "not me."

Padgett (1974) also expressed the theory that the individual's self-concept is learned; it was his belief that whether one perceives

of himself as good or bad is a result of that individual having been told, either verbally or by actions, that he was such. Padgett indicated that after a period of time the individual believes what he has been told and that his behavior becomes more and more consistent with his beliefs.

Studies conducted by the Florida Educational Research and Development Council (1971) supported the generally accepted theory that establishment of the individual's self-concept is a developmental process. The Council's findings indicated that the child's early treatment from or by the family determined, to great extent, the positive or negative direction of growth of the self-concept. These studies concluded that although the self-concept can change afterwards, it has generally stabilized by adolescence.

Although they approached self-concept development from the standpoint of its influence on vocational choice, Super, Kowalski, and Gotkin (1967) were in agreement with others who hypothesized that self-concept begins developing very early in life and becomes somewhat crystallized during adolescence. O'Hara and Tiedeman (1959) shared the theory that self-concept, maturing in adolescence, actuates the career choice process.

A brief review of some of the materials published for use in helping to promote the development of healthy self-concepts among youngsters might give further insight into the developmental aspects

of self-concept. The American Guidance Service, Incorporated, published a series of kits and materials, oriented toward kindergarten-grade four, that had as their objective assisting the teacher to help children "develop feelings of personal adequacy and self-acceptance in order for them to respond in positive ways to the whole education process." The program encouraged children to talk about and become more aware of their feelings, goals, values, and behavior.

Thomas (1974) developed a book and a long-play record, utilizing the voices and talents of celebrities, which had as their theme the freedom to be, and to become, whatever and whoever the individual wants to be. Thomas stated that her material was oriented toward "children of all ages, shapes, sizes, colors, and sexes."

Another booklet, I am Lovable and Capable (Simon, 1973), was developed for use with early adolescents. This booklet explained self-concept, in story form, by illustrating the effect of adverse comments and actions on a fictional character.

A casette tape-filmstrip presentation, My Self-Concept, was available for use with students in middle and secondary schools and in college classes. The originator, McLary (1974), took a somewhat different approach by discussing directly the implications of low, versus high individual self-concept, and by offering suggestions for self-concept improvement.

Fantini and Weinstein (1968) referenced the developmental aspects of the self-concept in relating their findings that the vast majority of programs or projects designed to assist disadvantaged youngsters have, as a major objective, the improvement of the self-image. And Padgett (1974), a psychological consultant to numerous local public school districts in North Carolina, reported that a portion of that State's written philosophy regarding elementary and secondary education established improvement of individual students' self-concept as a goal.

It seems to be generally accepted that the self-concept begins to develop shortly after birth and continues in the formative stage into the adolescent years. Although research findings are inconclusive regarding the impact on self-concept of the individual's socioeconomic environment, it does seem well established that significant others--family and close friends--are the most dominant influences. By the time the individual has reached adolescence, the self-concept is stable enough to influence future decisions about self with regard to such roles as occupation. Although the self-concept has become generally established by the late adolescent stage, numerous researchers have indicated that it can be changed or modified, either positively or negatively.

Self-Concept - Its Relationship to Behavior and Performance

An in-depth review of literature relating to self-concept did not reveal even one writer who denied that self-concept was a major factor in determining individual behavior. In fact, many writers, such as Combs, Avila, and Purkey (1971) were very adamant in their belief that no other single factor affects individual behavior as much as does self-concept. They theorized that, once established, the self-concept provides a screen through which everything else is seen, heard, evaluated and understood and that these perceptions, in turn, determine resultant behavior.

Fitts (1972b) indicated that behavior is so strongly determined by self-concept that a patient diagnosed by his therapist to suffer from an inferiority complex might very well deny this by saying that he (the patient) actually was inferior and, therefore, was suffering from no such complex. Although Fitts' illustration might be difficult to visualize, his point was that what the individual comes to believe about himself determines his self-concept, his self-concept determines his behavior, and his behavior tends to reinforce his self-concept. Fitts (1971) also pointed out the logic of the theory that self-concept dictates behavior by his reminder that man's environment is constantly shifting and changing; since the self-concept is relatively stable, it is the frame of reference through which the individual interacts with his world.

Ellis (1962) substantiated the effect of self-concept on behavior without really discussing self-concept as a term. His A-B-C theory of psychotherapy pointed out that the stimulus does not generate specific behavior, but the individual's perception of that stimulus elicits his reaction. Wylie (1961) indicated that this perceptual approach to external stimuli (also called phenomenology, by her) was determined by self-concept.

The "self-fulfilling prophecy," as a concept of individual behavior, was discussed by Frank (1961). Relating behavior to the individual's perception of himself and his world, Frank used the illustration of a paranoid patient approaching a stranger. The patient, anticipating that this stranger would reject him, as all others have, avoided perceiving any cues from the stranger which were friendly and accepting (selective inattention). Since all behavior will eventually elicit corresponding behavior, the stranger soon became unfriendly, thus reinforcing the patient's expectancy that the next person he meets will be against him.

Anastasi (1968) also discussed the self-fulfilling prophecy and its relationship to self-concept and performance. Relating research findings dealing with the intelligence quotient (IQ), Anastasi argued that misconceptions about an individual's measured IQ have often influenced behavior responses toward the individual which have

ultimately become part of the individual's self-concept and, in turn, affected his motivation and achievement.

Shaffer and Shoben (1956) presented a theory which was reinforced by Fitts (1972a) and Padgett (1974), stating that the individual will consciously behave in such a way as to promote and extend his perception of self. If a man considers himself a humorist, he will make every attempt at constant comedy; if he considers himself a competent, successful person, he will extend that image through his behavior.

Anastasi (1958) suggested that social stereotypes go far to modify the individual's self-concept and that, once the modification has been made, the subsequent behavior pattern will be consistent with the self-concept. She pointed out that if an individual is regarded as dull and stupid, he will eventually come to believe this himself and will then act accordingly.

Further research bearing out previous findings regarding the relationship of self-concept to performance was reported by Cronbach (1970). It was Cronbach's premise that preconceived notions the individual holds about himself, as he compares himself with other groups or with society at large, often create anxieties or a fear of failure that can prevent the individual from performing as well at a task as he might perform without this fear. In testing this premise, Cronbach administered split-halves of a test to undergraduate students, telling them prior to one portion that their results would be compared

with national norms, and, prior to the other portion that results would be compared locally. He found, on "hard tasks" of the test that students scored significantly better when they thought the comparisons would be made locally. Cronbach's study was conducted among an all-black group, but he indicated that the principal was applicable, as well, to students from white, advantaged backgrounds.

According to Schultz (1971), self-concept can affect physical development, as well as behavior. He postulated that a person's feeling small and childlike can lead to the retention of babyfat into adulthood, and that genital development can be impeded, where grown genitalia would reflect adult manhood.

Johnson and Vestermark (1970) stated that the consistency between self-concept and behavior continues throughout life and has great effect on the individual's professional or occupational role. They used, as an illustration, the counselor whose self-image, together with his actions and reactions, influence the degree to which the counseling relationship is effective, ineffective, or nonexistent.

An extension of self-concept as a behavior determinant is apparent in numerous theories of vocational choice. Osipow (1968) reported that a major contemporary theorist, Donald Super, developed his supposition based in part on the belief that man chooses or fails to choose a career, depending on whether or not the career is consistent

with his self-concept. Wigent (1974) conducted a study with 300 community college students, in an attempt to accertain the correlation between self-concept and career certainty. He found significant relationships existing between high self-concept and well-developed career plans.

The possibility that self-reported self-concept could be useful as a tool in predicting academic achievement was explored by Jones and Grieneeks (1970). Using a sample of college sophomores, both male and female, these researchers found that, with students who had advanced, academically, to the sophomore level, non-intellective variables such as identity, self-concept of ability, and students' expectations for themselves were better predictors of future achievement than were Scholastic Aptitude Test (SAT) scores. It was found that higher self-concept of ability correlated more closely with achievement levels.

Smith (1972) conducted a study evaluating success in the first year of college between two groups of blind students. Using the Tennessee Self-Concept Scale, Smith found that the group not persisting to the end of the academic year had started the year with lower self-concepts than had the group of persisters.

A correlation study of self-concept, or self-image, and achievement was conducted at lower levels, using fourth and sixth

grade male subjects, by Bledsoe (1964). He found a significant relationship between the variables.

Acting as a clearinghouse for research studies conducted in the area of self-concept, Fitts (1972a) reported findings that numbered in the hundreds. Many of these studies were related to the relationship between self-concept and academic performance achievement. Fitts' summary of these studies indicated that while there appeared to be a significant relationship between self-concept and academic performance, previous studies had not provided totally conclusive data. His implication seemed to be that much more work needs to be done in this area.

Changes in Self-Concept

Based on available data, there seems to be little doubt that changes in self-concept can be affected. In order to test this hypothesis, Maehr, Mensing, and Nafzyer (1962), assigned unduly low grades to students who took classroom examinations. These experiments revealed that future performance could be predicted, implying that students' self-images changed to comply with their perceived behavior.

Harvey, Kelley, and Shapiro (1957), and Levenway (1955), had previously conducted experiments similar to the Maehr, Mensing, and Nafzyer study, and had arrived at the same conclusions. The results

of these studies revealed, however, that there was some difficulty experienced in "re-building" the self-concepts, once the anxiety associated with induced failure had been generated.

Although numerous researchers have indicated that the self-concept becomes stabilized by late adolescence, Combs and Snygg (1959) theorized that self-concept is constantly changing throughout life. They contended that this constant change is not inconsistent with stabilization, but is a natural process. It was their belief that, as the world changes, man's needs dictate that he himself change.

According to Yamamoto (1972), the self-concept changes throughout life, but does not change as rapidly as does the self; emotional strain and social difficulties can often result.

Changes in self-concept are perhaps most notable in therapeutic settings (Hamachek, 1971). Rogers and Dymond (1954) and Frank (1961) effectively described the genuine, accepting, and understanding atmosphere generated by some therapists, which can have a positive impact on the client's self-concept. Tschumi (1974) also reported positive change in self-concept among students who had participated in a five day group processes workshop.

Gergen (1971) postulated that the individual's self-concept, or the overt behavior symbolizing the self-concept, constantly changes as a result of "reflections" from others. It was his belief, which was tested

and reinforced through controlled experiments, that interaction with certain personality types elicits certain standard responses in many people. For example, Gergen reported that exposure to an egotist, one who always accentuates his own virtues, will often generate reaction in kind, while humility often causes subjects to portray themselves as being much more fault-ridden in terms of their characterizations on negative traits.

Although other writers (Combs, Avila, Purkey, 1971; Hamachek, 1971; Lair, 1972) stated that persons with a healthy self-concept, the self-actualized person, are able to accept others for what they are, Gergen's point was of interest in that it provided insight into the types of responses, and immediate changes in self-concept manifestations, that certain behavior pattern can evoke among some people.

The findings of researchers who have experimented with self-concept change in an academic setting has implications for educators. Frankel (1964) attempted to devise a special summer program for high school students which would provide for academic learning and improvement in self-concept; he found that the program was successful and that participants realized significant gains in self-concept.

Dansereau (1969) stated that the community college student's vacillating self-image has meaning for the educator in the community college. It was Dansereau's theory that many community college students have not previously had great academic demands placed upon

them by parents and public school educators; acceptance of the demands of the college creates a threat to his self-esteem (a component of self-concept). It was Dansereau's contention that awareness, by community college people, of this stage of the student's development will provide to the educator an excellent opportunity to structure experiences that will both help the student to learn and improve, or solidify, his self-concept.

Student Characteristics and Self-Concept

In order to better relate the concepts of self-perception to community college students and their specific characteristics, a review was conducted of past research which considered self-concept as a variable in studying those students. Not all the studies discussed were relative to students at the community college level; neither were they all directly concerned with self-concept. However, the general nature of each seemed to have implications for the purpose of this study.

A study conducted by Black (1970) compared the level of self-concept of students enrolled in two-year vocational-technical programs with those enrolled in four-year degree programs. The setting was a four-year college. He found the four-year degree students to have slightly higher self-concepts, but not significantly so. Although Black's study did not attempt to assess change in self-concept, the

findings are of interest as comparative data, since the samples were extracted from a four-year college in a different geographic location.

Edwards and Tuckman (1972) found a greater increase in the level of self-esteem, over a two-year period, among community college students than among university students. These writers theorized that the kinds of opportunities engendered by the community college--making college accessible to a wider range of students--could account for the significant differences in the level of self-esteem change. The investigators also found a greater intensification of occupational role identity among students enrolled in vocationally oriented curricula.

Pugh (1969) compared self-concept change over a period of time between students enrolled in vocational and non-vocational curricula of a public school system. Pugh's findings revealed fewer drastic self-concept changes among vocational students than among non-vocational students. However, the changes that did occur within the vocational group were positive, while the changes among the non-vocational group were generally negative, creating a significant disparity in the general level of the self-concept of the two groups subsequent to the post-test.

In another study contrasting the characteristics of different student groups, Raines (1967) summarized the findings of an American Council of Education Report which, among other things, compared self-perceptions of two-year and four-year college students. The most

outstanding disparity was in the area of perceived academic ability. The students in four-year institutions rated themselves higher, by far, then did the two-year college students.

Fitts (1972c) reported the summaries of nine self-concept studies, considering age as a factor, among college student and adult groups. All studies reported composite profiles within the normal range, suggesting that, within certain age reanges, there is little self-concept variation.

The Self-Concept and Socioeconomic Status

Hall (1969) sought to determine whether or not there were identifiable personality factors which distinguish between academically achieving and non-achieving junior college freshmen from lower and middle-class backgrounds. Parents' occupations and income were determinants of students' socioeconomic status (SES) category of assignment. Hall found that a much greater number of middle versus lower SES students achieved a 2.0, or better, grade point average, or were enrolled in transfer versus vocational-technical curricula. Hall suggested that, based on his findings, the two-year college was not meeting the needs of lower SES students.

The self-concepts of disadvantaged college students (criteria: at least one parent a non-high school graduate; neither parent achieved educational level beyond high school; and, student qualified for student

financial aid) do not differ from those of students not considered disadvantaged, according to Bartee (1967). However, the self-concepts of disadvantaged college students are higher than those of other disadvantaged samples, due, in all likelihood, to the prestige factor of college enrollment.

Findings of studies relating to the impact of socioeconomic status on the development of self-concept were conflicting. Sewell (1963) found that rural youth, especially those from lower socioeconomic backgrounds, are more likely to have lower self-perceptions relating to education and career. Ford and Muse (1972), and Nemeroff (1964) also reported a positive correlation between the self-concepts of high school students and parents' socioeconomic status--the lower the status, the lower the students' self-concept and educational aspirations. However, Dales and Walters (1969) reported the results of research which revealed that black and white disadvantaged students have higher self-concepts than do advantaged students. And, Soares and Soares (1970) found that the family and peer group are the bases for formulation of self-concept; therefore, it was their contention that general socioeconomic status is not a dominant factor in the development of the self-concept.

Karnes, Zehrbach, and Jones (1971) supported the view that each individual develops and holds attitudes, beliefs, and knowledge about himself which are acquired through interaction with others and through mediation of his physiological systems. Studying disadvantaged youth,

primarily, these writers indicated that such individuals are subject to many negative experiences, and easily develop negative self-concepts. As a result of the negative self-concept, the disadvantaged youth often adopts a defensive pattern of behavior, producing negative responses from others and reinforcing the negative self-concept.

Hansen and Stevic (1971) investigated the culture and family life patterns of the Appalachian people and the implications of these factors for development of the individual, for education, and for guidance and counseling. These writers arrived at the conclusion that the environment of Appalachia contributes to a generally low individual self-concept, and that the Appalachian child has a generally low evaluation of life's opportunities. Due to geographic isolation and an historically depressed economy, they argued that resignation, apathy, and fatalism, rather than motivation and goal-oriented behavior, typify Appalachian people. Although they agreed that there was no such thing as a "typical" Appalachian family, they stated there is a prevalent anti-intellectual attitude, and that most Appalachian homes are devoid of educational material.

The Appalachian family was seen by Hansen and Stevic as a strong unit, fostering dependency of its individual members. Parents were not perceived to encourage children and youth to establish themselves as separate individuals.

The educational level of Appalachian adults was described by Hansen and Stevic (1971) and by Teter (1975) as being very low. Only thirty-two of every 100 persons above the age of 25 have completed high school, with the "average" Appalachian adult having a sixth grade education. The number of Appalachian adults completing no more than the eighth grade was reported to be double that of the remainder of the nation. According to the Virginia Department of Community Colleges (1974b) approximately 76 percent of the males of age 25 and over in the Appalachian area of Southwest Virginia (the setting of this study) have completed less than 12 years of formal schooling.

The influence of cultural and educational deprivation on the self-concept of the Appalachian youngster is heightened by economic factors. Teter (1975) stated that 25 percent of Appalachian families have an annual income of less than $3,000. Data published by the Virginia Department of Community Colleges (1974b) revealed that the 1970 median income of families in Appalachian Southwest Virginia ranged from $5,500 to $6,500, depending on the region.

The studies of disadvantaged youth conducted by Karnes, Zehrbach, and Jones (1971) also provided general information on the cultural background of Appalachian white individuals and families. These investigators supported the contentions of others that there is a prevailing lack of concern for education existing among many

Appalachian families. They proceeded further to point out that the Appalachian male adult is a strong and dominant head of his household, a fact that has implications for the development of attitudes and values of the offspring.

Sweeney (1971) found that youth hailing from the environment described above will likely have depressed self-concepts as they visualize themselves competing in middle-class society, and will likely experience difficulty or failure in school. Caudill (1963) summarized the plight of many Appalachian inhabitants in saying "New generations are born into the old relentless cycle of poor people, poor schools, poor job preparation, poor pay, and more poor people."

As previously mentioned, the level of impact of socioeconomic status on self-concept is debatable. Although Dales and Walters (1969) and Soares and Soares (1970) appeared convinced that the self-concept of disadvantaged individuals is no less than that of other groups, data presented by Karnes, Zehrbach, and Jones (1971), Hansen and Stevic (1971), and Sweeney (1971) lead to the possibility that the disadvantaged individual's self-concept will be negatively altered by exposure to more heterogeneous settings such as college.

Self-Concept Assessment

The self-concept of an individual cannot be measured. The most that can be hoped for by those interested in self-concept assessment is

some form of appraisal of the behavior symbolizing the self-concept which can, in turn, be subjected to evaluation and statistical analysis.

Cronbach (1970) discussed the most commonly used procedures for assessing self-concept. The observation technique, an acceptable tool for work with children young enough to ignore the presence of the observer, has the limitations of time and the fact that one's "public" behavior (the guarded behavior that many present as their public image) is that which will most often be observed. In addition, reports from others regarding observations of an individual's behavior and assumed self-concept were believed by Cronbach to be too subject to bias and perceptual differences.

The use of performance tests was also discussed by Cronbach as self-concept assessment tools. These tests present the subject with standardized questions, situations, or tasks, and assign objective scores to the responses. He expressed the belief that these tools were also limited in their use for self-concept assessment, primarily because of the difficulty of interpreting the results.

Combs and Snygg (1959) suggested that self-concept measures should be termed self-reports since self-concept can only be inferred indirectly from people's behavior. This suggestion was reinforced in another publication by Combs and two other colleagues, Avila and Purkey (1971); however, they were very definite in their opinion that

the self-report is valuable since it is an expression of the subject's perceptual field at the moment of acting.

As important as the individual's self-concept seems to be to his or her entire pattern of behavior, the general trend in the literature seemed to be toward the idea that the perfect tool for assessing the precise concept that one holds of self does not exist. Although there were several problems and limitations proposed to surround the self-report, numerous investigators and writers (Combs, Avila and Purkey, 1971; Combs and Snygg, 1959; Radford, Thompson and Fitts, 1971; Sax, 1974; and Thorndike and Hagen, 1969) supported the questionnaire-type of self-report as the most reliable and useful self-concept assessment tool currently in existence.

Thorndike and Hagen (1969) pointed to reading level (problems of interpretation and similarities of meaning), the lack of objectivity among some people when conceptualizing, classifying, and reporting on their own behavior, and the willingness of the respondent to reveal perceptions of self, as problems relating to self-report. Combs, Avila and Purkey (1971) agreed that an individual's hesitancy to admit certain things about himself was a limiting factor in self-report instruments.

Although they seemed to view the problems of self-reports with objectivity, Radford, Thompson and Fitts (1971) defended questionnaire-type self-reports, and the Tennessee Self-Concept Scale (TSCS) in

particular, as assessment tools. These authors presented results of research studies which indicated that the construction and wide usuage of the TSCS had alleviated the problems of vocabulary and reading level, difficulty of instructions, mechanical problems of answer sheets, perceived social desirability which would influence responses, "cultural fairness," and tendency toward faking by the person being tested. It was their contention that the removal of these obstacles, plus the benefits of the brief time required for administration and scoring, and the consistently reported high levels of validity and reliability have greatly advanced the usefulness of the TSCS as a questionnaire-type self-report.

Summary

The review of literature and research related to this study provided the following summary data:

1. Many different definitions exist of self-concept, self-perception, self-image, or self-theory oriented terms, but most of these definitions agree, although in different words, that the term relates to the image one holds of himself, with regard to attitudes, values, behavior, and evaluation of self.

2. Development of the self-concept begins early in life and matures during adolescence, although it is subject to change throughout life. The knowledge that self-concept can be changed is especially

relevant for educators. Educational programs which will achieve desired classroom objectives and concentrate on establishment of healthy self-concepts can be devised.

3. Behavior is consistent with self-concept; all behavior is designed to perpetuate the self-concept. Vocational choice, for example, is believed to be a result of the individual's selection of a career that is in keeping with his perception of himself.

4. Academic performance, as a specific behavior, is also a concomitant of self-concept. Generally, students who are led to believe that their performance is poor will continue to perform in this way.

5. Reports relating to self-concept data of specific groups vary. For example, there are conflicting reports regarding the level of self-concept of vocational-technical versus transfer students and low versus middle SES students.

6. Self-concept can be assessed only in terms of overt behavior as it symbolizes the individual's perception of self that he is willing to share at the time. Although there are problems and limitations associated with questionnaire-type self-reports, these tools are the best available means for self-concept assessment.

7. Although the studies of Black (1970), Dansereau (1969), Edwards and Tuckman (1972), and Raines (1967) related to the implications of self-concept among college students, no studies could

be identified which discussed the ramifications of the problem studied in this report. Due to the apparent lack of previous research related to this problem, the importance of a study of this nature seems to be substantiated.

While the preceding review of literature includes reports of numerous research studies, many of the resources are reflections of ideas by authors who, in most cases, have conducted extensive research studies in the area of self-concept, and have presented their ideas as a composite statement of previous findings. A logical conclusion related to these ideas tends to support the predictions that self-concept changes occur as a result of conditions in which the individual functions, and that self-concept is a chief determinant of behavior and performance.

As a follow-up to the introduction to the problem of this study and the discussion of related literature and research findings, the description of the research design, or methodology, used in the study of the problem is presented in Chapter Three.

Chapter 3

METHODOLOGY

Introduction

This section of the study describes the methods used in assessing the difference in influence on the student of the two major curriculum groups of the community college. For purpose of this study, the indicator of that difference in influence was the existence of significant difference in the changes in self-concept of students with varying characteristics enrolled in vocational-technical curricula, as opposed to students with similar characteristics enrolled in transfer curricula.

The subjects were new students enrolled in the 1974 Fall Quarter at Southwest Virginia Community College. The Tennessee Self-Concept Scale (TSCS) was used to assess changes in self-concept between polarized groups within 11 different demographic or concomitant variables, and certain combinations of groups within variables. Self-concept data was collected, using the TSCS in a pre-test/post-test design. Data relating to the 11 variables were extracted from the TSCS, from information provided by students when they took the TSCS pre-test, and from forms used within the College.

The hypotheses stated in this chapter were tested by multivariate analysis of covariance (MANCOVA) (Clyde, 1969), by univariate analysis of covariance (ANCOVA), and, where necessary, by calculation of

simultaneous confidence intervals.

Subjects

Subjects for this study were 267 students who were enrolled during the Fall Quarter, 1974, as new, full-time or part-time students in vocational-technical or transfer curricula of Southwest Virginia Community College.

A total of 324 students took the TSCS pre-test, and 296 of the same students took the post-test. Of the 296 students who took the TSCS at both administrations, it was discovered that 25 had previously been enrolled in college; these were discarded from the list of subjects for the study. Of the 271 remaining subjects, four were discarded due to a lack of sufficient demographic variable data, leaving 267 subjects.

Setting

As was indicated, the subjects in this study were students at Southwest Virginia Community College. Institutional student records revealed tha 184 subjects graduated within the past year from one of the 15 high schools within the College's four-county service area, while two had, within the past year, completed high school outside the service area. Of the remainder, 21 had graduated from an area high school within the past four years, while 48 had graduated during a period ranging from four to 30 years preceding their college enrollment (of the 43, 38 were graduates of schools within the service area).

Twelve of the subjects, although native to Southwest Virginia, had not graduated from high school or had earned a General Equivelency Diploma (GED) (Southwest Virginia Community College, 1974a).

The counties served by Southwest Virginia Community College--Buchanan, Dickenson (one-half of this county), Russell, and Tazewell--are primarily rural, although there is at least one town in each of these counties with population of 3,000-5,000. The total population of the service area is 104,500; race distribution statistics reveal that almost 98 percent of the population is white, 2 percent is black, and less than 1 percent is other than white or black. The primary industry of the area is coal mining; however, the occupations of parents of students attending the College range from unskilled laborer to professional. Average annual income per family within the four-county area is $3,123 (Southwest Virginia Community College, 1972).

Southwest Virginia Community College provides instruction and awards certificates and associate in applied science degrees in 18 vocational-technical curricula. Included in this group are programs related to business, engineering technology, public service, and health services. Although associate degree graduates from a number of these curricula occasionally transfer as juniors to four-year colleges and universities, these are designed primarily as curricula which provide job entry skills and knowledge. The College awards associate in arts and associate in science degrees in seven transfer curricula. These

programs are designed to provide instruction in courses generally required in the first two years of most baccalaureate level curricula.

Although the setting of this study was one institution, Southwest Virginia Community College, certain characteristics of the institution and of the subjects of the study suggest that the findings might be applicable to other community colleges located within the rural, Appalachian areas of Southern West Virginia, Eastern Kentucky, Eastern Tennessee, and other areas of Southwest Virginia.

The curriculum structure of other community colleges, especially those in Virginia, is similar to that described for Southwest Virginia Community College--credit programs and courses offered within the two major curriculum groups of vocational-technical and transfer (Virginia Department of Community Colleges, 1974a).

Specific comparisons of certain demographic data of the service areas of the four Southwesternmost community colleges of Virginia (all within Appalachia) reflect similarities that suggest the applicability of the findings of the study to at least those institutions. Extracted from information provided by the Virginia Department of Community Colleges (1974b), the data comparisons are presented in Table One.

Students were polarized or assigned to one of two groups within variables and were studied in an attempt to assess differences in level of self-concept changes; the first group in each of the following variable descriptions corresponds with Groups I in Table 2:

Table 1

Certain Demographic Data of the Service Area Population of Four Southwestern Virginia Community Colleges

Population Characteristic	Southwest Va. C.C.	Mt. Empire C.C.	Wytheville C.C.	Va. Highlands C.C.
Age Population				
18-24	11,500	9,500	9,000	8,500
25-34	12,500	10,000	10,500	9,000
Rural Population	90,500	82,000	71,000	47,000
Urban Population*	14,000	11,000	17,000	25,000
Males 25 years and over completing 0-11 years public school	79%	78%	76%	71%
Median Income	$6,500	$5,500	$6,500	$6,500
Occupational Distribution Professional, Managerial Clerical and Sales	31%	31%	26%	37%

Table 1 (continued)

Population Characteristic	Southwest Va. C.C.	Mt. Empire C.C.	Wytheville C.C.	Va. Highlands C.C.
Craftsmen, Farmers Operatives, Laborors, Service Workers	69%	69%	74%	63%
Race Distribution				
White	98%	98%	97%	97%
Black	2%	2%	3%	3%
Other	Under 1%	Under 1%	Under 1%	Under 1%

*Residents residing within incorporated towns and villages

Data provided by Virginia Department of Community Colleges (1974b)

Curricula. Students enrolled in the 18 one and two-year programs comprising the Vocational-Technical Curricula group were compared with those enrolled in the seven programs of the Transfer Curricula group.

Age. As was previously cited, the age range of most community college students is 18-22, although many are in their late 20's to their 40's, and beyond. For purposes of comparisons within this study, students were grouped, or polarized, as 22 years of age or younger (had not reached 23rd birthday) and above the age of 22.

Sex. Self-concept changes of male and female students were compared.

Marital Status. Self-concept changes of married and unmarried students were compared.

Employment Status. Students who were unemployed or employed outside the home for fewer than 20 hours per week were compared with students who were employed outside the home for 20 or more hours per week. Student work-study, a component of the student financial aid package, was excluded from this variable.

Fathers' Educational Level. For purposes of this study, only students' fathers' educational level--high school graduates as opposed to non-high school graduates--were compared.

Fathers' Occupational Level. It was assumed that fathers of students in this study were the primary family breadwinners and were

Table 2

Numbers of Subjects Comprising Groups
within each Demographic Variable

Demographic Variable	* Vocational-Technical Curricula	*Transfer Curricula
Curricula		
Group I	181	0
Group II	0	86
Age		
Group I	138	71
Group II	43	15
Sex		
Group I	98	24
Group II	82	63
Marital Status		
Group I	41	27
Group II	134	65
Employment Status		
Group I	142	67
Group II	39	19
Fathers' Educational Level		
Group I	44	31
Group II	132	60

Table 2 (continued)

Demographic Variable	* Vocational-Technical Curricula	*Transfer Curricula
Fathers' Occupational Level		
Group I	109	55
Group II	67	36
Student Financial Aid		
Group I	68	19
Group II	114	66
Special Services for Disadvantaged		
Group I	39	14
Group II	143	71
Level of Choice of Community College		
Group I	154	72
Group II	22	19
Enrollment Status		
Group I	144	64
Group II	37	22

*These numbers adjusted after completion of statistical analysis. Refer to Appendix D for numbers used in analysis.

therefore, the primary career role models within the family. Students whose fathers were unemployed or unskilled, semi-skilled, skilled, or service workers were compared with students whose fathers were semi-professionals, technicians, owners and operators of farm or business, professionals, or managerial, office, clerical or sales worker.

Student Financial Aid. Students who were receiving financial aid through the College or governmental programs were compared with non-recipients of financial aid.

Special Services for the Disadvantaged. Students who were participants in this program, which provided tutorial assistance, were compared with non-participants.

Level of Choice of the Community College. Students whose number one college choice of attendance was the community college were compared with students whose number two or lower college choice of attendance was the community college.

Enrollment Status. Comparisons were made between students who are enrolled full-time (12 or more credit hours) and students enrolled part-time.

Instruments and Their Applicability to the Study

In attempting to identify a self-report instrument that would assess individual self concept, the Tennessee Self-Concept Scale (TSCS) was selected. According to Bentler (1972), Suinn (1972), Fitts (1965, 1971,

1972b), and Padgett (1974) the TSCS met the criteria of self-administration, if necessary, was applicable to a late adolescent and adult population, was simply read and understood, was comprehensive, was applicable to a wide range of psychologically adjusted and maladjusted subjects, and could be used in a counseling setting if desired.

The Tennessee Self-Concept Scale is composed of 100 self-descriptive statements; the subject determines the applicability of each of these statements to himself and responds to each on a five point scale, ranging from completely false, through partly true--partly false, to completely true. According to Fitts (1965), the norming group for the TSCS was a broad sample of 626 subjects. Represented in the standardization group were age ranges of 12 to 68, equal numbers of males and females, both black and white subjects, and members of all social, economic, intellectual, and educational levels. The test-retest reliability coefficients of all major scores of the TSCS were reported by Fitts (1965) to range from .60 to .92, with the majority falling within the .70 to .90 range.

The Tennessee Self-Concept Scale yields 24 major scores or subscales; the 16 subscales listed below are among those identified by previous researchers (Black, 1970; Pugh, 1969) as being most relevant to general self concept research involving student groups. The descriptions of these scores were derived primarily from Fitts (1965, 1972a), and Pugh (1969).

Self-Criticism Scores (SC). Composed of 10 items, this score represents a scale of defensiveness. Individuals who deny most of these mildly derogatory statements most often are being defensive and making an intentional effort to present a favorable picture of themselves. High scores generally indicate a normal, healthy openness and capacity for self-criticism. Extremely high scores indicate that the individual may be lacking in defenses and may in fact be pathologically undefended. Low scores indicate defensiveness, and suggest the Positive Scores, described below, are probably artificially elevated by this defensiveness.

Total Positive Scores (P). Since it reflects the overall level of self-esteem, this is the most important single score. Persons with high scores tend to like themselves, feel that they are persons of value and worth, have confidence in themselves, and act accordingly. Individuals with low scores doubt their own worth, see themselves as undesirable, often feel anxious, depressed and unhappy, and have little faith or confidence in themselves.

Row 1 P Score--Identity. These are the "what I am" items which permit the individual to describe his basic identity; this is an indication of what the individual is as he sees himself.

Row 2 P Score--Self-Satisfaction. Reflecting the level of self-acceptance, this score is derived from those items where the individual describes how he feels about the self he perceives. An individual might have very high Identity Scores and Behavior Scores, described above

and below, and still score low in this area because of high standards and expectations he holds for self. Or, he might have low Identity and Behavior Scores and have a high Self-Satisfaction Score.

Row 3 P Scores--Behavior. Measuring the individual's perception of his own behavior or the way he functions, this score is derived from those items which say "this is what I do, or this is the way I act."

Column A--Physical Self. These scores reflect the individual's view of his body, his state of health, his physical appearance, skills, and his sexuality.

Column B--Moral-Ethical Self. In this area the individual describes himself from a moral-ethical frame of reference--moral worth, relationship to God, feelings of being a "good" or "bad" person, and satisfaction with his religion or lack of such.

Column C--Personal Self. This score describes the individual's sense of personal worth--his feelings of adequacy as a person and his evaluation of his personality apart from his body or his relationship to others.

Column D--Family Self. The subject's feelings of adequacy, worth, and value as a family member are described with this score. The score gives insight into the individual's perception of self in relation to his closest and most immediate circle of associates.

Column E--Social Self. Another "self as perceived in relation to others" category, this score pertains to "others" in a more general

way than with family and closest circle of associates. This score reflects the person's sense of adequacy and worth in his social interaction with other people in general.

Total Variability Scores (V). The variability score provides a measure of inconsistency from one area of self-perception to another. High scores mean that the individual is quite variable in this respect while low scores indicate low variability, and might approach rigidity if extremely low. High Total V scores indicate little unity or intergration in the individual's self-concept; high scoring persons tend to compartmentalize certain areas of self and view these areas quite apart from the remainder of self.

Column Total V. This score measures and summarizes the variations within the columns--the external frame of reference.

Row Total Variability. This score summarizes the variations across the rows--the internal frame of reference.

The Distribution Score (D). This score reveals the way the subject distributes his answers across the five available choices in responding to the items of the TSCS. High scores indicate that the individual is very definite and certain in what he says about himself while low scores mean just the opposite. Low scores are often found with subjects who are being defensive and guarded; these persons hedge and avoid committing themselves by employing the middle response, three, on the answer sheet. Extreme scores are undesirable on this variable since they are

most often obtained from disturbed people.

The True-False Ratio (T/F). This score shows whether the subject's approach to a task involves any strong tendency to agree or disagree, regardless of item content. Considered from the framework of self-theory, this score might be interpreted as a means of self-definition or self-description. High T/F Scores indicate that the individual is achieving self-definition by focusing on what he is and is relatively unable to accomplish the same thing by eliminating what he is not. Low T/F Scores mean the opposite; the individual is focusing upon what he is not instead of what he is. Scores within the middle range indicate that the subject achieves self-definition by a more balanced employment of both tendencies--he affirms what is the self and eliminates what is not the self.

Total Conflict Scores. The Total Conflict Scores measure the positive minus negative differences of discrepancies, regardless of sign, so that high differences which are variable in direction will not cancel each other out. High scores indicate confusion, contradiction, and general conflict in self-perception. Low scores have the opposite interpretation, except that in the case of extremely low scores the subject is presenting such an extremely tight and rigid self-description that it becomes suspect as an artifical, defensive stereotype rather than his true self-image. Disturbed people generally score high on this variable, but some also have deviantly low scores, depending on

the nature and degree of their disorder.

Applicability. The Self-Criticism Score is used primarily as a check on the validity of the Positive Scores. However, since this score provides a measure of defensiveness, it should also provide insight into the level of openness of specific student groups to the educational experiences they will encounter.

The Positive Scores, which include Identity, Self-Satisfaction, Behavior, Physical Self, Moral-Ethical Self, Personal Self, Family Self, Social Self, and Total P (Total P being a cumulative score for the eight other Positive Scores), are viewed as most crucial to this study. These scores measure self-esteem from an internal frame of reference (Identity, Self-Satisfaction, and Behavior), and from an external frame of reference (Physical, Moral-Ethical, Personal, Family, and Social Self). Subjects with high self-esteem, as reflected by these scores, tend to like themselves, have greater self-confidence, and show greater vocational crystallization (Resnick, Fauble, and Osipow, 1970).

The Variability Scores serve as a reference to consistency of self-concept across the areas listed under Positive Scores. These scores will provide some insight into personality integration. Subjects scoring below the mean but above the first percentile, or revealing movement in that direction in terms of self-concept change, reflecting

low variability without rigidity, generally have high Positive Scores.

The Distribution Scores is of particular significance when groups are shown to be moving away from low scores or extreme scores in either direction. Individuals with low scores avoid commitment and might not be as open to change as a result of exposure to their college program.

The True-False Ratio and Conflict Scores correlate highly and can reveal the individual's positive or negative assertion of what he is. High True-False Scores can reveal a tendency to be easily influenced by others; this score could have implications for acceptance of instructors and course content, and his susceptibility to influence by instructors.

Data Collection

All new, full-time students were required to enroll in a course titled General 100, Orientation, during their first quarter of attendance at Southwest Virginia Community College. All new students attending General 100 classes during the first week of the 1974 Fall Quarter were asked to take the Clinical and Research Form of the Tennessee Self-Concept Scale. These students were given a standard, oral introduction to the TSCS and were told that the results would be used in a research project; they were also given a brief overview of how their scores could be of use to them and were invited to visit Student

Services for an interpretation of their scores after they were scored later in the academic year. Although the students were told that taking the TSCS was completely voluntary, every student who was present in General 100 during that week elected to take the TSCS.

Part-time students are not required to take General 100 during their first term of enrollment, so a brief presentation was made to each evening class during the first week of class; new students in those classes were invited to take the TSCS. These students were given the same information as the full-time students, regarding self-concept and the TSCS, and were told that participation was voluntary.

The same form of the TSCS was administered during the last week of classes of the 1974 Fall Quarter, preceding the final examination period, to a majority of the subjects who took the TSCS pre-test. The post-test was administered in the same setting as the pre-test.

The student characteristics data which constituted the demographic variables and determined the grouping discussed earlier were collected by several methods. Data regarding age and sex were extracted from student responses on the answer sheet of the TSCS. Data relating to curriculum area of enrollment, employment status, and part-time/full-time enrollment status were derived from the Program and Objectives form used internally at Southwest Virginia Community College, and administered during the first week of classes to all new students. The data relating to age, marital status, father's

educational level, father's type of employment, and level of choice of the community college were extracted from Virginia Community College System Student Data Forms administered to all new students at the point of registration for 1974 Fall Quarter classes. Copies of these three documents are presented as Appendixes A, B and C. New students receiving student financial aid were identified by the College's Financial Aid Officer, and new students participating in the Special Services for the Disadvantaged Program were identified by the Coordinator of that program.

Following the TSCS post-test, all answer sheets were forwarded to the Counseling Department of Appalachian State University, Boone, North Carolina, for machine scoring. Faculty members at that institution have developed a computer program which scores each answer sheet and provides a print-out of scores for each individual. Upon return of pre-test and post-test scores, students were grouped according to variables being explored, and subjected to statistical analysis in order to determine degree and direction of change on each of the TSCS subscales considered in this study.

Limitations

Several limitations existed within the study and the findings:

1. Although the TSCS was chosen as the instrument used in this research, it, like most other self-report instruments, is subject to

question in terms of always assessing what it purports to assess.

2. Generalizations regarding the data and findings of the study should be applied with caution, considering the fact that the subjects were drawn from an isolated sample.

3. Influences external to the College, which could have affected the self-concepts of the subjects, could not be controlled.

4. The time lapse between the TSCS pre-test and post-test might have been inadequate for permitting the College's influence on enhancement of self-concept to prove its effectiveness.

Hypotheses

The purpose of this study was converted to the hypotheses stated below:

H_O1. There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

H_O2. There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in a rural, Appalachian community college who are polarized within each of the characteristics of age, sex, marital status, employment status, fathers' educational level, father's

occupational level, student financial aid, participation in a Special Services for the Disadvantaged Program, level of choice of the community college, and enrollment status.

H_O3. There are no significant differences in changes in the levels of self-concept during the period of the initial quarter of attendance for students belonging to each of the above polarized categories between those enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

Statistical Analysis

The nature of the hypotheses dictated that a statistical procedure be employed which would test the difference between groups on the linear combination of more than one adjusted dependent variable; the technique of multivariate analysis of covariance (MANCOVA) was the appropriate procedure (Clyde, 1969). The dependent variables of the study were the adjusted post-test scores of the 16 subscales of the TSCS (each post-test score was adjusted for the corresponding pre-test score).

In order to test for significant differences in levels of self-concept change on each of the 16 subscales, it was necessary to establish groupings within each of the 11 demographic variables being explored. This was accomplished through the assignment of each subject to one of two groups within each variable, based on the information discussed on pages 54-57.

Therefore, in this investigation, the MANCOVA tested for differences between the respective groups on the linear combination of the adjusted scores of the 16 subscales of the TSCS. In order to determine which of the subscales were contributing to any differences noted between the respective variable groupings, simultaneous confidence intervals were calculated (Kramer, 1972). Simultaneous confidence intervals indicated which of the dependent variables significantly contributed to the difference between the groups on the linear combination, while controlling for the level of significance (alpha = .05). Decisions regarding existence or non-existence of significant differences between any of the groups on any variable depended upon whether or not the simultaneous confidence intervals spanned the point zero; if the point zero was spanned by the interval, significant differences were non-existent, dictating a failure to reject the null hypotheses.

Chapter 4

FINDINGS OF THE STUDY

Introduction

Presented in Chapter Two of this study were the conclusions of numerous writers that the individual's self-concept is a major determinant of behavior and performance. Applying this principle to academic settings, Jones and Grieneeks (1970), Smith (1972), Bledsoe (1964), and others found positive correlation between the level of individual self-concept and performance within the scholastic environment.

In view of these findings, questions were generated regarding the implications of self-concept for students in certain types of educational settings or, in particular, students in a rural, Appalachian community college. Considering the community college's service to students with widely divergent characteristics, and the qualities of the rural Appalachian resident, the specific question occurred relating to the differences in the degree of change in self-concept that might be observed during the first term of attendance among students with varying characteristics who were enrolled in a rural, Appalachian community college.

Although the community college's services are comprehensive in nature, two dominant thrusts--vocational-technical education

(preparing students for job entry) and transfer education (preparing students to transfer as juniors as baccalaureate degree awarding institutions)--are inherent in its college credit programs. Since the basic content and structure of these two groups of programs often vary, it was believed that enrollment in vocational-technical curricula versus enrollment in transfer curricula should be a key factor in any investigation relating to change in self-concept among community college students. As was discussed in Chapter One, the early exposure to skill-building courses and the extended exposure to a particular instructor within the skill area are characteristics which tend to be unique to vocational-technical curricula in the community college. These factors, plus the generally smaller classes in vocational-technical curricula, encouraged the belief that the differences between the two curriculum groups would have varying levels of impact on students' self-concepts.

The decision was made to explore the question of change in the level of self-concept of first term community college students, using 16 subscales of the Tennessee Self-Concept Scale in a pre-test/post-test design. The subscales used, and the definitions of the meaning of each, are shown on pages 59-62.

In order to determine if there were significant differences in the level of change among students possessing certain characteristics, 267 first-term students enrolled in a two-year, rural Appalachian

institution, Southwest Virginia Community College, were assigned to one of two polarized groups within each of 11 demographic variables, and were administered the TSCS at the beginning, and again at the end, of the 1974-75 Fall Quarter. Polarization of subjects within each demographic variable was based on student provided information, and on information extracted from students' institutional records. The variables and the characteristics of the two polarized groups within each, were described on pages 54-57.

Hypothesis Number One

Hypothesis number one (H_O1) was stated:

> There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

The results of multivariate analysis of covariance (MANCOVA), in testing H_O1, revealed that there were no significant differences between the two groups--vocational-technical and transfer students--on the linear combination of the adjusted scores of the 16 TSCS subscales. This result is depicted in Table Three, which shows the obtained F value, .738, to be smaller than the tabled, or derived, F value ($F_{c.v.}$), 1.69, dictating a failure to reject H_O1 (Popham, 1967).

It was also noted that no significant differences (p less than .10) were found in the application of the technique of univariate analysis of covariance (ANCOVA) on each of the individual subscales. Since

Table 3

F Value and Corresponding Critical Value of F Obtained through Multivariate Analysis of Covariance for $H_{O}1$

Variable	F	df(hyp)	df(err)	F c.v.	p less than
Curricula	0.738	16	230	1.69	.753

the criterion for development of simultaneous confidence intervals was an indication of significant differences on ANCOVA, no such confidence intervals were computed. The results of the data analyses revealed that there were no significant differences between the vocational-technical and transfer groups on not only the linear combination of the 16 TSCS subscales, but also on the adjusted subscale scores considered individually.

Vocational-technical and transfer students' pre-test and post-test mean scores, differences, and adjusted mean scores for each of the TSCS 16 subscales used in this study are depicted in Appendix D.

Hypothesis Number Two

The statement of hypothesis number two (H_O2) was:

> There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in a rural, Appalachian community college who are polarized within each of the characteristics of age, sex, marital status, employment status, fathers' educational level, fathers' occupational level, student financial aid, participation in a Special Services for the Disadvantaged Program, level of choice of the community college, and enrollment status.

The results of MANCOVA, which was employed as a test of H_O2, revealed no significant differences on the linear combination of the adjusted scores of each of the 16 TSCS subscales for each of the demographic variables. Table Four shows the resultant F value to be considerably less than the derived or tabled F ($F_{c.v.}$) for each demographic variable, dictating a failure to reject H_O2 (Popham, 1967).

Table 4

F Values and Corresponding Critical Values of F Obtained through Multivariate Analysis of Covariance for H_O2

Variable	F	df(hyp)	df(err)	F c.v.	p less than
Age	0.874	16	230	1.69	.600
Sex	1.518	16	229	1.69	.094
Marital Status	0.391	16	170	1.70	.983
Employment Status	1.156	16	225	1.69	.305
Fathers' Educ. Level	0.802	16	149	1.71	.682
Fathers' Occ. Level	0.748	16	146	1.71	.741
Student Financial Aid	1.100	16	230	1.69	.356
Spec. Ser. For Disadvantaged	0.491	16	230	1.69	.950
Level of Choice of Community College	0.734	16	230	1.69	.757
Enrollment Status	0.832	16	230	1.69	.648

Although the MANCOVA resulted in non-significant differences, for all variables, the data were further explored by computation of simultaneous confidence intervals between the respective groups comprising the demographic variables on the adjusted scores for which univariate analysis of covariance revealed significance (p less than .10). Results of the simultaneous confidence intervals for the various demographic variables are discussed below.

Age. Univariate analysis of covariance yielded significant differences (p less than .10) for this variable on the subscales of Total Positive Score, Self-Satisfaction, and Physical Self; the lower age group reflected a higher adjusted mean score on the Total Positive Score, while the higher age group achieved a higher adjusted mean on the subscales of Self-Satisfaction and Physical Self. However, subsequent calculations of simultaneous confidence intervals indicated that the differences found in the univariate analysis of covariance were not significant in the multivariate test. The non-significance discovered in MANCOVA is reflected in Table Four.

Sex. Significant differences for this variable were discovered (p less than .10) on the subscales of Distribution Score, Identity, Personal Self, (male group had higher adjusted means), and Social Self and Total Variability (females had higher adjusted means) when subjected to univariate analysis of covariance. However, subsequent calculations of simultaneous confidence intervals were not statistically

significant at an alpha level of .05.

Although simultaneous confidence interval results reflected a lack of significant differences at an alpha level of .05, the F value obtained for this variable, 1.518, approached the critical value of F, 1.69, more closely than did the values for any other variable (see Table Three).

Marital Status. No significant differences (p less than .10) were found for this variable on any of the 16 subscales when subjected to univariate analysis of covariance, thus no simultaneous confidence intervals were calculated.

Employment Status. Univariate analysis of covariance reflected significant differences (p less than .10) for this variable on the subscales of Total Positive Score, True/False Ratio, Self-Satisfaction, Behavior, Physical Self, Personal Self, and Column Total Variability. The group containing subjects who worked fewer than 20 hours per week were found to have higher adjusted mean scores on the Total Positive Score and Column Total Variability, while the group working 20 hours or more per week reflected higher adjusted mean scores on the True/False Ratio, Self-Satisfaction, Behavior, Physical Self, and Personal Self. These differences were not sustained as significant, however, through the calculation of simultaneous confidence intervals.

Fathers' Educational Level. This variable revealed significant differences (p less than .10) for the Self-Criticism subscale when

exposed to univariate analysis of covariance; the group whose fathers were high school graduates had a greater adjusted mean score. This result was not supported, however, by computation of multivariate simultaneous confidence intervals.

Fathers' Occupational Level. Significant differences (p less than .10) were not discovered on any of the 16 subscales when data for this variable were subjected to univariate analysis of covariance.

Student Financial Aid. This variable produced significant differences (p less than .10) on the subscales of Self-Criticism, Identity, Physical Self, and Social Self when the results of univariate analysis of covariance were analyzed. Higher adjusted mean scores were achieved on the subscales of Self-Criticism and Social Self by financial aid recipients, while non-recipients scored higher on the Identity and Physical Self subscales. However, the ensuing calculation of simultaneous confidence intervals did not provide a significant base for the earlier findings.

Special Services for the Disadvantaged. No significant differences (p less than .10) were found for this variable on any of the 16 subscales when subjected to univariate analysis of covariance. Therefore, no simultaneous confidence intervals were computed.

Level of Choice of the Community College. The Total Positive Score subscale reflected significant differences (p less than .10) for

this variable (highest adjusted mean score achieved by the group making the community college its first choice) when tested with univariate analysis of covariance, although, as with the previous variables, the results of the computation of simultaneous confidence intervals failed to reinforce the findings.

Enrollment Status. This variable yielded significant differences (p less than .10) on the Total Positive subscale when subjected to univariate analysis of covariance. The full-time student group realized a higher adjusted mean score on this subscale. This result of significant differences was not sustained, however, when simultaneous confidence intervals were calculated.

Pre-test and post-test mean scores, differences, and adjusted mean scores on each of the 16 subscales of the TSCS used in this study, for each group within each of the demographic variables, are provided in Appendix D.

Hypothesis Number Three

Hypothesis number three (H_O3) was stated:

> There are no significant differences in changes in the levels of self-concept during the period of the initial quarter of attendance for students belonging to each of the above polarized categories between those enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

Multivariate analysis of covariance was utilized in the testing of H_O3. The results of MANCOVA reflected no significant differences in

the linear combination of the adjusted scores of each of the 16 subscales of the TSCS when each of the demographic variables was compared with the two curriculum groups.

Examination of the MANCOVA results, Table Five, revealed that for the comparison of each demographic variable with the key variable, curricula, the obtained F values were somewhat lower than the critical values of F. Thus, the failure to reject H_O3 was dictated (Popham, 1967).

Further exploration of the data was executed through the computation of simultaneous confidence intervals on the adjusted scores for which univariate analysis of covariance had yielded significant differences at p less than .10. The results of the simultaneous confidence interval calculations indicated an absence of significant differences at an alpha level of .05.

Statistical treatments for comparison of variable groups are discussed below.

Curricula versus age. No significant differences (p less than .10) were found in the comparison of the groups within these variables, on any of the 16 subscales, through the use of univariate analysis of covariance. As a result, simultaneous confidence intervals were not calculated.

Curricula versus sex. The comparison of groups comprising these variables yielded no significant differences (p less than .10) on

Table 5

F Values and Corresponding Critical Values of F Obtained through Multivariate Analysis of Covariance for H_O3

Variable	F	df(hyp)	df(err)	F c.v.	p less than
Curricula versus Age	0.858	16	230	1.69	.618
Curricula versus Sex	0.834	16	229	1.69	.647
Curricula versus Marital Status	0.391	16	170	1.70	.983
Curricula versus Employment Status	0.913	16	225	1.69	.555
Curricula versus Fathers' Educational Level	1.119	16	149	1.71	.343
Curricula versus Fathers' Occupational Level	1.011	16	146	1.71	.448
Curricula versus Student Financial Aid	0.605	16	230	1.69	.878
Curricula versus Special Services for Disadvantaged	0.635	16	230	1.69	.853
Curricula versus Students' Level of Choice of Community College	1.378	16	230	1.69	.153
Curricula versus Enrollment Status	1.378	16	230	1.69	.153

any of the 16 subscales through univariate analysis of covariance, therefore, simultaneous confidence intervals were not computed.

Curricula versus marital status. Significant differences (p less than .10) were noted among groups within these variables on the subscale Self-Satisfaction when exposed to testing by univariate analysis of covariance. However, the results of simultaneous confidence interval calculations failed to support the earlier findings.

The adjusted mean scores on this subscale, highest to lowest, were achieved by transfer curricula students who were married, vocational-technical curricula students who were married, vocational-technical students who were non-married, and transfer students who were non-married. The results of simultaneous confidence interval calculations failed to support the earlier finding of significant differences.

Curricula versus employment status. Univariate analysis of covariance produced significant differences (p less than .10) among these variables on the Total Positive Score subscale. Transfer curricula students working fewer than 20 hours per week had the greatest adjusted mean score on this subscale; then came vocational-technical curricula students working fewer than 20 hours per week, vocational-technical students working 20 hours or more per week, and transfer students working 20 hours or more per week. Further executions, involving computation of simultaneous confidence intervals,

showed earlier significance to be invalid.

Curricula versus fathers' educational level. These variables yielded significant differences (p less than .10) on the Distribution Score, Total Positive Score, Social Self, and Total Variability subscales when tested by univariate analysis of covariance. The adjusted mean scores, in descending order, for the Distribution Score subscale were achieved by vocational-technical curricula students whose fathers were non-high school graduates, vocational-technical students whose fathers were high school graduates, transfer curricula students whose fathers were non-high school graduates, and transfer students whose fathers were high school graduates.

The highest to lowest adjusted mean scores on the Total Positive Score were recorded by vocational-technical students whose fathers were high school graduates, transfer curricula students whose fathers were non-high school graduates, transfer students whose fathers were high school graduates, and vocational-technical students whose fathers were non-high school graduates.

The Social Self subscale within this variable revealed the highest adjusted mean score to be realized by vocational-technical curricula students whose fathers were high school graduates; next came transfer curricula students whose fathers were non-high school graduates, then vocational-technical students whose fathers were non-high school graduates, and, with the lowest adjusted mean score, transfer

students whose fathers were high school graduates.

The highest adjusted mean score on the Total Variability subscale was earned by transfer curricula students whose fathers were non-high school graduates. The next highest scoring group was vocational-technical students whose fathers were high school graduates, then vocational-technical students whose fathers were non-high school graduates. The group achieving the lowest adjusted mean score on this subscale was composed of transfer students whose fathers were high school graduates. Further testing by calculation of simultaneous confidence intervals failed to substantiate any significance.

Curricula versus fathers' occupational level. No significant differences (p less than .10) were detected among these variables on any of the 16 subscales when subjected to univariate analysis of covariance, thus, simultaneous confidence intervals were not calculated.

Curricula versus student financial aid. Significant differences (p less than .10) were not discovered to exist among these variables for any of the 16 subscales when tested by univariate analysis of covariance. Since ANCOVA results failed to indicate significant differences, simultaneous confidence intervals were not computed.

Curricula versus special services for the disadvantaged. Testing by univariate analysis of covariance revealed a lack of significant differences (p less than .10) on all 16 subscales for these

variables, negating any opportunity or necessity for further exploration through computation of simultaneous confidence intervals.

Curricula versus students' level of choice of community college. Significant differences (p less than .10) were produced for these variables on the Total Positive Score and Row Total Variability subscales when exposed to univariate analysis of covariance. Transfer curricula students who indicated the community college to be their first choice achieved the highest adjusted mean score on the Total Positive Score for this variable. From highest to lowest, the remaining scores were earned by vocational-technical curricula students making the community college their first choice, transfer students making the community college their second, or lower, choice, and vocational-technical students who indicated the community college to be their second, or lower, choice.

Row Total Variability subscale adjusted mean scores were recorded, in descending order, by transfer curricula students indicating the community college to be their second, or lower, choice, vocational-technical students making the community college as their first choice, transfer students revealing the community college to be their first choice, and vocational-technical students indicating the community college to be their second, or lower, choice. Calculation of simultaneous confidence intervals failed to substantiate the significant differences found on ANCOVA.

Curricula versus enrollment status. Significant differences (p less than .10) were not discovered to exist among these variables on any of the 16 subscales when subjected to univariate analysis of covariance. As a result, simultaneous confidence intervals were not calculated.

Other Findings

Although it was not stated as a hypothesis of the study, the opportunity to examine pre-test and post-test scores and to compute total gain or loss for all subjects on each subscale was available. There was a slight amount of positive change noted on each of the 16 subscales. The greatest level of change, on a percentage basis, was revealed to have been on the subscales of Personal Self, Total Variability, Column Total Variability, Row Total Variability, and Total Conflict.

These findings are depicted on Table Six, and are further elaborated upon in Chapter Five.

Summary

The null hypotheses of this study stated that there were no significant differences in the changes in self-concept, as measured by 16 subscales of the Tennessee Self-Concept Scale, between the groups comprising each of 11 different demographic variables. It was also hypothesized that significant differences were non-existent, across

Table 6

Percent of Change of Subjects' Pre-Test/Post-Test Mean Scores

Subscale	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Difference	Percent of Change	N
Distribution Score	108.6654	109.5902	+ .9248	.8510	266
Total Positive Score	328.0864	330.2441	+2.1577	.6533	266
Self-Criticism	35.4060	35.1917	- .2143	.6052	266
True/False Ratio	1.1271	1.1540	+ .0269	2.3310	266
Identity	122.7406	123.8609	+1.1203	.9044	266
Self-Satisfaction	98.3421	99.5714	+1.2293	1.2345	266
Behavior	107.1541	108.0414	+ .8873	.8212	266
Physical Self	66.1429	66.8421	+ .6992	1.0460	266
Moral-Ethical Self	65.7782	66.1579	+ .3797	.5739	266
Personal Self	62.6128	63.9774	+1.3646	2.1329	266

Table 6 (continued)

Subscale	Pre-Test $\overline{X}$	Post-Test $\overline{X}$	Difference	Percent of Change	N
Family Self	67.3232	67.3308	+ .0076	.0112	266
Social Self	65.9135	67.1654	+1.2519	1.8639	266
Total Variability	50.4323	48.1728	-2.2595	4.4802	266
Column Total Variability	32.0150	30.9662	-1.0548	3.2947	266
Row Total Variability	18.7030	18.2632	- .4398	2.3514	266
Total Conflict	32.4060	31.6917	- .7143	2.2042	266

each of the subscales, when the groups within the first demographic variable (vocational-technical/transfer curricula) were compared with the groupings within each of the 10 remaining variables.

When subjected to multivariate and univariate analyses of covariance, and to calculations of simultaneous confidence intervals when results of ANCOVA reflected significant differences at p less than .10, it became apparent that significant differences did not exist, at an alpha level of .05, on any of the 16 TSCS subscales among any of the groups within the demographic variables.

The results of the statistical tests dictated a failure to reject each of the three null hypotheses.

Comparisons of mean pre-test and post-test scores for each of the subscales revealed change in a positive direction. However, the amount of change on each subscale, reported as percent of change, was insignificant.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Investigators and writers exploring the dynamics of self-concept (the image one holds of himself with regard to his attitudes, values, and behavior--the kind of person he is and how he feels about himself as that kind of person) have suggested that the individual's perception of self is a primary factor in determining his behavior (Fitts, 1972b; Wylie, 1961; Combs and Snygg, 1959). Applying this paradigm to the process of formalized education, numerous researchers have concluded that the individual's self-concept is positively related to his performance within an academic setting (Cronbach, 1970; Wigent, 1974; Jones and Grieneeks, 1970).

Other observers have surmised that the individual's socio-economic background (determined by such factors as parent's occupation, education, and income, as well as the general value structure of the sub-culture in which the individual is raised) contributes to the individual's self-concept and, ultimately, influences his pattern of behavior (Hall, 1969; Nemeroff, 1964; Soares and Soares, 1970).

The purpose of this study was to assess the extent to which self-concept changes occurred, and to compare any differences in change

in the level of self-concept among student groups with differing characteristics, over the period of their initial quarter of enrollment in a rural, Appalachian community college.

Sixteen subscales of the Tennessee Self-Concept Scale (TSCS) were used as the student self-report instrument for assessing each individual's self-concept. The TSCS was administered, under standardized conditions, during the first week of classes of the 1974 Fall Quarter and again during the last week of classes of the same term. The subjects were students who were enrolled for the first time in a rural, Appalachian community college--Southwest Virginia Community College.

In order to determine whether or not students with varying characteristics realized greater change in self-concept than those with opposing characteristics, the subjects were stratified, or polarized, by assignment to one of two groups within each of 11 demographic variables. Assignment to these groups was based on students' institutional records and on data provided by the students at the time of the TSCS pre-test.

Based on the number of new students who took both the TSCS pre-test and post-test, and those for whom data relating to most of the demographic variables was available, the total number of subjects observed in this study was 267. However, since complete information was not available for every subject, for assignment to groups within

every demographic variable, the total number of observations per variable was sometimes fewer than 267.

The null hypotheses of the study were stated as follow:

H_O1. There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

H_O2. There are no significant differences in changes in the levels of self-concept, during the period of the initial quarter of attendance, between students enrolled in a rural, Appalachian community college who are polarized within each of the characteristics of age, sex, marital status, employment status, fathers' educational level, fathers' occupational level, student financial aid, participation in a Special Services for the Disadvantaged Program, level of choice of the community college, and enrollment status.

H_O3. There are no significant differences in changes in the levels of self-concept during the period of the initial quarter of attendance for students belonging to each of the above polarized categories between those enrolled in vocational-technical curricula and those enrolled in transfer curricula of a rural, Appalachian community college.

Multivariate analysis of covariance (MANCOVA) was employed to test the null hypotheses. This technique permitted adjustment of the post-test mean scores, prohibiting any initial differences on pre-test scores from falsely influencing any ultimate differences that might be discovered.

The results of the univariate analysis of covariance (ANCOVA) were then examined in order to determine if significant differences existed between any of the groups on each of the 16 subscales (p less

than .10). The results were used in determining the variables and subscores for which simultaneous confidence intervals should be calculated, while maintaining an alpha level of .05. Since the alpha level could not be adequately controlled with ANCOVA, and due to the intercorrelation of variables (the same subjects were, in almost every case, members of one of the groups within each variable), the decision was made to compute simultaneous confidence intervals for each variable and subscale which reflected significant differences (p less than .10) on ANCOVA. The variable groups reflecting non-significant differences (p less than .10) on ANCOVA, for any of the subscales, were accepted as having no significant differences for that subscale, and simultaneous confidence intervals were not computed.

The statements of the null hypotheses were that no differences, or zero differences, existed between the respective variable groupings for each of the 16 subscales. Therefore, the factor used in determining the existence or non-existence of significant differences was whether or not the simultaneous confidence intervals spanned the point zero. Since this point was not spanned by any of the simultaneous confidence intervals which were calculated, the decision to fail to reject H_O1, H_O2, and H_O3 was strengthened.

Although the three null hypotheses of the study were not rejected, resulting in the failure to conclude that there were significant differences in the change in the level of self-concept, certain trends were apparent

in the examination of the ANCOVA results. These trends are discussed in the following section.

Conclusions

The null hypotheses of this study contained the speculation that significant differences in self-concept changes were non-existent, between the study's variable groupings, on each of the 16 subscales extracted from the TSCS. However, this was not, in reality, what was expected to be found when the results of this study were analyzed.

Presented in Chapter One were descriptions which contrasted the general approaches and content of vocational-technical education and transfer education in the community college. It was pointed out that students enrolled in vocational-technical curricula take fewer general education courses (and, thus, take more specialized, skill-building courses), are often in smaller classes, and are exposed to fewer instructors than are students in transfer curricula. Based on these differences, it was expected that students enrolled in vocational-technical curricula would realize a significantly greater positive change, on each of the 16 subscales, than would transfer curricula students.

Although previous studies were not found which supported or rejected the idea, it was believed that the vocational-technical students' immediate entry to specialized courses within their field, and their more constant exposure to one particular faculty member,

would serve to assist them in developing, at an early stage, a more positive concept of themselves as they related to their career field. It was assumed that the earlier exposure to ideas, knowledge, skills, and practitioners within their chosen career would encourage vocational-technical students to think more highly of themselves, professionally or occupationally, than might transfer curricula students at the same point in time and, thus, more significantly boost their self-concepts.

A study by Pugh (1969) suggested that vocational-technical students tended to develop more positive self-concepts than did other students as they progressed through their curricula. Although Pugh's subjects were drawn from high school vocational and general curricula, it was anticipated that the community college students in this study would conform more closely to Pugh's findings.

Numerous conjectures might be presented regarding the reasons for the results found in this study. Perhaps the most apparent question relates to the amount of emphasis given, in either of the community college's major curriculum groups, to individual self-concept development. The statement of purpose of the institution in which the subjects of the study were enrolled (Southwest Virginia Community College, 1974b) indicated a dedication to "---the belief that each individual should be given a continuing opportunity for the development and extension of his skill and knowledge---." Nowhere in this statement, nor in the remainder of the purpose statement, is there a reference to

development of the individual's self-concept. Although it might be argued that the general statement of purpose would, if achieved, generate enhanced self-concepts, there is no solid evidence that self-concept development was a direct or indirect classroom objective.

It is possible that instructors in both curriculum groups, vocational-technical and transfer, view their responsibilities in such a way as to preclude any emphasis on student-faculty relationships that might enhance the students' self-concepts. For example, it was anticipated that two factors which might have greater impact on the self-concept of vocational-technical students were smaller classes and extended contact with one instructor. Although those factors were present, their existence could have been perceived as providing greater opportunities to be more methodical in the teaching of skills, rather than developing relationships (this is not to imply, however, that it is impossible to develop such relationships while concentrating primarily on the teaching of skills). And, a similar situation could exist in the instructional process within the transfer area. Here, instructors often tend to feel the need to teach ideas; it is quite possible that the orientation toward ideas, or knowledge, has outweighed an orientation toward relationship building. In other words, it is possible that the affective aspects of the educational process have greater influence on self-concept development than do the cognitive aspects, but that instructors give greater emphasis to the cognitive aspects in carrying

out their classroom responsibilities.

The fact that the subjects of this study all commuted to the campus for classes very possibly had some influence contrary to self-concept enhancement that might have been engendered on the campus. The College has no residence halls, so students came from non-academic environments, spent one to six hours on campus, and then returned to the non-academic environment. It seems logical that the setting which is external to the campus could have had great potential for counter-influence on students' self-concepts, simply because they spent a much greater amount of time in the external environment. Edwards and Tuckman's (1972) findings that the level of self-esteem of community college students realized a greater increase than that of university students (in a residential setting) were inconsistent, however, with this supposition.

As was discussed in the section of this report in which the research findings were reported, there were small percentages of positive change noted for the subjects on each of the 16 subscales. However, in view of the commuter status of all the subjects, it is difficult to determine whether or not there might have been a failure among instructors to emphasize self-concept development, as previously implied, or whether the general level of self-concept failed to change appreciably because of the external influences.

Another factor that could have influenced the findings of the study is related to the characteristics of the subjects--rural,

Appalachian residents. Hansen and Stevic (1971) and Karnes, Zehrbach and Jones (1971) reported that residents of this area generally have low regard for education. This characteristic could have had impact on the willingness of subjects to share their true feelings about self by taking seriously the TSCS. As was pointed out, the rural, Appalachian resident is very family oriented (Hansen and Stevic, 1971). This fact could have contributed to a reluctance to share with strangers their true inner feelings about self.

As Collins (1972), Cross (1971), and others pointed out, there is a shift in career opportunities and interests occurring. Young people, especially, have observed their friends as many of them walk the streets with their college degrees, looking for non-existent or hard-to-find jobs. As a result of this recent phenomenon, the attitudes toward college and the advantages and/or prestige of college attendance have likely undergone change. These possible new attitudes about college, then, could very well have influenced the findings of this study. If students do not perceive college attendance to be particularly advantageous or prestigeous, it is unlikely that their self-concepts will change significantly as a result of their attendance. Although it was anticipated that the current trend toward greater availability of occupational and technical-level jobs (in the Southwest Virginia region) might have some indirect impact on vocational-technical students' self-concepts, it is possible that they, too, failed to perceive college

attendance in such a way that would bolster self-concept.

The heterogeneity of the community college, as compared with their high schools, could have contributed to a failure to find significant differences in the change in self-concept between the groups comprising the variables of this study. Dales and Walters (1969) and Soares and Soares (1970) suggested that members of the immediate environment form the basis for self-concept development. The high schools attended by the subjects were, for the most part, small. Even though Southwest Virginia Community College is a relatively small institution--1562 students--the student mix was likely different from that of most of the surrounding high schools (with regard to such factors as ability levels, race, and the other demographic variables quoted in this study). The new environment, as opposed to the high school, plus the possible change in academic demands, might have created the need for a longer period of adjustment. It is entirely feasible that the self-concept of any student should not be expected to change, especially positively, during his or her first term in college. This possibility is in keeping with Dansereau's (1969) findings that community college students have often not had great academic demands placed on them, and that the new setting often creates a threat to students' self-esteem.

It should be mentioned at this point that although the study did not hypothesize about the general change in self-concept by all subjects of the study, it was assumed that there would be substantial positive

change in the general self-concept level. This did not occur to any marked degree. As reflected in Table Six, the percentages of changes between mean scores (post-test $\bar{X}$ minus pre-test $\bar{X}$) for the 16 subscales ranged from .01 to 4.48. Although the changes were slight, they were, in every case, in a positive direction (closer to the mean for a normal population). The pre-test and post-test mean scores for the study's subjects are shown on the TSCS profile sheet, Appendix E. Subscales reflecting a change of two percent or more were Personal Self, Total Variability, Column Total Variability, Row Total Variability, and Total Conflict.

Although minor, the overall increase in the Personal Self score (2.13 percent) could have been attributed to the subjects' feelings about themselves as a result of becoming college students. The subscale, describing the individual's sense of personal worth, could have had scores affected by the fact that many of the subjects came from environments where college attendance was not common, and, thus, their own college attendance was a mark of distinction.

Total Variability, Column Total Variability, and Row Total Variability were three of the subscales revealing percentages of change greater than two percent (4.48, 3.29, and 2.35, respectively). All changes were in a downward trend and, with the exception of the latter, closer to the average scores for a normal population. The percentages of change were not great enough to provide a basis for speculating

about the reasons for the change on these particular subscales. As measures of variability, the only significance of these scores would have been great percentages of total change or significant differences, between the variable groups, in the amount of change.

The other subscale reflecting change of more than two percent (2.20) was Total Conflict. According to Fitts (1972), high scores on this subscale indicate confusion, contradiction, and general conflict in self-perception, while lower scores indicate the opposite. However, neither extremely high nor extremely low scores are desirable. Since the percentage of change moved the score approximately one point nearer the average for this subscale, the effect of the change was negligible.

Although the results of this research revealed that there were no significant differences in self-concept changes, there were trends which developed as the data were being analyzed. As discussed above, there were slight changes in the levels of self-concept, when the mean pre-test and post-test scores for all subjects (minus one) was considered. However, there were other trends that became apparent as the ANCOVA was applied and simultaneous confidence intervals calculated (see Table Six). The N in this table, 266, reflected one subject fewer than the N of the study, since the variable chosen for observation of percentages of total change had discarded one observation due to a missing cell.

Table 7

Variable Groups Reflecting Significantly Different Adjusted $\bar{X}$ Scores on Certain Subscales (p less than .10)

	Subscales								
Variable Group	Total Positive Scores	Self-Satisfaction	Physical Self	Distribution Score	Identity	Personal Self	Social Self	Total Variability	Self-Criticism
23 years and younger	X								
23 years and older		X	X						
Males				X	X	X			
Females							X	X	
Work Fewer than 20 Hrs. Per Week	X								
Work 20 Hrs. or More Per Week		X	X			X			
Fathers H.S. Grads									X
Fin. Aid Recipients							X		X
Non-Fin. Aid Recipients			X	X					
Attend Full-time	X								

Table 7 (continued)

Variable Group	Subscales								
	Total Positive Scores	Self-Satisfaction	Physical Self	Distribution Score	Identity	Personal Self	Social Self	Total Variability	Self-Criticism
Voc.-Tech./Fathers H.S. Grad.	X						X		
Voc.-Tech./Fathers Non-H.S. Grad.				X					
Transfer/Fathers Non-H.S. Grad.								X	
Comm. Coll. First Choice	X								
Transfer/Comm. Coll. First Choice	X								
Transfer/Married		X							
Transfer/Working Fewer than 20 Hrs. Per Week	X								

Seven of the variable groups had significantly higher scores (p less than .10) than the opposing group within the same variable on the subscale Total Positive Scores. The Total Positive Score reflects the general level of self-esteem, and is the most important score on the TSCS. The trend seemed to be that younger students, those who worked fewer than 20 hours per week, those who attended full-time, and transfer curriculum students who had made the community college their first choice, were those with higher adjusted mean scores on this subscale.

The trend toward higher self-esteem by students in a transfer curriculum is consistent with Black's (1970) findings, but is not in agreement with Pugh (1969), who found that vocational-technical students, at the high school level, had higher self-esteem. The results of a study by Edwards and Tuckman (1972) were not supported by this trend; they found that the level of self-esteem among university students increased less than among community college students. (However, the fact that students who made the community college their first choice scored higher on this subscale could support the Edwards and Tuckman study).

The Self-Satisfaction subscale, describing the individual's level of self-acceptance, based on his level of standards and expectations for and of himself, revealed significant differences (p less than .10) on the ANCOVA results. The trend appeared to be for older students, students working 20 hours or more per week, and transfer curriculum

students who were married to achieve higher mean scores on this subscale. The characteristics of being older, married, and working seem compatible, but the transfer curriculum is not easily explained.

Non-financial aid recipients, students working 20 or more hours per week, and those who were 23 years or older scored significantly higher (p less than .10) than other groups on the Physical Self subscale. This subscale reflects the individual's view of his body, his state of health, his physical appearance, skills and his sexuality. Since the characteristics of the three higher scoring groups were generally those of older students, the implication could be that these subjects saw their body as more important to their livelihood, or more representative of their true selves, than did other groups.

The Distribution Score indicates the dispersion of answers across the five available choices. High scores reflect that the individual is very definite and certain in what he says about himself, while low scores reflect the opposite. Males and vocational-technical students whose fathers were non-high school graduates achieved the highest scores on this subscale. No pattern could be detected in this.

Male students and non-financial aid recipients scored highest on the subscale of Identity, the reflection of what the individual is as he sees himself. No pattern was discernible.

The Personal Self subscale showed that males and students working 20 hours per week or more scored highest. Personal Self

describes the individual's sense of personal worth. Since the latter group contained females as well as males, no pattern could be distinguished.

Social Self reflects the person's sense of worth and adequacy in his social interaction with others; females, financial aid recipients, and vocational-technical students whose fathers were high school graduates scored highest. Again, no particular pattern could be found.

Total Variability, the subscale reflecting unity or integration of the individual's self-concept, reflected highest scores by females and by transfer students whose fathers were non-high school graduates; since the latter group included male subjects, no pattern was evident.

Students whose fathers were high school graduates, and students who were financial aid recipients scored highest on the Self-Criticism subscale. Higher scores on this subscale usually reflect a greater degree of openness and a higher capacity for self-criticism. The mix of variable groups with highest scores on the subscales did not provide adequate insight for speculation.

Another manner of analysis of trends toward significant differences noted (at p less than .10) was to view the data in Table Six from the vertical, rather than the horizontal axis. However, the heterogeneity of each variable group, with reference to other characteristics, could affect any statistical explanation of observed trends.

In examining those variable groups reflecting trends toward

significance on two or more subscales, it was noted that students who were 23 years or older scored higher than younger students on the subscales of Self-Satisfaction and Physical Self. (Fitts (1965) reported a correlation coefficient of .83 (alpha equals .05) between these subscales, although the fact that they are composed, in part, of overlapping items, tends to inflate the r. This result could be an indication that the older subjects of the study had established a certain level of expectations for themselves and had, particularly in the areas of health, physical appearance, skills, and sexuality, achieved those expectations. Or it could simply indicate that older subjects within the population sampled were less concerned with such areas.

Male subjects scored higher than female subjects on the Distribution Score, Identity, and Personal Self subscales. According to Fitts (1965) the Distribution Score and Identity subscales have a correlation coefficient of .55. (Fitts reported all correlation coefficients as significant at the .05 level.) The Distribution Score/ Personal Self have an r of .43, and Identity/Personal Self correlated at .84, although this was considered spuriously high, since the two subscales have overlapping items. If these correlation coefficients were accepted as significant, the trend could mean that male subjects were very definite in their view of themselves as very adequate, worthwhile persons.

Female subjects scored higher than male subjects on the Social Self and Total Variability subscales. Fitts (1965) reported an r of -.05 for these subscales, suggesting almost a total absence of correlation.

Subjects who work 20 hours or more per week scored higher than those working fewer than 20 hours per week, or not at all, on the subscales of Self-Satisfaction, Physical Self, and Personal Self. Fitts (1965) indicated that Physical Self and Personal Self have a correlation coefficient of .67. The r of Physical Self and Self-Satisfaction is .83, while Personal Self and Self-Satisfaction have an r of .70 (the correlation coefficients of the latter two sets of subscales must be weighed carefully, however, since item analysis reveals that scores are derived, in part, from common items). The pattern seems to be that those students working 20 hours or more per week have come closer than the group working fewer than 20 hours per week in meeting their expectations of themselves in terms of feelings of personal worth, and satisfaction with health, appearance, skills, and sexuality. It must be remembered, however, that this was a trend only, and did not, as with the other trends, prove significant at an alpha level of .05.

When compared with non-financial aid recipients, those subjects receiving financial aid scored higher on the subscales of Social Self and Self-Criticism (p less than .10). However, according to Fitts (1965), these subscales have absolutely no correlation (r=.00).

Non-financial aid recipients, when contrasted with those subjects

receiving financial aid, scored higher (p less than .10) on the subscales of Physical Self and Identity. These subscales have an r of .83 (Fitts, 1965), although the commonality of items adds unwarranted weight to the correlation coefficient. On the surface, it would appear that non-financial aid recipients within the study were firmer in their basic identity of self, and were more satisfied than their counterparts with regard to personal health, physical appearance, physical skills, and sexuality. Although the data implies such, it is impossible to determine, with more than 90 percent accuracy, if this group's lack of a need to depend on financial aid contributed to the difference in scores.

One other trend was noted (p less than .10) in the comparison of mean scores on each of the subscales. Vocational-technical students whose fathers were high school graduates scored higher on the subscales of Total Positive Score and Social Self than did vocational-technical students whose fathers were non-high school graduates, transfer students whose fathers were high school graduates, and transfer students whose fathers were non-high school graduates. Fitts (1965) found an r of .88, although this was affected by the fact that some common items composed the two categories. Since the Total Positive Score relates to the general level of self-esteem, it might be logical that persons with high scores in this area view themselves positively with regard to their interaction with others. Perhaps the fact that

their immediate peers were vocational-technical students whose fathers were non-high school graduates contributed to this difference in scores.

Implications

Certain implications are inherent in the preceding discussion relating to the conclusions drawn from the research. However, there are certain specific points that should be made.

The literature suggesting the positive relationship between self-concept and behavior and performance is plentiful. Although significance could not be reported at an alpha level of .05, there were certain trends which warrant further exploration. Considering the community college's diverse student body, and the relationship found (p less than .10) between specific variable groups and TSCS subscales, it would seem that suggestions in the literature for attention to such relationships (Dansereau, 1969) might be considered by community college educators. For example, the stated purposes and objectives of the institution might be perceived as guidelines by some instructors regarding their objectives.

It appears that, at the time TSCS data were gathered, enhancement of individual self-concept was not a primary or stated objective of either of the curriculum groups, or if such enhancement was an objective, other factors prohibited the achievement of the objective. It also seems possible that factors such as small classes and extended

contact with a specific instructor, and immediate exposure to career skills do not automatically generate a higher level of self-concept.

Another implication of the study is that external factors that cannot be controlled might have as much potential for impact on the individual's self-concept as do his experiences on the campus.

An implication that must be considered is the general nature of the rural, Appalachian resident, regarding just how much of his inner self he will reveal. Although there is no hard evidence produced by the findings of this study to fully support the implication, it seems likely that the rural, Appalachian resident will demand more than one quarter of college attendance before he will allow others to see the self that he sees.

The failure to anticipate the results of no significant differences for this study suggests two additional implications. One, the TSCS might not be an adequate measure as a self-concept assessment instrument for the population from which the subjects of this study were drawn. Secondly, the elusiveness of the concept of self suggests that perhaps no single instrument should be expected to yield complete data through self-report.

Also, the period of one academic quarter might be too brief a span of time to allow for significant changes in self-concept to occur. Additionally, the post-test was administered prior to final examinations and award of grades. These functions could have, no doubt,

influenced some students' self-concepts.

The opportunity to examine total change in self-concept (although through no sophisticated statistical analysis), even though this was not a planned part of the research, implies that there are numerous other areas that should be explored, such as the relationships between community college students' self-concept and career choice, academic performance, and persistence, both within programs and within college.

A final implication of the study, and one that is closely related to the first one, is that community college faculty and staff members need to be made aware of the importance of student self-concept and the methods through which individual self-concept can be enhanced.

Limitations

Several limitations existed within the study and the findings:

1. Although the TSCS was chosen as the instrument used in this research, it, like most other self-report instruments, is subject to question in terms of always assessing what it purports to assess.

2. Generalizations regarding the data and findings of the study should be applied with caution, considering the fact that the subjects were drawn from an isolated sample.

3. Influences external to the College, which could have affected the self-concepts of the subjects, could not be controlled.

4. The time lapse between the TSCS pre-test and post-test

might have been inadequate for permitting the College's influence on enhancement of self-concept to prove its effectiveness.

Recommendations

The following recommendations are made after a review of the structure and findings of this study:

1. The study should be replicated, with the exception that the pre-test/post-test design should cover the span of an academic year, rather than an academic quarter.

2. The study should be replicated in other geographic and academic settings.

3. Studies should be conducted which would explore the correlation between community college students' self-concept and academic performance, persistence, and career choice.

4. The need for emphasis and training in the area of individual self-concept development should be explored with community college faculties.

5. Studies should be conducted in a similar setting, using control group versus experimental group designs, and emphasizing classroom treatments relating to development of self-concept.

6. The study should be replicated in a similar setting, but exploring in greater depth those variable groups and subscales where significant differences were noted at p less than .10.

7. The study should be replicated, using additional self-report instruments.

8. Studies should be conducted in a similar setting which would explore, as the primary objective, general change in self-concept rather than change by subgroups.

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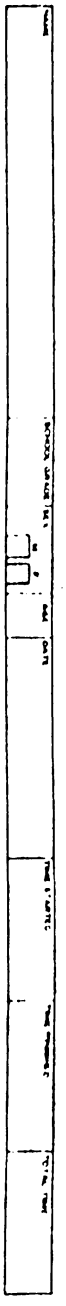
APPENDIX A

FORM C. AND R.

TENNESSEE SELF CONCEPT SCALE — ANSWER SHEET

ITEM NO.	PAGES 5 AND 6	ITEM NO.	PAGES 3 AND 4	ITEM NO.	PAGES 1 AND 2
13	1 2 3 4 5	7	1 2 3 4 5	1	1 2 3 4 5
14	1 2 3 4 5	8	1 2 3 4 5	2	1 2 3 4 5
15	1 2 3 4 5	9	1 2 3 4 5	3	1 2 3 4 5
16	1 2 3 4 5	10	1 2 3 4 5	4	1 2 3 4 5
17	1 2 3 4 5	11	1 2 3 4 5	5	1 2 3 4 5
18	1 2 3 4 5	12	1 2 3 4 5	6	1 2 3 4 5
31	1 2 3 4 5	25	1 2 3 4 5	19	1 2 3 4 5
32	1 2 3 4 5	26	1 2 3 4 5	20	1 2 3 4 5
33	1 2 3 4 5	27	1 2 3 4 5	21	1 2 3 4 5
34	1 2 3 4 5	28	1 2 3 4 5	22	1 2 3 4 5
35	1 2 3 4 5	29	1 2 3 4 5	23	1 2 3 4 5
36	1 2 3 4 5	30	1 2 3 4 5	24	1 2 3 4 5
49	1 2 3 4 5	43	1 2 3 4 5	37	1 2 3 4 5
50	1 2 3 4 5	44	1 2 3 4 5	38	1 2 3 4 5
51	1 2 3 4 5	45	1 2 3 4 5	39	1 2 3 4 5
52	1 2 3 4 5	46	1 2 3 4 5	40	1 2 3 4 5
53	1 2 3 4 5	47	1 2 3 4 5	41	1 2 3 4 5
54	1 2 3 4 5	48	1 2 3 4 5	42	1 2 3 4 5
67	1 2 3 4 5	61	1 2 3 4 5	55	1 2 3 4 5
68	1 2 3 4 5	62	1 2 3 4 5	56	1 2 3 4 5
69	1 2 3 4 5	63	1 2 3 4 5	57	1 2 3 4 5
70	1 2 3 4 5	64	1 2 3 4 5	58	1 2 3 4 5
71	1 2 3 4 5	65	1 2 3 4 5	59	1 2 3 4 5
72	1 2 3 4 5	66	1 2 3 4 5	60	1 2 3 4 5
85	1 2 3 4 5	79	1 2 3 4 5	73	1 2 3 4 5
86	1 2 3 4 5	80	1 2 3 4 5	74	1 2 3 4 5
87	1 2 3 4 5	81	1 2 3 4 5	75	1 2 3 4 5
88	1 2 3 4 5	82	1 2 3 4 5	76	1 2 3 4 5
89	1 2 3 4 5	83	1 2 3 4 5	77	1 2 3 4 5
90	1 2 3 4 5	84	1 2 3 4 5	78	1 2 3 4 5
99	1 2 3 4 5	95	1 2 3 4 5	91	1 2 3 4 5
100	1 2 3 4 5	96	1 2 3 4 5	92	1 2 3 4 5
		97	1 2 3 4 5	93	1 2 3 4 5
		98	1 2 3 4 5	94	1 2 3 4 5



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APPENDIX B

STUDENT DATA

Date: _____

Name: _____ Soc. Sec. No. _____
(Last) (First) (Middle initial)

1. Are you currently employed outside the home (other than work-study at SVCC)?

_____ No

_____ Yes

2. If employed outside the home, do you work an average of:

_____ 0-19 hours per week?

_____ 20-39 hours per week?

_____ 40 or more hours per week?

3. Are you enrolled at SVCC:

_____ Part-Time (1 to 11 credit hours)?

_____ Full-Time (12 or more credit hours)?

4. Sex: _____ Male _____ Female

APPENDIX C

Southwest Virginia 294 VIRGINIA COMMUNITY COLLEGE SYSTEM
1974-75 Student Data Form

To the Student:

You are asked to answer a number of questions about your background and reasons for attending college. The information we obtain will be used in describing community college students and in developing improved programs and services for them. Your personal responses will be treated as confidential, and will not be released to the public. The questions are very simple ones, and you should finish in about five minutes.

1. Name (Please Print)_____
(Last) (First) (Middle)

2. Mailing Address_____
(Number) (Street) (City or Town) (State) (Zip Code)

3. Social Security Number _____-____-_____

4. Year of Birth 19___

ANSWER EACH QUESTION BY WRITING THE APPROPRIATE NUMBER IN THE BLANK SPACE. SHOW ONLY ONE ANSWER FOR EACH QUESTION.

___5. Marital Status.

1 Single or engaged
2 Married
3 Other

___6. Military Status.

1 Veteran, with GI benefits
2 Veteran, without GI benefits
3 On active duty
4 Non-veteran

___7. High school curriculum completed.

1 General 4 GED
2 Vocational 5 None
3 College Prep or Academic

___8. Class standing in high school. (Answer only if you graduated during the past two years).

1 Top 10 percent 3 Upper half
2 Top 25 percent 4 Lower half

9. Show the highest educational level completed by each of your parents.

___(a) Father
___(b) Mother

1 Under 8 years
2 Completed 8th grade
3 Attended high school
4 High school graduate
5 Attended college
6 Four-year college graduate
7 Master's or higher degree

10. Show the type of work for each of your parents in parts (a) and (b). If they are retired or deceased, refer to their former jobs. Complete part (c) to show your own employment status only if you are a part-time student.

___(a) Father

___(b) Mother

___(c) Yourself

1 Clerical and Sales - bank teller, salesman, office or sales clerk, etc.
2 Managerial or Office - sales or office manager, bank officer, purchasing agent, etc.
3 Professional - CPA, dentist, engineer, teacher, military officer, etc.
4 Proprietor or Owner - owner of farm or small business in which only family members are employed.
5 Proprietor or Owner - owner of farm or larger business in which persons other than family members are also employed.
6 Semi-professional and Technical - engineering technician, dental technician, practical nurse, surveyor, etc.
7 Semi-skilled worker - machine operator, assembler, bus driver, meat cutter, etc.
8 Service worker - barber, policeman, waiter, fireman, etc.
9 Skilled worker or Foreman - baker, carpenter, electrician, foreman, etc.
10 Unskilled worker - laborer, gas station attendant, farm worker, etc.
11 Housewife or Homemaker
12 Unemployed
13 Unknown

(turn to other side)

11. Please estimate your family's total annual income (before taxes), using the list below. Complete either part (a) or part (b). (This information will be used only for educational research and will not be linked to your personal identity).

___(a) If you are single and under age 25, indicate your parents' combined annual income.

___(b) If you are married or age 25 or above, indicate the combined income of you and your wife or husband, or your income, if single.

1 Up to 2,999
2 $3,000 - 5,999
3 $6,000 - 7,499
4 $7,500 - 8,999
5 $9,000 - 11,999
6 $12,000 - 14,999
7 $15,000 - 17,999
8 $18,000 or over

___12. Which of the following best describes your home area?

1 City of 100,000 or more people
2 City of 25,000 to 100,000
3 City or town of 2,500 to 25,000 (not a suburban area of a city)
4 Suburban area
5 Farm or village of less than 2,500 people

___13. How far is the college from where you live?

1 Up to 2 miles
2 2-5 miles
3 6-10 miles
4 11-20 miles
5 21-30 miles
6 Over 30 miles

___14. Your major goal for attending this college. Show only one answer.

1 Prepare for a specific job or skill
2 Prepare for employment in a specific career field
3 General preparation for employment
4 Prepare for transfer to a four-year college
5 Increase my general knowledge and level of education
6 For personal satisfaction
7 Other (specify)_____

___15. Rate your chances of achieving the major goal you noted in question 14.

1 Very High
2 High
3 About Half
4 Low
5 Very Low

___16. Level of degree you hope to complete.

1 No degree aspiration
2 Certificate
3 Diploma
4 Associate in Applied Science
5 Associate in Arts or Associate in Science
6 Bachelor's Degree
7 Graduate degree (beyond 4-year degree)

___17. Rate your chances of earning the degree level as noted in question 16. If you do not have a degree aspiration, do not respond to this question.

1 Very High
2 High
3 About Half
4 Low
5 Very Low

___18. Enrollment at this college was my:

1 First choice
2 Second choice
3 Third or other choice

___19. Type of transportation to and from the college you plan to use. Show only one answer.

1 Personal or family car
2 Public bus transportation
3 Ride with other students
4 Undecided

___20. Is public bus transportation available for your use from home to the college?

1 Yes
2 No

___21. Is it important to you that bus transportation be available for commuting to the college?

1 Yes
2 No

___22. What was the best source of information for you about the college?

1 Newspaper
2 Radio or TV
3 High School
4 Friends
5 Parents or Relatives
6 Publications (College Catalogs, Brochures, etc.)
7 Other (specify)_____

THANK YOU FOR YOUR ASSISTANCE

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Self-Criticism

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	35.177	34.856	-0.321	34.958
Transfer	85	35.894	35.906	0.012	35.792
Age					
22 years or younger	210	35.376	35.495	0.119	35.498
23 years or older	57	35.596	34.246	-1.350	34.195
Sex					
Male	123	35.089	34.650	-0.439	34.765
Female	141	35.713	35.769	0.056	35.659
Marital Status					
Married	36	34.556	34.194	-0.362	34.257
Non-Married	170	34.593	35.212	0.259	35.247
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	35.601	35.635	0.034	35.506
Work 20 Hrs. Per Week or More	53	34.679	33.660	-1.019	34.326
Fathers' Educational Level					
Father High School Graduate	54	35.241	35.593	0.352	35.879
Father Non-High School Graduate	131	34.756	34.702	-0.054	34.652

APPENDIX D

Subscale: Self-Criticism (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	35.180	35.240	0.060	35.283
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	35.024	35.280	0.256	35.328
Student Financial Aid					
Recipient	86	34.849	34.814	-0.035	34.794
Non-Recipient	180	35.672	35.372	-0.300	35.203
Special Services for Disadvantaged					
Participant	52	34.365	34.327	-0.038	34.862
Non-Participant	214	35.659	35.402	-0.239	35.308
Level of Choice of Community College					
First Choice	227	35.410	35.088	-0.322	35.532
Second or Lower Choice	34	35.529	36.118	0.589	34.092
Enrollment Status					
Full-Time	209	35.292	35.459	0.167	35.527
Part-Time	57	35.825	34.211	-1.614	34.112

APPENDIX D

Subscale: Self-Criticism (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	35.058	35.138	0.080	35.113
Voc.-Tech./23 or Older	43	34.209	35.302	1.093	34.462
Transfer/22 or Younger	71	36.465	35.901	-0.564	36.246
Transfer/23 or Older	13	33.538	36.231	2.693	33.311
Curricula versus Sex					
Voc.-Tech./Male	98	34.367	35.031	-0.481	34.542
Voc.-Tech./Female	82	35.512	35.354	-0.158	35.503
Transfer/Male	24	36.125	35.500	-0.625	35.676
Transfer/Female	60	35.967	36.133	0.166	35.873
Curricula versus Marital Status					
Voc.-Tech./Married	25	33.760	34.080	0.320	34.259
Voc.-Tech./Non-Married	114	34.921	34.912	-0.009	34.963
Transfer/Married	11	35.182	35.636	0.454	34.250
Transfer/Non-Married	55	35.964	35.109	-0.855	35.836
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	35.064	35.336	0.272	34.962
Voc.-Tech./Work 20 Hrs. Per Week or More	37	34.189	34.378	0.189	35.173
Transfer/Work Fewer Than 20 Hrs. Per Week	67	36.955	36.224	-0.731	36.642
Transfer/Work 20 Hrs. Per Week or More	16	32.438	35.375	2.937	32.366

APPENDIX D

Subscale: Self-Criticism (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	36.286	35.371	-0.915	36.280
Voc.-Tech./Father Non-High School Grad.	92	34.272	34.913	0.641	34.136
Transfer/Father High School Grad.	18	34.722	35.222	0.500	35.101
Transfer/Father Non-High School Grad.	39	35.718	34.385	-1.333	35.868
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	34.612	34.955	.343	34.656
Voc.-Tech./Father Semi-Prof., ------Sales	57	35.316	35.228	0.088	35.239
Transfer/Father Unemployed, ---Service Worker	32	36.813	35.781	-1.032	36.548
Transfer/Father Semi-Prof., ------Sales	25	35.200	34.560	-0.640	35.595

APPENDIX D

Subscale: Self-Criticism (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	34.866	34.791	-0.075	35.087
Voc.-Tech./Non-Recipient	114	34.851	35.404	0.553	34.881
Transfer/Recipient	18	35.056	35.278	0.222	34.887
Transfer/Non-Recipient	66	34.273	36.136	1.863	36.042
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	38	34.579	34.895	0.316	34.598
Voc.-Tech./Non-Participant	143	34.930	35.252	0.322	35.052
Transfer/Participant	13	34.154	33.077	-1.077	35.604
Transfer/Non-Participant	71	36.352	36.479	0.127	35.830
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	34.929	35.299	0.290	35.009
Voc.-Tech./Second or Lower Choice	22	34.636	34.500	0.383	34.883
Transfer/First Choice	72	35.542	35.708	-0.188	35.520
Transfer/Second or Lower Choice	12	38.833	37.417	0.054	37.471

APPENDIX D

Subscale: Self-Criticism (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	35.042	35.208	0.166	35.062
Voc.-Tech./Part-Time	37	34.135	35.054	0.919	34.538
Transfer/Full-Time	64	36.531	35.547	-0.984	36.590
Transfer/Part-Time	20	34.350	37.250	2.900	33.266

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Total Positive Score

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	327.309	331.492	4.183	331.419
Transfer	85	329.741	327.588	- 2.153	326.998
Age					
22 years or younger	210	325.443	325.943	0.500	328.666
23 years or older	57	338.403	346.737	8.334	335.062
Sex					
Male	123	331.138	335.358	4.220	333.434
Female	143	325.552	325.895	0.343	326.869
Marital Status					
Married	36	327.083	341.694	14.611	330.672
Non-Married	170	326.923	327.353	0.430	329.329
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	325.485	326.110	0.625	328.160
Work 20 Hrs. Per Week or More	53	336.358	344.226	7.868	335.006
Fathers' Educational Level					
Father High School Graduate	54	331.685	325.981	- 5.704	324.692
Father Non-High School Graduate	131	326.756	330.679	3.923	330.710

APPENDIX D

Subscale: Total Positive Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	329.270	328.560	- 0.710	325.699
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	325.695	328.610	2.915	331.311
Student Financial Aid					
Recipient	86	321.942	323.267	1.325	329.319
Non-Recipient	180	331.022	333.578	2.566	330.346
Special Services for Disadvantaged					
Participant	52	320.846	325.577	4.731	331.178
Non-Participant	214	329.846	331.378	1.532	329.740
Level of Choice of Community College					
First Choice	227	329.233	331.868	2.635	329.960
Second or Lower Choice	34	321.294	320.706	0.588	331.210
Enrollment Status					
Full-Time	209	325.880	327.517	1.637	329.680
Part-Time	57	326.175	340.246	4.071	330.735

APPENDIX D

Subscale: Total Positive Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	329.514	527.343	- 2.171	331.380
Voc.-Tech./Father Non-High School Grad.	92	331.902	326.391	- 5.511	331.170
Transfer/Father High School Grad.	18	315.556	337.167	21.611	311.692
Transfer/Father Non-High School Grad.	39	327.795	327.615	- 0.18	329.625
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	334.254	329.881	- 4.373	329.461
Voc.-Tech./Father Semi-Prof., ------Sales	57	327.035	323.088	- 3.947	331.126
Transfer/Father Unemployed, ---Service Worker	32	314.719	326.250	11.531	318.181
Transfer/Father Semi-Prof., ------Sales	25	332.200	331.640	- 0.560	331.269

APPENDIX D

Subscale: Total Positive Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	322.298	319.970	- 2.328	329.509
Voc.-Tech./Non-Recipient	114	336.895	331.623	- 5.272	332.552
Transfer/Recipient	18	323.167	325.778	2.611	328.388
Transfer/Non-Recipient	66	327.848	329.985	2.137	326.597
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	38	321.658	315.421	- 6.237	330.688
Voc.-Tech./Non-Participant	143	334.105	330.469	- 3.636	331.629
Transfer/Participant	13	332.077	331.770	- 0.307	332.497
Transfer/Non-Participant	71	325.887	328.592	2.705	325.958
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	333.182	328.500	- 4.682	331.902
Voc.-Tech./Second or Lower Choice	22	321.955	320.136	- 1.819	330.388
Transfer/First Choice	72	328.250	330.128	1.878	327.449
Transfer/Second or Lower Choice	12	318.417	323.417	5.000	324.146

APPENDIX D

Subscale: Total Positive Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	327.058	324.369	- 2.689	329.931
Voc.-Tech./23 or Older	43	345.721	336.744	- 8.977	336.192
Transfer/22 or Younger	71	322.873	326.690	3.817	326.208
Transfer/23 or Older	13	348.539	342.154	- 6.385	331.321
Curricula versus Sex					
Voc.-Tech./Male	98	335.347	331.377	- 3.97	333.447
Voc.-Tech./Female	82	326.537	322.195	- 4.342	328.911
Transfer/Male	24	333.125	327.917	- 5.208	333.385
Transfer/Female	60	324.333	329.550	5.217	324.079
Curricula versus Marital Status					
Voc.-Tech./Married	25	335.800	332.560	- 3.240	327.836
Voc.-Tech./Non-Married	114	331.114	327.061	- 4.053	332.483
Transfer/Married	11	355.091	347.364	- 7.727	327.123
Transfer/Non-Married	55	318.418	325.582	7.164	322.791
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	327.671	324.400	- 3.271	329.631
Voc.-Tech./Work 20 Hrs. Per Week or More	37	344.730	336.892	- 7.838	336.372
Transfer/Work Fewer Than 20 Hrs. Per Week	67	321.896	326.866	4.97	325.090
Transfer/Work 20 Hrs. Per Week or More	16	343.063	335.125	- 7.938	331.847

APPENDIX D

Subscale: Total Positive Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	329.507	325.118	- 4.389	331.268
Voc.-Tech./Part-Time	37	329.216	335.838	6.622	332.029
Transfer/Full-Time	64	322.063	326.672	4.609	326.142
Transfer/Part-Time	20	342.150	336.800	- 5.350	329.495

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Identity

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	122.409	123.934	1.525	124.007
Transfer	85	123.447	123.706	0.259	123.331
Age					
22 years or younger	210	122.371	122.810	0.439	123.440
23 years or older	57	124.298	127.895	3.597	125.109
Sex					
Male	123	123.374	124.008	0.634	123.193
Female	143	122.210	123.713	1.503	124.221
Marital Status					
Married	36	123.917	125.694	1.777	123.189
Non-Married	170	123.076	123.294	0.218	123.718
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	121.995	122.601	0.606	123.188
Work 20 Hrs. Per Week or More	53	125.038	127.943	2.905	125.285
Fathers' Educational Level					
Father High School Graduate	54	123.352	123.722	0.370	124.147
Father Non-High School Graduate	131	123.382	123.794	0.412	123.483

APPENDIX D

Subscale: Identity (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	123.760	123.840	0.080	123.447
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	122.683	123.268	0.585	123.521
Student Financial Aid					
Recipient	86	121.070	121.953	0.883	123.838
Non-Recipient	180	123.539	124.772	1.233	123.771
Special Services for Disadvantaged					
Participant	52	119.750	124.962	2.212	124.049
Non-Participant	214	123.467	124.322	0.855	123.731
Level of Choice of Community College					
First Choice	227	123.198	124.617	1.419	123.815
Second or Lower Choice	34	120.647	119.500	- 1.047	123.712
Enrollment Status					
Full-Time	209	122.254	123.139	0.885	123.755
Part-Time	57	124.526	126.509	1.983	123.715

APPENDIX D

Subscale: Identity (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	124.229	122.657	- 1.572	125.539
Voc.-Tech./Father Non-High School Grad.	92	123.609	122.859	- 0.750	123.451
Transfer/Father High School Grad.	18	121.722	124.000	2.278	121.441
Transfer/Father Non-High School Grad.	39	124.231	124.615	0.384	123.558
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	124.149	123.299	- 0.850	123.879
Voc.-Tech./Father Semi-Prof., ------Sales	57	123.018	122.193	- 0.825	123.618
Transfer/Father Unemployed, ---Service Worker	32	122.625	124.344	1.719	122.562
Transfer/Father Semi-Prof., ------Sales	25	123.840	123.800	- 0.040	123.273

APPENDIX D

Subscale: Identity (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	122.696	121.884	- 0.812	123.530
Voc.-Tech./23 or Older	43	127.907	124.093	- 3.814	125.535
Transfer/22 or Younger	71	122.761	123.127	0.366	123.264
Transfer/23 or Older	13	127.462	124.231	- 3.231	123.699
Curricula versus Sex					
Voc.-Tech./Male	98	123.735	123.133	- 0.602	123.086
Voc.-Tech./Female	82	124.024	121.427	- 2.597	124.982
Transfer/Male	24	124.375	123.833	- 0.542	123.630
Transfer/Female	60	123.133	123.083	- 0.050	123.182
Curricula versus Marital Status					
Voc.-Tech./Married	25	123.160	121.320	- 1.840	122.627
Voc.-Tech./Non-Married	114	123.904	123.246	- 0.658	124.155
Transfer/Married	11	131.455	129.818	- 1.637	124.467
Transfer/Non-Married	55	121.691	122.491	0.800	122.810
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	122.543	121.486	- 1.057	123.301
Voc.-Tech./Work 20 Hrs. Per Week or More	37	128.514	125.487	- 3.027	125.805
Transfer/Work Fewer Than 20 Hrs. Per Week	67	122.433	122.851	0.418	122.953
Transfer/Work 20 Hrs. Per Week or More	16	126.625	124.000	- 2.625	124.081

APPENDIX D

Subscale: Identity (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	121.284	120.105	- 1.179	123.955
Voc.-Tech./Non-Recipient	114	125.491	123.763	- 1.728	124.038
Transfer/Recipient	18	123.333	123.833	0.500	123.363
Transfer/Non-Recipient	66	123.530	123.152	- 0.378	123.320
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	120.105	117.526	- 2.579	123.832
Voc.-Tech./Non-Participant	143	124.951	123.706	- 1.245	124.057
Transfer/Participant	13	125.486	125.000	- 0.486	124.609
Transfer/Non-Participant	71	123.056	122.986	- 0.070	123.089
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	124.649	122.890	- 1.759	124.324
Voc.-Tech./Second or Lower Choice	22	120.000	120.455	0.455	122.710
Transfer/First Choice	72	124.306	123.681	- 0.625	123.815
Transfer/Second or Lower Choice	12	118.583	121.000	2.417	120.737

APPENDIX D

Subscale: Identity (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	123.361	121.854	- 1.507	124.104
Voc.-Tech./Part-Time	37	126.162	124.568	- 1.594	123.645
Transfer/Full-Time	64	122.344	122.938	0.594	123.164
Transfer/Part-Time	20	127.150	124.450	- 2.700	123.835

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Self-Satisfaction

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	98.260	99.541	1.281	99.635
Transfer	85	98.518	99.635	0.847	99.146
Age					
22 years or younger	210	97.519	98.233	0.714	99.085
23 years or older	57	101.614	104.754	3.140	100.951
Sex					
Male	123	101.187	102.683	1.496	101.106
Female	143	96.028	96.944	0.916	98.029
Marital Status					
Married	36	100.472	102.806	2.334	99.317
Non-Married	170	97.994	98.782	0.788	99.377
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	97.673	98.428	0.755	99.040
Work 20 Hrs. Per Week or More	53	100.396	103.264	2.868	100.391
Fathers' Educational Level					
Father High School Graduate	54	100.444	100.556	0.112	98.624
Father Non-High School Graduate	131	97.344	98.763	1.419	99.366

APPENDIX D

Subscale: Self-Satisfaction (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	96.179	95.403	- 0.776	98.392
Voc.-Tech./Non-Recipient	114	101.518	99.939	- 1.579	100.370
Transfer/Recipient	18	94.222	95.444	1.222	96.817
Transfer/Non-Recipient	66	100.742	99.000	- 1.742	99.772
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	97.105	95.605	- 1.500	100.027
Voc.-Tech./Non-Participant	143	100.189	98.965	- 1.224	99.527
Transfer/Participant	13	97.385	99.000	1.615	97.602
Transfer/Non-Participant	71	99.704	98.099	- 1.605	99.434
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	100.221	98.714	- 1.507	99.951
Voc.-Tech./Second or Lower Choice	22	96.455	95.818	- 0.637	98.962
Transfer/First Choice	72	99.458	98.014	- 1.444	99.416
Transfer/Second or Lower Choice	12	98.667	99.583	0.916	97.782

APPENDIX D

Subscale: Self-Satisfaction (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	99.350	100.260	0.910	99.276
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	96.390	97.659	1.269	98.557
Student Financial Aid					
Recipient	86	95.721	96.093	0.822	98.062
Non-Recipient	180	99.594	101.233	1.639	100.148
Special Services for Disadvantaged					
Participant	52	96.962	97.692	0.730	99.506
Non-Participant	214	98.678	100.028	2.080	99.506
Level of Choice of Community College					
First Choice	227	98.595	100.084	1.489	99.490
Second or Lower Choice	34	97.147	97.235	0.088	99.443
Enrollment Status					
Full-Time	209	97.751	98.871	1.121	99.528
Part-Time	57	100.509	102.140	1.631	99.167

APPENDIX D

Subscale: Self-Satisfaction (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	98.167	97.594	0.573	99.092
Voc.-Tech./23 or Older	43	103.954	100.395	- 3.559	101.374
Transfer/22 or Younger	71	98.000	97.028	- 0.972	99.073
Transfer/23 or Older	13	106.692	104.846	- 1.846	99.551
Curricula versus Sex					
Voc.-Tech./Male	98	102.888	101.755	- 1.133	101.191
Voc.-Tech./Female	82	95.451	94.146	- 1.305	97.761
Transfer/Male	24	100.958	98.000	- 2.958	100.757
Transfer/Female	60	98.700	98.333	- 0.367	98.395
Curricula versus Marital Status					
Voc.-Tech./Married	25	102.480	99.600	- 2.880	99.763
Voc.-Tech./Non-Married	114	99.342	98.246	- 1.096	99.896
Transfer/Married	11	103.545	102.455	- 1.090	98.307
Transfer/Non-Married	55	97.164	97.036	- 0.128	98.300
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	98.529	97.621	- 0.908	99.308
Voc.-Tech./Work 20 Hrs. Per Week or More	37	102.919	100.081	- 2.838	100.382
Transfer/Work Fewer Than 20 Hrs. Per Week	67	97.836	97.418	- 0.418	98.481
Transfer/Work 20 Hrs. Per Week or More	16	104.063	101.125	- 2.938	100.431

APPENDIX D

Subscale: Self-Satisfaction (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	98.429	98.714	0.285	98.262
Voc.-Tech./Father Non-High School Grad.	92	100.120	97.826	- 2.294	100.330
Transfer/Father High School Grad.	18	103.389	102.611	- 0.778	99.330
Transfer/Father Non-High School Grad.	39	95.564	96.205	0.641	97.091
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	101.925	100.866	- 1.059	99.902
Voc.-Tech./Father Semi-Prof., ------Sales	57	97.193	95.193	- 2.000	99.042
Transfer/Father Unemployed, ---Service Worker	32	96.031	95.469	- 0.562	98.000
Transfer/Father Semi-Prof., ------Sales	25	98.720	99.120	0.400	97.407

APPENDIX D

Subscale: Self-Satisfaction (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	98.896	97.799	- 1.097	99.503
Voc.-Tech./Part-Time	37	102.054	100.054	- 2.000	100.129
Transfer/Full-Time	64	98.422	97.266	- 1.156	99.459
Transfer/Part-Time	20	102.300	101.350	- 0.950	98.172

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Behavior

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	107.138	108.000	0.862	108.088
Transfer	85	107.188	108.129	0.941	107.751
Age					
22 years or younger	210	105.743	106.457	0.714	107.560
23 years or older	57	112.491	114.088	1.597	109.554
Sex					
Male	123	106.984	108.642	1.658	108.670
Female	143	107.245	107.545	0.300	107.326
Marital Status					
Married	36	112.694	113.194	0.500	108.640
Non-Married	170	106.088	107.200	1.112	108.071
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	106.010	106.654	0.644	107.396
Work 20 Hrs. Per Week or More	53	110.925	113.019	2.094	109.793
Fathers' Educational Level					
Father High School Graduate	54	106.963	107.815	0.852	107.329
Father Non-High School Graduate	131	106.718	108.099	1.381	108.172

APPENDIX D

Subscale: Behavior (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	106.560	107.730	1.170	107.251
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	106.622	107.683	1.061	108.062
Student Financial Aid					
Recipient	86	104.453	105.221	0.768	107.153
Non-Recipient	180	108.444	109.389	0.945	108.372
Special Services for Disadvantaged					
Participant	52	103.173	105.923	2.750	108.032
Non-Participant	214	108.121	108.556	0.435	107.969
Level of Choice of Community College					
First Choice	227	107.617	108.608	0.991	107.943
Second or Lower Choice	34	103.500	103.971	0.471	108.119
Enrollment Status					
Full-Time	209	106.067	107.072	1.005	107.921
Part-Time	57	111.140	111.596	0.456	108.045

APPENDIX D

Subscale: Behavior (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	106.174	105.544	- 0.630	107.552
Voc.-Tech./23 or Older	43	113.861	112.256	- 1.605	109.810
Transfer/22 or Younger	71	106.761	106.535	- 0.226	107.576
Transfer/23 or Older	13	114.385	113.077	- 1.308	108.710
Curricula versus Sex					
Voc.-Tech./Male	98	108.694	107.510	- 1.184	108.646
Voc.-Tech./Female	82	107.061	106.500	- 0.561	107.392
Transfer/Male	24	107.792	106.093	- 1.699	108.768
Transfer/Female	60	108.000	108.133	0.133	107.234
Curricula versus Marital Status					
Voc.-Tech./Married	25	110.160	111.640	1.480	107.022
Voc.-Tech./Non-Married	114	107.842	106.360	- 1.482	108.598
Transfer/Married	11	120.091	115.091	- 5.000	112.319
Transfer/Non-Married	55	105.564	106.055	0.491	106.977
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	106.579	105.936	- 0.643	107.460
Voc.-Tech./Work 20 Hrs. Per Week or More	37	113.297	111.324	- 1.973	110.143
Transfer/Work Fewer Than 20 Hrs. Per Week	67	106.552	106.597	0.045	107.262
Transfer/Work 20 Hrs. Per Week or More	16	112.375	110.000	- 2.375	108.986

APPENDIX D

Subscale: Behavior (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	106.857	105.971	- 0.886	107.868
Voc.-Tech./Father Non-High School Grad.	92	108.141	106.685	- 1.456	108.172
Transfer/Father High School Grad.	18	108.778	110.556	1.778	106.283
Transfer/Father Non-High School Grad.	39	108.000	106.795	- 1.205	108.172
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	108.134	107.060	- 1.074	107.311
Voc.-Tech./Father Semi-Prof., ------Sales	57	106.825	105.702	- 1.123	108.030
Transfer/Father Unemployed, ---Service Worker	32	106.375	106.438	0.063	107.157
Transfer/Father Semi-Prof., ------Sales	25	109.640	108.720	- 0.920	108.095

APPENDIX D

Subscale: Behavior (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	104.836	104.313	- 0.523	107.155
Voc.-Tech./Non-Recipient	114	109.860	108.798	- 1.062	108.641
Transfer/Recipient	18	105.611	106.500	0.889	107.063
Transfer/Non-Recipient	66	108.576	107.833	- 0.743	107.930
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	104.447	102.289	- 2.158	107.910
Voc.-Tech./Non-Participant	143	108.944	108.427	- 0.517	108.138
Transfer/Participant	13	108.846	107.769	- 1.077	108.422
Transfer/Non-Participant	71	107.775	107.507	- 0.268	107.623
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	108.292	107.481	- 0.811	107.932
Voc.-Tech./Second or Lower Choice	22	105.500	103.864	- 1.636	108.795
Transfer/First Choice	72	109.069	108.333	- 0.736	108.313
Transfer/Second or Lower Choice	12	101.167	102.833	1.666	104.275

APPENDIX D

Subscale: Behavior (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	107.229	106.090	- 1.139	108.151
Voc.-Tech./Part-Time	37	111.000	111.216	0.216	107.862
Transfer/Full-Time	64	106.453	106.469	0.016	107.477
Transfer/Part-Time	20	112.700	111.000	- 1.700	108.595

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Physical Self

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	66.006	67.055	1.049	66.989
Transfer	85	66.435	66.388	- 0.047	66.405
Age					
22 years or younger	210	65.614	66.014	0.400	66.558
23 years or older	57	68.123	69.965	1.842	67.722
Sex					
Male	123	67.602	68.480	0.878	67.323
Female	143	64.853	65.427	0.574	66.321
Marital Status					
Married	36	66.306	67.472	1.166	66.816
Non-Married	170	66.106	66.518	0.412	66.596
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	65.865	66.034	0.169	66.345
Work 20 Hrs. Per Week or More	53	66.792	69.453	2.661	68.068
Fathers' Educational Level					
Father High School Graduate	54	67.333	67.481	0.148	66.511
Father Non-High School Graduate	131	65.634	66.252	0.618	66.572

APPENDIX D

Subscale: Physical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	66.410	66.720	0.310	66.056
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	65.427	66.012	0.585	66.688
Student Financial Aid					
Recipient	86	64.756	65.395	0.639	66.640
Non-Recipient	180	66.806	67.533	0.727	66.881
Special Services for Disadvantaged					
Participant	52	65.135	65.673	0.538	66.531
Non-Participant	214	66.388	67.126	0.738	66.869
Level of Choice of Community College					
First Choice	227	66.194	67.044	0.850	66.791
Second or Lower Choice	34	66.059	65.853	- 0.206	66.853
Enrollment Status					
Full-Time	209	65.612	66.349	0.737	66.784
Part-Time	57	68.088	68.649	0.561	66.787

APPENDIX D

Subscale: Physical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	66.058	65.109	- 9.949	66.761
Voc.-Tech./23 or Older	43	70.256	68.884	- 1.372	67.719
Transfer/22 or Younger	71	65.775	66.366	0.591	66.163
Transfer/23 or Older	13	68.923	65.615	- 3.308	67.731
Curricula versus Sex					
Voc.-Tech./Male	98	68.633	67.591	- 1.042	67.436
Voc.-Tech./Female	82	65.110	64.098	- 1.012	66.438
Transfer/Male	24	67.500	67.292	- 0.208	66.864
Transfer/Female	60	65.767	65.833	0.066	66.160
Curricula versus Marital Status					
Voc.-Tech./Married	25	66.280	65.480	- 0.800	66.191
Voc.-Tech./Non-Married	114	67.140	66.114	- 1.026	67.046
Transfer/Married	11	70.182	68.182	0.764	65.662
Transfer/Non-Married	55	65.036	65.800	0.764	65.662
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	66.193	65.507	- 0.686	66.568
Voc.-Tech./Work 20 Hrs. Per Week or More	37	69.946	67.432	- 2.514	68.166
Transfer/Work Fewer Than 20 Hrs. Per Week	67	65.567	66.373	0.806	65.880
Transfer/Work 20 Hrs. Per Week or More	16	68.313	65.313	- 3.000	67.841

APPENDIX D

Subscale: Physical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	67.743	66.771	- 0.972	67.244
Voc.-Tech./Father Non-High School Grad.	92	66.576	65.511	- 1.065	66.728
Transfer/Father High School Grad.	18	66.444	67.611	1.167	65.086
Transfer/Father Non-High School Grad.	39	65.487	65.923	0.436	66.203
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	67.597	66.687	- 0.910	66.438
Voc.-Tech./Father Semi-Prof., ------Sales	57	65.895	64.825	- 1.070	66.906
Transfer/Father Unemployed, ---Service Worker	32	64.563	65.344	0.781	65.275
Transfer/Father Semi-Prof., ------Sales	25	66.280	66.800	0.520	66.166

APPENDIX D

Subscale: Physical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	65.299	64.164	- 1.135	66.743
Voc.-Tech./Non-Recipient	114	68.088	67.088	- 1.000	67.135
Transfer/Recipient	18	65.111	66.000	0.889	66.233
Transfer/Non-Recipient	66	66.576	66.318	- 0.258	66.450
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	64.895	63.974	- 0.921	66.378
Voc.-Tech./Non-Participant	143	67.629	66.545	- 1.084	67.152
Transfer/Participant	13	67.077	67.231	0.154	66.943
Transfer/Non-Participant	71	66.113	66.070	- 0.043	66.305
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	67.273	66.182	- 1.091	67.043
Voc.-Tech./Second or Lower Choice	22	66.136	65.136	- 1.000	67.087
Transfer/First Choice	72	66.417	66.000	- 0.417	66.765
Transfer/Second or Lower Choice	12	65.333	67.750	2.417	64.443

APPENDIX D

Subscale: Physical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	66.576	65.229	- 1.347	67.033
Voc.-Tech./Part-Time	37	68.919	69.027	0.108	66.828
Transfer/Full-Time	64	65.672	66.219	0.547	66.245
Transfer/Part-Time	20	68.150	66.350	- 1.800	66.898

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Moral-Ethical Self

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	65.381	65.862	0.031	66.134
Transfer	85	66.624	66.788	0.164	65.961
Age					
22 years or younger	210	65.100	65.281	0.181	65.712
23 years or older	57	68.404	69.456	1.052	67.448
Sex					
Male	123	64.675	65.919	1.244	66.311
Female	143	66.762	66.308	- 0.454	65.796
Marital Status					
Married	36	69.389	68.861	- 0.528	65.882
Non-Married	170	65.135	65.706	0.571	66.215
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	65.337	65.418	0.081	65.675
Work 20 Hrs. Per Week or More	53	66.925	68.491	1.566	67.080
Fathers' Educational Level					
Father High School Graduate	54	65.444	65.994	0.550	65.807
Father Non-High School Graduate	131	65.878	66.267	0.749	66.162

APPENDIX D

Subscale: Moral-Ethical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	64.314	63.886	- 0.428	65.816
Voc.-Tech./Father Non-High School Grad.	92	66.196	65.565	- 0.631	66.273
Transfer/Father High School Grad.	18	67.944	68.333	0.389	65.790
Transfer/Father Non-High School Grad.	39	66.436	66.615	0.179	65.889
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	66.493	65.403	- 1.090	66.470
Voc.-Tech./Father Semi-Prof., ------Sales	57	64.614	64.789	0.175	65.395
Transfer/Father Unemployed, ---Service Worker	32	65.688	66.031	0.343	65.680
Transfer/Father Semi-Prof., ------Sales	25	67.840	67.920	0.080	66.130

APPENDIX D

Subscale: Moral-Ethical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	64.877	64.703	- 0.174	65.641
Voc.-Tech./23 or Older	43	69.023	67.558	- 1.465	67.718
Transfer/22 or Younger	71	65.761	65.831	0.080	65.852
Transfer/23 or Older	13	70.846	70.846	0.000	66.555
Curricula versus Sex					
Voc.-Tech./Male	98	65.857	64.755	- 1.102	66.358
Voc.-Tech./Female	82	65.720	66.098	0.378	65.752
Transfer/Male	24	65.292	64.208	- 1.084	66.115
Transfer/Female	60	67.050	67.567	0.517	65.857
Curricula versus Marital Status					
Voc.-Tech./Married	25	67.120	67.720	0.600	65.618
Voc.-Tech./Non-Married	114	65.728	65.018	- 0.710	66.381
Transfer/Married	11	72.818	73.182	0.364	66.483
Transfer/Non-Married	55	65.273	65.327	0.054	65.870
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	65.171	65.036	- 0.135	65.740
Voc.-Tech./Work 20 Hrs. Per Week or More	37	68.081	66.216	- 1.865	67.176
Transfer/Work Fewer Than 20 Hrs. Per Week	67	65.612	65.925	0.313	65.540
Transfer/Work 20 Hrs. Per Week or More	16	69.438	68.563	- 0.875	66.859

APPENDIX D

Subscale: Moral-Ethical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	65.630	66.440	0.810	66.208
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	65.744	65.598	- 0.146	65.627
Student Financial Aid					
Recipient	86	64.907	64.500	- 0.407	65.217
Non-Recipient	180	66.194	66.950	0.756	66.486
Special Services for Disadvantaged					
Participant	52	64.731	65.058	0.327	65866
Non-Participant	214	66.033	66.425	0.392	66.130
Level of Choice of Community College					
First Choice	227	66.189	66.683	0.494	65.980
Second or Lower Choice	34	63.118	63.159	- 0.059	66.442
Enrollment Status					
Full-Time	209	65.172	65.560	0.388	65.968
Part-Time	57	68.000	68.351	0.351	66.279

APPENDIX D

Subscale: Moral-Ethical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	64.224	64.925	0.701	65.244
Voc.-Tech./Non-Recipient	114	66.825	65.649	- 1.176	66.674
Transfer/Recipient	18	64.278	64.667	0.389	65.130
Transfer/Non-Recipient	66	67.167	67.136	- 0.031	66.179
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	64.368	64.053	- 0.315	66.326
Voc.-Tech./Non-Participant	143	66.259	65.734	- 0.525	66.081
Transfer/Participant	13	65.385	66.462	1.077	64.624
Transfer/Non-Participant	71	66.761	66.634	- 0.127	66.210
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	66.370	65.760	- 0.610	66.293
Voc.-Tech./Second or Lower Choice	22	62.864	62.773	- 0.091	65.534
Transfer/First Choice	72	67.069	67.083	0.014	66.126
Transfer/Second or Lower Choice	12	63.417	63.750	0.333	65.167

APPENDIX D

Subscale: Moral-Ethical Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	65.361	64.875	- 0.486	66.049
Voc.-Tech./Part-Time	37	67.811	67.351	- 0.460	66.464
Transfer/Full-Time	64	65.672	65.797	- 0.125	65.823
Transfer/Part-Time	20	69.350	69.200	- 0.150	66.401

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Personal Self

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	62.387	64.133	1.746	64.151
Transfer	85	63.094	63.647	0.553	63.485
Age					
22 years or younger	210	62.500	63.514	1.014	63.851
23 years or older	57	63.070	65.737	2.667	64.271
Sex					
Male	123	64.203	65.236	1.033	64.138
Female	143	61.252	62.874	1.622	63.726
Marital Status					
Married	36	63.361	65.750	2.389	64.242
Non-Married	170	62.782	63.924	1.142	64.185
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	62.168	63.385	1.217	63.807
Work 20 Hrs. Per Week or More	53	64.019	66.094	2.075	64.243
Fathers' Educational Level					
Father High School Graduate	54	64.778	64.463	- 0.315	63.476
Father Non-High School Graduate	131	64.053	64.191	0.138	64.517

APPENDIX D

Subscale: Personal Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	63.110	64.520	1.410	64.136
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	62.280	63.646	- 1.366	63.994
Student Financial Aid					
Recipient	86	61.837	62.419	0.582	63.437
Non-Recipient	180	62.983	64.722	1.739	64.177
Special Services for Disadvantaged					
Participant	52	60.846	62.942	2.096	64.433
Non-Participant	214	63.042	64.229	1.187	63.822
Level of Choice of Community College					
First Choice	227	62.762	64.423	1.661	64.049
Second or Lower Choice					
Enrollment Status					
Full-Time	209	62.474	63.789	1.315	64.037
Part-Time	57	63.123	64.667	1.544	63.470

APPENDIX D

Subscale: Personal Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	63.572	62.232	- 1.340	63.967
Voc.-Tech./23 or Older	43	65.930	62.884	- 3.046	64.741
Transfer/22 or Younger	71	63.254	62.761	- 0.493	63.627
Transfer/23 or Older	13	65.000	63.538	- 1.462	62.718
Curricula versus Sex					
Voc.-Tech./Male	98	65.541	64.398	- 1.143	64.252
Voc.-Tech./Female	82	62.378	59.963	- 2.415	63.979
Transfer/Male	24	63.625	62.708	- 0.917	63.673
Transfer/Female	60	63.483	62.950	- 0.533	63.381
Curricula versus Marital Status					
Voc.-Tech./Married	25	65.320	63.120	- 2.200	64.214
Voc.-Tech./Non-Married	114	64.553	62.737	- 1.816	64.686
Transfer/Married	11	66.727	63.909	- 2.818	64.306
Transfer/Non-Married	55	62.436	62.545	0.109	63.147
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	63.450	61.679	- 1.771	64.064
Voc.-Tech./Work 20 Hrs. Per Week or More	37	66.649	64.784	- 1.865	64.316
Transfer/Work Fewer Than 20 Hrs. Per Week	67	63.090	62.910	- 0.180	63.271
Transfer/Work 20 Hrs. Per Week or More	16	64.813	62.250	- 2.563	64.077

APPENDIX D

Subscale: Personal Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	64.029	63.514	- 0.515	63.926
Voc.-Tech./Father Non-High School Grad.	92	64.772	62.011	- 2.761	64.958
Transfer/Father High School Grad.	18	64.778	66.333	1.555	62.602
Transfer/Father Non-High School Grad.	39	62.821	62.154	- 0.667	63.477
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	65.403	63.149	- 2.254	64.761
Voc.-Tech./Father Semi-Prof., ------Sales	57	63.702	61.825	- 1.877	64.392
Transfer/Father Unemployed, ---Service Worker	32	62.375	62.469	- 0.094	62.888
Transfer/Father Semi-Prof., ------Sales	25	63.520	63.320	- 0.200	63.010

APPENDIX D

Subscale: Personal Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	61.985	61.060	- 0.925	63.303
Voc.-Tech./Non-Recipient	114	65.395	63.167	- 2.228	64.652
Transfer/Recipient	18	63.389	63.667	0.278	63.756
Transfer/Non-Recipient	66	63.561	62.667	- 0.894	63.405
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	61.974	59.000	- 2.974	64.523
Voc.-Tech./Non-Participant	143	64.706	63.287	- 1.419	64.054
Transfer/Participant	13	64.923	64.692	- 0.231	64.213
Transfer/Non-Participant	71	63.268	62.549	- 0.719	63.347
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	64.500	62.507	- 1.993	64.344
Voc.-Tech./Second or Lower Choice	22	62.273	62.045	- 0.228	63.358
Transfer/First Choice	72	64.125	63.056	- 1.069	64.041
Transfer/Second or Lower Choice	12	59.917	61.833	1.916	60.428

APPENDIX D

Subscale: Personal Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	63.889	62.063	- 1.826	64.206
Voc.-Tech./Part-Time	37	65.081	63.649	- 1.432	63.934
Transfer/Full-Time	64	63.406	63.109	- 0.297	63.696
Transfer/Part-Time	20	63.900	62.150	- 1.750	62.812

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Family Self

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	67.519	67.331	- 0.188	67.480
Transfer	85	66.929	67.306	0.377	66.895
Age					
22 years or younger	210	66.276	66.452	0.176	66.978
23 years or older	57	71.456	70.772	- 0.684	68.474
Sex					
Male	123	68.520	68.081	- 0.439	68.015
Female	143	66.371	66.720	0.349	66.642
Marital Status					
Married	36	70.972	70.750	- 0.222	67.973
Non-Married	170	66.565	66.965	0.360	67.142
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	66.313	66.563	0.250	66.795
Work 20 Hrs. Per Week or More	53	70.774	69.906	- 0.868	68.686
Fathers' Educational Level					
Father High School Graduate	54	66.537	67.167	0.630	67.095
Father Non-High School Graduate	131	67.519	67.511	- 0.008	67.213

APPENDIX D

Subscale: Family Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	67.570	67.210	- 0.360	67.470
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	66.732	67.610	0.878	66.737
Student Financial Aid					
Recipient	86	65.395	65.326	- 0.069	67.119
Non-Recipient	180	68.256	68.278	0.022	67.377
Special Services for Disadvantaged					
Participant	52	66.000	65.942	- 0.058	67.245
Non-Participant	214	67.654	67.659	0.005	67.306
Level of Choice of Community College					
First Choice	227	67.784	67.661	- 0.123	67.274
Second or Lower Choice	34	64.765	65.147	0.382	67.370
Enrollment Status					
Full-Time	209	66.708	66.708	0.000	67.271
Part-Time	57	69.614	69.579	- 0.035	67.298

APPENDIX D

Subscale: Family Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	66.464	66.442	- 0.022	67.131
Voc.-Tech./23 or Older	43	70.907	70.186	- 0.721	68.600
Transfer/22 or Younger	71	65.761	66.324	0.563	66.682
Transfer/23 or Older	13	72.538	71.923	- 0.615	68.058
Curricula versus Sex					
Voc.-Tech./Male	98	68.388	68.061	- 0.327	67.958
Voc.-Tech./Female	82	66.427	66.378	- 0.049	66.912
Transfer/Male	24	68.708	67.792	- 0.916	68.250
Transfer/Female	60	66.050	66.950	0.900	66.273
Curricula versus Marital Status					
Voc.-Tech./Married	25	70.120	70.200	0.080	67.789
Voc.-Tech./Non-Married	114	67.123	67.000	- 0.123	67.596
Transfer/Married	11	72.909	72.000	- 0.909	68.391
Transfer/Non-Married	55	65.218	66.709	1.491	66.200
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	66.543	66.571	0.028	66.947
Voc.-Tech./Work 20 Hrs. Per Week or More	37	70.865	69,946	- 0,919	69.052
Transfer/Work Fewer Than 20 Hrs. Per Week	67	65.672	66.388	0.716	66.478
Transfer/Work 20 Hrs. Per Week or More	16	70.563	69.813	- 0.750	67.841

APPENDIX D

Subscale: Family Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	66.886	66.857	- 0.029	67.824
Voc.-Tech./Father Non-High School Grad.	92	67.880	67.489	- 0.391	67.486
Transfer/Father High School Grad.	18	65.278	67.222	1.944	65.676
Transfer/Father Non-High School Grad.	39	66.667	67.564	0.897	66.570
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	68.299	67.552	- 0.747	67.681
Voc.-Tech./Father Semi-Prof., ------Sales	57	66.825	67.368	0.543	67.046
Transfer/Father Unemployed, ---Service Worker	32	65.570	66.188	0.438	67.075
Transfer/Father Semi-Prof., ------Sales	25	66.520	68.160	1.640	65.974

APPENDIX D

Subscale: Family Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	65.343	64.746	- 0.597	67.582
Voc.-Tech./Non-Recipient	114	68.798	68.851	0.053	67.419
Transfer/Recipient	18	64.944	66.833	1.889	65.481
Transfer/Non-Recipient	66	67.318	67.288	- 0.030	67.281
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	64.895	64.526	- 0.369	67.163
Voc.-Tech./Non-Participant	143	68.217	68.077	- 0.140	67.566
Transfer/Participant	13	68.385	69.231	0.846	67.472
Transfer/Non-Participant	71	66.521	66.817	0.296	66.786
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	67.968	67.682	- 0.286	67.586
Voc.-Tech./Second or Lower Choice	22	65.136	65.000	- 0.136	67.522
Transfer/First Choice	72	67.264	67.486	0.222	67.100
Transfer/Second or Lower Choice	12	64.083	65.417	1.334	65.588

APPENDIX D

Subscale: Family Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	67.139	66.868	- 0.271	67.530
Voc.-Tech./Part-Time	37	69.000	69.135	0.135	67.296
Transfer/Full-Time	64	65.578	66.188	0.610	66.697
Transfer/Part-Time	20	70.750	70.400	- 0.350	67.505

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Social Self

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	65.983	66.917	0.943	66.988
Transfer	85	65.765	67.694	- 2.863	67.455
Age					
22 years or younger	210	65.424	66.419	0.995	66.988
23 years or older	57	67.860	70.105	2.245	67.687
Sex					
Male	123	65.886	67.203	1.317	67.211
Female	143	65.972	67.203	1.231	67.065
Marital Status					
Married	36	67.250	68.639	1.389	66.249
Non-Married	170	65.641	66.571	1.130	67.030
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	65.293	69.524	4.231	66.999
Work 20 Hrs. Per Week or More	53	68.151	69.415	1.264	67.398
Fathers' Educational Level					
Father High School Graduate	54	65.963	67.648	2.949	67.185
Father Non-High School Graduate	131	65.443	66.443	1.000	66.574

APPENDIX D

Subscale: Social Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	66.100	66.590	0.490	66.114
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	64.622	66.622	2.000	67.094
Student Financial Aid					
Recipient	86	64.477	65.558	1.081	66.640
Non-Recipient	180	66.600	67.933	1.333	67.370
Special Services for Disadvantaged					
Participant	52	63.327	65.865	2.538	67.336
Non-Participant	214	66.542	67.481	0.739	67.088
Level of Choice of Community College					
First Choice	227	66.062	67.370	1.308	67.158
Second or Lower Choice	34	64.971	65.618	0.647	67.054
Enrollment Status					
Full-Time	209	65.464	66.679	1.215	67.148
Part-Time	57	67.561	68.947	1.386	67.075

APPENDIX D

Subscale: Social Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	66.080	65.667	- 0.413	66.689
Voc.-Tech./23 or Older	43	69.605	67.000	- 2.605	67.946
Transfer/22 or Younger	71	66.958	65.408	- 1.550	67.571
Transfer/23 or Older	13	71.154	70.231	- 0.923	66.827
Curricula versus Sex					
Voc.-Tech./Male	98	66.929	66.225	- 0.704	66.957
Voc.-Tech./Female	82	66.890	65.659	- 1.231	67.036
Transfer/Male	24	68.000	65.875	- 2.125	68.248
Transfer/Female	60	67.450	66.267	- 1.183	67.105
Curricula versus Marital Status					
Voc.-Tech./Married	25	66.960	66.000	- 0.960	65.625
Voc.-Tech./Non-Married	114	66.570	65.842	- 0.728	66.964
Transfer/Married	11	72.455	70.091	- 2.364	67.667
Transfer/Non-Married	55	66.418	65.200	- 1.218	67.166
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	66.300	65.536	- 0.764	66.756
Voc.-Tech./Work 20 Hrs. Per Week or More	37	69.216	67.703	- 1.513	67.656
Transfer/Work Fewer Than 20 Hrs. Per Week	67	66.866	65.269	- 1.597	67.509
Transfer/Work 20 Hrs. Per Week or More	16	69.875	69.188	- 0.687	66.802

APPENDIX D

Subscale: Social Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	66.543	66.286	- 0.257	66.851
Voc.-Tech./Father Non-High School Grad.	92	66.478	65.380	- 1.098	66.547
Transfer/Father High School Grad.	18	69.389	67.167	- 2.222	67.834
Transfer/Father Non-High School Grad.	39	66.359	65.590	- 0.769	66.638
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	66.448	66.687	0.239	65.782
Voc.-Tech./Father Semi-Prof., ------Sales	57	66.018	64.088	- 1.993	66.965
Transfer/Father Unemployed, ---Service Worker	32	66.625	65.906	- 0.719	66.753
Transfer/Father Semi-Prof., ------Sales	25	68.000	65.840	- 2.160	67.459

APPENDIX D

Subscale: Social Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	65.448	64.776	- 0.672	66.643
Voc.-Tech./Non-Recipient	114	67.781	66.693	- 1.088	67.191
Transfer/Recipient	18	65.444	65.111	- 0.333	66.633
Transfer/Non-Recipient	66	68.197	66.439	- 1.758	67.677
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	65.474	63.605	- 1.869	67.328
Voc.-Tech./Non-Participant	143	67.301	66.615	- 0.686	66.898
Transfer/Participant	13	66.308	64.846	- 1.462	67.377
Transfer/Non-Participant	71	67.845	66.394	- 1.451	67.468
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	67.058	66.110	- 0.948	66.948
Voc.-Tech./Second or Lower Choice	22	65.591	65.182	- 0.409	67.009
Transfer/First Choice	72	67.931	66.417	- 1.514	67.483
Transfer/Second or Lower Choice	12	65.667	64.583	- 1.084	67.164

APPENDIX D

Subscale: Social Self (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	66.535	65.736	- 0.799	66.953
Voc.-Tech./Part-Time	37	68.405	66.946	- 1.459	67.117
Transfer/Full-Time	64	66.875	65.359	- 1.516	67.621
Transfer/Part-Time	20	69.950	68.700	- 1.250	66.936

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Total Variability Score

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	50.928	48.823	- 2.105	48.652
Transfer	85	49.376	46.647	- 2.729	47.082
Age					
22 years or younger	210	50.705	48.000	- 2.705	48.081
23 years or older	57	49.298	48.404	- 0.894	48.429
Sex					
Male	123	49.081	45.935	- 3.146	46.366
Female	143	51.469	49.937	- 1.532	49.962
Marital Status					
Married	36	46.750	46.250	- 0.500	48.316
Non-Married	170	50.853	47.765	- 3.088	47.364
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	50.736	48.260	- 2.476	48.344
Work 20 Hrs. Per Week or More	53	49.849	48.226	- 1.623	48.031
Fathers' Educational Level					
Father High School Graduate	54	49.352	48.278	- 1.074	48.815
Father Non-High School Graduate	131	50.527	47.076	- 3.451	46.914

APPENDIX D

Subscale: Total Variability Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	50.030	46.930	- 3.100	46.972
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	50.341	47.915	- 2.426	47.936
Student Financial Aid					
Recipient	86	51.151	50.744	- 0.407	50.793
Non-Recipient	180	50.089	46.878	- 3.211	46.909
Special Services for Disadvantaged					
Participant	52	50.673	50.404	- 0.269	50.335
Non-Participant	214	50.374	47.575	- 2.799	47.635
Level of Choice of Community College					
First Choice	227	50.022	47.982	- 2.040	48.268
Second or Lower Choice	34	53.971	48.059	- 5.912	47.739
Enrollment Status					
Full-Time	209	50.502	48.129	- 2.373	48.196
Part-Time	57	50.175	48.123	- 2.052	48.002

APPENDIX D

Subscale: Total Variability Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	48.659	51.384	2.725	48.561
Voc.-Tech./23 or Older	43	49.349	49.465	0.116	48.946
Transfer/22 or Younger	71	46.817	49.845	3.028	47.148
Transfer/23 or Older	13	46.154	49.231	3.077	46.720
Curricula versus Sex					
Voc.-Tech./Male	98	46.765	49.520	2.755	47.129
Voc.-Tech./Female	82	51.293	52.488	1.195	50.402
Transfer/Male	24	42.750	48.583	5.833	43.250
Transfer/Female	60	48.300	50.217	1.917	48.722
Curricula versus Marital Status					
Voc.-Tech./Married	25	45.560	45.840	0.280	48.764
Voc.-Tech./Non-Married	114	48.219	51.123	2.904	47.633
Transfer/Married	11	47.818	48.818	1.000	47.298
Transfer/Non-Married	55	46.945	50.891	3.946	46.807
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	48.850	51.371	2.521	48.730
Voc.-Tech./Work 20 Hrs. Per Week or More	37	49.297	50.243	0.946	48.820
Transfer/Work Fewer Than 20 Hrs. Per Week	67	47.134	49.896	2.762	47.539
Transfer/Work 20 Hrs. Per Week or More	16	45.750	48.938	3.188	46.206

APPENDIX D

Subscale: Total Variability Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	51.600	50.457	- 1.143	51.311
Voc.-Tech./Father Non-High School Grad.	92	46.424	50.641	4.217	46.478
Transfer/Father High School Grad.	18	42.222	48.944	6.722	43.961
Transfer/Father Non-High School Grad.	39	48.615	50.256	1.641	47.944
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	46.224	49.090	2.866	47.089
Voc.-Tech./Father Semi-Prof., ------Sales	57	48.965	51.614	2.649	48.339
Transfer/Father Unemployed, ---Service Worker	32	48.594	53.000	4.406	46.794
Transfer/Father Semi-Prof., ------Sales	25	45.520	47.440	1.920	46.934

APPENDIX D

Subscale: Total Variability Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	51.358	52.821	1.463	51.031
Voc.-Tech./Non-Recipient	114	47.333	49.816	2.483	47.246
Transfer/Recipient	18	49.000	46.778	- 2.222	49.931
Transfer/Non-Recipient	66	46.091	50.561	4.470	46.320
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	51.263	52.237	0.974	50.838
Voc.-Tech./Non-Participant	143	48.175	50.580	2.405	48.080
Transfer/Participant	13	48.615	48.615	0.000	48.879
Transfer/Non-Participant	71	46.366	49.958	3.592	46.736
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	48.760	50.714	1.954	48.691
Voc.-Tech./Second or Lower Choice	22	47.818	53.773	5.955	46.671
Transfer/First Choice	72	46.417	48.986	2.569	46.986
Transfer/Second or Lower Choice	12	48.500	54.333	5.833	48.058

APPENDIX D

Subscale: Total Variability Score (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	49.236	51.347	2.111	49.073
Voc.-Tech./Part-Time	37	47.216	49.297	2.081	47.070
Transfer/Full-Time	64	45.750	49.109	3.359	46.458
Transfer/Part-Time	20	49.880	51.800	1.920	48.978

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Column Total Variability

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	32.508	31.381	- 1.127	31.286
Transfer	85	30.965	30.082	- 0.883	30.371
Age					
22 years or younger	210	32.162	31.233	- 0.929	31.106
23 years or older	57	31.351	29.807	- 1.544	30.587
Sex					
Male	123	31.593	29.154	- 2.439	29.736
Female	143	32.259	32.441	0.182	32.065
Marital Status					
Married	36	28.889	28.806	- 0.083	30.378
Non-Married	170	32.765	31.065	- 1.700	30.700
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	31.981	31.130	- 0.851	31.099
Work 20 Hrs. Per Week or More	53	32.434	30.604	- 1.830	30.878
Fathers' Educational Level					
Father High School Graduate	54	32.259	30.407	- 1.852	31.295
Father Non-High School Graduate	131	32.336	31.015	- 1.321	30.712

APPENDIX D

Subscale: Column Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	32.830	30.350	- 2.480	30.534
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	31.780	31.512	- 0.268	31.380
Student Financial Aid					
Recipient	86	32.535	32.360	- 0.175	32.027
Non-Recipient	180	31.767	30.300	- 1.467	30.509
Special Services for Disadvantaged					
Participant	52	31.500	31.538	0.038	31.410
Non-Participant	214	32.140	30.827	- 1.313	30.897
Level of Choice of Community College					
First Choice	227	31.855	30.780	- 1.075	31.040
Second or Lower Choice	34	33.735	31.706	- 2.029	30.837
Enrollment Status					
Full-Time	209	32.215	31.038	- 1.177	30.986
Part-Time	57	31.281	30.702	- 0.579	30.997

APPENDIX D

Subscale: Column Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	31.630	32.601	0.971	31.383
Voc.-Tech./23 or Older	43	30.581	32.209	1.628	30.975
Transfer/22 or Younger	71	30.577	31.549	0.972	30.567
Transfer/23 or Older	13	27.923	29.000	1.077	29.301
Curricula versus Sex					
Voc.-Tech./Male	98	29.112	31.786	2.674	29.826
Voc.-Tech./Female	82	34.073	33.256	-0.817	32.967
Transfer/Male	24	29.583	31.500	1.917	29.369
Transfer/Female	60	30.400	31.017	0.617	30.831
Curricula versus Marital Status					
Voc.-Tech./Married	25	27.680	27.880	0.200	30.840
Voc.-Tech./Non-Married	114	31.254	33.298	2.042	30.722
Transfer/Married	11	31.364	31.183	-0.182	30.508
Transfer/Non-Married	55	30.818	31.982	1.164	30.656
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	31.436	32.471	1.035	31.192
Voc.-Tech./Work 20 Hrs. Per Week or More	37	31.351	33.243	1.892	31.702
Transfer/Work Fewer Than 20 Hrs. Per Week	67	30.612	31.209	0.597	30.903
Transfer/Work 20 Hrs. Per Week or More	16	28.875	30.563	1.688	28.972

APPENDIX D

Subscale: Column Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	33.086	34.171	1.085	32.887
Voc.-Tech./Father Non-High School Grad.	92	30.054	32.283	2.229	30.082
Transfer/Father High School Grad.	18	25.611	29.500	3.889	28.199
Transfer/Father Non-High School Grad.	39	33.282	32.462	- 0.820	32.199
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	29.910	32.403	2.493	30.948
Voc.-Tech./Father Semi-Prof., ------Sales	57	31.632	32.912	1.281	30.771
Transfer/Father Unemployed, ---Service Worker	32	31.500	34.281	2.781	29.728
Transfer/Father Semi-Prof., ------Sales	25	31.240	29.200	- 2.040	32.688

APPENDIX D

Subscale: Column Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	32.313	33.090	0.777	31.832
Voc.-Tech./Non-Recipient	114	30.833	32.167	1.334	30.963
Transfer/Recipient	18	33.056	31.444	- 1.612	32.654
Transfer/Non-Recipient	66	29.379	31.076	1.697	29.751
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	31.447	31.816	0.339	31.035
Voc.-Tech./Non-Participant	143	31.364	32.692	1.328	31.357
Transfer/Participant	13	32.462	31.846	- 0.616	32.387
Transfer/Non-Participant	71	29.746	31.028	1.282	29.992
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	31.156	32.435	1.279	31.137
Voc.-Tech./Second or Lower Choice	22	32.273	34.136	1.863	31.493
Transfer/First Choice	72	30.083	30.847	0.764	30.306
Transfer/Second or Lower Choice	12	30.667	33.000	2.333	30.999

APPENDIX D

Subscale: Column Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	31.674	32.944	1.270	31.446
Voc.-Tech./Part-Time	37	30.243	30.811	0.568	30.683
Transfer/Full-Time	64	29.734	30.844	1.110	30.125
Transfer/Part-Time	20	31.550	32.150	0.600	31.121

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Row Total Variability

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	18.812	18.442	- 0.370	18.417
Transfer	85	18.471	17.882	- 0.589	17.934
Age					
22 years or younger	210	18.581	18.162	- 0.419	18.404
23 years or older	57	19.140	18.596	- 0.544	17.743
Sex					
Male	123	18.130	17.593	- 0.537	18.069
Female	143	19.189	18.846	- 0.343	18.455
Marital Status					
Married	36	17.778	17.778	0.000	18.085
Non-Married	170	18.547	18.035	- 0.512	17.970
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	18.793	18.538	- 0.255	18.628
Work 20 Hrs. Per Week or More	53	18.698	17.509	- 1.189	17.170
Fathers' Educational Level					
Father High School Graduate	54	18.537	17.981	- 0.556	17.593
Father Non-High School Graduate	131	18.168	17.794	- 0.930	17.951

APPENDIX D

Subscale: Row Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	18.040	17.700	- 0.340	17.741
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	18.451	17.866	- 0.585	17.812
Student Financial Aid					
Recipient	86	18.756	18.628	- 0.128	18.600
Non-Recipient	180	18.678	18.089	- 0.679	18.105
Special Services for Disadvantaged					
Participant	52	19.288	18.885	- 0.403	18.452
Non-Participant	214	18.561	18.112	- 0.449	18.219
Level of Choice of Community College					
First Choice	227	18.476	18.022	- 0.454	18.454
Second or Lower Choice	34	20.412	19.500	- 0.912	17.570
Enrollment Status					
Full-Time	209	18.660	18.349	- 0.311	18.450
Part-Time	57	18.860	17.947	- 0.913	17.633

APPENDIX D

Subscale: Row Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	18.384	18.743	0.359	18.580
Voc.-Tech./23 or Older	43	18.628	18.907	0.279	17.894
Transfer/22 or Younger	71	17.732	18.296	0.564	18.060
Transfer/23 or Older	13	18.692	20.000	1.308	17.244
Curricula versus Sex					
Voc.-Tech./Male	98	17.653	18.459	0.806	18.072
Voc.-Tech./Female	82	19.427	19.292	-0.135	18.857
Transfer/Male	24	17.333	17.083	-0.250	18.055
Transfer/Female	60	18.100	19.150	1.050	17.905
Curricula versus Marital Status					
Voc.-Tech./Married	25	18.120	17.960	-0.160	18.919
Voc.-Tech./Non-Married	114	18.026	18.439	0.413	18.008
Transfer/Married	11	17.000	17.364	0.364	16.191
Transfer/Non-Married	55	18.055	18.909	0.854	17.892
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	18.750	18.900	0.150	18.772
Voc.-Tech./Work 20 Hrs. Per Week or More	37	17.784	18.919	1.135	17.564
Transfer/Work Fewer Than 20 Hrs. Per Week	67	18.104	18.687	0.583	18.327
Transfer/Work 20 Hrs. Per Week or More	16	16.875	18.188	1.313	16.257

APPENDIX D

Subscale: Row Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	18.514	18.286	- 0.228	18.044
Voc.-Tech./Father Non-High School Grad.	92	17.750	18.359	0.609	17.904
Transfer/Father High School Grad.	18	16.944	19.444	2.500	16.715
Transfer/Father Non-High School Grad.	39	17.897	17.718	- 0.179	18.062
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	17.896	17.821	- 0.075	18.203
Voc.-Tech./Father Semi-Prof., ------Sales	57	17.684	18.596	0.912	17.558
Transfer/Father Unemployed, ---Service Worker	32	17.281	18.719	1.438	16.825
Transfer/Father Semi-Prof., ------Sales	25	18.280	18.120	- 0.160	18.329

APPENDIX D

Subscale: Row Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	19.358	19.791	0.433	18.863
Voc.-Tech./Non-Recipient	114	17.904	18.237	0.333	18.153
Transfer/Recipient	18	15.944	15.333	-0.611	17.594
Transfer/Non-Recipient	66	18.409	19.439	1.030	18.031
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	19.842	20.368	0.526	18.918
Voc.-Tech./Non-Participant	143	18.070	18.399	0.329	18.283
Transfer/Participant	13	16.154	16.769	0.615	17.186
Transfer/Non-Participant	71	18.197	18.887	0.690	18.074
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	18.123	18.701	0.578	18.141
Voc.-Tech./Second or Lower Choice	22	20.136	19.909	-0.227	19.754
Transfer/First Choice	72	17.806	18.097	0.291	18.031
Transfer/Second or Lower Choice	12	18.333	21.333	3.000	17.453

APPENDIX D

Subscale: Row Total Variability (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	18.653	18.889	0.236	18.610
Voc.-Tech./Part-Time	37	17.622	18.514	0.892	17.679
Transfer/Full-Time	64	17.672	18.266	0.594	18.104
Transfer/Part-Time	20	18.550	19.500	0.950	17.368

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Distribution

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	108.403	109.812	1.409	109.825
Transfer	85	109.224	109.118	- 0.106	108.737
Age					
22 years or younger	210	106.662	107.119	0.457	109.345
23 years or older	57	116.298	119.158	2.860	109.983
Sex					
Male	123	109.293	110.423	1.130	110.310
Female	143	108.182	109.105	0.923	108.811
Marital Status					
Married	36	110.472	113.500	3.028	108.359
Non-Married	170	106.741	107.894	1.153	108.806
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	107.154	107.798	0.644	109.200
Work 20 Hrs. Per Week or More	53	114.094	116.000	1.906	109.935
Fathers' Educational Level					
Father High School Graduate	54	110.111	110.907	0.796	108.699
Father Non-High School Graduate	131	104.863	106.687	1.824	107.366

APPENDIX D

Subscale: Distribution (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	106.690	107.770	1.080	106.715
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	105.561	107.305	1.744	108.199
Student Financial Aid					
Recipient	86	105.988	105.953	- 0.035	108.982
Non-Recipient	180	109.944	111.328	1.384	109.714
Special Services for Disadvantaged					
Participant	52	104.654	105.808	1.154	109.006
Non-Participant	214	109.640	110.509	0.869	109.592
Level of Choice of Community College					
First Choice	227	108.811	110.137	1.326	109.834
Second or Lower Choice	34	108.882	106.206	- 2.676	108.188
Enrollment Status					
Full-Time	209	107.105	108.148	1.043	109.837
Part-Time	57	114.386	114.877	0.491	108.271

APPENDIX D

Subscale: Distribution (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	106.826	107.978	1.152	110.026
Voc.-Tech./23 or Older	43	113.465	115.698	2.233	109.177
Transfer/22 or Younger	71	105.845	105.000	-0.845	108.021
Transfer/23 or Older	13	125.154	129.308	4.154	112.650
Curricula versus Sex					
Voc.-Tech./Male	98	108.949	110.398	1.449	110.658
Voc.-Tech./Female	82	107.671	109.195	1.524	108.969
Transfer/Male	24	109.333	109.333	0.000	108.889
Transfer/Female	60	108.633	108.533	-0.100	108.596
Curricula versus Marital Status					
Voc.-Tech./Married	25	105.520	107.080	1.560	107.182
Voc.-Tech./Non-Married	114	106.667	109.097	2.430	109.832
Transfer/Married	11	121.727	128.091	6.364	111.035
Transfer/Non-Married	55	106.255	104.836	-1.419	106.678
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	107.200	108.429	1.229	109.584
Voc.-Tech./Work 20 Hrs. Per Week or More	37	113.108	115.297	2.189	110.464
Transfer/Work Fewer Than 20 Hrs. Per Week	67	106.537	106.015	-0.522	108.400
Transfer/Work 20 Hrs. Per Week or More	16	116.375	117.625	1.250	108.713

APPENDIX D

Subscale: Distribution (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	108.143	112.371	4.228	111.832
Voc.-Tech./Father Non-High School Grad.	92	105.033	106.663	1.630	107.087
Transfer/Father High School Grad.	18	112.167	106.500	-5.667	102.609
Transfer/Father Non-High School Grad.	39	104.462	106.744	2.282	108.026
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	106.508	108.791	2.283	107.601
Voc.-Tech./Father Semi-Prof., ------Sales	57	104.965	106.456	1.491	107.876
Transfer/Father Unemployed, ---Service Worker	32	105.969	104.656	-1.313	104.969
Transfer/Father Semi-Prof., ------Sales	25	106.920	109.240	2.320	108.789

APPENDIX D

Subscale: Distribution (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	106.537	106.612	0.075	108.976
Voc.-Tech./Non-Recipient	114	109.500	111.693	2.193	110.325
Transfer/Recipient	18	101.944	101.667	-0.277	108.730
Transfer/Non-Recipient	66	110.712	110.697	-0.015	108.733
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	103.132	104.737	1.605	108.950
Voc.-Tech./Non-Participant	143	109.804	111.161	1.357	110.056
Transfer/Participant	13	106.231	106.385	0.154	109.168
Transfer/Non-Participant	71	109.310	109.197	-0.113	108.659
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	108.792	110.260	1.468	109.757
Voc.-Tech./Second or Lower Choice	22	107.455	107.136	-0.319	110.113
Transfer/First Choice	72	108.389	109.472	1.083	109.974
Transfer/Second or Lower Choice	12	111.500	104.500	-7.000	102.482

APPENDIX D

Subscale: Distribution (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	107.653	109.833	2.180	110.773
Voc.-Tech./Part-Time	37	111.324	109.730	- 1.594	106.243
Transfer/Full-Time	64	105.328	103.875	- 1.453	107.719
Transfer/Part-Time	20	120.350	124.400	4.050	111.786

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: True/False Ratio

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	1.168	1.129	- 0.039	1.164
Transfer	85	1.125	1.122	- 0.003	1.131
Age					
22 years or younger	210	1.166	1.140	- 0.026	1.166
23 years or older	57	1.111	1.077	- 0.034	1.107
Sex					
Male	123	1.158	1.156	- 0.002	1.134
Female	143	1.150	1.100	- 0.050	1.171
Marital Status					
Married	36	1.101	1.112	0.011	1.088
Non-Married	170	1.128	1.099	- 0.029	1.131
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	1.173	1.137	- 0.036	1.169
Work 20 Hrs. Per Week or More	53	1.084	1.078	- 0.006	1.099
Fathers' Educational Level					
Father High School Graduate	54	1.165	1.051	- 0.114	1.200
Father Non-High School Graduate	131	1.130	1.119	- 0.011	1.116

APPENDIX D

Subscale: True/False Ratio (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	1.140	1.104	- 0.036	1.140
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	1.131	1.089	- 0.042	1.131
Student Financial Aid					
Recipient	86	1.183	1.094	- 0.089	1.208
Non-Recipient	180	1.140	1.143	0.003	1.128
Special Services for Disadvantaged					
Participant	52	1.163	1.078	- 0.085	1.174
Non-Participant	214	1.152	1.139	- 0.013	1.149
Level of Choice of Community College					
First Choice	227	1.150	1.128	- 0.022	1.169
Second or Lower Choice	34	1.207	1.136	- 0.071	1.098
Enrollment Status					
Full-Time	209	1.161	1.120	- 0.041	1.168
Part-Time	57	1.128	1.152	0.024	1.101

APPENDIX D

Subscale: True/False Ratio (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	1.182	1.149	- 0.033	1.177
Voc.-Tech./23 or Older	43	1.122	1.066	- 0.056	1.123
Transfer/22 or Younger	71	1.133	1.123	- 0.010	1.146
Transfer/23 or Older	13	1.074	1.113	0.039	1.053
Curricula versus Sex					
Voc.-Tech./Male	98	1.161	1.162	0.001	1.131
Voc.-Tech./Female	82	1.176	1.086	- 0.090	1.204
Transfer/Male	24	1.456	1.130	- 0.326	1.147
Transfer/Female	60	1.115	1.118	0.003	1.126
Curricula versus Marital Status					
Voc.-Tech./Married	25	1.063	1.090	0.027	1.074
Voc.-Tech./Non-Married	114	1.148	1.106	- 0.042	1.146
Transfer/Married	11	1.187	1.165	- 0.022	1.119
Transfer/Non-Married	55	1.085	1.083	- 0.002	1.099
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	1.187	1.130	- 0.057	1.184
Voc.-Tech./Work 20 Hrs. Per Week or More	37	1.099	1.107	0.008	1.094
Transfer/Work Fewer Than 20 Hrs. Per Week	67	1.144	1.151	0.007	1.136
Transfer/Work 20 Hrs. Per Week or More	16	1.049	1.011	- 0.038	1.111

APPENDIX D

Subscale: True/False Ratio (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	1.179	1.140	- 0.039	1.214
Voc.-Tech./Father Non-High School Grad.	92	1.140	1.132	- 0.008	1.119
Transfer/Father High School Grad.	18	1.136	1.067	- 0.069	1.175
Transfer/Father Non-High School Grad.	39	1.107	1.089	- 0.018	1.109
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	1.133	1.104	- 0.029	1.133
Voc.-Tech./Father Semi-Prof., ------Sales	57	1.167	1.094	- 0.073	1.163
Transfer/Father Unemployed, ---Service Worker	32	1.153	1.103	- 0.050	1.156
Transfer/Father Semi-Prof., ------Sales	25	1.050	1.078	0.028	1.056

APPENDIX D

Subscale: True/False Ratio (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	1.186	1.080	- 0.106	1.214
Voc.-Tech./Non-Recipient	114	1.157	1.159	0.002	1.135
Transfer/Recipient	18	1.174	1.143	- 0.031	1.181
Transfer/Non-Recipient	66	1.110	1.116	0.006	1.118
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	38	1.149	1.056	- 0.093	1.167
Voc.-Tech./Non-Participant	143	1.173	1.149	- 0.024	1.164
Transfer/Participant	13	1.202	1.135	- 0.067	1.193
Transfer/Non-Participant	71	1.110	1.119	0.009	1.120
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	1.176	1.141	- 0.035	1.169
Voc.-Tech./Second or Lower Choice	22	1.158	1.073	- 0.085	1.174
Transfer/First Choice	72	1.095	1.100	0.005	1.116
Transfer/Second or Lower Choice	12	1.298	1.252	- 0.046	1.237

APPENDIX D

Subscale: True/False Ratio (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	1.172	1.124	- 0.048	1.174
Voc.-Tech./Part-Time	37	1.153	1.151	- 0.002	1.126
Transfer/Full-Time	64	1.137	1.112	- 0.025	1.158
Transfer/Part-Time	20	1.081	1.154	0.073	1.045

APPENDIX D

Data on which Statistical Procedures were Performed

Subscale: Total Conflict

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula					
Vocational-Technical	181	31.707	32.414	- 0.707	31.697
Transfer	85	31.659	32.774	1.115	31.890
Age					
22 years or younger	210	31.948	32.287	0.339	32.116
23 years or older	57	30.772	33.351	2.579	30.423
Sex					
Male	123	30.829	31.828	0.999	31.287
Female	143	32.510	33.049	0.538	32.232
Marital Status					
Married	36	29.722	31.083	1.361	30.415
Non-Married	170	30.824	31.515	0.691	30.775
Employment Status					
Work Fewer Than 20 Hrs. Per Week	208	32.014	32.203	0.189	32.107
Work 20 Hrs. Per Week or More	53	30.849	33.641	2.792	30.828
Fathers' Educational Level					
Father High School Graduate	54	30.870	32.566	1.696	30.715
Father Non-High School Graduate	131	30.351	30.817	0.466	30.542

APPENDIX D

Subscale: Total Conflict (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Fathers' Occupational Level					
Father Unemployed, Unskilled, Semi-Skilled, Skilled, or Service Worker	100	30.010	30.404	0.394	30.527
Father Sem-Prof., Technician, Owner and Operator of Farm or Business, Prof., Managerial, Office, Clerical, or Sales	82	30.902	32.402	1.500	30.473
Student Financial Aid					
Recipient	86	32.907	32.282	- 0.625	32.914
Non-Recipient	180	31.111	32.644	1.533	31.213
Special Services for Disadvantaged					
Participant	52	33.673	32.865	- 0.808	33.229
Non-Participant	214	31.210	32.294	1.084	31.408
Level of Choice of Community College					
First Choice	227	31.753	32.586	0.833	31.931
Second or Lower Choice	34	32.088	31.471	- 0.617	31.128
Enrollment Status					
Full-Time	209	31.694	32.078	0.384	31.926
Part-Time	57	31.684	33.754	2.070	31.307

APPENDIX D

Subscale: Total Conflict (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Age					
Voc.-Tech./22 or Younger	138	32.283	32.312	0.029	32.241
Voc.-Tech./23 or Older	43	29.860	32.744	2.884	29.950
Transfer/22 or Younger	71	31.549	32.239	0.690	31.873
Transfer/23 or Older	13	33.615	35.692	2.077	31.986
Curricula versus Sex					
Voc.-Tech./Male	98	30.888	32.112	1.224	31.080
Voc.-Tech./Female	82	32.805	32.683	-0.122	32.535
Transfer/Male	24	31.292	30.667	-0.625	32.132
Transfer/Female	60	32.100	33.617	1.517	31.819
Curricula versus Marital Status					
Voc.-Tech./Married	25	29.200	30.080	0.880	30.676
Voc.-Tech./Non-Married	114	30.711	31.500	0.789	30.591
Transfer/Married	11	30.909	33.364	2.455	29.820
Transfer/Non-Married	55	31.364	31.545	0.181	31.155
Curricula versus Employment Status					
Voc.-Tech./Work Fewer Than 20 Hrs. Per Week	140	32.271	32.029	-0.242	32.278
Voc.-Tech./Work 20 Hrs. Per Week or More	37	30.054	33.595	3.541	30.073
Transfer/Work Fewer Than 20 Hrs. Per Week	67	31.746	32.567	0.821	31.748
Transfer/Work 20 Hrs. Per Week or More	16	32.688	33.750	1.062	32.573

APPENDIX D

Subscale: Total Conflict (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Fathers' Educational Level					
Voc.-Tech./Father High School Grad.	35	31.571	33.114	1.543	30.848
Voc.-Tech./Father Non-High School Grad.	92	30.174	30.674	0.500	30.460
Transfer/Father High School Grad.	18	30.444	31.500	1.056	30.456
Transfer/Father Non-High School Grad.	39	30.769	31.154	0.385	30.738
Curricula versus Fathers' Occupational Level					
Voc.-Tech./Father Unemployed, ---Service Worker	67	28.925	29.821	0.896	29.667
Voc.-Tech./Father Semi-Prof., ------Sales	57	31.526	32.702	1.176	30.819
Transfer/Father Unemployed, ---Service Worker	32	32.781	31.625	-1.156	32.301
Transfer/Father Semi-Prof., ------Sales	25	29.480	31.720	-2.240	29.719

APPENDIX D

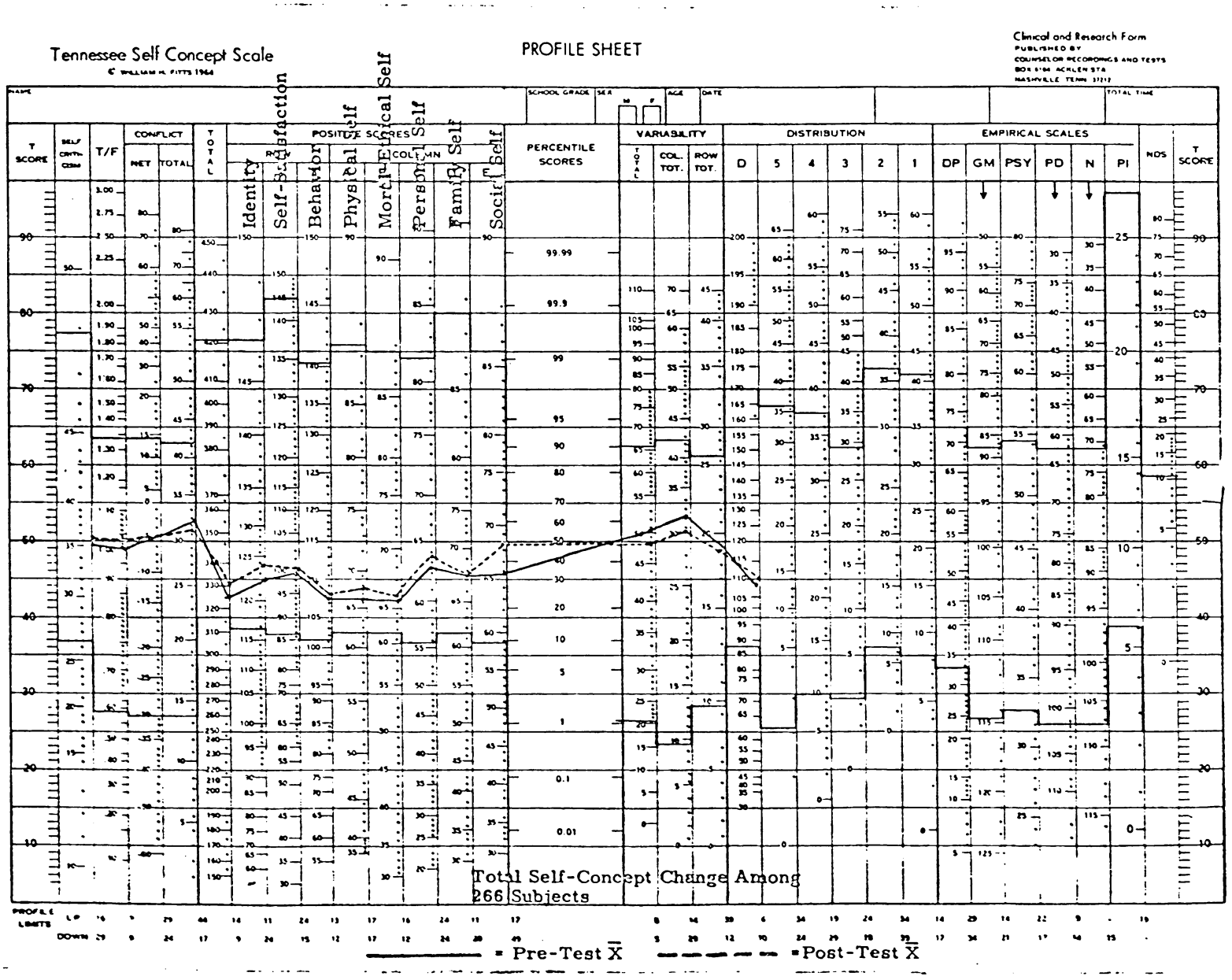
Subscale: Total Conflict (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Student Financial Aid					
Voc.-Tech./Recipient	67	33.627	32.239	- 1.388	33.215
Voc.-Tech./Non-Recipient	114	30.579	32.518	1.939	30.797
Transfer/Recipient	18	31.278	32.444	1.166	31.930
Transfer/Non-Recipient	66	32.030	32.864	0.834	31.893
Curricula versus Spec. Services for Disadvantaged					
Voc.-Tech./Participant	31	33.895	33.263	- 0.632	32.984
Voc.-Tech./Non-Participant	143	31.126	32.189	1.063	31.361
Transfer/Participant	13	34.538	34.231	- 0.307	33.889
Transfer/Non-Participant	71	31.380	32.507	1.127	31.510
Curricula versus Level of Choice of Community College					
Voc.-Tech./First Choice	154	31.870	32.461	0.591	31.972
Voc.-Tech./Second or Lower Choice	22	31.818	32.500	0.682	30.803
Transfer/First Choice	72	31.750	33.306	1.556	31.909
Transfer/Second or Lower Choice	12	32.583	29.583	- 3.000	32.184

APPENDIX D

Subscale: Total Conflict (continued)

Variable Group	N	Pre-Test $\bar{X}$	Post-Test $\bar{X}$	Gain	Adjusted $\bar{X}$
Curricula versus Enrollment Status					
Voc.-Tech./Full-Time	144	32.208	32.160	- 0.048	32.275
Voc.-Tech./Part-Time	37	29.757	33.405	3.648	29.516
Transfer/Full-Time	64	30.813	32.266	1.453	31.158
Transfer/Part-Time	20	35.250	34.400	- 0.850	34.109


Tennessee Self Concept Scale
© WILLIAM H. FITTS 1964
PROFILE SHEET
Clinical and Research Form
PUBLISHED BY
COUNSELOR RECORDINGS AND TESTS
BOX 6184 ACKLEN STA
NASHVILLE TENN 37212
NAME
SCHOOL GRADE
SEX
AGE
DATE
TOTAL TIME
T SCORE
SELF CRITICISM
T/F
CONFLICT
NET
TOTAL
RAW
POSITIVE SCORES
Identity
Self-Satisfaction
Behavior
Physical Self
Moral-Ethical Self
Personal Self
Family Self
Social Self
COLUMN
PERCENTILE SCORES
99.99
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0.01
VARIABILITY
RAW
COL. TOT.
ROW TOT.
DISTRIBUTION
D
5
4
3
2
1
EMPIRICAL SCALES
DP
GM
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T SCORE
PROFILE LIMITS
UP
DOWN
Total Self-Concept Change Among 266 Subjects
= Pre-Test X̄
= Post-Test X̄

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AN ASSESSMENT OF SELF-CONCEPT CHANGES DURING FIRST TERM ATTENDANCE OF STUDENTS IN A RURAL, APPALACHIAN COMMUNITY COLLEGE

by

Donald H. Smith

(ABSTRACT)

The amount of change in self-concept during the first term of attendance of 267 students in a rural, Appalachian community college was explored. Sixteen subscales of the Tennessee Self-Concept Scale (TSCS) were employed, in a pre-test/post-test design, as the indicator of change in self-concept. Students were stratified by assignment to one of two groups within 11 demographic variables: Curricula, Age, Sex, Marital Status, Employment Status, Fathers' Education Level, Fathers' Occupation Level, Student Financial Aid, Special Services Program for the Disadvantaged, Level of Choice of the Community College, and Enrollment Status.

The null hypotheses were tested by multivariate analysis of covariance (MANCOVA), univariate analysis of covariance (ANCOVA), and calculation of simultaneous confidence intervals. Adjusted mean scores of variable groups were compared through these statistical procedures, in order to discover if there were significant differences in self-concept change at an alpha level of .05. Significant differences

were not noted at the .05 level, dictating a failure to reject the null hypotheses which stated that there would be no significant differences in the level of self-concept between the groups comprising the demographic variables.

It was noted, however, that there were trends toward significant differences (p less than .10). The Total Positive Score subscale revealed significant differences at this level between 14 variable groups. The subscales of Self-Satisfaction, Physical Self, Distribution Scores, Identity, Personal Self, Social Self, Total Variability, and Self-Criticism also yielded significant differences at this level, although between a lesser number of variable groups.

Trends toward significant differences (p less than .10) were most evident on the variables of Age, Sex, Employment Status, Student Financial Aid, and on the comparison of the variable group combinations of Curricula/Fathers' Education Level.

Exploration of self-concept change of the total sample, on each TSCS subscale, revealed a minor change, in a positive direction, on each subscale.

Although self-concept is believed by many to be a major determinant of behavior and performance, findings of this study implied that self-concept development was not a principal classroom objective. It was also believed that since all subjects were commuting students, the environment which was external to the campus could have served

as a counter-influence on individual self-concepts.

Further investigation of this problem, using the TSCS and other self-report instruments, was recommended.