

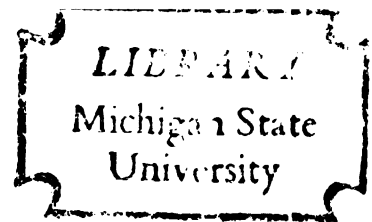
THE RELATIONSHIP BETWEEN HIGH SCHOOL
SELF - CONCEPT OF ACADEMIC ABILITY AND
SUBSEQUENT ACADEMIC ACHIEVEMENT AT
THE COMMUNITY COLLEGE

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
KENNETH H. SPROULL
1969

THESIS



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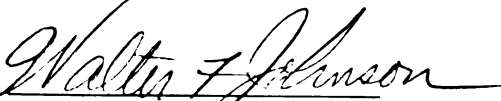
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presented by

Kenneth H. Sproull

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ABSTRACT

THE RELATIONSHIP BETWEEN HIGH SCHOOL SELF-CONCEPT OF ACADEMIC ABILITY AND SUBSEQUENT ACADEMIC ACHIEVEMENT AT THE COMMUNITY COLLEGE

By

Kenneth H. Sproull

The primary objective of this study was to investigate the relationship between self-concept of academic ability, as measured in high school, and subsequent academic achievement and behavior at the local community college.

The Problem

The "open door" policy of the public community college fosters a heterogeneous student body which, in most instances, includes individuals from every social and economic level. The resulting wide range of student characteristics has brought about a major problem in developing community college programs and services geared to accommodate diverse personalities, perceptions and abilities. Finding a positive relationship between self-concept of academic ability and academic achievement might suggest academic programs, procedures and services to enable students with low self-concepts of academic ability to successfully complete education or training beyond high

school. This could lead to a more appropriate and fuller use of this nation's human resources, including the average student, the disadvantaged, and students from minority groups.

Procedures

The population for this study included 196 students (105 males, 91 females), who were subjects of a longitudinal high school study conducted by Brookover and others and subsequently enrolled at the local community college.

Eighth and twelfth grade self-concept of academic ability scores, as measured by the Michigan State University General Self-Concept of Academic Ability Scale, were available for all students. Additional data collected included grade point averages, choice of curriculum and full-time, part-time attendance for both the first term and the sixth term at the local community college.

Correlation coefficients, analysis of variance, t tests and chi square techniques were employed to investigate the relationship between self-concept of academic ability and: (1) academic achievement, (2) choice of curriculum, (3) full-time, part-time attendance, and (4) other variables. All data were analyzed separately for males and females.

Major Findings

Males

Analyses of the data indicate that the higher the eighth grade SCAA of males, the more likely they are to:

1. Have a higher grade point average in the first term at the college.
2. Enroll as a full time student for the first term in college.
3. Complete a full time program at the end of two years at the college.
4. Enroll in the Arts and Sciences Division rather than the Business Division.

The higher the twelfth grade male SCAA, the more likely they are to:

1. Have a higher grade point average in the first term at the college.
2. Enroll as a full time student for the first term at the college.
3. Enroll in the Arts and Sciences Division rather than the Business or Technical Division.

The data also reveal that full time males are more likely to have higher grade point averages than part time males in both the first term and the sixth term at the college.

Females

Analyses of the data indicate that for females, the higher the eighth grade SCAA, the more likely they are to enroll in other curricula of the Arts and Sciences Division rather than the teaching curriculum or Business Division.

The higher the twelfth grade SCAA, the more likely females are to:

1. Have a higher grade point average in the first term of college.
2. Have a higher grade point average at the end of two years at the community college.
3. Enroll in the Arts and Sciences Division rather than the Business Division.

THE RELATIONSHIP BETWEEN HIGH SCHOOL
SELF-CONCEPT OF ACADEMIC ABILITY AND
SUBSEQUENT ACADEMIC ACHIEVEMENT AT
THE COMMUNITY COLLEGE

By

Kenneth H. ^rSproull

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CHAPTER I

INTRODUCTION

Purpose

The purpose of this study is to investigate the relationship between students' self-concept of academic ability as measured in high school and their subsequent achievement in the local community college.

Problem

Two important educational movements taking place in our present society require our attention and concern. The first is the concept of providing education and training beyond high school to a greater proportion of our population with particular emphasis on minority and disadvantaged groups. The second is the unprecedented growth in the development of the public junior community college which is attempting to provide educational opportunities for millions of our youth who would not normally continue their education or training beyond high school.

It appears that one of the most significant developments in education in the 20th century will be the creation

and diffusion of two year public colleges, presently growing faster than any other segment of American higher education.¹

Fields² calls the two year college movement part of a revolution which, though long underway, has only recently been understood to have accomplished profound changes in education.

The two year college claims an unique place in American higher education by meeting student needs not adequately served by secondary schools, four year colleges or universities. The public community college, in particular, has opened its doors to all high school graduates who meet minimal educational requirements. Such a policy fosters a heterogeneous student body which, in most instances, includes individuals from almost every social and economic level.³

This wide range of student characteristics has brought about the major problem of developing community college services and programs geared to accommodate diverse personalities, perceptions and abilities.⁴

¹Clyde E. Blocker, Robert H. Plummer and Richard C. Richardson, Jr., The Two Year College: A Social Synthesis (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965).

²Ralph R. Fields, The Community College Movement (New York: McGraw-Hill Book Company, Inc., 1962).

³Blocker, Plummer and Richardson, op. cit.

⁴Ibid.

Past research makes it possible to make broad observations about the characteristics of community college students. Generally speaking, compared with the university student, the community college student is more likely to:

1. Be older (5:2). (The comparison here concerns entering freshmen.)
2. Aspire to a higher career goal than can be supported by his financial or academic ability (5:7).
3. Have a lower evaluation of himself (5:16).
4. Have preferred another institution (5:5).
5. Live with his family at home (6:338).
6. See himself as not fully prepared for college work (6:335).
7. Be concerned with social mobility (7:13).
8. Be satisfied with short range gains rather than long range possibilities (7:13-14).
9. Be uncertain about his occupational goals (8:8).

⁵Robert J. Panos, "Some Characteristics of Junior College Students," ACE Research Reports, Vol. I, No. 2, Washington, D. C.: American Council on Education, 1966.

⁶Alice Thurston, "Now That We Are Nine Feet Tall: A Look At Junior College Students," Junior College Journal, 32 (February, 1962), pp. 334-339.

⁷James M. Richards and Tracy A. Braskamp, "Who Goes Where to Junior College," ACT Research Reports, 20 (July, 1967), American College Testing Program, Iowa City, Iowa.

⁸Leland F. Medsker, "The Junior College Student," Junior College Student Personnel Programs: Appraisal and Development, National Committee for Appraisal and Development of Junior College Student Personnel Programs, Carnegie Corporation, November, 1965, Part III, pp. 1-30.

10. Be conventional and authoritarian (8:15-16).
11. Be employed part time or full time (8:13).
12. Be enrolled on a part time basis (8:2).
13. Have a middle range high school grade point average (8:7).
14. Select an applied science or voc-technical program rather than a liberal arts program (8:16).
15. Have a mechanical or technical aptitude (8:16).
16. Be in need of remedial instruction (8:16).
17. Lack independence, social maturity, self-assurance, sophistication and intellectual disposition (9:9).
18. Be the first member of his family to attend college (9:9).
19. Be in a lower socio-economic class (10).
20. Rely more on his own earnings rather than financial resources (10).
21. Have a father who is a worker rather than an employer or professional man (10).
22. Be more practical in college selection (low cost, nearness to home, employment) (10).
23. Be less committed to education (in the academic sense) (11:13).
24. Interrupt or terminate his program before earning a degree (11:13).

⁹Dorothy M. Knoell, "Focus on the Transfer Program," Junior College Journal, 35 (May, 1965), pp. 5-9.

¹⁰Robert J. Panos, Alexander W. Astin and John A. Creager, "National Norms for Entering College Freshmen," ACT Research Reports, Vol. 2, No. 7, Washington, D.C.: American Council on Education, 1967.

¹¹"Variation by Institutional Level," College Student Profiles: Norms for the ACT Assessment, Iowa City, Iowa, ACT Research and Development Division, American College Testing Program, 1966.

There is certainly a need to know the characteristics of community college students and their impact on the institution. However, most of the previous research has been limited to identifying characteristics and traits rather than providing data which could suggest programs and services enabling students with these characteristics to successfully complete education and training beyond high school.

Other limitations of previous research bear noting. Most of these studies compare community college students with university students. However, research conducted by the American College Testing Program indicates that there is as much student variation within community colleges as between two year and four year colleges.¹² Therefore, additional research on student variation within the community college would appear most appropriate.

Most of the previous studies have been descriptive or comparative. Data collection generally has been on a "one shot" cross sectional basis. Almost no studies are based upon sequential data gathered over a long period of time from the same subjects to answer questions about developmental phenomena.

Furthermore, very little research has been based upon a theoretical formulation from which hypotheses,

¹²Ibid.

which may indicate in advance student behavior (achievement) in the community college, are derived and tested.

Studies in the "Sociology of Learning" recently reviewed by Boocock¹³ reflect an emerging concern for collecting information on the social context within which the student learns rather than the characteristics or traits of the student as has been the case in educational psychology.

One theory which does provide a socio-psychological conception of student behavior is that of Brookover.¹⁴ His research was based on the theoretical framework commonly identified as the symbolic interaction theory of behavior. The basic postulate is that academic behavior or school learning is limited by the student's self concept of his ability. He further postulates that self concept results from the expectations and evaluations held by significant others as perceived by the student.

The research of Brookover and others¹⁵ represented a six year study of the relation of self concept of academic

¹³Sarane S. Boocock, "Toward a Sociology of Learning: A Selective Review of Existing Research," Sociology of Education, XXXIX (Winter, 1966).

¹⁴Wilbur B. Brookover, "A Social Psychological Conception of Classroom Learning," School and Society (February, 1959).

¹⁵Wilbur B. Brookover, Ann Patterson and Shailer Thomas, Self-Concept of Ability and School Achievement, Final Report of Cooperative Research Project No. 845, Office of Education (East Lansing: Bureau of Research and Publications, College of Education, Michigan State

ability to school achievement in one school class while in the 7th through the 12th grades.

Brookover's¹⁶ investigations have clearly indicated that many students are impeded in their academic performance by low self concept of academic ability to achieve in academic tasks.

Davis,¹⁷ in his review of Brookover's investigations, noted that the study was carefully designed and executed and adds significantly to the knowledge that we have about students and their achievement in schools.

It should be noted that in Brookover's study correlation between 7th grade GPA and general self concept scores was obtained with the effect of IQ partialled out for both the boys and girls. The relevant coefficients of correlation are shown in Table 1 with and without the effect of the third variable partialled. Even when the effect of the

University, 1962). Wilbur B. Brookover, Jean D. LePere, Don Hamachek, Shailer Thomas and Edsel L. Erickson, Self Concept of Ability and School Achievement II, U. S. Office of Education Cooperative Research Project No. 1636 (East Lansing: Bureau of Educational Research Services, Michigan State University, 1965). Wilbur B. Brookover, Edsel L. Erickson and Lee M. Joiner, Self Concept of Ability and School Achievement, III, U. S. Office of Educational Cooperative Research Project No. 2831 (East Lansing: Educational Publication Services, Michigan State University, 1967).

¹⁶ Ibid.

¹⁷ Donald A. Davis, "A Review of Self Concept of Ability and School Achievement," The Personnel and Guidance Journal, Vol. XLII, No. 5 (January, 1964).

TABLE 1.--Correlations between seventh-grade grade point average, measured intelligence, and self-concept of ability for males and females.*

| Variables Correlated | Correlation Coefficients | | | |
|-------------------------|--------------------------|------------------|---------------------------|----------------------------------|
| | No Variable Controlled | | Third Variable Controlled | |
| | Males N=513 | Females N=537 | Variable Controlled | Male N=513 Female N=537 |
| 7th GPA - IQ | .61 | .65 | S-C | .48 .53 |
| 7th GPA - S-C | .57 | .57 | I.Q. | .42 .39 |
| Self-Concept-IQ | .46 | .48 | GPA | .17 .17 |

*The Multiple Correlation (R 1.23) among GPA, I.Q., and Self-Concept is .69 for males and .72 for females.

third variable is controlled all of the correlations are significant and positive. Of particular interest is the significant correlation (males .42) and (females .39) between self concept and achievement when IQ is partialled out. According to Brookover and others, the very low correlation (.17) between self concept and IQ when achievement is partialled out demonstrates that the self concept of ability scale measures quite a different variable than the IQ test measured.

Davis¹⁸ adds that although the study concerns 7th grade students, it certainly carries implications for students at all other grade levels and, in particular, for predicting success in colleges and universities. He concludes by saying that another question which might be fruitfully investigated would be the effects of self concept of ability on achievement in college. If the findings were similar, a significant addition might be made to present predictive devices.

Considering that a large proportion of Brookover's longitudinal subjects entered the local community college, it is the intent of the present study to investigate the relationship between self concept of academic ability and achievement in the local community college.

Positive results of the present study could prove valuable in suggesting academic programs, procedures and

¹⁸Ibid.

services which may enable many young people classified as minority groups, the disadvantaged or average students in successfully completing educational programs or training beyond high school.

CHAPTER II

RELATED LITERATURE

The development of the self or self perception has a long history as an important area of psychology and social psychology.

Wyllie,¹ in her book The Self Concept, was quite critical of early research conducted on the basis of psychological or personality theories. She concluded that "the empirical evidence supporting the (then) existing theories was quite limited."

Boocock,² in her review of studies on the "Sociology of Learning," emphasized the need for collecting information on the social context within which the student learns rather than the characteristics or traits of the student himself as had been the case in educational psychology.

Combs and Snygg³ have emphasized the importance of self concept as a factor in determining the capacity to

¹Ruth C. Wyllie, The Self Concept (Lincoln: University of Nebraska Press, 1961).

²Sarane S. Boocock, "Toward a Sociology of Learning: A Selective Review of Existing Research," Sociology of Education, XXXLX (Winter, 1966).

³Arthur W. Combs and Donald Snygg, Individual Behavior, (rev. ed.: New York: Harper and Brothers, 1959).

learn any type of behavior. Consequently, ideas generated from self concept research have been applied with increasing frequency to educational theory, educational practices and academic or school behavior.

Although some theoreticians have attempted to account for how individuals learn from others, the translation of social-psychological assumptions into theoretical propositions and educational research has been virtually absent.⁴

A major deficiency which many self concept studies share is a "shotgun" approach to research where a vast array of variables are analyzed without enough attention being paid to the theoretical network in which these variables are imbedded. That is, instead of developing concise, testable hypotheses including relevant constructs, the researchers embark upon the measurement of many variables thought to be associated with self concept.

Accordingly, the trend recently has been to explore a more restricted aspect of self concept such as Wylie's⁵ attempt to assess children's estimates of their ability to do school work.

In keeping with this trend, the purpose of the present study is to investigate the relationship between

⁴Brookover, Erickson and Joiner, op. cit., p. 19.

⁵Ruth C. Wylie, The Self Concept (Lincoln: University of Nebraska Press, 1961).

students' self concept of academic ability as measured in high school and their subsequent achievement in the local community college.

Relevant to the present study are the findings of several researchers in education who have obtained positive relationships between the self concept and academic achievement.

Renzaglia⁶ and Reeder⁷ examined correlates of self structure and found that a positive general self concept is significantly related to high academic achievement. However, they used general personality traits to determine self concept rather than directly tapping the students' conceptions of themselves as learners.

There is some evidence to suggest that a student's performance is influenced directly by his concept of self. Roth⁸ investigating the role of self concept in achievement concluded "in terms of their conceptions of self, individuals have a definite investment to perform as they do." "With all things being equal, those who do not achieve

⁶G. A. Renzaglia, "Some Correlates of the Self Structure as Measured by An Index of Adjustment and Values," (unpublished Ph.D. dissertation, University of Minnesota, 1952).

⁷Thelma Adams Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement and Classroom Adjustments" (unpublished Ph.D. thesis, Denton: North Texas State College, 1955).

⁸R. M. Roth, "Role of Self-Concept in Achievement," Journal of Experimental Education, XXVII (June, 1959), pp. 265-281.

choose not to do so, while those who achieve, choose to do so."

Coopersmith⁹ found a correlation of .36 between positive self concept and school achievement in a group of 102 5th and 6th grade children. In addition, Coopersmith,¹⁰ in his latest ongoing study, found that youngsters with a high degree of self esteem are active, expressive individuals who tend to be more successful both socially and academically.

Williams,¹¹ study infers that a reciprocal cause-effect relationship exists between self concept and academic adjustments.

Of interest because of their implications for possible recommendations emanating from this study are the findings of two other researchers.

Clarke¹² examined the relationship between college academic performance and expectations. He found a positive

⁹Stanley Coopersmith, "A Method for Determining Types of Self-Esteem," Journal of Educational Research, LIX (1959), pp. 87-94.

¹⁰Stanley Coopersmith, "Studies in Self-Esteem," Scientific American, Vol. 218, No. 2 (February, 1968) pp. 96-106.

¹¹Robert L. Williams and Spurgeon Cole, "Self-Concept and School Adjustment," The Personnel and Guidance Journal, Vol. 46, No. 5 (January, 1968), pp. 478-481.

¹²W. E. Clarke, "The Relationship Between College Academic Performance and Expectancies" (unpublished Ph.D. thesis, Michigan State University, 1960).

relationship between a student's academic performance and his perception of the academic expectancies held for him by significant others.

Wright's¹³ study focused on the impact of stress on academic achievement when family income and self concept are taken into account. He found that students from lower income families tend to work harder at closing the gap between their self concept and the self ideal. This may be a function of students seeing a college education as the doorway to success and therefore working harder at achieving academically.

It should be noted that Vacher,¹⁴ upon completion of her study investigating the self concept of underachieving freshmen and upper class women college students, found no relationship between self concept and academic achievement. However, as in much of the previous research, one could question her use of an instrument that attempts to measure a "global" self concept and perhaps includes too many variables to produce significant results. Despite her findings she recommends that:

¹³John J. Wright, "The Impact of Perceived Stress on Academic Achievement When Family Income Level and Self Concept are Taken into Account," The Journal of College Student Personnel, Vol. 7, No. 2 (March, 1966), pp. 113-117.

¹⁴Carole Jean Doughton Vacher, "The Self Concept of Underachieving Freshmen and Upperclass Women College Students," The Journal of College Student Personnel, Vol. 5, No. 1 (October, 1963), pp. 28-31.

1. Future research (on self concept) use larger samples.
2. Further research be conducted with males and females at the college level. (Most studies have been done with males at the elementary and secondary level.)
3. Research in the area of self concept and achievement should begin with groups of achievers and underachievers in the primary grades of school and follow up continued throughout college.

A major contribution made to the field of research concerning self concept was Brookover's longitudinal study.¹⁵ His project was addressed mainly to the development of self concept of academic ability and its impact on academic performance among the same students from the 7th through 12th grades. The findings of his research indicate substantial support for the basic hypothesis that self concept of academic ability is a functionally limiting factor in school achievement in high school.

The recommendations of Davis¹⁶ and Vacher¹⁷ that further research on self concept be conducted at the college level and the results of Brookover's¹⁸ research provide the justification for the present study in which the relationship between self concept of academic ability

¹⁵Brookover, et. al., op. cit.

¹⁶Donald A. Davis, "A Review of Self Concept of Ability and School Achievement," The Personnel and Guidance Journal, Vol. XLII, No. 5 (January, 1964).

¹⁷Vacher, op. cit.

¹⁸Brookover, et. al., op. cit.

in high school and achievement at the community college level will be investigated.

A positive relationship between self concept of academic ability as measured in high school and academic achievement at the local community college (using the same subjects included in Brookover's longitudinal research) may provide the impetus for innovative academic programs and new or improved student personnel services which may enable more of our young people to complete post high school education and training.

Brookover's¹⁹ longitudinal project is notable for the effort to overcome the weaknesses and deficiencies of earlier self concept research. The theoretical background for his study emerges from the perceptual approach to individual behavior as expressed by Combs and Snygg²⁰ and the symbolic interaction framework of social-psychology derived from George H. Mead and others.²¹

From this theoretical framework, Brookover²² hypothesized that self concept of academic ability is a functionally limiting factor in school achievement. The

¹⁹Ibid.

²⁰Combs and Snygg, op. cit.

²¹George H. Mead, Mind, Self and Society (Chicago: University of Chicago Press, 1934).

²²Brookover, et. al., op. cit.

results of his study, which involved the same students over a six year period, substantially confirm his basic hypothesis.

Taking into account Brookover's²³ findings, it would seem reasonable and fruitful to continue the investigation of the impact of self concept of academic ability on academic achievement as a major proportion of these same longitudinal subjects enroll and progress through the local community college.

Specific Hypotheses and Questions

Hypotheses relating self concept of academic ability as measured in high school and subsequent academic achievement in the local community college are stated as follows:

Hypothesis 1

Self Concept of academic ability in high school is positively related to academic achievement in the local community college.

H1a

Self concept of academic ability in 8th grade is positively related to first term academic achievement in the local community college.

H1b

Self concept of academic ability in 12th grade is positively related to first term academic achievement in the local community college.

²³Ibid.

H1c

There is a positive relationship between self concept of academic ability in 8th grade and academic achievement at the end of two years at the local community college.

H1d

There is a positive relationship between self concept of academic ability in 12th grade and academic achievement at the end of two years at the local community college.

Question:

Does 8th grade self concept of academic ability correlate higher than 12th grade self concept of academic ability with academic achievement at the end of two years at the local community college?

Harding,²⁴ using the self concept of academic ability scores of 11th graders in Brookover's²⁵ longitudinal study found that high school dropouts have significantly lower self concepts than non-dropouts. His study generated the following hypothesis.

Hypothesis 2

Students who withdraw from the community college will have lower self concept of academic ability scores than students who complete two years at the community college or transfer to another educational institution.

Taking a full time college program as opposed to pursuing a part time program implies a greater concentration

²⁴Kenneth L. Harding, "A Comparative Study of Caucasian Male High School Students Who Stay in School and Those Who Drop Out" (unpublished Ph.D. dissertation, Michigan State University, 1966).

²⁵Brookover, et al., op. cit.

and dedication to the completion of a college program of studies. The following hypotheses are stated in an attempt to investigate the relationship that self concept of academic ability may have on a student's decision to pursue a full time academic program rather than part time college work.

Hypothesis 3

Students who entered the community college in the Fall of 1966 as full time students and remain as full time students for two years will have higher self concept of academic ability scores than students pursuing part time college work.

Hypothesis 4

Students who entered the community college in the Fall of 1966 as full time students and remain as full time students for two years will have higher academic achievement than those students taking part time college work.

Exploratory Questions

Additional data will be collected to explore the following relationships.

1. Is there a difference in self concept of academic ability of students who volunteer for counseling at the community college and those who do not?
2. Is there a difference in self concept of academic ability of students who transfer from the community college before attaining the necessary credits to graduate and those who remain to graduate from the community college?
3. Is there an association between self concept of academic ability level and curriculum entered at the community college?

Finally, 148 "other" students, including 86 males and 62 females, will be compared with the longitudinal group on 12th grade SCAA and academic achievement at the local community college.

This "other" group are students who attended the same class and school system as the longitudinal group but for whom 8th grade SCAA scores were not available. Therefore, the "other" group did not qualify for the longitudinal group because of established criteria which included 8th grade SCAA scores.

However, 12th grade SCAA scores were available for the "other" group enabling the present study to identify any differences between the "others" and the longitudinal group concerning 12th grade SCAA and academic achievement at the local community college.

As recommended by Paterson,²⁶ all data will be analyzed separately for males and females.

Ann Paterson, "An Evaluation of an Instrument Designed to Measure the Construct, Self-Concept of Academic Ability" (unpublished Ph.D. dissertation, Michigan State University, 1966).

CHAPTER III

PROCEDURE

To test the hypotheses stated for this study, the Michigan State General Self Concept of Academic Ability Scale (see Appendix) and college grade point were used to investigate the relationship between self concept of academic ability and achievement at the local community college. Correlation coefficients, analysis of variance, chi square and "t" tests were used for the analysis.

Population and Site

Since this study is a partial continuation of a larger longitudinal research project, only those students who participated in the regular phases of the longitudinal study are included.

The general population consisted of all students who were in the 7th grade class during the 1960-1961 academic year in the four junior high schools of a midwestern city with a population of approximately 110,000. The total student population numbered approximately 2,000.

Upon completion of the 12th grade, the number of students classified as longitudinal subjects of the larger study totaled 562; 307 females and 255 males.

Approximately 196 of these 562 students entered the local community college in the Fall of 1966. Of the 196 students entering the community college, 91 were female and 105 were male.

Subjects for the present study met the following criteria:

1. Questionnaire data, including self concept of academic ability scores, were available from the 7th through the 12th grades.
2. Academic achievement information (GPA) was available from the 7th through the 12th grades.
3. All subjects were Caucasian.
4. All subjects were promoted regularly from grades 4 through 12. Students who repeated grades or who withdrew and reentered were excluded.
5. All were participants in the regular school program. Students who were in special education programs (such as those for the retarded) and all who were in experiments designed to enhance self concept of academic ability were excluded.

Approximately 100 Negro students were not included because prior research with these students suggests some differences in self concept and related variables.¹

Major Variables and Instrumentation

Self Concept of Academic Ability, hereafter referred to as SCAA, as used in this research, should not be confused with other definitions of self concept or self.

¹Brookover, Patterson and Thomas, op. cit.

As used here, SCAA refers to only one of many self concepts in which one indicates to himself his ability to achieve in academic tasks as compared with others engaged in the same task.

SCAA does not refer to some underlying mental structure such as a phenomenological self. Rather, it refers to symbolic behavior, and as such, to an empirical event. Thus, when individuals publicly define their academic ability, we may observe what we refer to as self concept of academic behavior.²

Since the process of definition, from Brookover's³ theoretical viewpoint, is a language process, defining oneself is also public in that it employs a shared symbolic system. Language behaviors which refer to ones ability in academic tasks are therefore classified as self concept of academic ability behavior.

More specifically, SCAA refers to the evaluating definitions which an individual holds of himself in respect to his ability to achieve in academic tasks in general as compared with others in his school class.⁴ This definition of self concept is in accord with Mead's⁵

²Brookover, Erickson and Joiner, op. cit.

³Brookover, "A Social Psychological Conception of Classroom Learning," op. cit.

⁴Brookover, et al., op. cit.

⁵Mead, op. cit.

definition of the self as involving awareness and articulation of programs of action for self as a social object.

Finally, SCAA is operationally defined as the sum of scored responses of a subject to the Michigan State General Self Concept of Ability Scale (see Appendix).

The SCAA Scale of eight multiple choice items was developed under U.S.O.E. Cooperative Research Project No. 845. Each item is scored from five to one with the higher self concept alternatives receiving the higher values. In keeping with the definition of SCAA, each item asks the student to compare himself with others in his social system on the dimension of academic competency.

Paterson⁶ made a thorough reliability and validity analysis of the eight item Guttman type scale and concluded that the SCAA Scale scores are positively and significantly correlated with grade achievement ($r = .57$). The reliability coefficients of the SCAA Scale, given in Table 2, are higher than those typically reported for attitude tests. It should be emphasized, however, that the instrument is used and designed for the study of groups and not for the drawing of individual comparisons.

⁶Paterson, op. cit.

TABLE 2.--Hoyt's analysis of variance reliability coefficients for general self-concept of academic ability scale; grades 7-12 longitudinal study.

| Grade | Male | Female | Combined |
|-------|------------|------------|------------|
| 7 | .820 N=513 | .770 N=537 | N=1050 |
| 8 | .856 N=255 | .872 N=306 | .865 N=561 |
| 9 | .872 N=255 | .843 N=306 | .860 N=561 |
| 10 | .868 N=255 | .833 N=306 | .853 N=561 |
| 11 | .871 N=255 | .822 N=306 | .852 N=561 |
| 12 | .880 N=255 | .849 N=306 | .864 N=561 |

Definitions

Community College Academic Achievement

Community college academic achievement is defined as the grade point average (A=4, B=3, ...) of all credit courses taken at the community college multiplied by the number of credits carried to arrive at a grade point for analysis.

Grade Point Average

Grade point average is defined as the number of honor points earned divided by credits carried.

Credit courses are those that are required for completion of a planned program at the community college and are normally transferred to most four year colleges and universities.

The local community college does not offer "adult education" courses for credit. Special community service courses offered are not classified as transferable credit courses. Therefore, all courses used in this study for computing college grade points are "academic" in nature.

Dropouts

Dropouts refer to those longitudinal subjects who withdrew from the local community college for any reason prior to completing a two year program of studies.

Full Time Students

Full time students are defined as those longitudinal subjects carrying 15 or more credit hours per term or completing 90 hours or more at the end of two years. (Normal time needed to complete a full time program at the community college is two years; 92 hours are required for graduation.)

Part Time Students

Part time students are defined as those longitudinal subjects carrying less than 15 credit hours per term or completing less than 90 hours at the end of two years. (Normal time needed to complete a full time program at the community college is two years; 92 hours are required for graduation.)

Transfer Students

Transfer students are defined as those students who transfer to another educational institution prior to attaining the required number of credit hours needed for graduation from the local community college.

Students Who Volunteer for Counseling

Students who volunteer for counseling are defined as those students who, on their own initiative, make an appointment, for any reason, with a counselor at the community college.

"Others"

"Others" are defined as those students who entered the local community college in the Fall of 1966 and for whom only 12th grade SCAA scores were available.

Data Collection

For the larger longitudinal study, data were gathered from all students during the duration of the project (1961-1966). Data from the longitudinal project which is relevant to the present study includes the Self Concept of Academic Ability Scores from the 8th grade and 12th grade.

Data collected from the community college are listed below:

1. Sex
2. Curriculum

3. Credit hours earned in the Fall of 1966.
4. Credit hours earned in the Spring of 1968.
5. Fall term (1966) grade point average.
6. Spring term (1968) grade point average.
7. Full time students.
8. Part time students.
9. Students who withdrew between the Fall of 1966 and the Spring of 1968.
10. Students who transferred between the Fall of 1966 and the Spring of 1968.
11. Students who made counseling appointments.

Data Analysis Procedures

Data was collected, coded and punched on IBM cards with subsequent analyses being performed by computer at the Michigan State University Computer Center.

Correlation coefficients were computed to test Hypothesis No. 1. "t" tests, analysis of variance and chi square techniques were employed to test the remaining hypotheses and exploratory questions. The .05 level was used to determine significance.

CHAPTER IV

DATA ANALYSIS

The results of data analysis tend to support the major hypotheses of this study, indicating a significant relationship between SCAA as measured in the 8th and 12th grades in high school and subsequent achievement at the local community college. As noted previously, all data were analyzed separately for males and females.

Males

H1a

H1a was concerned with a positive relationship between SCAA in the 8th grade and academic achievement for the first term (Fall, 1966) at the local community college. A positive correlation, significant at less than the .05 level was found between males 8th grade SCAA and grade point for the first term (Fall, 1966) at the local community college (see Table 3).

H1b

H1b was concerned with a positive relationship between 12th grade SCAA and academic achievement in the first term (Fall, 1966) at the local community college.

TABLE 3.--Correlations between 8th and 12th grade SCAA and grade point in the fall of 1966 and the spring of 1968 for both longitudinal and "other" students by males and females

| | | Males | | Females | |
|------------------|-------|--------------|--------|--------------|----------------|
| | | Longitudinal | Others | Longitudinal | Others |
| SCAA 8th/pts 66 | N=103 | .19* | | N=90 | -.05 |
| SCAA 8th/pts 68 | N= 52 | .12 | | N=37 | .21 |
| SCAA 12th/pts 66 | N= 98 | .30* | N=43 | N=88 | .19* N=35 .31* |
| SCAA 12th/pts 68 | N= 52 | -.04 | N=22 | N=36 | .37* N=12 .11 |

* Indicates significance at less than the .05 level using a one tailed test.

A much higher positive correlation significant at less than the .05 level was found between males 12th grade SCAA and grade point for the first term (Fall, 1966), at the local community college (see Table 3).

H1c and H1d

H1c and H1d were concerned with the relationship between SCAA in the 8th and 12th grades with academic achievement at the end of two years (Spring, 1968) at the local community college.

Although neither 8th grade nor 12th grade SCAA for males were statistically significant with academic achievement at the end of two years, the correlation between 8th grade SCAA and academic achievement was in the predicted direction.

Females

For the females, 8th grade SCAA was not significantly related to academic achievement in either the first term or the sixth term at the local community college. Although 8th grade female SCAA was not significantly related to academic achievement in the first term at the community college, the correlation was in the predicted direction (see Table 3).

However, females 12th grade SCAA is positively related to first term academic achievement and the correlation is significant at less than the .05 level. A much

higher correlation is found between female SCAA in the 12th grade and academic achievement at the end of two years at the local community college and is significant at less than the .05 level (see Table 3).

The Relationship Between 8th and 12th SCAA and Achievement

The question of which SCAA score (8th or 12th grade) correlates higher with academic achievement at the end of two years is indicated by the data in Table 3.

There are obvious differences between males and females which make it most difficult to generalize. Although both 8th grade and 12th grade SCAA for males is positively related to first term academic achievement, neither 8th nor 12th grade SCAA is significantly related to sixth term academic achievement. The correlation between male 12th grade SCAA and academic achievement in the first term is considerably greater than the correlation between 8th grade SCAA and academic achievement in the first term.

For the females in the study, a significant relationship was found between SCAA in the 12th grade with both first term academic achievement and sixth term academic achievement. Although both are statistically significant at less than the .05 level, the correlation between 12th grade SCAA and academic achievement at the end of two years is considerably larger than the correlation between 12th grade SCAA and first term academic achievement.

Although there are discrepancies between males and females, the data suggest that 12th grade SCAA is a better indicator of first term academic achievement for males and both first term and sixth term for females.

Hypothesis 2

Hypothesis 2 dealt with the concept that students who withdraw from the local community college will have lower self concept of academic ability than those who complete two years at the community college or transfer to another educational institution.

However, using both analysis of Variance and "t" test techniques, no significant differences were found in this study between those students who "dropped out" of the local community college and those who transferred or remained at the college for two years.

There are many factors involved in producing this particular finding concerning longitudinal research projects. These will be discussed in the final chapter of this study.

Hypothesis 3

The purpose of hypothesis 3 was to investigate differences between 8th and 12th grade SCAA and a student's decision to pursue a full time academic program as opposed to attending part time.

Using "t" test techniques, a significant difference in 8th grade SCAA at less than the .05 level was found between males who attended full time in the first term at the local community college, and males who attended part-time. In other words, the higher the SCAA in 8th grade the more likely it is that the student will attend on a full time basis.

This relationship also held true for male SCAA in the 8th grade and the completion of 90 hours (full time) at the local community college (see Table 4).

SCAA of 12th grade males was also significantly related to full time attendance for the first term at the local community college but no significant relationship was found between 12th grade male SCAA and the completion (90 hours) of a full time program at the end of two years (see Table 5).

As indicated in Tables 4 and 5, there were no significant relationships indicated between female SCAA in the 8th or 12th grade with full time or part time attendance in the first term or upon the completion of a full time program at the end of two years.

The discrepancy between males and females concerning this hypothesis will be discussed in the final chapter of this study.

TABLE 4.--Comparison of means of 8th grade SCAA between full-time and part-time students at end of first and sixth terms at community college.

| End of First Term | | | |
|-------------------|-------------------------|------------------------|-------|
| | Full-time ≥ 15 Hours | Part-time <15 Hours | "t" |
| M | 30.42 (31) | 29.09 (66) | 2.11* |
| F | 28.04 (23) | 28.94 (67) | .75 |
| End of Sixth Term | | | |
| | Full-time ≥90 Hours | Part-time <90 Hours | "t" |
| M | 30.56 (16) | 29.14 (36) | 1.77* |
| F | 29.56 (9) | 29.14 (28) | .38 |

* Significant at <.05, one-tailed test.
N's are indicated in parentheses.

Hypothesis 4

Hypothesis 4 was concerned with differences between full time students and part time students and their subsequent academic achievement in both the first term and the completion of a full time program at the end of two years at the local community college.

Using "t" test techniques, a significant difference in grade point average at less than the .05 level was found between males taking a full time program as

TABLE 5.--Comparison of means of 12th grade SCAA between full-time and part-time students at end of first and sixth terms at community college.

| | End of First Term | | |
|---|------------------------|------------------------|-------|
| | Full-time ≥15 Hours | Part-time <15 Hours | "t" |
| M | 28.96 (29) | 26.9 (68) | 2.74* |
| F | 28.78 (23) | 28.43 (65) | .27 |
| | End of Sixth Term | | |
| | Full-time ≥90 Hours | Part-time <90 Hours | "t" |
| M | 27.31 (16) | 27.89 (35) | -.44 |
| F | 29.12 (8) | 28.57 (28) | .42 |

* Significant at <.05, one-tailed test.

freshmen and males taking a part-time program. This relationship also held true for males who completed two years at the local community college as full time students and those who attended part time and did not complete a two year program. In other words, full time male students experienced higher grade point averages than part time male students (see Tables 6 and 7).

No statistically significant differences in grade point averages were found between full time and part time

TABLE 6.--Comparison of means of grade-point averages between full-time and part-time students at end of first term at community college.

| | Full-time ≥15 | Part-time <15 | "t" |
|---|------------------|------------------|-------|
| M | 2.26 (29) | 1.79 (68) | 2.54* |
| F | 2.36 (23) | 2.37 (67) | .029 |

*Significant at <.05, one-tailed test.

TABLE 7.--Comparison of means of grade-point averages between full-time and part-time students at end of sixth term at community college.

| | Full-time ≥90 | Part-time <90 | "t" |
|---|------------------|------------------|-------|
| M | 2.56 (16) | 1.82 (35) | 5.33* |
| F | 2.68 (9) | 2.35 (28) | 1.71 |

*Significant at <.05, one-tailed test.

females in either the first term or upon completion of a full time, two year program (see Tables 6 and 7).

Although not stated as the intent of this study, it was decided to apply a different criteria for defining full time-part time students and investigate the difference for female students. Using eight hours and above for full time and below eight hours as part time, a significant difference in academic achievement was found between

females who carried eight hours or more and females who carried less than eight hours in both the first term and sixth term. This difference will be discussed in Chapter V.

SCAA and Counseling

The first of the exploratory questions dealt with investigating any differences in self concept of academic ability of students who volunteered for counseling and those who did not seek counseling.

Of the 196 students under study, 16 males and 17 females volunteered for counseling. There were no significant differences between those who sought counseling and those who did not seek counseling on SCAA.

SCAA and Transfers

The second exploratory question concerned the difference in SCAA of students who transferred from the local community college before attaining the necessary credits to graduate and those who remain for the full two years at the local community college.

Analysis of variance techniques revealed no significant differences between transfer students and those who remained at the local community college.

SCAA and Choice of Curriculum

The third exploratory question concerned itself with an examination of the association between self concept of academic ability and curriculum entered at the local community college.

The community college curriculum is divided into three major divisions. These include the Arts and Sciences Division, the Business Division and the Technical Division.

No females entered the Technical Division. However, many females entered the more specific curriculum of elementary and secondary teaching which is included in the Arts and Sciences Division. Because of their number, females entering the teaching curriculum were compared separately with females from other curricula in the Arts and Sciences Division, and females in the Business Division.

Using chi square techniques, with self concept scores dichotomized at the mean of 30, no relationship was found between 8th grade SCAA and division entered when comparing the three major divisions of Arts and Science, Business, and Technical as indicated in the Table 8 below.

However, when 8th grade SCAA scores of males in the Arts and Sciences were compared only with males enrolled in the Business Division, chi square was significant at the .05 level. More male students in the Arts and Sciences

Division had higher 8th grade self concepts of academic ability than was expected when compared to Business students (see Table 9).

TABLE 8.--Association between 8th grade SCAA and three divisions entered at community college by male students.

| 8th Grade SCAA | Division Entered | | | |
|--------------------|----------------------|----------|-----------|----|
| | Arts and Sciences | Business | Technical | |
| High (≥ 30) | 35 | 6 | 8 | 49 |
| Low (< 30) | 22 | 12 | 10 | 44 |
| TOTAL | 57 | 18 | 18 | 93 |

Chi square = 4.92, not significant.

TABLE 9.--Association between 8th grade SCAA and two divisions entered at the community college by male students.

| 8th Grade SCAA | Division Entered | | |
|--------------------|----------------------|----------|----|
| | Arts and Sciences | Business | |
| High (≥ 30) | 35 | 6 | 41 |
| Low (< 30) | 22 | 12 | 34 |
| TOTAL | 57 | 18 | 75 |

Chi square = 4.35, significant at $< .05$ level.

As indicated in Table 10, when male SCAA in 12th grade is related to the division in which enrolled, a significant relationship ($x^2 = 9.27$, significant at the .05 level) exists.

For females, a relationship was found between 8th grade SCAA and division entered as well as 12th grade SCAA and division enrolled.

Although no relationship was found between female SCAA 8th grade and major division enrolled, there was a significant association ($x^2 = 6.41$, significant at the .05 level) when pre-teaching was taken into consideration as a separate curriculum. Table 11 indicates this relationship.

TABLE 10.--Association between 12th grade SCAA and division entered at the community college by male students.

| 12th Grade SCAA | Division Entered | | |
|--------------------|----------------------|----------|-----------|
| | Arts and Sciences | Business | Technical |
| High (≥ 30) | 32 | 4 | 6 |
| Low (< 30) | 20 | 14 | 10 |

Chi square = 9.27, significant at <.05 level.

In addition, a significant relationship was found between female 12th grade SCAA and division entered when only the two major divisions in which women enroll are

considered. More females enrolled in the Arts and Sciences have higher 12th grade SCAA than females enrolled in the Business Division. Table 12 indicates this relationship.

TABLE 11.--Association between 8th grade SCAA and curriculum entered at the community college by female students.

| 8th Grade SCAA | Curriculum Entered | | | |
|--------------------|----------------------------|----------|----------|----|
| | Other Arts and Sciences | Business | Teaching | |
| High (≥ 30) | 22 | 5 | 12 | 39 |
| Low (< 30) | 15 | 12 | 23 | 50 |
| TOTAL | 37 | 17 | 35 | 89 |

Chi square = 6.41, significant at $< .05$ level.

TABLE 12.--Association between 12th grade SCAA and division entered at the community college by female students.

| 12th Grade SCAA | Division Entered | | |
|--------------------|----------------------|----------|----|
| | Arts and Sciences | Business | |
| High (≥ 30) | 38 | 2 | 40 |
| Low (< 30) | 33 | 14 | 47 |
| TOTAL | 71 | 16 | 87 |

Chi square = 8.86, significant at $< .05$ level.

SCAA and Academic Achievement for "Others"

As noted previously, 148 students (86 males and 62 females) did not meet the criteria established for this longitudinal study for lack of 8th grade SCAA scores.

However, these students attended the same schools and grade level as the longitudinal group for a portion of their high school years and did have 12th grade SCAA scores available as they completed their high school years in the same school system.

Therefore, for the "other" group correlations were computed between 12th grade SCAA and subsequent academic achievement in the first term and the sixth term at the local community college.

Although both the longitudinal group and the "other" group revealed significant relationships between 12th grade SCAA and grade point average in both the first term and sixth term, there were extreme differences between the groups.

Males

The correlation between male 12th grade SCAA and grade point average in the first term for the longitudinal subjects was .189, significant at less than the .05 level. However, the 12th grade SCAA of the "others" correlated with GPA in the first term at .39, significant at less than the .01 level.

As interesting is that male 12th grade SCAA for the longitudinal subjects was not significantly related to GPA at the end of two years, whereas 12th grade SCAA of the "others" was correlated with GPA at the end of two years at .55, significant at less than the .01 level (see Table 13).

TABLE 13.--Pearson Product Moment Correlations of SCAA in 12th grade with community college grade point average for fall term 1966 and spring term 1968 for longitudinal and "other" subjects.

| SCAA 12th/GPA by Year | Longitudinal | | "Others" | |
|-----------------------------|------------------|-------------------|-----------------|-------------------|
| | Males N = 105 | Females N = 91 | Males N = 86 | Females N = 62 |
| 1966 | .19* | .05 | .39** | -.18 |
| 1968 | .09 | .23* | .55** | .37** |

* Significant at <.05.

** Significant at <.01.

Females

Although significance levels differ, the females follow the same pattern as the males. The relationship between 12th grade SCAA and GPA in the first term was not statistically significant for either the longitudinal subjects or the "others."

However, the 12th grade SCAA of the longitudinal subjects was correlated with GPA at the end of the sixth term at .23, significant at less than the .05 level. The 12th grade SCAA of the "others" was correlated with GPA at the end of two years at .37 which is almost double the correlation found for the longitudinal subjects and is significant at less than the .01 level (see Table 13).

The seemingly dramatic differences between the longitudinal group (196 subjects) and the "other" group (148) on correlations between 12th grade SCAA and grade point average in both the first term and sixth term at the local community college prompts speculation and discussion in the following chapter.

CHAPTER V

DISCUSSION

Throughout this study the emphasis has been upon the investigation between the SCAA of a group of students defined as longitudinal subjects according to stated criteria and their subsequent academic achievement or behavior at the local community college.

This investigation followed suggestions of previous researchers who recommended that further research concerning self concept include:

1. Research with college students
2. The use of larger samples
3. Follow-up of students from primary grades through college
4. Analyses done separately for males and females.

In addition to conforming to the above mentioned recommendations, this project worked within the limits and definitions of a longitudinal study which continues the previous work of Brookover and his associates.

Some major emphases in education today are concerned with the total use of our human resources, particularly those of the disadvantaged and minority groups. The

concern for the "dropout" has become legendary. Adding to the woes of education in a free society is the conflict between what parents think their children should do and the student's concept of what he should or can do.

Therefore, a student's choice of college, choice of curriculum, and decisions concerning full time or part time attendance are crucial to his success. In addition, in a rapidly changing social structure where women are seeking recognition as doctors, lawyers and jockeys, we need to know more about womens' motivations, behavior patterns and academic performance.

Self concept of academic ability appears to be one factor which affects students' decisions and academic performance. The results of this study hopefully not only add another dimension to understanding student behavior but also encourage future research that may suggest programs or services geared to the educational needs of our youth.

The Relationship Between SCAA and Academic Achievement

The major hypothesis of this study was concerned with a positive relationship between SCAA and subsequent academic achievement in the local community college.

Data analysis indicates that such a relationship exists between 8th and 12th grade male SCAA and academic achievement in the first term at the local community

college. The analysis also indicates that 12th grade female SCAA is positively related to both first term and sixth term academic achievement.

The apparent differences between males and females becomes slightly less when one considers that the correlation between 8th grade male SCAA and academic achievement in the sixth term, although not statistically significant at the .05 level, does approach significance in the predicted direction.

Likewise, the correlation between 8th grade female SCAA and academic achievement in the first term, although not statistically significant at the .05 level, does approach significance in the predicted direction.

Thus, the data tend to support the major hypothesis that SCAA in high school is positively related to academic achievement in the local community college.

This relationship is strengthened considerably when the results of the "other" group are compared with the longitudinal group.

Correlations between both male 12th grade SCAA and female 12th grade SCAA with academic achievement in the first term and sixth term at the local community college are in most cases almost double those found for the longitudinal group and are significant at less than the .01 level.

This discrepancy may suggest some disadvantages of doing longitudinal research despite the many attributes acclaimed for longitudinal projects.

The most obvious observation is that the longitudinal subjects were a stable, homogeneous group of students. This appeared particularly so for the 196 who entered the local community college.

Although the range of scores for the Michigan State General Self Concept of Academic Ability is from 8 to 40, the range of the longitudinal group of 196 students at the local community college was approximately 24 to 33, with a few exceptions.

Thus the longitudinal group enrolled at the local community college had a rather restricted range of SCAA scores. This was also indicated by the mean scores of groups used in the various analyses. The mean SCAA scores for groups used in making comparisons ranged from 26 to 30 for the longitudinal group.

Contributing to this homogeneity are factors related to the criteria stated as necessary to be included in the longitudinal study as listed below:

1. All subjects were Caucasian.
2. Negroes were excluded because prior research suggested some difference in self concept and related variables.

3. All subjects were promoted regularly from grades 4 through 12.
4. All were participants in the regular school program. Students who were in special education programs were excluded.
5. Students involved in experiments designed to enhance self concept of academic ability in the original or Brookover longitudinal study were excluded. Many of these students in the experimental groups had extremely low self concepts of academic ability.
6. Harding's study indicated that dropouts in high school have lower self concept of academic ability than those students who remain in school. Students who dropped out of high school prior to graduation obviously are not included.

Finally, of the approximately 562 students who were classified as longitudinal subjects upon graduation from high school, 196 enrolled at the local community college.

Although this is a large proportion (35%) it might be assumed that, of the other 366 students, many (with possible high self concept of academic ability) enrolled at four year colleges and universities while many others (with possibly low self concept of academic ability) did not enroll in any educational institution after high school graduation. This, of course, is pure speculation.

Despite the restrictions noted above concerning the longitudinal group under investigation in this study, significant relationships in the predicted direction (most significant at the .05 level) were indicated between SCAA as measured in the 8th and 12th grades and subsequent academic achievement in the first and sixth term at the local community college.

When the extremely high correlations of the "other" group between 12th SCAA and academic achievement at the local community college (significant at less than the .01 level) are taken into consideration, there can be little doubt that SCAA, particularly in the 12th grade, is positively related to academic achievement at the local community college.

The Relationship Between SCAA and Withdrawals

Hypothesis 2 dealt with the concept that students who withdraw from the local community college will have lower self concept of academic ability than those who complete two years at the local community college or transfer to another educational institution.

Harding¹ in his study concerning dropouts with this same longitudinal group at the 11th grade found that high

¹Kenneth L. Harding, "A Comparative Study of Caucasian Male High School Students who Stay in School and Those who Drop Out" (unpublished Ph.D. dissertation, Michigan State University, 1966).

school dropouts have significantly lower self concepts of academic ability than non-dropouts.

As noted in the chapter on data analysis for this study, no significant differences were found between male or female students who "dropped out" of the local community college and those who remained at the local community college for two years.

One can only speculate about the factors involved which contribute to different findings concerning Harding's positive finding between SCAA and dropouts in high school and the relationships found in this study with local community college students.

The most obvious reason for non-significance is that all the students who dropped out of high school in Harding's 11th grade study and those who dropped out after his study or did not enroll at the local community college were not included in this study. As noted previously, the 196 students who enrolled at the local community college appear to be a very stable and homogeneous group.

It should also be born in mind that a high school dropout cannot necessarily be compared to a community college student who (possibly because of his high self concept) chooses to leave the community college to enter an occupation commanding prestige and financial rewards prior to graduation.

This is a common occurrence in fields such as data processing and secretarial science where a minimal amount of training can command an excellent position and salary prior to completion of a two year program.

Finally two other factors, one involving males and the other females, may account for non-significance for the hypothesis concerning "dropouts" at the local community college.

Males

For the males, the draft board called upon them as the Viet Nam War reached its peak in 1966 and 1967. Self-concept of academic ability was not included as a criterion for the draft and "community college" students were not then exempt from the draft because they were not attending a four year liberal arts college or university.

It was not until late in the Fall of 1967 that community college students were given the same privileges as four year college and university students to be exempt from the draft if they were full time students.

Obviously, many male students were drafted into the military service despite their high or low self concept of academic ability.

Females

For females, it has been recognized by many educators that it is a legitimate function of colleges to provide a hunting ground for the marriage minded female.

Although not investigated, it appears that self concept of academic ability for females has no relationship to their marriage and the subsequent act of leaving or "dropping out" of college.

For the uninvestigated and speculative reasons given above, one might account for the result concerning the relationship between self concept of academic ability and dropouts during the historical period mentioned.

The Relationship Between Full-time and Part-time Attendance and SCAA

Hypothesis 3 was concerned with investigating any significant difference between 8th and 12th grade self concept of academic ability and full time and part time attendance in the first and sixth term at the local community college.

For males, a positive relationship between 8th grade self concept of academic ability and full time, part time attendance was indicated by the data for both the first term and sixth term at the community college. The relationship also held true for 12th grade male self concept of academic ability with full and part time attendance in the first term at the community college.

However, for females the data indicates no relationship between self concept of academic ability in the 8th or 12th grade and full time or part time attendance in either the first or sixth term.

This extreme difference between males and females leads one to speculate on possible reasons for such results. The term speculation is used because there is no prior research available which investigates the relationship between self concept of academic ability and full time or part time attendance in the community college.

However, many research projects concerning college students have included investigation of sex differences on various variables which may provide clues for the differences found between males and females in this study between self concept of academic ability and full time and part time attendance. Factors relevant to the present study may include differences in goal orientation and motivation.

Stefflre³ implies in his discussion of vocational development that men are more goal oriented and motivated toward a lifelong career than are women.

In an earlier study, Singer and Stefflre⁴ comment that high school boys, as compared to high school girls, in preferring the job values of profit, power and independence were following an expected role or sex stereotype which requires that males finish their formal

³Buford Stefflre, "Vocational Development: Ten Propositions in Search of a Theory," The Personnel and Guidance Journal, Vol. XLIV, No. 6 (February, 1966), p. 613.

⁴S. L. Singer and B. Stefflre, "Sex Differences in Job Values and Desires," The Personnel and Guidance Journal, Vol. 32 (1954), pp. 483-484.

education and enter the world of work to provide for their existing or future family and home.

Women in general are not so motivated or concerned with their "career" regardless of their SCAA. This may partially account for the relationship between SCAA and full time attendance for males whereas the relationship did not hold for females.

More pertinent are the research findings of Douvon and Kaye.⁵ In discussing the motivational factor in college entrance they note that:

Besides the image of college as a vocational training ground, on intellectual and emotional growth experiences, and a mobility channel, at least two other concepts seem likely to enter adolescents' own picture of the college experience: a gay and glamorous social life, and release and relief from parental control.

The identity issue for the boy is primarily an occupational-vocational question, while self-definition for the girl depends more directly on marriage.

They found that boys are actively planning and testing for future work identities. Girls, in contrast, are absorbed much more in fantasy, particularly fantasy about boys and popularity, marriage and love.

Douvan and Kay⁶ also found that first semester freshmen women of a major midwestern university gave the

⁵Elizabeth Douvan and Carol Kaye, "Motivational Factors in College Entrance," The American College, ed. by Nevitt Sanford (New York: John Wiley and Sons, Inc., 1962).

⁶Ibid.

romantic, sexual theme in answer to the question, "What do you hope to get out of college?" 70% include in their objective the happy encounter with "the man for me," or the desire to meet boys and have a lot of fun.

Obviously, a girl need not attend college on a full time basis regardless of her SCAA to carry out the motivational goals indicated by female students. For that matter, women with high SCAA may be more likely to attend college but not necessarily on a "full time" basis.

A final clue comes from a recent study by Reichard⁷ who reports that a significantly greater percentage of men attend full time at Cuyahoga Community College than women. Although not statistically significant, it was also found that full time students had higher grade point averages than part time students.

Reichard's⁸ findings would tend to support the findings of the present study which indicate a positive significant relationship between academic achievement and full time attendance for males with the added dimension of SCAA relating to both academic achievement and full time attendance.

⁷Donald Reichard, The Graduate, Cuyahoga Community College, Cleveland, Ohio (September, 1967).

⁸Ibid.

The Relationship Between Full time--
Part time Attendance and GPA

Hypothesis IV was concerned with the significant difference between full time and part time students and their subsequent academic achievement in both the first and the sixth term at the local community college.

Using 15 hours and above for freshmen and 90 hours and above at the end of two years to define full time students, significant differences in academic achievement were found between full time and part time males in the first and last terms.

Although the relationship between full time, part time and grade point average for females approached significance in the predicted direction, the relationship was not statistically significant for females.

As an experiment, the criteria for full time and part time attendance for females was lowered to 8 hours and above for full time and below 8 hours for part time. Applying this criteria, significant differences at the .05 level were found between full time and part time females in their academic achievement.

Possibly the same factors discussed concerning the relationship between SCAA and full time, part time attendance are operating when considering full time, part time attendance and grade point average.

Men are more highly motivated and goal oriented to attend college full time and complete their formal education in order to enter the world of work than are women.

Women, on the other hand, are more apt to attend college to "have fun," "meet my guy," and hopefully to marry. These goals do not require full time attendance as defined for this study.

The Relationship Between SCAA and Counseling

The first of the exploratory questions dealt with investigating any differences between SCAA of longitudinal students who volunteered for counseling and those who did not seek counseling. No significant differences were found.

Of the 196 students in this study, only 16 males and 17 females volunteered for counseling. Most of these students had only one appointment with a counselor and the major reason for seeing a counselor was to seek transfer information.

One might suspect that because of the homogeneity and stability of the longitudinal group over a period of six years, they would be less likely to seek personal and vocational counseling than the normal population enrolled at the community college. The small number of subjects who volunteered for counseling may also partially account for the results.

The Relationship Between SCAA
and Transfers

The second exploratory question concerned any significant differences in SCAA of students who transferred to other educational institutions and those who completed two years at the local community college. No significant differences were found.

Of the 196 students, only 5 males and 7 females transferred to other colleges prior to completing two years at the local community college. The small number almost precludes analysis, let alone revealing any statistical significance.

However, the fact that so few transferred is revealing in itself and indicates a drastic change in "behavior" of local community college students over the past few years.

Only a short time ago, community college students who intended to transfer and who successfully completed even one, two or three terms at the community college left to attend the more prestigious four year colleges and universities.

Many factors may account for the change in the behavior pattern concerning transfer students. Whereas at one time the four year institutions encouraged and welcomed the "early" transfer, crowded campuses and research covering the attrition rates of the early transfer dictated new admissions policies for the transfer student.

Consequently, many four year institutions either would not admit students prior to completing two years at the community college or they highly recommended and encouraged students to graduate from the community college before transferring.

At the same time the prestige of the community college was growing and community support strengthening. Older community colleges moved from high school plants and condemned buildings to beautiful campuses and new buildings while new community college campuses sprung up in areas heretofore lacking a community college. Lower costs, if Dad assumed the cost of room and board, and proximity to Home were other factors affecting the student decision to complete his first two years at the community college. Strengthened curricula, particularly at the sophomore level, and smaller classes helped many decide to stay at the local community college.

In any case, although no significant differences were revealed between the small number who transferred and those who did not, the question reveals an interesting trend in the behavior pattern of community college students.

The Relationship Between SCAA and Division Entered

The third exploratory question was concerned with the relationship between SCAA and division entered at the local community college.

The analysis indicated that more males in the Arts and Sciences Division had higher 8th grade SCAA scores than was expected when compared to Business students. In addition, a significant relationship was found between male 12th grade SCAA and major division enrolled.

For females, a positive relationship was found between 12th grade SCAA and division entered when only the two major divisions in which women enroll are considered. More females enrolled in the Arts and Sciences have higher self concept of academic ability than females enrolled in the Business division.

When teaching is considered as a separate curriculum, the data indicate that more females in other curricula of the Arts and Sciences have 8th grade SCAA above the mean than those females enrolled in teaching or business. Of significance is that more females in teaching have lower 8th grade SCAA than was expected.

It appears that the higher the SCAA, the more likely a student will enroll in the traditionally more prestigious curriculums which lead to professional occupations. The lower the self concept, the more likely a student will enroll in the more practical and possibly less demanding fields of business and technology.

An exception seems evident in the field of teaching for females. The findings of this study, showing more females in teaching to have SCAA scores below the mean,

would tend to support other research that indicate that colleges of education attract students of lesser ability than those found in other professional programs and that the curricular pattern in education is less demanding than other profesisonal curricula.

It is interesting that this study reveals a negative relationship between female SCAA and choice of teaching, one of the traditional occupations of women. One can only speculate as to whether women consider teaching as a prestigious and professional occupation.

Summary

In summary, the higher the 8th grade SCAA of males the more likely they are to:

1. Have a higher grade point average in the first term at the college.
2. Enroll as a full time student for the first term in college.
3. Complete a full time program at the end of two years at the college.
4. Enroll in the Arts and Sciences Division rather than the Business Division.

The higher the 12th grade male SCAA, the more likely they are to:

1. Have a higher grade point average in the first term at the college.

2. Enroll as a full time student for the first term at the college.
3. Enroll in the Arts and Sciences Division rather than the Business or Technical Division.

The data also reveal that:

1. Full time students are more likely to have higher grade point averages than part time students in both the first term and the sixth term at the college.
2. The correlations of the "other" male group are more than double those found for the male longitudinal group on the hypothesis concerning the relationship between 12th grade SCAA and academic achievement in both the first term and the sixth term at the college.

In addition, the data also indicates that for females, the higher the 8th grade SCAA, the more likely they are to:

1. Enroll in other curricula of the Arts and Sciences Division rather than the teaching curriculum or Business Division.

The higher the 12th grade SCAA, the more likely they are to:

1. Have a higher grade point average in the first term at the college.
2. Have a higher grade point average at the end of two years at the college.

3. Enroll in the Arts and Sciences Division rather than the Business Division.

Tha data also reveal that

- *1. Females taking 8 hours or more are more likely to have higher grade point averages than those taking less than 8 hours in both the first term and the sixth term at the college.
2. The correlation of the "other" female group were almost double those found for the female longitudinal group on the hypothesis concerning the relationship between 12th grade SCAA and academic achievement in both the first term and the sixth term at the college.

Suggestions

The results of this study would indicate that the Michigan State General Self Concept of Academic Ability Scale might profitably be used by local public school districts in cooperation with the local community college in identifying students with low SCAA. Such information may suggest programs, procedures and services designed to enhance SCAA and, therefore, subsequent academic achievement

* The criteria stated for this study for full time attendance was 15 hours or more. Since no relationship was found for females and noting previous discussion on page 56 concerning the motivation and goal orientation of women, the full time criteria was lowered to 8 hours or more for experimental investigation.

and behavior in both the local public school district and in the local community college.

Brookover,⁹ in his experimental project designed to enhance SCAA, found that besides "significant others" such as teachers, counselors and friends, the most influential factor in changing and enhancing SCAA were parents attitudes about their children.

Brookover's results and the findings of this study would suggest that:

1. The local community college in cooperation with the local school district, administer the SCAA Scale to all 8th graders in an attempt to identify students with low SCAA.

Identification of students with low SCAA in the 8th grade would allow both school districts to cooperate in designing and implementing "remedial" programs to enhance SCAA over a four year period prior to high school graduation. Parents should be included and positive reinforcement of the student the key to such programs.

2. The local community college, in cooperation with local public school districts, administer the SCAA to all 12th grade students.

Knowledge of 12th grade SCAA may be of value to the college counselor in helping a student assess his future

⁹Brookover, et al., op. cit.

academic achievement, his choice of curriculum and whether he should enroll on a full time or part time basis.

This same knowledge may assist other college personnel in understanding the student and his academic behavior. Possibilities might include individual attention by instructors, group counseling and general positive reinforcement of a student's SCAA in individual confrontations or within remedial programs.

Since this study concerned a rather stable, homogeneous group of students, it is suggested that further research be conducted by the local community college using the SCAA scale with all students enrolled in the public schools of the college district. The dramatic differences in correlations discovered for the "other" group when compared to the longitudinal group would warrant this suggestion.

In addition to its use by the local community college, other two year and four year colleges might well profit from the use of the SCAA Scale in investigating similar relationships between SCAA and academic behavior. Similar findings would broaden the scope of knowledge regarding the instrument's reliability and validity for predicting academic behavior on other campuses.

Obvious differences found between males and females in this study would suggest that future research concerning SCAA include separate analysis for males and females.

Finally, we may have to redefine the term "dis-advantaged," which is associated with race and socio-economic status, to include those students having low self concepts of academic ability. Such a definition might well focus upon a student's SCAA in addition to his race, creed or socio-economic status. Such a focus may suggest programs, services, procedures, guidance and counseling techniques leading to a more appropriate and fuller use of this nation's human resources.

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APPENDIX

The Michigan State University
General Self Concept of
Academic Ability Scale

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
 - a. I am the best
 - b. I am above average
 - c. I am average
 - d. I am below average
 - e. I am the poorest
2. How do you rate yourself in school ability compared with those in your class at school?
 - a. I am among the best
 - b. I am above average
 - c. I am average
 - d. I am below average
 - e. I am among the poorest
3. Where do you think you would rank in your high school graduating class?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
4. Do you think you have the ability to complete college?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. no
5. Where do you think you would rank in your class in college?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest

Go on to the next page

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
 - a. very likely
 - b. somewhat likely
 - c. not sure either way
 - d. unlikely
 - e. most unlikely
7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?
 - a. My work is excellent
 - b. My work is good
 - c. My work is average
 - d. My work is below average
 - e. My work is much below average
8. What kind of grades do you think you are capable of getting?
 - a. Mostly A's
 - b. Mostly B's
 - c. Mostly C's
 - d. Mostly D's
 - e. Mostly E's

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