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ABSTRACT

This study examined the relationship between self-concept and two measures of academic performance, achievement and attrition. The Tennessee Self Concept Scale (TSCS) was administered to 158 female junior college freshmen. data were collected on achievement (GPA), attrition (Drop nontransfers, Transfers, Persisters), academic ability (SAT), and personal characteristics. Regression analysis indicated a slight, nonsignificant relationship between TSCS scores and GPA. Combining SAT scores with TSCS scores producing a stronger, statistically significant relationship. Results of two one-way analyses of variance indicated that although Transfers had significantly higher self-criticism scores than did Persisters and Dropouts, the three groups did not differ significantly on mean overall self-concept scores. Finally, chi-square analyses showed that students with working mothers had higher GPAs than those whose mothers were housewives and that religious affiliation related to attrition. Proportionally, Protestants were most likely to drop out; Catholics to persist; and Jews to transfer. The results ambigious evidence for a relationship between self-concept and college performance and suggest that other nonacademic variables may be better predictors of achievement and attrition. (Author)

Self-Concept as a Predictor of Performance in College Women

Irene A. Nichols
Department of Foundations of Education
Northeastern University

Carole B. Shauffer
Student Personnel
Garland Junior College

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Reprints of the article are available from Irene A. Nichols, College of Education, Northeastern University, Boston, Mass. 02115.

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Abstract

This study examined the relationship between self-concept and two measures of academic performance, achievement and attrition. The Tennessee Self Concept Scale (TSCS) was administered to 158 female junior college freshmen. Data were collected on achievement (GPA), attrition (Dropout nontransfers, Transfers, Persisters), academic ability (SAT), and personal characteristics. Regression analysis indicated a slight, nonsignificant relationship between TSCS scores and GPA. Combining SAT scores with TSCS scores produced a stronger, statistically significant relationship. Results of two one-way analyses of variance indicated that although Transfers had significantly higher self-criticism scores than did Persisters and Dropouts, the three groups did not differ significantly on mean overall self-concept scores. Finally, chi-square analyses showed that students with working mothers had higher GPAs than those whose mothers were housewives and that religious affiliation related to attrition. Proportionally, Protestants were most likely to drop out; Catholics to persist; and Jews to transfer. The results offer ambiguous evidence for a relationship between self-concept and college performance and suggest that other nonacademic variables may be better predictors of achievement and attrition.

Self-Concept as a Predictor of Performance in College Women

The idea that self-concept is in some way related to performance is not unique to psychologists or social scientists. Popular mythology, from "The Little Engine That Could" to "The Power of Positive Thinking," expounds the theme that self-confidence is the key to success and, even more generally, that with a favorable self-evaluation or self-view one can "climb the highest mountain." Conversely, conventional wisdom often cites a lack of self-confidence and a negative self-evaluation or self-view as an explanation for failure in everything from professional sports to corporate finance. Much psychological theorizing supports the popular mythology and conventional wisdom. The purpose of this paper is to examine this notion in terms of two specialized measures of performance, academic achievement and persistence in college. From an examination of the literature on the subject and the results of a study of junior college women, conclusions are drawn about the strength and validity of this commonly postulated relationship.

The Northeast Academic Science Information Center (NASIC), a computerized search system, was used to identify relevant literature.

Data bases used were: the Educational Resources Information Center (ERIC) and Psychological Abstracts. Citations of all published and unpublished studies, reports, etc. which dealt explicitly with self-concept and included college women as subjects were secured. This set of citations was narrowed by reviewing the abstracts and selecting for further examination those dealing with self-concept and academic performance in college women. Studies which dealt only with men were excluded, but studies with both male and female subjects were included.

Because of our special interest in the Tennessee Self Concept Scale (TSCS) as a predictor of performance in college women, two other data sources, the Tennessee Self Concept Scale Bibliography of Research Studies (Fitts, 1973) and its Supplement (Fitts, 1974), were used. These bibliographies were searched and all references dealing with self-concept and performance, academic achievement and attrition, particularly, were identified and reviewed. This search was not limited to studies employing college women as subjects.

Studies were located in three main areas: (a) self-concept in precollege-age students; (b) self-concept in other than college-age adults; and (c) self-concept in undergraduate college students. This review is confined to studies in area (c). Only 23 studies

in all were located on the effects of self-concept on college performance. Of these 23, eight were unpublished Master's theses or reports which were unavailable. Fifteen relevant studies were reviewed. They are a mixed bag. Dependent variables include: academic achievement (Bailey & Bailey, 1971; Everett, 1971; Iglinsky & Wiant, 1971; Passmore, 1970; Self, 1973); other types of academic performance (Johnson, 1970); attrition (Byrd, 1971; Menning, 1973; Peterson, 1967; Smith, 1972); effectiveness of student teaching (Denton, 1973; Firestone, 1973; Garvey, 1970; Passmore, 1970); and other student teaching behaviors (Queen, 1969; Seidman, 1969). Almost all of the studies included both male and female subjects, but reported no sex differences.

Of the findings reviewed, 38% indicate significant, positive relationships between overall self-concept and college performance variables; 25%, significant, positive relationships between the dependent variables and a small number of subscales of the self-concept measure used; and 38%, no significant relationships. However, of the 10 studies which dealt specifically with achievement and attrition as indices of college performance, only half report significant, positive relationships between these variables and self-concept. The findings provide no clear evidence of a relationship between self-concept and either achievement or

attrition. More empirical work must be done to unearth such relationships, if they in fact exist.

Based on our reading of the studies cited above and on our own experience with college-age women, we framed the following questions: (a) Does self-concept predict level of academic achievement in junior college women? (b) Does self-concept, in conjunction with traditional measures of academic ability, predict level of academic achievement in junior college women? (c) Is self-concept a predictor of attrition in junior college women? (d) Are certain personal and family characteristics related to level of academic achievement and attrition in junior college women?

Method

Subjects

The subjects were students at a small, privately endowed junior college for women in Boston, Massachusetts. At the time of the study, the school offered eight career programs, a program in fine arts, and a general, self-planned program combining aspects of the various career fields with liberal arts courses. Approximately 2/3 of the students live in college residence houses and 1/3 are commuters.

The sample consisted of the students in the 1973 entering freshman class (N=158). Transfer students who had less than two

full years to complete at the college were eliminated from the study. Students' ages ranged from 17 to 49 years at the time of entering, but 93% were between 17 and 19 years of age. Sixteen percent had graduated from private secondary schools, 78% from public schools, and 8% from parochial schools (1% unknown). Eighty-three percent came from suburban homes. The majority of students came from upper middle-class backgrounds, although some students received financial aid and some came from the upper socio-economic class.

Materials

The Tennessee Self Concept Scale (TSCS) was used to measure self-concept (Fitts, 1964). The TSCS consists of eight subscales: Physical Self; Moral-Ethical Self; Personal Self; Family Self; Social Self; Identity; Self-Satisfaction; and Behavior. Scores on these subscales are combined to yield a Total Positive or overall self-concept score. The TSCS also includes a Self Criticism score, a score on Variability and a score on Conflict. Subjects evaluate, on a scale ranging from completely false to completely true, 100 self-descriptive statements, e.g., "I am a calm easy going person"; "I get angry sometimes"; "I am neither too fat nor too thin." The author reports (Fitts, 1965) reliability coefficients for the individual subscales and Total Positive score

ranging between .80 and .90. He also reports high content validity based on the ability of the TSCS to discriminate between groups, e.g., delinquents and nondelinquents, and its correlation with other self-concept measures.

The TSCS was administered to students during orientation week at a required meeting of the freshman class. They responded to the TSCS directly on the questionnaire form and the answers were later transferred to TSCS answer sheets.

A Personal Information Sheet, developed by the authors, was used to gather data on the students' age, family background, religious affiliation, grade point average (GPA), and reasons for leaving school. Data for the Personal Information Sheet were collected from student admissions records, registration information sheets, grade report forms, and withdrawal forms.

Scholastic Aptitude Test (SAT) scores were used as measures of academic ability. In some cases, only Preliminary Scholastic Aptitude Test (PSAT) scores were available. These scores were multiplied by 10 in all analyses to yield a three-digit figure comparable to the SAT score. When neither type of score was available, the students (N=28) were dropped from analyses which required measures of academic ability. For these analyses, therefore, N=130.

Achievement was measured by the students' GPA at the time of

leaving school or graduating.[1] Students who left school in their first semester were eliminated from any analyses which required measures of achievement (N=3).

Attrition was determined by reviewing the students' college records. Reasons for leaving were listed on student withdrawal forms. In addition, transcript request forms were on file for those students who transferred to other institutions.

All scores on the TSCS, SAT (or PSAT) and information from the Personal Information Sheet were coded and punched onto computer cards. Frequency distributions, means, and standard deviations were computed. In some analyses, several categories of responses were grouped together. Thus, there were originally nine attrition groups: (a) asked to leave; (b) left for personal reasons; (c) left for health reasons; (d) left to work; (e) left for financial reasons; (f) left for other reasons; (g) unknown; (h) transfers, and (i) persisters. However, so few cases were found in each of categories (a) through (g) that they were merged into a group called Dropout nontransfers. The other two groups were Transfers and Persisters. Similarly, mother's occupation, originally coded using Roe's (1956) two-way classification system, was recoded simply as "housewife" and "other." For certain analyses it became necessary to form groups based on SAT (or PSAT) and

Total Positive scores. This was done in both cases by breaking the distribution of scores at the 33rd and 66th percentiles.

Results

The report of the results will be organized in terms of the four questions raised above.

1. Does self-concept predict level of academic achievement in junior college women? Three general analyses were carried out in an attempt to answer this question, a multiple regression analysis and two partial correlations.

In the multiple regression analysis, the criterion variable was GPA and the predictor variables used were based on the TSCS (Total Positive score, all eight subscale scores, and Self Criticism score). The Multiple $R=.32$ and $R^2=.10$ ($F=1.29$, $p=.24$) indicate that the predictor variables do not improve the prediction very much over chance.

In order to test whether the relationship between self-concept and GPA would be strengthened if the effects of "defensiveness" were controlled for, a partial correlation was computed between Total Positive and GPA partialling out Self Criticism (a measure of defensiveness which correlated negatively with Total Positive score). The correlation of Total Positive and GPA yields an $r=.16$ ($df=153$, $p=.02$). The partial correlation was .13 ($df=152$,

$p=.06$), small and not significant. Rather than increasing the strength of the relationship, controlling for defensiveness reduced the size of the correlation.

On the assumption that ability might be interacting with self-concept to reduce its predictive power, a second partial correlation analysis was carried out. Total Positive and GPA were correlated controlling for academic ability (SAT). In Table 1 the partial correlations for Total Positive with GPA controlling for SATV, SATQ, and SATV and SATQ are presented. The three coefficients are around .18, indicating only slight relationships, but all three coefficients are significant at the .02 level.

Insert Table 1 about here

2. Does self-concept, in conjunction with traditional measures of academic ability, predict level of academic achievement in junior college women? Again three general analyses were performed, two multiple regression analyses and a partial correlation. GPA served as the criterion variable and the predictors were SATV, SATQ, Total Positive, eight subscale scores, and Self Criticism. Table 2 presents the relevant statistics. Multiple $R=.53$ and $R^2=.29$ ($F=3.80$, $p<.01$). TSCS in conjunction with SATV and SATQ explains 29% of the variance in GPA. The standardized partial regression coeffi-

cients (Beta weights) are shown in Table 3 arranged in decreasing order of absolute value. The largest being equal to 4.09 (Total Positive), the smallest being equal to .05 (Family Self).

Insert Tables 2 and 3 about here

A second regression analysis was computed to determine whether the co-linearity of the eight TSCS subscale scores and Total Positive had reduced R. Here, as can be seen in Table 4, the prediction is not improved. R=.48 and R^2=.23 (F=8.49, p<.01), indicating that only 23% of the variance in GPA is explained by using SATV, SATQ, Total Positive, and Self Criticism as predictors. However, the standardized partial regression coefficients shown in Table 5 are noteworthy. The relative contribution of SATV, SATQ, Total Positive, and Self Criticism to the prediction equation changes rather markedly when the TSCS subscale scores are removed from the analysis (SATQ and SATV contribute the largest amount to prediction).

Insert Tables 4 and 5 about here

Given the negative Beta weight for Self Criticism, three partial correlation coefficients were calculated: Total Positive, SATV, and SATQ with GPA controlling for the effects of Self

Criticism. The zero order correlation matrix is reported in Table 6 and the partial correlation coefficients and their associated significance levels in Table 7. All four variables are significantly related to GPA when simple bivariate correlation procedures are applied. However, when Self Criticism is controlled for, the relationships between GPA and SATV and between GPA and SATQ increase in strength. The correlation between GPA and Total Positive decreases and fails to reach the .05 level of significance.

Insert Tables 6 and 7 about here

3. Is self-concept a predictor of attrition in junior college women? In order to determine whether the three groups studied (Dropout nontransfers, Transfers, Persisters) could be differentiated on the basis of self-concept scores, a discriminant analysis was carried out. The discriminating variables were self-concept scores (Total Positive and all eight subscale scores). The objective was to weight and linearly combine the discriminating variables in a way that would force the groups to be as statistically distinct as possible and to test the significance of the group separations. The Wilks' lambda for the three groups prior to removing any information based on the discriminant functions was .88 (χ^2=18.9, df=20, p=.53). This test indicated that the chance

of producing group differences this large or larger on the discriminating variables by drawing three random samples was greater than .5 and the null hypothesis, that the threc groups had similar self-concepts, had to be accepted. Of interest, however, is the fact that use of the discriminant functions derived to identify the likely group membership (Dropout nontransfers, Transfers, or Persisters) of the students does produce results that differ from chance. When the only information known is the cases' values on the discriminating variables, 44% of known cases are correctly classified in their appropriate group (see Table 8).

Insert Table 8 about here

A second type of analysis, analysis of variance, was used to see if the attrition groups differed significantly on Total Positive, Self Criticism, or Total Variability. Three separate one-way analyses of variance were computed. The attrition groups did not differ significantly on Total Positive. However, Duncan's Multiple Range test revealed that the mean Total Positive score ($\bar{X}$=329) of the Transfer group differed significantly from that of the Dropout nontransfer ($\bar{X}$=347) and Persister ($\bar{X}$=344) groups. Students who transferred, contrary to expectation, had significantly lower Total Positive scores.

Table 9 reveals that a significant difference between attrition groups was found on Self Criticism scores (F=3.117, p=.05). Again, Duncan's procedure indicates that the Transfer group ($\bar{X}$=35.6) is significantly different from the Dropout nontransfer ($\bar{X}$=33.3) and Persister ($\bar{X}$=33.8) groups.

Insert Table 9 about here

The third and final one-way analysis of variance was non-significant. Mean Total Variability scores (a measure of consistency in self-perception) were not significantly different among the three attrition groups.

4. Are certain personal and family characteristics related to level of academic achievement and attrition in junior college women? Two sets of chi-square analyses were computed to answer this question. The first set tested the relationships between GPA and data gathered on the Personal Information Sheet. There were no significant relationships found between GPA and: age, major in junior college, birth order, type of school, location of home, or religious affiliation. Only one significant relationship emerged, GPA and mother's occupation (χ^2=9.98, df=2, p=.007). The associated Contingency coefficient is .26. Interestingly, students whose mothers were not housewives had higher GPAs than

those whose mothers were. The second set of chi-square analyses were done to test the relationships between attrition and personal information obtained on the subjects. No significant relationships were found between attrition and: age, major in junior college, birth order, type of school, location of home, or mother's occupation. The one significant relationship found was between attrition and religious affiliation (χ^2=20.33, df=10, p=.03). The associated Contingency coefficient is .38. Students in all three major religious groups are more likely to persist than to drop out or transfer (Protestants = 65%; Jews = 50%; Catholics = 77%). However, a larger proportion of Protestants (26%) than of Catholics (9%) or of Jews (21%) drop out; and a larger proportion of Jews (29%) than of Protestants (10%) or of Catholics (15%) transfer to other schools.

Discussion

The analyses demonstrate that self-concept as measured by TSCS is not a very good predictor of college achievement. Even when measured scholastic ability is held constant the correlation between overall self-concept and academic achievement is very small. When self-concept scores are combined with ability measures prediction of academic performance is improved, but a large amount of the variance in achievement remains unexplained.

These findings are not inconsistent with results reported in

other studies, but do contradict the common sense idea that positive thinking pays. It may be that there are aspects of self-concept not measured by TSCS which would relate to achievement or that indices of achievement in college other than GPA like leadership positions held, or learning in specific courses would yield stronger relationships with TSCS. Based on these results, however, we must conclude that "the little engine that could" was not much more likely to get up the hill than some other engine that kept saying, "I don't think I can" (even after partialling out for horsepower).

The relationships found between self-concept and attrition are somewhat puzzling. The first question which arises is: why are the self-concept scores of Dropout nontransfers similar to those of Persisters and different from those of Transfers? This question can be answered by an analysis of the sample. In our sample, Dropouts are students who, but for circumstances beyond their control, would have been Persisters. In most cases, situational factors (e.g., health, economic problems) rather than personal decisions to leave the college were the cause of their dropping out. Thus we have no reason to expect that they would differ from Persisters on affective variables such as self-concept. Conversely, Transfers are students who left of their own volition and, therefore, might be expected to differ from the other two groups

on such variables.

The more interesting question is why Transfer students have lower self-concept and higher self-criticism scores than do Drop-out nontransfers and Persisters. Some possible explanations come to mind. The simplest is that students with low opinions of themselves translate their self-dissatisfaction into dissatisfaction with their environment and, therefore, decide to transfer. Or, the transfer students' lower self-concept and higher self-criticism scores may reflect their negative view of themselves in the specific role of "junior college student" as opposed to "four-year college student." Transferring may be a way of escaping from this negatively perceived role. Alternatively, a lower self-concept combined with a higher level of self-criticism may motivate these students to transfer in order to "better themselves"--a sort of Avis effect, "We think we're number two; we try harder."

It is not unlikely that elements of all these explanations are involved and that transfer students are individuals who are generally dissatisfied with their lot and are seeking ways to reduce their dissatisfaction. Evidence to support or refute these explanations could be gained from follow-up studies to determine whether such students "settle down" in their new schools, or end up transferring again.

The significant relationship found between religious affiliation and attrition suggests some questions for additional research. It is not possible to determine on the basis of our data which social and cultural factors related to religious affiliation may be operating here. Since other analyses yielded no significant correlation between attrition and type of high school attended, parochial school attendance cannot be used to explain the effect. Clarification of our finding that Catholics are proportionally more likely to persist, Protestants to drop out, and Jews to transfer waits upon studies using in-depth interview techniques designed to unearth the value and attitudinal factors involved.

Similarly, the relationship between mother's occupation and academic achievement is open to a variety of interpretations. First, we might hypothesize that daughters of working mothers see themselves as very likely to have permanent careers. Since college achievement is an important factor in securing a job, they value such achievement. Daughters of nonworking mothers see themselves as less likely to have permanent careers and, thus, are not so concerned with academic achievement. Second, it may be that the quality of personal interaction between working mothers and their children or the roles and responsibilities such children have in the home contribute in a complex way to their better academic

achievement. Such an effect would be independent of the sex of the offspring and studies of both male and female students with working mothers as opposed to nonworking mothers would lend credence to one or the other explanation. Finally, the relationship between college achievement and mother's occupation may be spurious. Families in which the mother works may have higher or lower incomes than those in which the mother does not work, or the educational level of working mothers may be higher or lower than that of nonworking mothers. If this is the case, the correlation would in fact be with income or educational level of parents rather than with mother's occupation. Studies to test this or other possible correlations might profitably be done.

In summary, the findings of this study, taken in conjunction with the review of the literature, not only suggest specific directions for future research, but also demonstrate clearly the need for studies tied more closely to basic theoretical work on self-concept. Although there is a considerable amount of empirical literature on self-concept, there are few, if any, theoretically grounded studies dealing specifically with self-concept in college women. Certainly this is a gap which ought to be filled.

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Footnotes

[1]It is important to note that, in cases where a student fails a course, it is the School's policy not to record a letter grade, but rather to give a grade of NC (no credit) and to eliminate this course from the student's transcript. So, if a student received two As and two Fs for one term, her GPA for that term would be 4.0. While this benefits the student, it handicaps the researcher. Happily for both, the number of NCs on student grade report forms was very small.

Table 1

Summary of Partial Correlations: Total Positive Self (TP) with GPA Controlling for SATV and SATQ

	R	df	p	N
$R_{TP, GPA \cdot SATQ}$	.19	124	.017	127
$R_{TP, GPA \cdot SATV}$	.18	124	.023	127
$R_{TP, GPA \cdot SATV, SATQ}$	.19	123	.018	127

Table 2

Selected Statistics for Multiple Regression: GPA (Criterion) and SATV, SATQ, Total Positive Self, Eight Self Concept Subscales (Predictors)

Multiple R	.53	Analysis of Variance	df	Sum of Squares	Mean Square	F	p
R^2	.29	Regression	12	8.8311	.7359	3.80	.00
Standard Error	.44	Residual	114	22.0702	.1936		

Table 3

Beta Weights for Multiple Regressions: GPA (Criterion) and SATV, SATQ, Total Positive Self, and Eight Self Concept Subscales (Predictors)

Predictor	Beta
Total Positive Self	4.09
Self Satisfaction	-1.90
Behavior	-1.29
Identity	-1.08
SATQ	.30
Personal Self	-.26
SATV	.22
Self Criticism	-.19
Physical Self	-.11
Moral-Ethical Self	.09
Social Self	-.06
Family Self	.05

Table 4

Selected Statistics for Multiple Regression: GPA (Criterion) and SATV, SATQ, Total Positive Self, Self Criticism (Predictors)

Multiple R	.48	Analysis of Variance	df	Sum of Squares	Mean Square	F	p
R^2	.23	Regression	4	7.0035	1.7509	8.94	.00
Standard Error	.44	Residual	122	23.8978	.1959		

Table 5

Beta Weights for Multiple Regression: GPA (Criterion) and SATV, SATQ, Total Positive Self, Self Criticism (Predictors)

Predictor	Beta
SATQ	.27
SATV	.23
Self Criticism	-.22
Total Positive Self	.10

Table 6

Correlation Matrix: Total Positive Self (TP), SATV, SATQ, GPA, and Self Criticism (SC)

	TP	SATV	SATQ	GPA	SC
TP	1.00	.00 p=.50	-.02 p=.41	.17 p=.03	-.32 p=.001
SATV		1.00	.57 p=.001	.33 p=.001	.27 p=.001
SATQ			1.00	.37 p=.001	.16 p=.03
GPA				1.00	-.15 p=.05
SC					1.00

Note: df = 125

Table 7

Summary of Partial Correlations: Total Positive Self (TP), SATV, SATQ with GPA Controlling for Self Criticism (SC)

	R	df	p	N
$R_{TP, GPA \cdot SC}$	.13	124	.08	127
$R_{SATV, GPA \cdot SC}$	.39	124	.001	127
$R_{SATQ, GPA \cdot SC}$	.40	124	.001	127

Table 8

Discriminant Analysis: Prediction Results

		Predicted Group					
		Dropout Nontransfer		Transfer		Persister	
Actual Group	N	N	%	N	%	N	%
Dropout nontransfer	36	19	12	8	5	9	6
Transfer	25	6	4	14	9	5	3
Persister	97	28	18	33	21	36	23

44% of known cases correctly classified.

$\chi^2 = 7.60$, $p = .006$

Table 9

One-Way Analysis of Variance: Self Criticism by Attrition Groups

Source	df	Sum of Squares	Mean Square	F	P
Between Groups	2	190.68	95.34	3.12	.05
Within Groups	155	4741.70	30.59		
Total	157	4932.38			