ABSTRACT
        A study was conducted to examine factors affecting
the success of Chicano students in achieving their educational and
career goals. The study assessed the relationship between
student-related variables (e.g., student characteristics and
educational and career goals prior to community college enrollment);
college-related variables (e.g., student/institution interactions and
Chicano collective consciousness); student objective attainment
(i.e., institutionally defined outcomes such as credits and degrees
earned); and student subjective attainment (i.e., individually
defined outcomes including perceptions of goal attainment and
satisfaction). A 46-item survey instrument was sent to 1,786 Chicano
students enrolled at three south Texas community colleges. Study
findings, based on a 24% response rate, included the following: (1)
students who attended a two-year institution because of fear of
rejection at a four-year school tended to have less subjective
attainment; (2) students with vocational/technical goals reported
less satisfaction with their educational goals; (3) students who
maintained their goals reported better subjective attainment; (4)
student background characteristics appeared to indirectly influence
the type of credential earned; and (5) high school achievement and
father's work status had the most significant effect on credential
attainment. (HB)

CHICANO STUDENT AND INSTITUTION
RELATED DETERMINANTS OF EDUCATIONAL OUTCOMES
IN SOUTH TEXAS COMMUNITY COLLEGES

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CHICANO STUDENT AND INSTITUTION
RELATED DETERMINANTS OF EDUCATIONAL OUTCOMES
IN SOUTH TEXAS COMMUNITY COLLEGES
by Laura I. Rendón, Ph.D.

The Problem

As of date, the controversy over what community colleges
actually do for minorities is divided into two sectors. Critics
indict two-year colleges for ill-serving minorities, for tracking
them into less than collegiate level studies, and for reducing
their chances to earn baccalaureate and higher degrees. For
example, the recent Final Report of the Commission on the Higher
Education of Minorities (1982) indicates that two major factors
contribute to the severe underrepresentation of Chicanos and other
minorities in upper levels of baccalaureate higher education:
"(1) their extremely high rate of attrition from secondary
school and (2) their greater than average attrition from under-
undergraduate colleges (particularly community colleges)" (p.17).
Further, mounting evidence appears to indicate that community
college Hispanic students transfer to four-year institutions less
often, have lower persistence rates and achieve lower baccalaureate
completion rates than their white counterparts (NCES, 1980; CHEM,
1982; Olivas, 1979, Astin, 1982).

On the other hand, defendants idealize community colleges as
the epitome of equal opportunity and point to the fact that these
institutions offer minority students a choice between some kind
of college education and nothing (Cohen and Brawer, 1982).
Academically ill-prepared students as well as those with limited

financial resources are most prone to avoid applying to four-year institutions with tough admission standards and expensive tuition and academic services. The two-year college has sealed its place in the spectrum of higher education through its flexible design and fluid philosophy, thus attracting and serving a hetero-geneous group of students from diverse socio-economic, ethnic and ability backgrounds. To be sure, open admissions, proximity to home, convenience and low cost have lured Chicanos, other minority and low SES students to attend two-year colleges in disproportionate numbers, compared to four-year institutions (Crossland, 1971; Olivas, 1979; Karabel and Astin, 1975). For example, in 1980 only 36% of white students were enrolled in two-year colleges compared to 54% of Hispanic students (Magallan, 1983). Given this disproportionate breakdown of Hispanic student enrollments by institutional type, there is a serious concern with data which appears to indicate that access into two-year colleges has not been equally matched by Chicano student persistence and achievement of educational goals (Astin, 1982; CHEM, 1982; Olivas, 1979; NCES, 1980).

It is well known that the quantification of educational progress for two-year college students is a complex undertaking. For example, many students classify themselves as "college transfer" when in reality they have no interest in transferring to a senior institution. Further, many students are known to transfer between institutional types and among colleges of each type at different points in their college careers. Moreover, some students attend two-year colleges for diverse needs and objectives. An educational goal may be achieved by taking one or two courses as well as by taking a

varied number of courses which lead to an associate degree.

Yet, it is difficult not to indict two-year colleges when the Commission on the Higher Education of Minorities (1982) indicates that although three-fourths of community college entrants indicate that they intend to work towards a bachelor's degree, their chances of actually transferring and completing the baccalaureate degree at a senior institution are quite slim. The Commission states: "Even after taking into account their generally poorer academic preparation, one finds that regardless of race and ethnicity, community college students are substantially less likely than four-year college entrants to complete four undergraduate years" (p.16). Indeed, the Commission reveals that approximately 56% of white freshmen compared to 51% of black, 42% of Puerto Rican, 40% of Chicano and 39% of American Indian eventually receive a bachelor's degree (CHEM, 1982).

To what extent does the community college perpetuate inequities in access and educational achievement for Chicanos and other minority students? Does the primary fault for student attrition and subsequent failure to achieve educational goals lie with the institution, or are minority themselves responsible for their faltering track record in higher education? The answer to the issue of access versus outcomes is critical to Chicano student populations. Not to resolve the issue is to perpetuate an intergenerational cycle of social and educational inequities. Poor Chicano participation in higher education seriously restricts occupational and social mobility and deprives this student cohort from a true opportunity to become a productive member in an American society.

Conceptual Framework

The basic premise underlying the framework for this study is
that the success or failure of Chicano students in achieving educa-
tional and career goals is dependent on multiple variables. Some
of these variables are related to student background characteris-
tics while others may be attributed to the interaction of the
student with the collegiate environment. Thus, an individual
student's progress toward achievement of desired outcomes may be
viewed as a product of <u>prior interaction</u> with society and culture
and present <u>interactions</u> with the society and culture characteris-
tic of an organized institutional system. When individual student
acculturation to social institutions is viewed in this manner, a
branch of social behaviorism theory known as "symbolic interaction
theory" offers particular applicability to the development of this
study.

"Symbolic interaction theory is concerned with the influence
of society and culture upon the individual and, in turn, the influ-
ence of the individual upon society and culture" (Alfred, 1972,
p. 35). An individual may be said to both influence and be influ-
enced by society and culture. Thus, the relationship between the
individual self and society is critical in symbolic interaction
theory.

Symbolic interaction theory explains the character of inter-
action between the self and significant others. Individual develop-
ment is influenced through a socialization process whereby indivi-
duals interpret symbols and internalize the attitudes of significant
others who hold desirable referents for behavior and actions.

Therefore, it is possible that individual development can be affected by external factors inherent in the society, culture and in institutional systems. Individual modes of action are determined by the interpretation and internalization of relevant, desirable behaviors and attitudes from significant others.

Research Model

The research model used in this study has three basic components: student-related, college-related and student outcome variables. Student-related variables include background variables such as individual student characteristics and student choice of educational and career goals which are formed prior to student enrollment in community college. College-related variables are comprised of interaction variables including student-institution interactions and Chicano collective consciousness, which may be viewed as determinants of student educational outcomes in relationship to student interactions with the college environment (i.e., following initial enrollment of students in college). Outcome variables are to two types: 1) objective attainment, i.e., instituition-defined outcomes including total number of college hours earned and type of credential earned, and 2) subjective attainment, i.e., individually defined outcomes including individual perceptions of extent of goal attainment as well as perceptions of satisfaction with goal attainment.

Method

The study employed a cross sectional design and was begun in May 1981 with a random sample using a population base of Chicano students who enrolled full-or part-time for the first time in the

STUDENT-RELATED   COLLEGE-RELATED   STUDENT OUTCOMES

BACKGROUND   PRE-COLLEGE   INTERACTION   DEPENDENT
VARIABLES   VARIABLES   VARIABLES   VARIABLES

```
    ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
    │                                               ▼
    │                                    ┌──────────────────────┐
    │                          ┌ ─ ─ ─ ─▶│ Student-Institution  │
    │                          │         │ Interactions         │
┌──────────────┐     ┌─────────────────┐ └──────────────────────┘
│ Individual   │     │ Student Choice  │
│ Student      │─ ─ ▶│ of Educational  │
│ Characteristics│   │ and Career      │
└──────────────┘     │ Goals           │
    │                └─────────────────┘ ┌──────────────────────┐
    │                          └ ─ ─ ─ ─▶│ Chicano Collective   │
    │                                    │ Consciousness        │
    │                                    └──────────────────────┘
    └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─▲
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Dependent Variables box:

1. Number of College Hours Earned

2. Type of Credential Earned

3. Extent of Goal Attainment
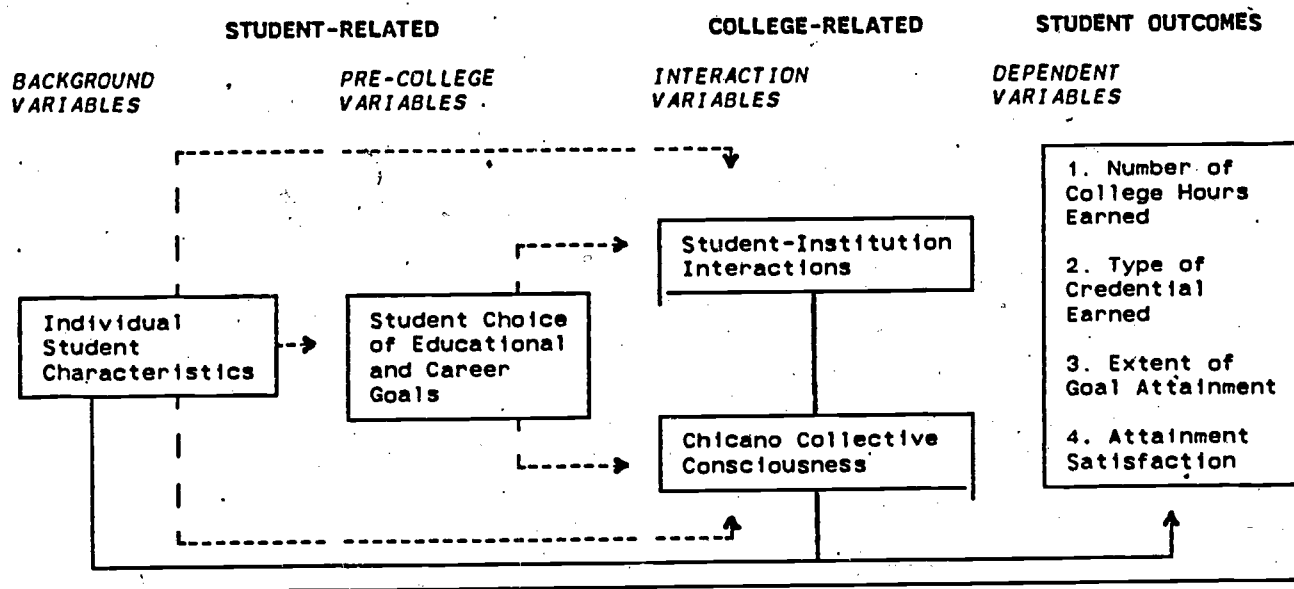
4. Attainment Satisfaction

FIGURE 1

RESEARCH MODEL

8

Fall of 1977 or 1978 in one of the three South Texas Community
Colleges: 1) Laredo Junior College (Laredo); Texas Southmost College
(Brownsville); and Del Mar College (Corpus Christi). Chicano stu-
dents were identified on the basis of two criteria: 1) United
States residency at the time of enrollment and 2) itemization under
the ethnic category, Hispanic, on the official college roster. A
46-item survey instrument was sent to a random sample of 1786
Chicano students. Follow-up procedures were employed based on a
systematic two-phase sampling technique (Kish, 1965), resulting in
a sample size of 227 students and yielding a response of 23.71%
derived from adding proportions of the first plus the second and
third subsamples. Statistical techniques such as factor analysis,
Pearson Product Moment Correlation Coefficients and dummy variables
were used to reduce data. Significant direct and indirect effects
of predictor variables on each dependent measure were determined
through multiple regression analysis. (See Models, Appendix B-F).

The research design employed has two major limitations. One
is the low response rate which is typical for minority student
surveys and which precludes determining whether respondents are
representative of the entire population. Second, the sample
taken from the three colleges is not characteristic of the entire
Southwest or other geographic region where Chicanos may be found.

Results

Individual Student Characteristics x Educational Outcomes

No single student background measure had a significant direct
effect subjective attainment. However, some of these measures
directly influence college hours earned and credential attainment.
College hours earned appear to be directly related to family SES

and age.   Older Chicano students and those from low SES backgrounds
tend to earn fewer college credit hours.   Students with evidence of
good high school achievement records as well as students whose
fathers work outside the home also tend to earn more college credit
hours.   Males tend to earn more credit hours than females.

The two most powerful direct effects of background variables on
credential attainment are high school achievement and father's work
status.   Chicano students with good high school achievement records
and those whose fathers work outside the home tend to earn AA degrees
and above.

Educational Goal Selection x Educational Outcomes

Two measures related to Chicano choice of educational goals
appear to influence subjective attainment measures.   Students who
attend a two-year institution because of fear of rejection at a
four-year college tend to have less subjective attainment.
Similarly, students with a vocational-technical goal report less
satisfaction and accomplishment with their educational goals.

Goal measures related to hours earned indicate that students
who aspire to academic-related credentials, majors and occupations
as well as those with strong goal commitments tend to earn more hours.
This same pattern is observed in the pattern leading to credential
attainment.   In this pattern, students with strong goal commitments
as well as students who aspire to academic-related credentials and
who want more than a four-year education, also tend to earn AA
degree and above.

Student Institution Interactions x Educational Outcomes

Two types of student-institution interactions appear to directly

influence subjective attainment. It appears that students who do not change their goals tend to report better subjective attainment, suggesting that the identification of educational goals early in a student's career can lead to positive perceptions of subjective attainment. Positive perceptions of program services appear to lead to positive feelings of subjective attainment, suggesting that community college program services are important for Chicano students.

Internal encouragement is the only student-institution interaction measure which appears to be significantly related to hours earned. Students who receive high degrees of internal encouragement from community college faculty, counselors and administrators also tend to earn more hours. This finding is in keeping with earlier studies that indicate that faculty contact is a key factor which contributes to student persistence and educational goal commitment (Pascarella & Terenzini, ab).

Two types of student-institution interaction measures appear to influence credential attainment. Students who do not change their goals often tend to earn AA degrees and above, suggesting that early arrival at a clear, defined goal is important not only for credential attainment, but for subjective attainment. Interestingly, Chicano students with basic skills problems also tend to earn higher credentials, indicating that they may have improved their basic skills deficiencies during community college enrollment. The later finding points to an apparent importance which community colleges may have in advancing high-risk students with basic skills needs toward educational goal completion.

Chicano Collective Consciousness x Educational Outcomes

No single Chicano collective consciousness measure significantly affects subjective attainment. However, individual system blame is related to college hours earned. System blamers who believe systems; not individuals are primarily responsible for social and educational inequities also tend to earn more hours. Further,, credential attainment appears to be related to ethnic association. Students who associate with staff and peers of their own ethnic group tend to earn higher credentials indicating that for Chicano students, this type of ethnic association contributes to social integration, which, in turn, leads to educational goal attainment.

Combined Student-and College-Related Variables x Educational Outcomes

When indirect effects on each dependent measure are examined, it is possible to arrive at combined influences of predictor measures on educational goal attainment. Student background character- istics such as family SES, high school achievement and father's work status indirectly influence the number of college hours earned and the type of credential earned through their influence on student choice of academic-related goals. Students from high family SES backgrounds, with good high school achievement and those whose fathers work outside the home tend to select academic related institutional types, majors and occupations. Conversely, combined findings indicate that, hours earned and credential attainment are affected indirectly by family SES and high school achievement through the aspirations of non-academic related educational goals or electing to attend a two-year college for the reason of wanting less than a four-year education. Students with low family SES backgrounds, and those with poor high school achievement tend to select non-academic goals

and are more likely to attend a two-year college for less than
a four-year education.

A pattern that did not emerge for number of college hours
earned or credential attainment is observed for subjective attain-
ment. Perceptions of goal accomplishment and satisfaction appear
to be indirectly influenced by age, prior encouragement and goal
commitment through perceptions of program services. Older students,
those who received high degrees of encouragement to go to college
and those with strong goal commitments tend to have positive
perceptions of program services.

An interesting pattern where internal encouragement had mediating
effects is observed only for hours earned. Three factors influence
internal encouragement and thus indirectly influence total college
hours earned. Students with high degrees of prior encouragement
to go to college, those whose fathers work outside the home as well
as those with high degrees of goal commitment tend to receive high
degrees of internal encouragement. The mediating effects of system
blame are also observed only for hours earned. Individual system
blame is influenced by family SES and student aspirations to initially
enroll in an academic-related institution an thus indirectly influence
total college hours earned. It is interesting to note that students
with low SES backgrounds as well as those who initially aspired to
enroll in institutional types which would prepare them for academic
professions tend to be system blamers who believe systems, not
individuals, are primarily responsible for social and educational
inequalities. This finding is in keeping with Gurin and Epps' (1975)
study which indicates that Black students who tend to be system
blamers were also high achievers.

A final salient finding which emerges only for credential attainment is the mediating effects of ethnic association. In this study, five factors influence ethnic association and thus indirectly influence credential attainment. Chicano students from low SES backgrounds as well as those who have strong goal commitments tend to associate with members of their own ethnic group. Likewise, Chicano students who attend a community college based on a weak determination, or fear rejection at a four-year college tend to associate with members of their own ethnic group. Conversely, students who selected two year college based on a home/program attraction tend to associate what members not their own ethnic group and a combination of their own and not of their own ethnic group.

Conclusions: Portrait of a Successful Chicano Community College Student

The findings derived from this survey may be summarized to arrive at a portrait of the successful Chicano community college student as defined by high degrees of objective and subjective attainment. Study findings indicate that the Chicano students who most likely achieve their educational goals are males, tend to have a high family SES, come from homes with working fathers, possess good high school achievement records, and receive high degrees of prior encouragement to go to college from parents, friends, relatives and high school teachers and counselors. Further, successful Chicano students tend to aspire to academic-related credentials, majors and occupations as opposed to vocational-technical goals. Successful Chicano community college students have strong goal commitments and are not worried about rejection at a four-year college. These students tend to have early, well-defined educational

goals and tend to perceive the college's academic, social, career and ethnic programs positively. Successful Chicano students tend to receive high degrees of internal encouragement to assist them to continue their college careers from community college teachers, counselors and administrators. Perceiving systems and not individual members of their own group as primarily responsible for social and educational inequities is a special kind of externality for some Chicano students. For some high achieving Chicano students in community colleges, system blame may indicate that these individuals recognize system constraints such as discrimination and prejudice which have restricted the educational and occupational advancement of the cultural group. Further, a healthy focus on system obstacles may enable Chicano students to distinguish system opportunities such as the potential of social mobility through the acquisition of career skills in higher education. Thus, an external orientation may prove to be a motivational asset for Chicano students who view their educational success as a means to upgrade the collective status of their own ethnic group.

Practical Applications

Since Chicano students appear to be electing to enroll in two-year colleges in disproportionate numbers (Garcia, 1980; Olivas, 1979) it is important that two-year college re-assess their role in terms of the student clientele they are serving. In particular, community colleges should take a very close look at their own data regarding student persistence and achievement and distribution of minorities across program types. Institutional research is essential to determine an individual institution's success at retaining students and at advancing them toward fulfillment of their stated educational goals. It is also necessary to assess whether or not students from

low SES backgrounds are being "tracked" into vocational-technical
programs and to identify ways and means to assist them to identify
and achieve their educational goals as well as to enhance their
perceptions of satisfaction and accomplishment.

In this study, one of the key factors contributing to Chicano
educational goal attainment is internal encouragement given by
faculty, counselors and administrators. Similarly, the literature
indicates that contact with faculty is a critical element contri-
buting to student persistence (Pascarella & Terenzini, 1979 ab;
Ramist, 1981; Tinto, 1975). It would seem important that community
college faculty and counselors who, by their very nature, have the
opportunity to come into contact with students on a day-to-day
basis, extend the opportunities to meet with Chicano students
outside of class. One solution might be the implementation of a
faculty advisement program where students (including those who
intend to transfer and those with vocational-technical goals)
would be able to meet with faculty members on a regular basis
regarding their program of study. Also, faculty could be included
as part of a support staff in developmental studies labs to work
with students with basic skills problems. Further, student contact
with counselors could be increased if counselors provided weekly
or bimonthly seminars on topics such as career awareness and develop-
ment of study skills. Students might attend these sessions volun-
tarily or be referred by a faculty member.

A positive move toward improving student persistence and goal
achievement would be to involve the entire community staff in an
action-oriented student retention program. Noel (1978) provides
a useful model for activating such a program. According to Noel's

model, a campus-wide retention committee would be set up as the guiding mechanism to promote activities such as determining the campus dropout rate, making faculty and staff aware of factors related to retaining students, and building recruitment, orientation, counseling and career programs (Noel, 1978).

Another important study finding is that Chicanos who associate with members of their own ethnic group tend to receive higher college degrees. The importance of this finding is underscored with the observation that this is true even for students who attend a two-year college on the basis of a weak determination or because they fear rejection at four-year colleges. The implication of these findings is that Chicano students and staff constitute a viable support system which contributes to social integration and institutional affiliation, the necessary ingredients for persistence. The hiring of Chicano faculty, counselors and administrators who are cognizant to culturally diverse student needs is critical to the retention process. In addition, the elements of social integration and affiliation may be enhanced by maintaining a program of extra-curricular activities, including ethnic-related programs where Chicano students can interact with their peers as well as with other significant members of the college staff.

Chicano student persistence and attainment of educational goals may be enhanced through the incorporation of the institutional research function with the teaching and counseling functions. Specifically, the Office of Institutional Research could collect data and organize a computer based student management information system. This MIS could include variables such as student background characteristics (sex, age, family SES, high school GPA,

high school rank, etc.) and stated educational and career goals.
Usng this data base, the Office could develop a profile of the
entering freshman class which would be made available to faculty
and counselors.

Data from this Office could be provided to faculty members who
need a student profile in specific classes. The faculty could use
this profile to develop a student needs assessment which would then
be the basis for developing a course syllabus. Similarly, a counselor
could obtain information about individual students in terms of back-
ground characteristics and goals in order to assist students with
career and academic advisement. Further, the college could maintain
a current student retention record with student-specific data inclu-
ding a course-by-course, semester-by-semester or year-by-year account
of student withdrawals and reasons for withdrawals. Also, it would
be possible to identify withdrawal prone students so that a computer-
generated, personalized letter could be sent to students asking them
to see a counselor. It is only lately that community colleges have
started to move into the domain of computer management information
systems. The effective use of this type of MIS is limited only by
individual creativity. A well-developed MIS could be an invaluable
aid to colleges to assist them to determine the success they have in
serving students as well as to intervene in the learning and persis-
tence processes of the students they serve.

A final important aspect to educational goal achievement for
Chicano students is external system blame. It is important that
community college professional staff recognize that for some Chicano
students, externally oriented perceptions of system blame for social
and educational inequities may be healthy and realistic. These

students may be aware of opportunities and constraints within a social system and have a strong desire to succeed in order that they may help other members of their ethnic group to overcome system-related obstacles to achievement and upward mobility. Counselors and faculty who deal with these students should provide the necessary guidance and encouragement to assist these students with their progress at achieving their educational goals.

This present study had indicated that Chicano student's educational outcomes have multiple causes and antecedents. Clearly, the process of student progress towards educational goal achievement is a dynamic and complex process. The research reported should be considered exploratory at best and future studies should be conducted perhaps using a longitudinal design with path analysis and larger sample sizes using different cohorts of Hispanic students throughout the nation. Validation of the findings presented here can only occur through further investigations of educational issues pertaining to Chicanos in higher education.

APPENDIX A

DESCRIPTIVE FINDINGS OF HISPANIC STUDENTS WHO BEGAN ENROLLMENT IN
THREE TEXAS COMMUNITY COLLEGES IN 1977 OR 1978; 56% FEMALE, 43% MALE
N = 227

I.   Prior encouragement to go to college provided by
     A.   Mothers (67%)
     B.   Fathers (64%)
     C.   Least encouragement came from high school teachers (27%)

II. Parent SES
     A.   Mean number of school years completed by mother = 8.6
     B.   Mean number of school years completed by father = 9.0
     C.   Mean income = $12,500
     D.   83% had working fathers; 32% had working mothers

III. Reasons cited for attending community college over four year college:
     A.   Cheaper
     B.   Stay close to home
     C.   Work while study in home town
     D.   "Try Out" college work
     E.   Good college academic reputation
     F.   Good program in major field take courses for self-
          improvement
     G.   Received no encouragement to go to a four-year college

IV. Most Important Educational Goal
     A.   Academic
     B.   Vocational-Technical
     C.   Personal Development
     D.   Material
     E.   Affiliative
     F.   Cultural/Familial

V.   Internal Encouragement
     A.   Only one-third (35%) met with faculty outside of class
          two to three times a week or more
     B.   60% met with counselors only at registration

VI. Most Serious Problems Experienced at Community College
     A.   Basic skills problems
     B.   Difficulty developing proper study habits and utilizing
          time
     C.   Uncertainty about career objective
     D.   Doubts about the value of obtaining a college degree

VII. Objective Attainment - Fall 1977 to Spring 1981
     A.   Mean credit hours = 68
     B.   No degree or only one-year certificate = 39%
     C.   Associate degree in progress = 27%
     D.   Earned Associate degree = 11%
     E.   Earned BA or had BA in progress = 23%

VIII. Subjective Attainment
     A.   Believed achieved all original goals = 59%
     B.   Believed surpassed all original goals = 24%

C. Believed achieved some of original goals = 10%
D. Believed achieved none of original goals = 7%
E. 63% were satisfied with level of goal achievement
F. 37% were dissatisfied with level of goal achievement

IX. Positive Comments
A. Encouraging faculty
B. Positive relationships with peers
C. Feelings of accomplishments, i.e., grades, goals

X. Negative Comments
A. Impersonal faculty
B. Poor counseling
C. Poor teachers

XI. Suggestions for Helping Hispanics to Achieve Educational Goals:
A. College staff should give more encouragement to students
B. Increase financial aid
C. Extend reach-out efforts to students in public schools
D. Improve student communication skills
E. Better counseling
F. Help students determine career objectives
G. Build student self-confidence

Figure 2

APPENDIX B
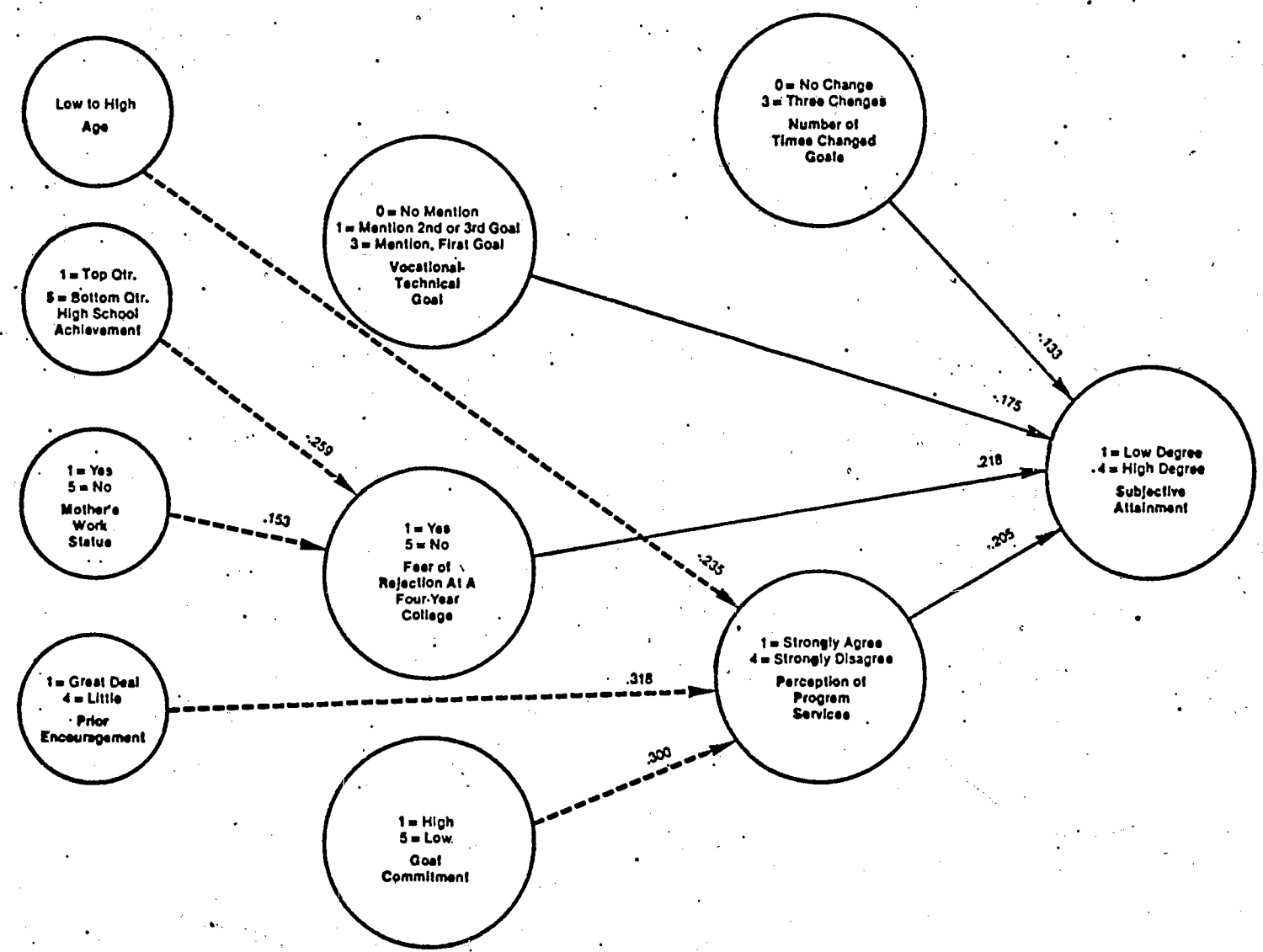
Figure 2 Revised Model of Beta Coefficients Showing Significant Direct and Indirect Effects on Subjective Attainment[1]

[1] Indirect effects are shown on dotted line.

ERIC
Full Text Provided by ERIC

Figure 3 Revised Model of Beta Coefficients Showing Significant Direct Effects on Total Hours Earned by Spring 1981.

APPENDIX D
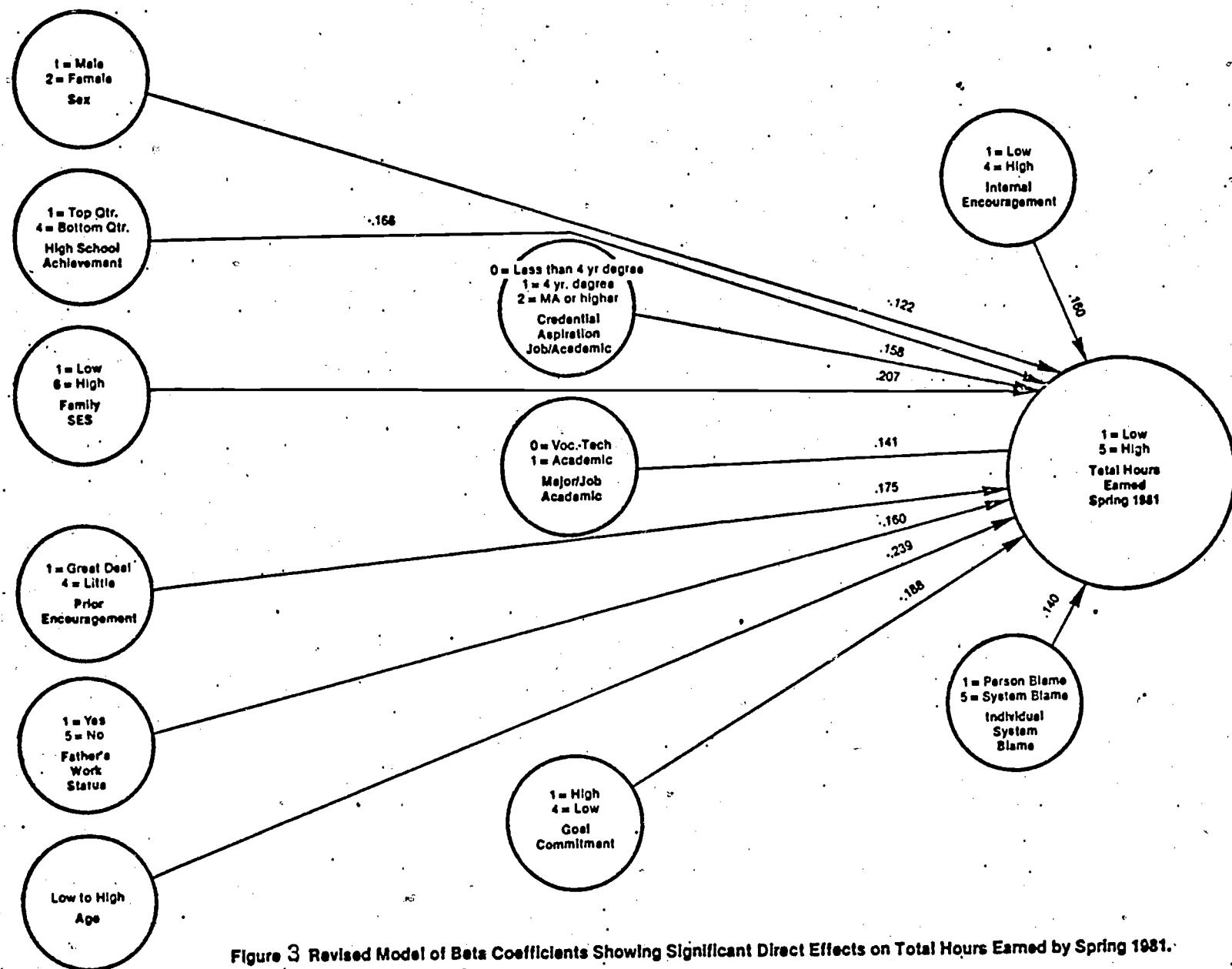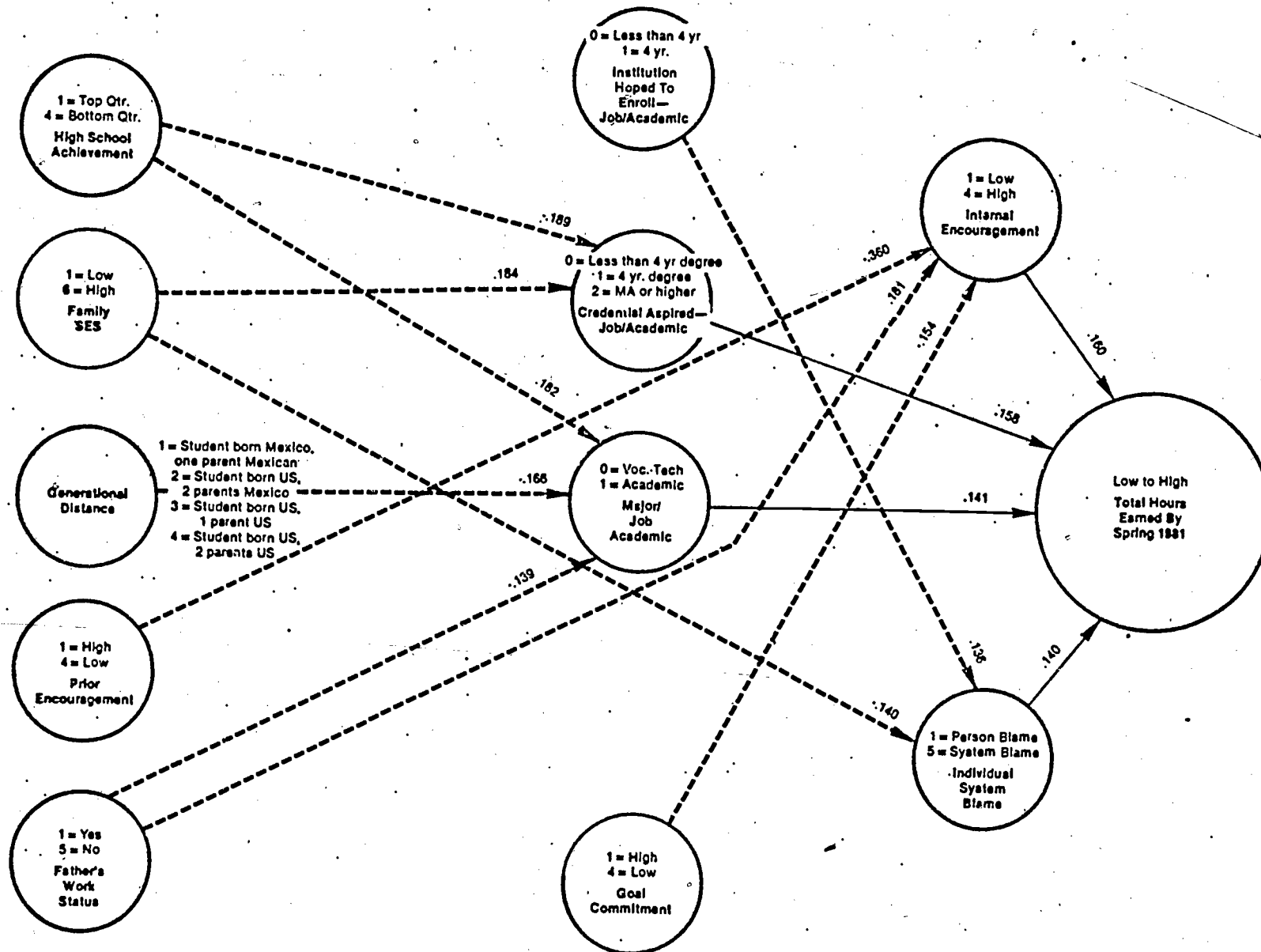

Figure 4 Revised Model of Beta Coefficients Showing Significant Indirect Effects on Total Hours Earned by Spring 1981.

26

APPENDIX E
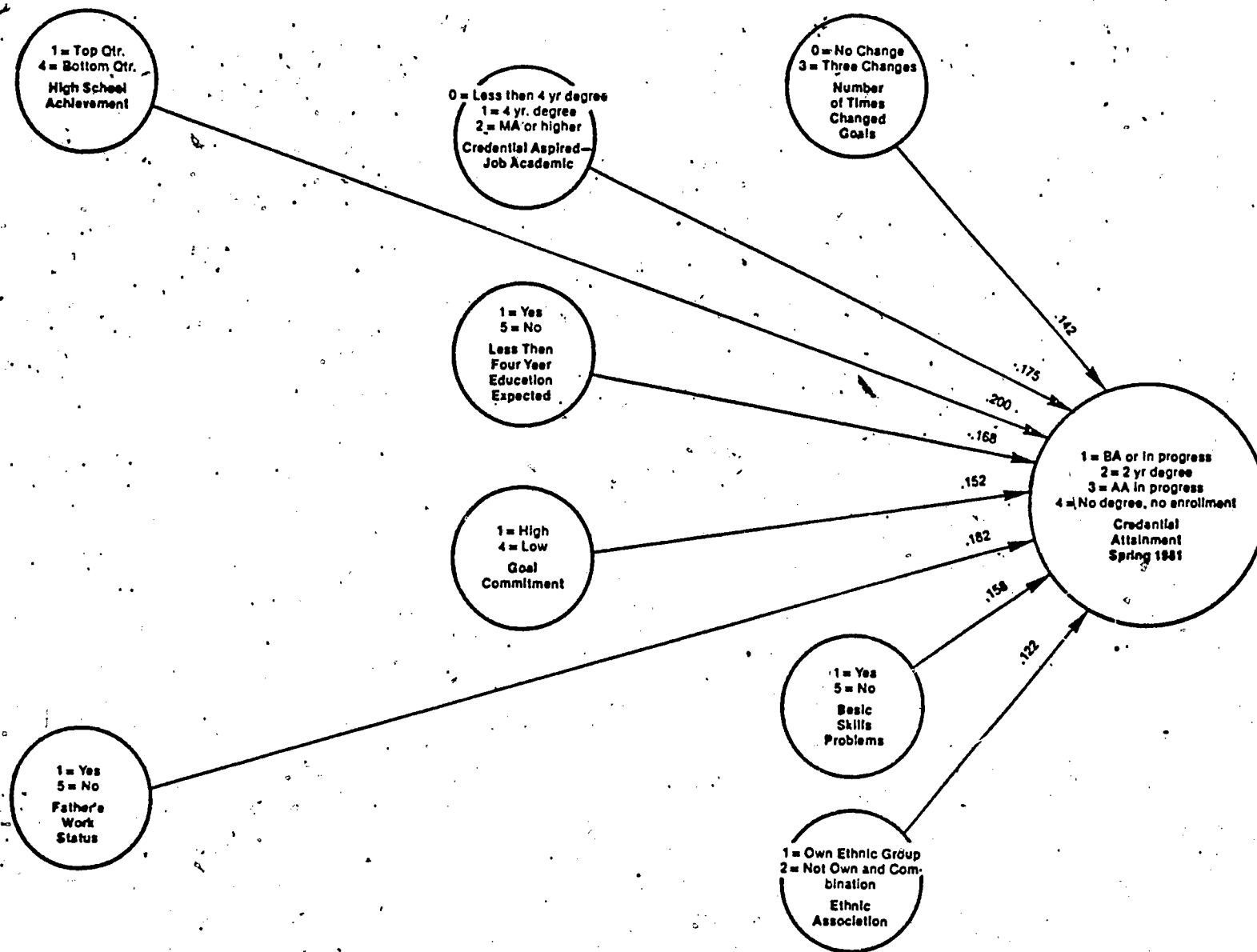
Figure 5 Revised Model of Beta Coefficients Showing Direct Effects on Credential Attainment by Spring 1981.

The figure shows circles with the following labels connected to a central outcome circle:

- 1 = Top Qtr. / 4 = Bottom Qtr. / High School Achievement
- 0 = Less than 4 yr degree / 1 = 4 yr. degree / 2 = MA or higher / Credential Aspired— Job Academic
- 0 = No Change / 3 = Three Changes / Number of Times Changed Goals
- 1 = Yes / 5 = No / Less Than Four Year Education Expected
- 1 = High / 4 = Low / Goal Commitment
- 1 = Yes / 5 = No / Father's Work Status
- 1 = Yes / 5 = No / Basic Skills Problems
- 1 = Own Ethnic Group / 2 = Not Own and Combination / Ethnic Association

Central outcome circle: 1 = BA or in progress / 2 = 2 yr degree / 3 = AA in progress / 4 = No degree, no enrollment / Credential Attainment Spring 1981

Beta coefficients on paths: .142, .175, .200, .168, .152, .182, .159, .122

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Figure 6

1 = Top Qtr.
4 = Bottom Qtr.
High School Achievement

0 = Less than 4 yr degree
1 = 4 yr. degree
2 = MA or higher
Credential Aspired—Job Academic

1 = Low
6 = High
Family SES

1 = Yes
5 = No
Less Than Four Year Education Expected

1 = High
4 = Low
Goal Commitment

1 = BA or in progress
2 = 2 yr degree
3 = AA in progress
4 = No degree, no enrollment
Credential Attainment Spring 1981

1 = Yes
5 = No
Weak Determination

1 = Yes
5 = No
Fear of Rejection At Four-Year College

1 = Yes
5 = No
Basic Skills Problems

1 = Yes
5 = No
Mother's Work Status

1 = Yes
5 = No
Home/Program Attraction

1 = Own ethnic group
2 = Not own and combination
Ethnic Association

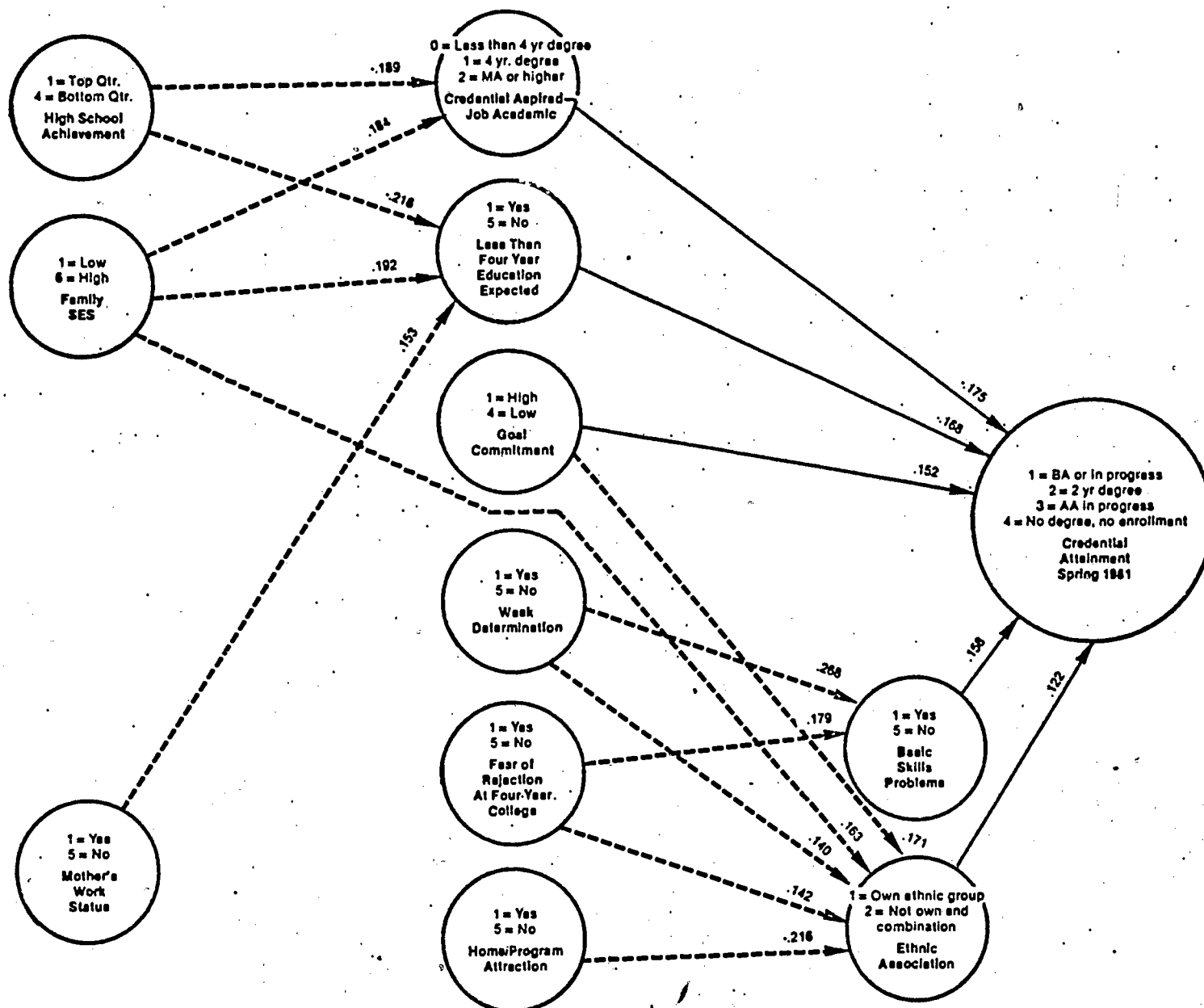.189 .194 .216 .192 .153 .175 .168 .152 .268 .179 .158 .122 .163 .171 .140 .142 .216

Figure 6 Revised Model of Beta Coefficients Showing Indirect Effects on Credential Attainment by Spring 1981.

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