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ABSTRACT

This study seeks to determine whether variance in teaching effectiveness of faculty at a traditionally black college, as assessed by students, can be attributed to particular attitudes, experiences, and teaching behaviors of the faculty. A theoretical model derived from symbolic interaction theory is tested by path analysis. Data to test the model were obtained through a 1976 survey of faculty and students at a four-year black college located in the south. It is concluded that attitudes and socialization experiences used in this study have practically no effect on teaching effectiveness that is not explained through instructional behavior. (Author)

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Perceived Teaching Effectiveness of Black College Faculty

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Perceived Teaching Effectiveness of Black College Faculty¹

Most predominantly black colleges² in this country were established after the Civil War by the Freedman's Bureau and by religious groups to assist emancipated black slaves (Holmes, 1934; Miller, 1932; Perry, 1975; Robinson, 1935). For many years these institutions were the major avenue for higher education for black professionals, many of whom provided leadership for the black community in a dualistic society.

The advent of affirmative action guidelines by the federal government stimulated traditionally white colleges and universities to not only open admission to blacks, but to actively recruit and financially support academically successful black students. The effect of these policies has been that a substantial majority of high achieving black students now attend white colleges (Blumenfeld, 1968; McGrath, 1965).

Correspondingly, the majority of students at black colleges fall about one standard deviation below the national norms in academic achievement (Parmeter, 1975)⁴. In addition, some two-thirds of these students come from families with less than \$5,200 family income. One-third of the fathers and mothers of black college students are domestic workers or are laborers, and one-third of the fathers have only a grade school education (Cheek, 1970). Thus, the clientele of black colleges consists of a large number of lower class students, particularly as compared to their white college counterparts.

Proponents of black colleges, in the face of increasing federal pressure for integration of the faculty and student body in order to meet affirmative action guidelines, maintain that predominantly black institutions are superior to predominately white institutions in assisting black youth with educationally and economically disadvantaged backgrounds to participate in the contest for upward mobility. For example, when the

student and faculty are predominantly black, there are no racial barriers to overcome. Too, other black students and faculty members may provide successful role models and a sense of pride and security for students who have attended small, rural secondary schools and/or who have not performed well academically in the past. Finally, the black college offers a setting where special academic remedial needs may be met by faculty members who have had experience in dealing with black students who come from similar backgrounds (Butler, 1975).

In order to provide substance to this argument, it is important that black colleges employ faculty who are effective in dealing with a variety of students, particularly those considered academically handicapped. Ideal faculty members are not concerned with the scholastic entrance requirements of the institution, but welcome the fact that an "open" admissions posture will encourage and enable disadvantaged black youth to attend college. Correspondingly, although there is some concern about academic standards, they are more concerned with assisting academically deficient students to be successful in a college. In addition, the ideal faculty member should be able to deal with the complexities of instructing such students and be capable of implementing the hard- and soft-ware of modern instructional technology. It follows that administrators in black colleges examine the credentials and letters of recommendation of applicants for faculty positions for evidence of the attitudes and skills ideal faculty members should have, and base their recommendations for hiring, tenure, and promotion on their appraisal of the extent to which faculty members demonstrate these qualities.

The purpose of this paper is to empirically examine the question of whether this conception of the "ideal" faculty member describes the more effective teacher in the black college setting. Specifically, our objective is to ascertain whether variance in teaching effectiveness, as assessed

by students, can be attributed to particular socialization experiences and/or attitudes and behaviors of faculty members employed in black colleges.

A review of literature related to the specific objective of this paper was non-productive, i.e., studies exploring the relationship of socialization experiences, attitudes, teaching behaviors, and perceived teaching effectiveness of faculty in black colleges could not be located. However, Morrison and Friedman (1978) in a secondary analysis of data collected on community college faculty in Pennsylvania found the relationships between socialization experiences and selected attitudes of faculty as independent variables and perceived teaching effectiveness as the dependent variable to be non-existent. However, they were unable to include teaching behavior as a variable in this analysis and, therefore, suggested that further research on this issue should include teaching behavior and be replicated on different populations of faculty and students in higher education. This study represents such an attempt.

Theoretical Considerations³

The framework underlying this study asserts that it is largely through specific socialization experiences that knowledge, values, and attitudes are acquired (Manis & Meltzer, 1967; Mead, 1934; Strauss, 1956). Viewed within this perspective, the attitudes of black college faculty toward the role of the black college are the results of interactional experiences which occurred in their work settings. This leads to an assertion that specified attitudes vary according to the socialization experiences of individual faculty members.

One such socialization experience is that of the individual's identification of reference groups (Shibutani, 1961, p. 61) which are themselves determinants of values and attitudes. These groups may be ones in which an individual actively holds membership or those to which s/he aspires.

In essence, reference groups constitute significant others for the individual. From this perspective, attitudes toward open admissions, liberal retention, and academic standards policies may be viewed as a result of interactional experiences occurring in the work setting or as the reflection of the prevailing values and attitudes of those occupational reference groups with which the individual identifies.

Individuals acquire their reference group identity through their socialization experiences. This process has implications for the way in which individuals act to select and create their own social environments. For example, if black college faculty members attended a black college as students and if they intend to concentrate on teaching, it is likely that black college faculty will serve as their reference group. If, on the other hand, they have had no experience with a black college or intend to concentrate on their research interests, they would be more likely to select faculty other than in the black college as their reference group. It is reasonable to assume that those who have black college faculty as their reference group will accept the notion that the black college should be characterized by open admissions, liberal standards, and an emphasis on student retention and development.

The relationships discussed above are summarized in Figure 1. Socializa-

Figure 1 about here

tion experiences are viewed as directly and indirectly affecting acceptance of the black college mission and as directly affecting the adoption of instructional strategies which encourage the active (as opposed to passive) involvement of students in the classroom. An indirect effect arises as socialization experiences cause the adoption of a particular reference group identity which in turn causes acceptance of the black college mission (or concept), and fosters adoption of instructional strategies which induce the

active involvement in students in class activities. This involvement, moreover, is positively received by students and is perceived by them to be more effective instruction than strategies which tend not to involve them actively in classroom activities (i.e., lectures). The operational definition of these variables and their specific relationship will be given in the empirical model described in the following section.

METHODOLOGICAL CONSIDERATIONS

Data Collection

Data to test the theoretical model were acquired through a 1976 survey of faculty and students at a four-year black college located in the South. All full-time faculty at this school with a few exceptions⁴ (N = 243) were surveyed; 192 of these faculty members returned completed faculty and student questionnaires (79% response rate). The student survey was administered to two classes of each faculty member randomly selected by the investigator. Since it was administered and completed in the classroom, the response rate for a given class was quite high. It must be recognized, however, that the student evaluation-of-instructor data is not based on a true random sample of each faculty member's students.⁵

Empirical Model

Operational Definition of Variables

Socialization Experiences. From the virtually infinite reservoir of socialization experience proxy indicators, three with strong plausibility of affecting the extent of acceptance of the black college concept and the adoption of a black college faculty reference group were selected: race of faculty member (black or nonblack), whether or not the faculty member had taken one or more education courses, and whether or not the faculty member had a doctorate.

Reference group identity is operationalized as a dichotomous variable by ascertaining where a faculty member would prefer to teach if s/he had complete freedom of choice, i.e., in a black college or in a university (doctoral degree granting institution). If the latter response was selected, it is inferred that the university faculty serves as that person's reference group: if black college is selected, it is inferred that the faculty of a black college serves as the reference group.

Acceptance of the open admissions concept is measured using a combination of six-point Likert-scale items. The items constituting this scale were modified from a scale measuring acceptance of the community college concept (Morrison, 1972), because in many respects the two concepts are quite similar, i.e., both institutions are essentially open door institutions with a commitment to assisting academically disadvantaged students develop their talents. Encouraging students to advance themselves socially and academically and to remain in school once they enter is emphasized over concern with scholastic entrance requirements and upholding academic "standards." The specific items used in this scale were identified both a priori and through the results of a factor analysis of 50 items used previously for acceptance of the community college concept (Morrison, 1972), progressivism and traditionalism in public school teachers by Kerlinger (1958) as modified by Hill and Morrison (1976) for college teachers, and student and subject role orientations (Morrison, 1972). The items interpreted as measuring acceptance of the open admissions concept are given in Table 1. Their factor loadings are given in Table 2. Scores for acceptance are

Insert Tables 1 and 2 about here

calculated by summing standard scores (weighted by factor score coefficients) for each item in the scale.⁶

Teaching behavior was operationalized from an a priori scale of teaching behaviors administered to each faculty member (see Table 3). A

Insert Table 3 about here

principal-factor analysis with varimax rotation of these items revealed 5 factors (see Table 4). Items 6 and 7 were used in a scale interpreted

Insert Table 4 about here

as an active involvement of students instructional strategy.⁷ Student perception of teaching behavior was operationalized by the mean response of students to a series of questions adapted from the questions asked teachers about their teaching behaviors (see Table 5). The principal-

Insert Table 5 about here

factor analysis with varimax rotation of these items revealed 2 factors (see Table 6). Items 2, 5, and 6 were used in a scale interpreted as

Insert Table 6 about here

the proportion of students who participate in class.⁸ Again, scale scores were calculated by summing standard scores (weighted by factor score coefficients) for the average response to each item.

Perceived teaching effectiveness of a given faculty member was ascertained by 13 questionnaire items completed by all students in two of that instructor's classes (see Table 7). Faculty members were assigned

Insert Table 7 about here

the mean of their students' scores on each item. The questionnaire items assessed the teacher's knowledge of the subject (as perceived by students), his/her classroom management practices, and aspects of his/her interpersonal behavior. Correlations among the mean scores on these 13 items were dominated by a single factor (see Table 8).

Insert Table 8 about here

Consequently, each item was summed (with unit weights in developing the scale score for each faculty member.

The causal model for empirical test is given in Figure 2. This elaborated

Insert Figure 2 about here

model follows from the general one given earlier in this discussion. Race is assumed to be correlated with having experience with education courses because at a black college one would expect that a disproportionate number of black faculty members (and particularly the older faculty) would have had education courses in the baccalaureate programs as a consequence of the black experience in this country, i.e., education and the ministry were the major avenues of becoming a professional. It is posited that being black affects the adoption of a black college faculty as one's reference group. Prior to the last decade (and after World War II) being nonblack would indicate a preference of the black college faculty as a reference group and an acceptance of the black college concept because whites who desired to work at black colleges did so out of race relations interests and/or a missionary spirit and had a reasonably free choice in the academic marketplace (Decker, 1955). Since the decline of the academic marketplace, however, many whites choose to work in black colleges simply to have a teaching position.

Education courses tend to stress that teachers should be oriented to the development of students and use a variety of teaching strategies, preferably those which actively involve students. Therefore, it would be expected that if such courses are successful in their socialization objectives, people who have experienced education courses would tend to choose instructional strategies that involve their students in class activities as well as accept open admissions and liberal standards policies for the black college. Faculty members who hold doctorates tend to be more concerned about standards and entrance requirements, and, therefore, would tend to reject the black college

concept as an illegitimate one for an institution of higher education.

It is reasonable to assume that faculty members who have black faculty as their reference group would also accept the black college concept. One may assume that faculty members who accept the black college concept, and who generally have experienced professional education coursework in their own training, would want to use instructional strategies which encourage students to be active in their own learning in the classroom. Too, if the teacher uses an active instructional strategy, it would be reasonable to expect that students would perceive this and would be encouraged to take a more active role in the class. Finally, it is postulated that the more involved students are with class activities, the more positively they will evaluate their instructor. It is also postulated that the grade a student expects to receive will influence how the student will evaluate his/her instructor, and that the more active students are in classroom activities, the higher the grade they expect to receive.

Students are aware of how their instructors regard them and their institution, i.e., the extent to which their instructors accept the black college concept. Therefore, it is reasonable to assume that teachers who accept the black college concept will be perceived to be more effective teachers in that setting because the behaviors related to that attitude would be positive vis-a-vis their students and towards the institution.

Analysis of Data

The matrix of Pearson product-moment correlations for the variables in the empirical model is given in Table 9. Since tests for linearity and

Insert Table 9 about here

interaction found that there were no significant interactions and that all relationships were linear, path analysis was used to estimate the empirical model presented in Figure 2. Standardized path coefficients are used instead

of unstandardized structural coefficients because concern in this study is with the relative contributions of variables in one population and because the scale metrics of the variables in the model are arbitrary, so values of unstandardized structural coefficients based on these metrics also would be arbitrary.

The initial results of an ordinary least squares (OLS) regression analysis are given in Table 10. Following the theory "trimming" strategy

Insert Table 10 about here

advocated by Heise (1975, p. 195), the paths for which $|p|$ is below some arbitrary figure may be deleted, thus generating a new model whose parameters can be reestimated. In this case there were six paths clustered about the customary cutoff criterion of $|p| < .100$. The parsimonious "trimmed" model is given in Table 11 and the reduced form of the full model is presented in

Insert Table 11 about here

Table 12.

Insert Table 12 about here

Discussion

The structural coefficients in the trimmed model give general support to the theoretical model described earlier. In this particular college, selected indicators of socialization experiences are related to the adoption of certain attitudes which are then translated into the adoption of particular instructional strategies. For example, black faculty members tend to choose black college faculty as their reference group ($p = .56$), and those who choose black college faculty as their reference group tend to accept the open admissions concept ($p = .15$). In addition, black faculty members tend to accept the open admissions concept more than do their nonblack colleagues ($p = .16$). Those faculty members who have had education courses are more likely to use instructional strategies which are designed to induce more

active involvement of students in the classroom ($p = .35$), as do teachers who accept the open admissions concept ($p = .12$). These strategies, in turn, induce more involvement of students in classroom activities ($p = .34$), which creates an expectation of receiving higher grades ($p = .46$). However, the expectation of receiving higher grades does not affect the ratings which students give their instructors. Finally, the independent effect of student involvement in classroom activities on student evaluation of instruction is strong ($p = .70$).

As demonstrated in the reduced model (see Table 12), the source variables of race, experience, in education courses, and degree level have practically no effect on perceived teaching effectiveness that is not explained through other variables in the model. The same may also be observed for the endogenous variables of reference groups and acceptance of the open admissions concept. Consequently, administrators and faculty at this college should not rely on such attributes when they consider new appointments, if they regard student assessment of teaching effectiveness as a valid indicator of teaching effectiveness.

The finding that student involvement in classroom activities has a strong, independent effect in explaining student assessment of teaching effectiveness is the major finding of this study. If it is deemed desirable to increase the ratings teachers receive from students, teachers must develop strategies which lead to a more active involvement of their students in class activities. The question of whether this goal will also increase learning is open to some debate. However, there is some evidence of a positive relationship between student perceptions of teacher effectiveness and actual achievement (McKeachie, 1969, p. 214). Consequently, there is reason to encourage the development of inservice workshops for training teachers at the college in instructional methodologies which do more actively involve students in their own learning activities in the classroom.

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Footnotes

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²Also known as the traditional black college and henceforth referred to in this paper as "black college."

³The description of the theoretical framework which follows is derived from the earlier investigation concerning community college faculty (Morrison & Friedman, 1978).

⁴Faculty members with less than two undergraduate courses, all Department of Military Science faculty (11 members), all Division of Nursing faculty (10 members), Department of Music faculty members who were engaged in one-to-one instruction (10 members), and 19 faculty members who were ill, out of town, etc., during the data collection period were not included. ROTC and nursing faculty members were not included because of difficulties in scheduling teacher evaluation periods due to the nature of student activities, i.e., hospital assignments of student nurses and field activities of ROTC students during the data collection period.

⁵The random selection of full classes constitutes a type of cluster sampling scheme, which generally inflates variance but does not introduce systematic error.

⁶See SPSS manual (Nie et al., 1975, p. 487) for a description of this procedure. Reliability (Ω), validity (p) (see Heise & Bohrnstedt, 1970) were: $\Omega = .77$, $p = .81$.

⁷Reliability and validity of this scale were: $\Omega = .66$, $p = .75$.

⁸Reliability and validity of this scale were: $\Omega = .72, p = .85.$

⁹Reliability and validity of this scale were: $\Omega = .98, p = .99.$

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Table 1. Items Comprising the Acceptance of the Open Admissions Concept Scale^a

-
1. The scholastic entrance requirements of predominantly black colleges are too low.
 2. Too many faculty members allow sub-marginal students to pass their courses.
 3. There tends to be too much stress in predominantly black colleges on quantity of students and not enough on quality of students.
 4. Our administrative staff is overly concerned with student retention rate.
 5. Faculty should maintain a uniform grading standard of academic achievement.
 6. What is needed in modern schools is the revival of the authority of the teacher.
-

^a Respondents were asked to indicate the extent of their agreement to each item on a 6-point scale ranging from strongly agree to strongly disagree.

Table 2. Factor Loadings of Acceptance of the Open Admission Concept Scale

| Items ^a | Loadings |
|--|----------|
| 1 (Entrance requirements are too low) | .581 |
| 2 (Too many sub-marginal students pass) | .574 |
| 3 (Too much stress on quantity, not quality) | .629 |
| 4 (Administration overly concerned with retention) | .537 |
| 5 (Faculty should maintain uniform grading standard) | .432 |
| 6 (Need revival of authority of the teacher) | .436 |

^a For specific wording of each item, see Table 1.

Table 3. Items Concerning Selection of Instructional Strategies^a

1. Give students written instructional objectives which are very specific
2. Supplement my lectures with slides or overhead transparencies
3. Grade students "on a curve"
4. Allow individual students to move through a course at their own pace
5. Subdivide the student body in a course into smaller groups
6. Have students make formal in-class presentations
7. Give students a choice of topics to study
8. Generate my own written or recorded instructional materials (not tests) for student use
9. Use films, videotapes, or slide/sound presentations to present subject matter
10. Use tests for diagnostic purposes instead of counting them toward student grades
11. Present essential subject matter by lecture
12. Allow students to use the grade of "incomplete" to improve the quality of their work
13. Use discussion methods (e.g., Socratic technique) to present subject matter

^aAppreciation is extended to Charles P. Friedman for his assistance in developing these items. Respondents were asked to indicate their usage of each strategy by use of a 4-point scale ranging from "almost always" to "never."

Table 4. Factor Matrix of Selection of Instructional Strategies Items

| | Factors | | | | |
|--------------------------------------|-----------------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 |
| Eigenvalue | 3.389 | 1.400 | 1.325 | 1.087 | 1.063 |
| Cumulative Percent of Total Variance | 26.1 | 36.8 | 47.0 | 55.4 | 63.6 |
| Items ^a | Factor Loadings | | | | |
| 1 | -.059 | .326 | .055 | .001 | .442 |
| 2 | .762 | .192 | .030 | -.008 | .033 |
| 3 | -.015 | .141 | -.089 | .214 | -.484 |
| 4 | .093 | .628 | .152 | -.134 | -.032 |
| 5 | .175 | .424 | .322 | -.069 | .016 |
| 6 | .248 | .205 | .660 | .089 | .078 |
| 7 | -.066 | .238 | .611 | .091 | .163 |
| 8 | .286 | .176 | .087 | .045 | .405 |
| 9 | .774 | .066 | .266 | .006 | .051 |
| 10 | .120 | .498 | .213 | .130 | .126 |
| 11 | .011 | -.031 | .015 | .764 | -.115 |
| 12 | .146 | .464 | .319 | .090 | .154 |
| 13 | .125 | .135 | .431 | -.125 | .020 |

^aSpecific wording for each item is given in Table 3.

Table 5. Items Concerning Student Perception of Instructional Strategies^a

-
1. Does the instructor encourage students to participate in class discussions?
 2. Does the instructor supplement lectures with slides or overhead transparencies?
 3. Does the instructor grade students "on a curve?"
 4. Does the instructor give students a choice of topics to study?
 5. Do you participate in class discussions?
-

^aStudents in each class were asked to respond to these items on a 5-point scale ranging from "poor" to "excellent."

Table 6. Factor Matrix of Student Perception of Instructional Strategy Items

| | Factors | |
|--------------------------------------|-----------------|-------|
| | 1 | 2 |
| Eigenvalue | 2.619 | 1.200 |
| Cumulative Percent of Total Variance | 43.7 | 63.7 |
| Items ^a | Factor Loadings | |
| 1 | .785 | -.053 |
| 2 | .309 | .316 |
| 3 | -.022 | .790 |
| 4 | .673 | .285 |
| 5 | .760 | -.009 |

^aFor specific wording for each item, see Table 5. The factor matrix was computed on mean responses of students in each class.

Table 7. Items Comprising the Perceived Teaching Effectiveness Scale^a

1. Is the instructor actively helpful when you have difficulty?
2. Is the instructor sensitive to student's feelings and problems?
3. Does the instructor increase your interest in the subject?
4. Is the instructor fair in his dealings with the student?
5. Does the instructor display sufficient knowledge of his subject?
6. Does the instructor clarify the material for the class?
7. Does the instructor respect students?
8. Does the instructor tell students when they have done particularly well?
9. Is the instructor prepared for class?
10. Does the instructor distinguish between his opinion and facts?
11. Are the instructor's directions clear?
12. Does the instructor stimulate thinking?
13. Has the instructor helped you make the material sufficiently relevant to your needs and goals?

^aThis scale is a slightly modified version of a student evaluation of faculty questionnaire developed at Harrisburg Pennsylvania Area Community College. Students were asked to indicate their response to these items on a 5- point scale ranging from "never" to "always."

Table 8. Factor Matrix of Perceived Effectiveness Items

| | Factors | |
|--------------------------------------|---------|-------|
| | 1 | 2 |
| Eigenvalue | 9.08 | .83 |
| Cumulative Percent of Total Variance | 91.6 | 100.0 |

| Items ^a | Factor Loadings | |
|---|-----------------|-------|
| 1 (Instructor is helpful) | .930 | -.051 |
| 2 (Instructor is sensitive) | .854 | -.412 |
| 3 (Instructor increases interest) | .896 | -.85 |
| 4 (Instructor is fair) | .853 | -.171 |
| 5 (Instructor displays knowledge) | .783 | .443 |
| 6 (Instructor clarifies material) | .904 | .153 |
| 7 (Instructor respects students) | .759 | -.239 |
| 8 (Instructor praises students) | .699 | -.270 |
| 9 (Instructor preparedness) | .693 | .487 |
| 10 (Instructor distinguishes his opinion) | .815 | .147 |
| 11 (Instructor's directions are clear) | .850 | .080 |
| 12 (Instructor stimulates thinking) | .876 | .051 |
| 13 (Instructor makes material relevant) | .905 | -.071 |

^aSee Table 7 for a complete description of the items. The factor matrix was derived from mean student responses in each class on each item.

Table 9: Pearson-Moment Correlations, Means, and Standard Deviations

| | | | | | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|
| X ₁ | 1.00 | | | | | | | | |
| X ₂ | .34 | 1.00 | | | | | | | |
| X ₃ | .30 | -.14 | 1.00 | | | | | | |
| X ₄ | .56 | .24 | -.26 | 1.00 | | | | | |
| X ₅ | .24 | .14 | -.16 | .24 | 1.00 | | | | |
| X ₆ | .42 | .36 | .07 | .20 | .17 | 1.00 | | | |
| X ₇ | .11 | .30 | .18 | .05 | .19 | .34 | 1.00 | | |
| X ₈ | -.03 | .09 | -.10 | -.05 | .11 | .14 | .46 | 1.00 | |
| X ₉ | .01 | .14 | -.02 | -.01 | .14 | .06 | .69 | .56 | 1.00 |
| X ₁ | X ₂ | X ₃ | X ₄ | X ₅ | X ₆ | X ₇ | X ₈ | X ₉ | |
| \bar{X} | 1.29 | 1.79 | 1.44 | .61 | -.03 | .40 | .00 | 2.30 | 52.77 |
| SD | .45 | .41 | .50 | .49 | .60 | .70 | .81 | .39 | 5.26 |
| N ^a | 175 | 183 | 192 | 190 | 179 | 181 | 192 | 192 | 192 |

X₁ = Race (1 = nonblack; 2 = black)

X₂ = Education Courses
(1 = none; 2 = 1 or more)

X₃ = Academic Degree Level
(1 = nondoctorate; 2 = doctorate)

X₄ = Reference Group Identity
(1 = nonblack college; 2 = black college)

X₅ = Acceptance of the Open Admissions
Concept

X₆ = Active Involvement of Students
as Instructional Strategy

X₇ = Proportion of Students who
Participate in Class Activities

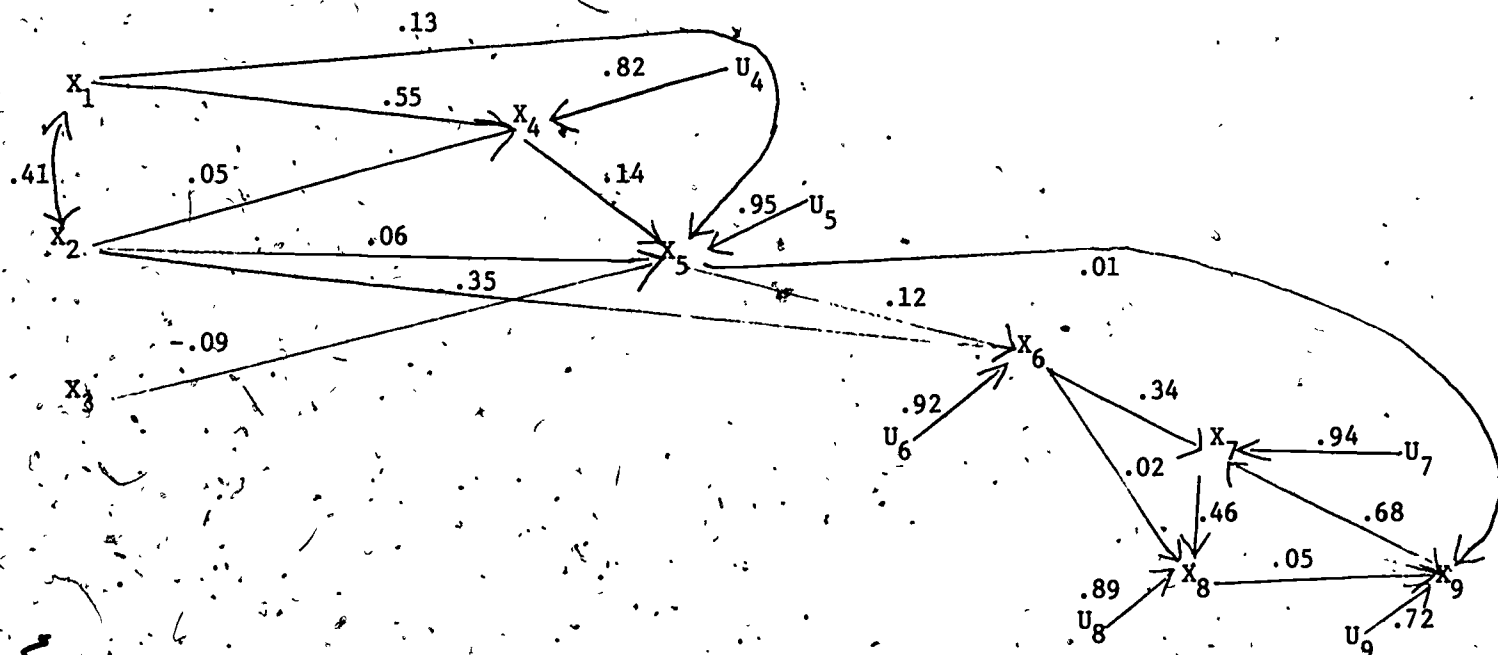
X₈ = Average Expected Grade

X₉ = Perceived Teaching Effectiveness

Ns vary due to pair-wise deletion of missing data.

Table 10. Path Analysis of Full Model

Teaching Effectiveness
25

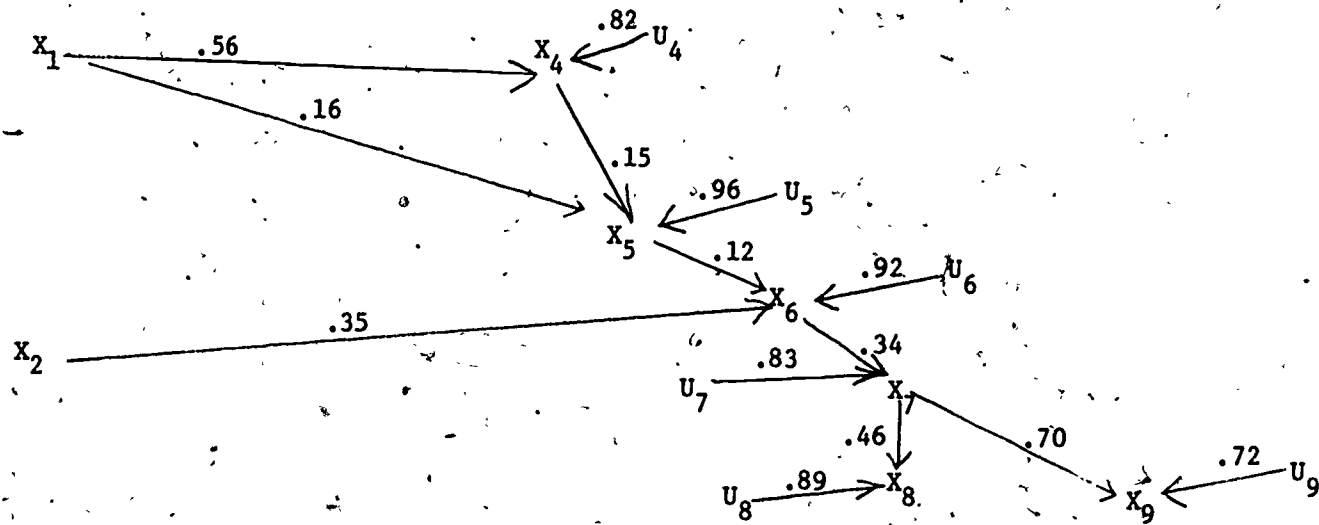


- X_1 = Race
- X_2 = Education Courses
- X_3 = Academic Degree Level
- X_4 = Reference Group Identity with Black College Faculty
- X_5 = Acceptance of Open Admissions
- X_6 = Active Involvement of Students as Instructional Strategy
- X_7 = Proportion of Students who Participate in Class Activities
- X_8 = Average Expected Grade
- X_9 = Perceived Teaching Effectiveness

U_i = Disturbance on X_i

$R^2(X_4 \cdot 12) = .32$ $R^2(X_6 \cdot 25) = .15$ $R^2(X_8 \cdot 67) = .21$
 $R^2(X_5 \cdot 1234) = .09$ $R^2(X_7 \cdot 6) = .11$ $R^2(X_9 \cdot 578) = .48$

Table 11. Path Analysis of Trimmed Model

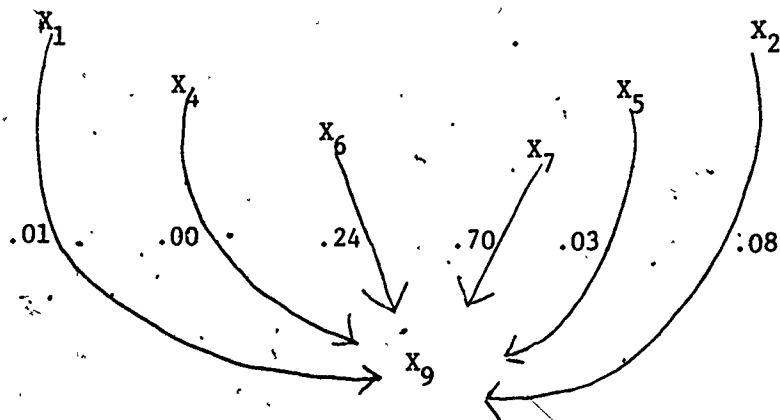


- X₁ = Race
- X₂ = Education Courses
- X₃ = Academic Degree Level
- X₄ = Reference Group Identity with Black College Faculty
- X₅ = Acceptance of the Open Admissions Concept

- X₆ = Active Involvement of Students as Instructional Strategy
- X₇ = Proportion of Students who Participate in Class Activities
- X₈ = Average Expected Grade
- X₉ = Perceived Teaching Effectiveness
- U_i = Disturbance on X_i

| | |
|---------------------------|--------------------------|
| $R^2(X_4 \cdot 1) = .32$ | $R^2(X_7 \cdot 6) = .34$ |
| $R^2(X_5 \cdot 14) = .08$ | $R^2(X_8 \cdot 7) = .21$ |
| $R^2(X_6 \cdot 25) = .15$ | $R^2(X_9 \cdot 7) = .48$ |

Table 12. Reduced Model



- X₁ = Race
- X₂ = Education Courses
- X₄ = Reference Group Identity with Black College Faculty
- X₅ = Acceptance of the Open Admissions Concept

- X₆ = Active Involvement of Students as Instructional Strategy
- X₇ = Proportion of Students who Participate in Class Activities
- X₈ = Average Expected Grade
- X₉ = Perceived Teaching Effectiveness

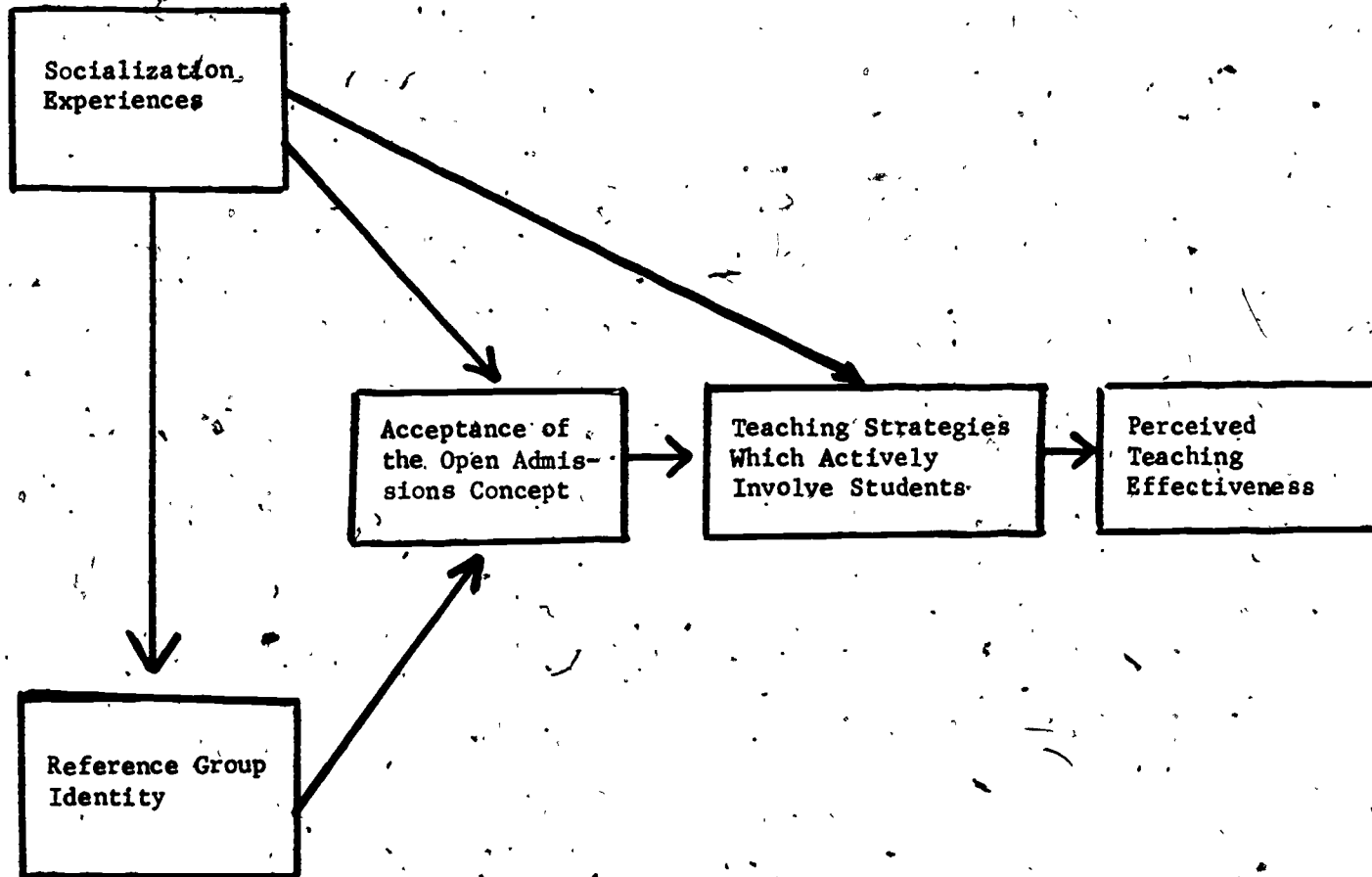


Figure 1. Theoretical Model

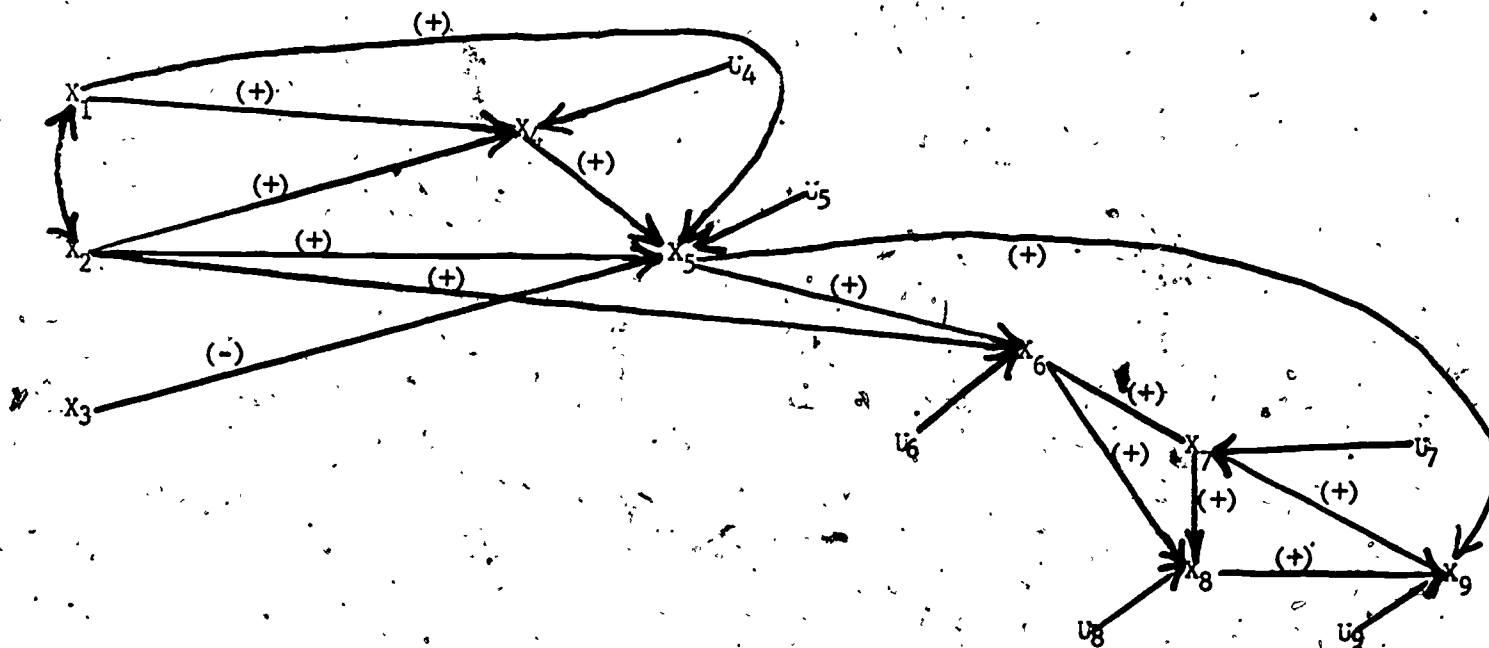


Figure 2. Empirical Model

X_1 = Race

X_2 = Education Courses

X_3 = Academic Degree Level

X_4 = Reference Group Identity with Black College Faculty

X_5 = Acceptance of the Open Admissions Concept

X_6 = Active Involvement of Students as Instructional Strategy

X_7 = Proportion of Students who Participate in Class Activities

X_8 = Average Expected Grade

X_9 = Perceived Teaching Effectiveness

U_1 = Disturbance on X_1