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ABSTRACT

A study was conducted to identify the factors influencing students' decision to enroll in a privately controlled "vocational, trade, business, or other training school" and the educational attainment of these proprietary school students. Databases derived from the National Longitudinal Study of the High School Class of 1972 and High School and Beyond were used in the analysis. The average socioeconomic status scores increased from the proprietary sector to the community college to four-year institutions, indicating differential compositions of students' family background in different types of postsecondary institutions. Students' and their mothers' educational aspirations were the most influential factors in the students' choices of postsecondary education and proprietary school students' aspirations were lower than those of community college and four-year college students. Most proprietary school students did not reach the level of a two-year degree, and those who eventually attained a two-year degree or beyond were very likely to be high aptitude students. On a theoretical level, the study confirmed the assumption that functionalism describes the societal role of four-year institutions somewhat better than that of proprietary schools. In the functionalist argument, social mobility has taken place as a result of an enormous equalization of educational opportunity. But the class-reproductionist model, in which the socioeconomic status of one's parents had a direct and significant impact on how well one is educated, fits the role of proprietary schools better. (Author/AC)

Assessing the Educational Attainment of Proprietaty Students from National Data

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Abstract

This study was designed to identify the factors that influenced students' initial choice of proprietary schools and the educational attainment of these proprietary school students. Nationwide data bases of National Longitudunal Study of the High School Class of 1972 (NLS) and High School and Beyond (HSB) were used in the analysis. Students' and their mothers' educational aspirations were the most influential factors affecting the students' choice among the three types of postsecondary institutions, and proprietary students' aspirations were lower than those of community college and four-year institution students. Most proprietary students did not reach the level of a two-year degree or beyond, and those who eventually attained a two-year degree or beyond were very likely to be high aptitude students. On a theoretical level, this study confirms the assumption that functionalism describes the societal role of four-year institutions somewhat better than that of proprietary schools and that the class-reproductionist model fits the role of proprietary schools better than that served by four-year institutions.

Introduction

In the existing literature on different types of postsecondary institutions, proprietary schools are an often ignored sector that has just begun to draw research attention (Belitsky, 1969; Clark & Sloan, 1966; Lee & Merisotis, 1991; Levin, 1985; Wilms, 1975; Yankosky, 1989). Up to this point, very little has been known about the contribution of postsecondary vocational schools to students' educational attainment and, in a final analysis, to the equality of educational opportunity in this country. Dougherty (1987), after a careful study of the role played by community colleges in equalizing educational opportunity, calls for a re-examination of the impact on students' social mobility of community colleges relative to both four-year colleges and proprietary schools. The reason for doing so lies in the fact that proprietary schools "... share varying combinations of the characteristics typical of community colleges: low tuition, accessibility, unselectiveness, and vocational emphasis" (Dougherty, 1987: 102). Wilms (1980) suggests that proprietary schools are more effective than public two-year colleges at developing vocationally prepared students. In addition, Yankosky's (1989: iii) recent study shows that, in proprietary schools, "... over four-fifths (84%) of the students received financial aid, and that about 88% of this aid came from the federal government, with the Guaranteed Student Loan and Pell Grant programs the predominate sources."

These conclusions are thought provoking, not only raising

the issue of the function and effectiveness of proprietary schools relative to two- and four-year colleges, but also addressing the social role of vocational education, which is "... an important consideration both as public policy and as a pragmatic curriculum concern for the institutions offering these programs" (Levin & Clowes, 1981: 294).

On the theoretical level, there has been a lengthy debate over whether postsecondary education is providing opportunity for individual mobility (the functionalist position) or actually preparing students for unequal futures and thus legitimizing large-scale structural inequality (the class-reproductionist position) (cf., Dougherty & Hammack, 1990). When functionalists argue that social mobility has taken place as a result of an enormous equalization of educational opportunity, they back up their argument with such proven assertions as a well-educated son of a working class father has the same chance in life as a poorly educated son of a middle-class father (Blau & Duncan, 1967) or a greater number of college graduates have been seen in a higher occupational stratum than their fathers (Featherman & Hauser, 1978). It should be noted that the most favorable evidence on this position has been collected from studies of "traditional" or four-year institutions.

In contrast to the functionalists are the class-reproductionists. Studies cited by class-reproductionists show that the socioeconomic status of one's parents has a significant and direct influence on how well one is educated and what kind of

job he/she may end up with (Bowles & Gintis, 1976; Farley, 1987). This may be particularly true for the proprietary school sector, since the latter is known to attract the most "disadvantaged" students. As a matter of fact, researchers believe that proprietary school students are not only academically or socioeconomically "disadvantaged," but also they learn limiting attitudes and modes of behavior in the proprietary school (cf. Weis, 1988). Seen from this perspective, proprietary schools, like other postsecondary institutions, actually help to shape the attitudes and behaviors of their students and thus prepare them to enter the lower social levels. Therefore, even if four-year colleges and universities do show some positive signs of providing equal opportunity for nonwhites, females, or working-class people on a meritocratic basis, a basic question of the present study is: is it still possible for a class reproduction model to be functioning in the proprietary school sector?

The functioning of proprietary schools in class reproduction is not necessarily contradictory to their role in the equalization of educational opportunity. The question is, what criteria should be used to assess equality of educational opportunity? Markward and Phelps (1990) summarize two different ways of defining equality as being equality which implies sameness (MacMillian, 1964) or equality which implies uniqueness (Phenix, 1964). The former position suggests that "... each step taken to provide equality should bring individuals closer to the

ideal of giving the same treatment to each individual," no matter whether the individual is academically or socially ready for that treatment. The latter position asserts that "... each person receives the educational opportunities which are right for that person to have, given individual and environmental conditions" (Markward & Phelps, 1990:10).

It is obvious that the "sameness" definition is an ideal yardstick to measure equality, but the "uniqueness" definition seems to be more realistic and feasible. Given the variance of individual aptitude or intelligence, equality of educational opportunity should be the extent to which all students, regardless of race and circumstance, are able to fulfill their educational aspirations. (Institute for the Study of Educational Policy, 1976).

Study Approach

The present study was designed to explore the actual educational attainment of students in proprietary schools as compared with those in community colleges and four-year institutions. Specifically, this study was to explore the factors that influenced students' choice of proprietary schools at the beginning and these proprietary students' eventual educational attainment. The National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HSB) (the senior cohort) were used to approach these issues from a national perspective. The advantages of using these two data bases lie in the

comprehensiveness of the data which provide a wide selection of variables directly or indirectly related to the issues discussed, and the nationwide sampling which makes it possible to approach research questions from a national perspective.

In the field of higher education, gender and racial equalities have often been the major concerns of educators and administrators. Both women and minorities have had greater access to higher education as a result of the civil rights movement and women's movement. However, Karen (1990) synthesizes different sources of official statistics and shows that, from 1960 to 1978, the greatest increase in women's access to higher education was in "elite" rather than "mass" institutions. And the ups and downs of the black postsecondary enrollment nationwide from 1976 to 1982 (Williams, 1988) make it even more important to follow up the distribution of minority groups in different types of postsecondary institutions. Therefore, we must conclude that the socioeconomic status of postsecondary students can hardly be studied separately from its racial and gender context. Though many researchers (Friedlander, 1982; Trivett, 1974; Wilms, 1973; Yankosky, 1989) believe that proprietary students are probably the least financially advantaged of all postsecondary students, there still is not enough evidence in the literature to conclude that low SES is a major characteristic of proprietary students.

There is very limited literature available concerning demographic characteristics of proprietary school students. What is discussed the most is that proprietary schools draw heavily

from the "disadvantaged" -- females, minorities, low SES and low aptitude people (Wilms, 1987; AIR, 1972). But siagreement exits. Levin's (1985) study using NLS data yields considerably different results from the conventional wisdom. For instance, he finds that proprietary students are more likely to be whites, females, and middle-class people.

A factor closely related to the debate between the functionalist and the class-reproductionist positions is the academic preparation of proprietary students. Wilms (1987:12) contends that proprietary schools' appeal is for the academically unprepared. A related factor is whether proprietary students actually aspire to education beyond the proprietary school. Belitsky (1969) argues that they do not, but his study presents no evidence to support this contention. However, aspiration is such an important factor that it has always been a powerful predictor of students' educational attainment in other areas of educational research (Otto & Haller, 1979; Sewell & Shah, 1967). Moreover, Bean and Vesper (1990:21) even consider parents' aspiration to be more important than students' aspiration in making educational decisions: "When socialization to a new environment is incomplete, or fails, individuals (students) depend on previous social agents (parents) for guidance."

In summary, due to the paucity of the literature on proprietary schools, the independent variables of gender, race, SES, aptitude, and students' and mothers' aspirations were

selected for this study because the existing literature suggests they are relevant to both aspiration and attainment of proprietary students. Further, these variables are available in both NLS and HSB data. Mother's aspiration, for example, was used because it was available where data on both parents' aspirations were not.

Methodology

Sample

The National Longitudinal Study of the High School Class of 1972 (NLS) was instituted to study "the educational, vocational, and personal development of high school graduates, and the personal, familiar, social, institutional, and cultural factors that contribute directly or indirectly to that development" (Peng, Stafford, & Talbert, 1977, 1). High School and Beyond (HSB) was designed to build on the NLS data file and to expand the NLS focus by collecting data on a range of life-cycle factors (cf., HSB user's manual). These two data bases are generallly compatible.

NLS base-year data were collected in the spring of 1972 via three instruments: a test battery, a school record information form, and a student questionnaire. The four follow-ups were conducted respectively in 1972, 1974, 1976, and 1979. Overall, a total of 12,980 individuals provided information on all questionnaires (base year and four follow-ups) representing 78% of the base-year respondents. The HSB data contain two cohorts: sophom-

ore and senior. The base-year survey was conducted in 1980. The three follow-ups used in this study were conducted respectively in 1982, 1984, and 1986. In the last follow-up the sophomore sample of 14,825 from the second follow-up was retained with a response rate of 91%, and the senior sample of 11,995 from the previous follow-up was retained with a response rate of 92%. The present study used only the senior cohort data.

Case Selection

The selection of a proprietary case was by the following procedure.

1. FICE codes were utilized to generate the names of the institutions respondents attended in October 1972 for the NLS sample and those of the first institutions respondents attended after high school for the HSB sample, if the respondents identified the institutional type as "vocational, trade, business, or other training school" and the control as being private.

2. Issues of the Directory of Postsecondary Schools with Occupational Programs (Kay, 1975, 1982) were used as the major reference source; a case was selected if the institution a respondent attended was identified as "proprietary" or "independent" in these directories. Also, a religiously-affiliated institution was selected if its stated purpose was vocational training. Bible colleges were excluded.

3. If there was no match of a FICE code on the above-mentioned directories, more reference works were consulted, and the decision was made on an individual basis.

In general, the selected cases include mostly business and technical institutions, cosmetology or beauty schools, and secretarial schools. Many nursing, X-ray, and radiology schools are hospital-related and/or religiously-affiliated, and they were included as well.

Methods of Analysis

There are two research questions explored in this study: 1) What were the factors associated with an individual's decision to choose proprietary schools instead of community colleges or four-year institutions? and 2) did proprietary students have significantly lower educational attainment than those attending community colleges and four-year institutions? What were the factors associated with this difference, if any?

To answer the first question, discriminant analyses were performed to determine the major factors associated with students' choice of proprietary schools. Gender, race, SES, aptitude, and aspiration were used as the independent variables (Table 1). In order to get clearer and more straightforward discriminant function coefficients, two-group instead of three-group analyses were performed, namely, the proprietary versus the two-year and the proprietary versus the four-year. Second, a multiple regression was conducted for each group of students to identify the factors that significantly contribute to their educational attainment.

The Descriptives

Table 2 provides means and standard deviations of the

variables used for statistical analyses. The means of SEX show that only 19% of the proprietary sample were males in NLS; the comparable figure was 33% in HSB. When all the minority groups were collapsed into one as a contrasting group to whites, it turned out that whites accounted for more than 80% in all the three types of institutions in NLS. This ratio was lower in HSB. Especially in community colleges, whites and minorities tended to be more evenly distributed in HSB.

The average socioeconomic status (SES) scores increased from the proprietary sector to the community college sector to four-year institutions, indicating differential compositions of students' family background in different types of postsecondary institutions. The average aptitude scores were higher in four-year institutions, but no great difference can be observed between proprietary schools and community colleges as to student aptitude. Students attending proprietary schools did show lower educational aspiration than those attending community colleges and four-year institutions, and the aspirations of mothers were in general consistent with their children's.

Results

School Choice

Discriminant analyses were conducted on both the NLS and HSB samples to determine the major factors associated with students' choice among different types of postsecondary institutions. Two-group discriminant analyses were performed between proprietary

and community college groups and again between proprietary and four-year institution groups. Due to the high correlations (.66 for NLS and .67 for HSB) between the variables of ASPST and ASPMO (students' and mothers' aspirations), the same discriminant analysis procedure was performed thrice, with both ASPST and ASPMO included and with only one of them included at one time. It turned out that ASPST and ASPMO always yielded the highest discriminant function coefficients in the model when one of them was absent.

Table 3 presents the standardized canonical discriminant function coefficients ($p<.05$) when both ASPST and ASPMO were taken into account at the same time. The most obvious conclusion is that the educational aspirations of both mother and student played the single most important role in determining the student's choice among different types of postsecondary institutions. For the NLS sample, gender did make a great difference in students' choice between proprietary schools and community colleges (D=.51), which agrees with the previous finding that females outnumbered males in proprietary schools in the 1970's. The race factor did not appear to be very important in discriminating students' choices of postsecondary institutions despite the finding that in HSB whites showed a preference for proprietary schools over community colleges (D=-.32). In the NLS sample, community colleges did attract students from higher socioeconomic background (D=.26) than proprietary schools, but this was not the case for the HSB sample, nor for four-year

institutions in the NLS sample. Finally, the importance of a student's aptitude level in choosing postsecondary institutions tended to be greater in HSB than in NLS, indicating the possibility that in the 1980's students paid more attention to their own aptitude level while deciding which type of schools they would attend.

In order to demonstrate the effectiveness of discriminant analysis in differentiating students' choice of postsecondary institutions by the independent variables, a classification accuracy test was performed for every individual using discriminant analysis. Table 4 presents a summary of the percentages of correctly classified cases for each group. The lowest percentages are for community college groups, which may be attributable to the fact that those choosing community colleges were the least different from their proprietary counterparts. The proprietary groups had relatively high percentages of cases being correctly classified (75% for NLS and 71% for HSB), indicating the chosen variables were good predictors that successfully differentiated proprietary enrollees from those attending other types of postsecondary institutions. Moreover, the high percentages of the four-year groups (92% for NLS and 84% for HSB) show that those attending four-year institutions were really a very different group of students whose socioeconomic, academic, and other background factors were in general higher than their proprietary counterparts.

Educational Attainment

Multiple regressions were employed next to identify the factors that are significantly associated with the educational attainment of students attending different types of postsecondary institutions.

Table 5 provides a summary of the results of multiple regressions concerning the educational attainment of proprietary students as compared with community college and four-year school students. Each multiple regression procedure was performed thrice, with both ASPST and ASPMO included and with only one of them included at one time. The purpose of doing so was to avoid the high multicollinearity present due to the strong correlation between students' and mothers' aspirations. Nonetheless, Table 5 only reports the regressions that yield the highest R^2 values. It should be noted that, because the computer program used automatically deletes the cases with missing observations, the two proprietary subsamples suffered a great loss of cases initially. Therefore, estimations were computed to make up the loss[1]. In so doing, the NLS sample recovered 71 cases and the HSB recovered 36. EDATT, SESQ, ASPST, and ASPMO were the variables that benefited from the estimation procedure, but APTQ,

[1] The estimation procedure followed two steps. First, with the variables with missing observations taken as the dependent variables and other variables as the independent, multiple regression equations were established. Second, existing observations were used in the equations to estimate the missing variables. This procedure allowed an estimation of missing independent variables based on the knowledge of other independent variables and their correlations among other similar respondents.

though having the most missing cases, did not seem to have any logical connection with the other independent variables among other respondents and thus did not allow for estimation through knowledge of the existing variables.

Table 5 shows that, except for the proprietary sample in NLS, all the other regression equations yielded significant F values at the .05 level. For proprietary students, aptitude was the only factor associated with their educational attainment in both the NLS and HSB samples (betas=.18 [NLS] and .15 [HSB], $p<.05$). This fact implies that, though proprietary students were not necessarily lower in aptitude upon entering proprietary schools, they certainly needed to be academically strong enough to move up further on the educational ladder. Gender played a significant, though not strong, role in determining proprietary students' educational attainment in the NLS sample (beta=.02, $p<.05$), which again provides supporting evidence about females' higher achievement than males. The HSB sample also shows that a student's own educational aspiration strongly influenced his/her further educational attainment (beta=.25, $p<.05$), even if he/she started postsecondary education at the proprietary level.

Compared with proprietary students, community college students seemed to be affected by similar factors in rising up the educational ladder, except their eventual achievement was also heavily influenced by their socioeconomic backgrounds (betas=.10 [NLS] and .11 [HSB], $p<.05$). For four-year college students, almost all the chosen variables showed significant

predicting power in determining the educational attainment. This phenomenon indicates that, when a student chose to attend a proprietary school, socioeconomic, racial and other background variables became irrelevant, because they would rarely have the opportunity to move further in postsecondary education. For those who attended four-year institutions, the chance of moving forward was much higher than for proprietary and community college enrollees. In other words, four-year school students could theoretically reach whichever level of education they wanted, though in reality the factors of gender, race, socioeconomic status, aptitude and personal aspiration combined to shape every individual's educational and economic future.

It should be noted that, though the independent variables used in the present study yielded significant F values in most regression models with regard to students' educational attainment, the variance explained by the models (R^2) was lower than desired. In other words, the independent variables derived from the literature are good predictors of students' educational attainment, but they are not all, or not necessarily the most important predictors. This leaves a blank space for future studies in this area.

Discussion

The two-fold goal of this study was to assess the educational attainment of proprietary students and to study the issue of equality in the theoretical context of functionalists versus

class-reproductionists. In postsecondary education providing the "disadvantaged" group with equality of educational opportunity has been a primary concern of policy-makers and the public. This has become such a central issue that the effort an institution makes to equalize opportunities is often measured by how well it has served females, minorities, and low SES students. But in a meritocratic system, colleges and universities, especially the prestigious institutions, have to be very selective to keep up their academic standards. Maybe that is why community colleges, with their "open-door" policy, are embraced as "a democratizing force in higher education" (Rouche & Baker, 1987: 3), or as "the Ellis Island of higher education" (Vaughan, 1983: 9).

However, with the re-discovery of proprietary schools, it appears that many of the merits claimed previously for community colleges are actually shared by these private, vocationally-oriented, and less academically demanding schools. This study shows that there are many similarities between community colleges and proprietary schools. Large proportions of females and of low-aptitude students attend these institutions and the students have lower educational attainment in comparison with students in four-year institutions. Nevertheless, proprietary schools are not a simple replication of community colleges. For instance, it was found that the educational attainment of proprietary students was significantly lower than that of community college students. But this does not neccesarily mean that community colleges were instrumental in their students' higher educational attainment.

The fact of the matter is, community colleges carry a double mission of vocational training and college transfer, while proprietary schools concentrate only on the former.

Seen from this point of view, the question of whether proprietary schools aid or hinder students' educational attainment should be addressed in a different way. When Dougherty (1987) maintains that community colleges hinder educational attainment, he is holding an ideal yardstick that everyone should achieve the same no matter what type of schools he/she attends. But this study shows that proprietary students aspire to a lower educational level than community college students, and community college students aspire to a lower education level than four-year school students. Moreover, students' and their mothers' aspirations were found to be the most important factors related to students' choice between different types of institutions. Therefore, when students choose to attend a proprietary school, they probably already have a limited educational goal in mind. They may change their minds after entering a proprietary school and want to move forward on the educational ladder, but this study shows that aptitude is a primary factor influencing their educational attainment.

This argument also sheds light on the debate between functionalists and class-reproductionists. When the latter criticize the postsecondary educational system as perpetuating the existing social classes, they tend to believe that every individual has the same potential to achieve as high as possible

on the educational ladder. Thus they attribute students' unequal attainment to different types of postsecondary institutions. This study shows that students not only differ in socioeconomic background and academic potential, but they also have different levels of educational aspirations. In this sense, proprietary schools only limit social mobility for those who are "disadvantaged" in background and/or who do not aspire any higher and therefore are predisposed to minimal attainment.

On the other hand, functionalists hold assumptions about the function of postsecondary education in enhancing social mobility. They are inclined to find evidence about equal educational opportunity from relative improvement rather than absolute achievement of students' educational status. But the systematic difference between proprietary students and junior and senior college students with regard to socioeconomic status, aptitude, and aspiration indicates certain "inherent" inequalities of proprietary students as compared with those enrolled in other types of institutions. In this aspect, Deutsch (1964) was probably right that students' school choice and educational success reflect their parents' socialization practices. Moreover, students' attitudes and modes of behavior, including their educational and occupational aspirations, may also be shaped by the academic and disciplinary atmosphere of the type of institutions they attend. It is in this sense that proprietary schools hinder students' educational attainment.

Nevertheless, this study shows that the functionalist model

and the class-reproductionist model worked differently with different types of institutions. While the enrollment patterns of proprietary schools and four-year institutions were not as different as expected, the attainment rates were really polarized between these two types of institutions. In four-year institutions, high aptitude students were very likely to achieve a baccalaureate or beyond, while in proprietary schools even high aptitude students seldom reached a two-year degree or beyond. This to a certain extent confirms the assumption that functionalism describes four-year institutions somewhat better than proprietary schools and that the class-reproductionist model fits proprietary schools better than it fits four-year institutions.

References

American Institute of Research (AIR). (1972). A Comparative Study of Proprietary and Nonproprietary Vocational Training Programs. Palo Atto, CA: Author. (ED 067 523)

Bean, J. P. & Vesper, N. (1990). Quantitative approaches to grounding theory in a data: Using LISREL to develop a local model and theory of student attrition. Paper presented at the annual meeting of the AERA (Boston, April).

Belitsky, A. H. (1969). Private Vocational Schools and Their Students: Limited Objectives, Unlimited Opportunities. Cambridge, MA: Shenkman Publishing.

Blau, P. & Duncan, O.D. (1967). The American Occupational Structure. New York: Wiley.

Bowles, S. & Gintis, H. (1976). Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life. New York: Basic Books.

Clark, H. F. & Sloan, H. S. (1966). Classrooms on Main Street.

New York: Teachers College Press.

Deutsch, M. and Associates. (1964). The Disadvantaged Child. New York: Basic Books.

Dougherty, K. (1987). The effects of community colleges: Aid or hindrance to socioeconomic attainment? Sociology of Education, 60, 86-103.

Dougherty, K. J. & Hammack, F. M. (1990). Education and Society: A Reader. San Diego: HBJ.

Farley, J. E. (1987). American Social Problems: An Institutional Analysis. Englewood, NJ: Prentice-Hall.

Featherman, D. L. & Hauser, R. M. (1978). Opportunity and Change. New York: Academic Press.

Friedlander, M. C. (1982). Characteristics of Students Attending Proprietary Schools and Factors Influencing Their Institutional Choice. Monograph 501. Cincinnati: Southwestern Publishing Company.

Institute for the Study of Educational Policy (ISEP). (1976). Equal Educational Opportunity for Blacks in U.S. Higher Education: An Assessment. Washington, D.C.: Howard University.

Karen, D. (1990). Access to higher education in the United States, 1900 to the present. In K. J. Dougherty & F. Hammack (eds.) Education & Society: A Reader. San Diego: HBJ.

Kay, E. R. (1973, et seq). Directory of Postsecondary Schools with Occupational Programs. Washington, D.C.: National Center for Educational Statistics.

Lee, J. B. & Merisotis, J. (1991). Proprietary schools: Programs, policies, and prospects.

Levin, B. H. (1985). Characteristics of Postsecondary Proprietary School Students. Unpublished doctoral dissertation. Blacksburg, VA: Virginia Tech.

Levin, B. H. & Clowes, D. A. (1981). [Review of Vocational Education and Social Mobility: A Study of Public and Proprietary School Dropouts and Graduates, by Wilms, W. W.]. Community/Junior College Research Quarterly, 5(3), 293-297.

MacMillan, C. J. B. (1964). Equality as sameness. Studies in Philosophy and Education, 3(4), 320-332.

Markward, M. J. & Phelps, L. A. (1990). Enhancing equitable opportunity in vocational education: A framework and recommendations for research. Paper presented at the annual meeting of the American Educational Research Association (Boston, MA, April 16-20).

Otto, L. & Haller, A. (1979). Evidence for a socialpsychological view of the status attainment process: Four studies compared. Social Force, 887-91.

Peng, S. S., Stafford, C. E., & Talbert, R. J. (1977). Review and Annotation of Study Report. NCES sponsored reports series 78-238. Research Triangle Park, NC: NCES.

Phenix, P. (1964). Equality as uniqueness. Studies in Philosophy and Education, 3(4), 332-335.

Roneche, J. E. & Baker III, G. A. (1987). Access & Excellence: The Open-Door College. Washington, DC: The Community College Press.

Sewell, W. H. & Shah, V. P. (1967). Socioeconomic status, intelligence, and attainment of higher education. Sociology of Education, 40.

Trivett, D. A. (1974). Proprietary Schools and Postsecondary Education. Washington, DC: American Association for Higher Education.

Vaughan, G. B. & Associates. (1983). Issues for Community College Leaders in a New Era. San Francisco: Jossey-Bass.

Weis, L. (ed.) (1988). Class, Race, and Gender in American Education. New York: SUNY Press.

Wilms, W. W. (1973). Proprietary Versus Public Vocational Training. Berkeley, UC: Center for Research and Development in Higher Education.

----. (1975). Public and Proprietary Vocational Training: A Study of Effectiveness. Lexington, MA: D.C. Heath and Company.

----. (1980). Vocational Education and Social Mobility: A Study of Public and Proprietary School Dropouts. Los Angeles: University of California.

----. (1987). Proprietary schools: Strangers in their own land. Change, 19(1).

Williams, III, J. B. (ed.) (1988). Desegregating America's Colleges and Universities: Title VI Regulation of Higher

Education. New York: Teachers College Press.

Yankosky, R. E. (1989). The Proprietary School Sector: A Demographic and Financial Aid Profile. Unpublished doctoral dissertation. Blacksburg, VA: Virginia Tech.

Table 1. Variable Specifications

Variable	Definition	Coding
SEX	Respondents' gender	0=female; 1=male
RACE	Respondents' race	0=minorities; 1=white
SESQ	Respondents' socioeconomic status in quartile	1=the lowest quartile 2=the 2nd quartile 3=the 3rd quartile 4=the highest quartile
APTQ	Respondents' aptitude in quartile	1=the lowest quartile 2=the 2nd quartile 3=the 3rd quartile 4=the highest quartile
TYPE	The type of institution a respondent attended	1=PROP(rietary) 2=2YR (community college) 3=4YR (4 year col & univ)
ASPST	Students' aspiration	1=HS grad. or less 2=Voc-Tech or 2yr degree 3=4-5 year degree
ASPMO	Mothers' aspiration	1=HS grad. or less 2=Voc-Tech or 2yr degree 3=4-5 year degree
EDATT	The highest educational level a respondent attained in 7 (NLS) or 6 (HSB) years	1=less than 2 years 2=2 year degree or more 3=4 year or advanced degree

Table 2. Means and Standard Deviations* of the Variables

Independent Variable	Type of School	NLS**	HSB**
SEX	PROP	0.19(0.39)	0.33(0.47)
	2YR	0.49(0.50)	0.43(0.50)
	4YR	0.50(0.50)	0.44(0.50)
RACE	PROP	0.89(0.31)	0.63(0.48)
	2YR	0.84(0.37)	0.50(0.50)
	4YR	0.87(0.33)	0.56(0.50)
SESQ	PROP	2.39(0.99)	2.24(1.02)
	2YR	2.70(1.08)	2.35(1.12)
	4YR	2.98(1.09)	2.65(1.16)
APTQ	PROP	2.74(0.99)	2.23(1.06)
	2YR	2.74(1.04)	2.43(1.07)
	4YR	3.22(0.92)	3.03(1.03)
ASPST	PROP	2.10(0.58)	2.20(0.68)
	2YR	2.50(0.72)	2.69(0.85)
	4YR	3.14(0.55)	3.33(0.69)
ASPMO	PROP	2.18(0.53)	2.42(0.83)
	2YR	2.67(0.70)	2.91(0.85)
	4YR	3.16(0.52)	3.33(0.69)

* Standard deviations are given in parentheses.

** Number of cases: NLS: PROP - 127; 2YR - 435; 4YR - 949;
HSB: PROP - 114; 2YR - 1302; 4YR - 2768.

Table 3. Standardized Canonical Discriminant Function Coefficients (D*)

Independent Variable	NLS**		HSB**	
	PROP vs 2YR	PROP vs 4YR	PROP vs 2YR	PROP vs 4YR
SEX	0.5052	0.1440	0.2186	0.0747
RACE	--	-0.0625	-0.3155	-0.1344
SESQ	0.2550	0.0775	0.0275	0.0201
APTQ	-0.1609	0.0558	0.2221	0.2715
ASPST	0.2383	0.5528	0.4882	0.6732
ASPMO	0.5542	0.5555	0.4291	0.3125

* All the coefficients shown are significant at the 0.05 level.

** Number of cases: NLS: PROP - 127; 2YR - 435; 4YR - 949;
HSB: PROP - 114; 2YR - 1302; 4YR - 2768.

Table 4. Percent of Cases Correctly Classified with Discriminant Analysis

Data Base	Grouping	Type of School	N	% Correct with DA
NLS	PROP vs 2YR	PROP	127	74.8
		2YR	435	65.1
	PROP vs 4YR	PROP	127	74.8
		4YR	949	91.6
HSB	PROP vs 2YR	PROP	114	71.1
		2YR	1302	60.9
	PROP vs 4YR	PROP	114	71.1
		4YR	2768	84.0

Table 5. Summary of Multiple Regression Results

	NLS			HSB		
Predictor	PROP	2YR	4YR	PROP	2YR	4YR
SEX	0.0168*	-0.0336	--	-0.0584	-0.0195	-0.0367
RACE	-0.0662*	-0.0138	-0.0769*	0.0165	-0.0012	0.0959*
SESQ	0.0577	0.1012*	0.2087*	0.0513	0.1130*	0.1259*
APTQ	0.1819*	0.0201	0.1499*	0.1545*	0.2134*	0.1481*
ASPST	0.0406	0.3839*	0.0910*	0.2456*	0.1364*	0.1076*
ASPMO	--	--	0.0418	0.0460	--	--
R^2	0.0559	0.1645	0.1004	0.1127	0.1013	0.1003
F	2.0612	14.5273	15.6356	3.0274	29.1927	61.6003
P	0.0725	0.0000	0.0000	0.0081	0.0000	0.0000
N	180	375	848	150	1301	2768

* $p<0.05$

** Reported in the table are standardized beta weights.