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The Impact of Financial Aid on Student Persistence

by Steve Herndon

Introduction

Student financial aid has come to be regarded as an enigma by the American public. The rapid expansion during the previous two decades of financial assistance programs, many of them with specific manpower or targeting purpose, has resulted in a proliferation of programs and an inadequate supply of funds to meet the needs of actual and potential participants in postsecondary education. Over the years, the unavoidable political and philosophical tradeoffs, the intended checks and balances against abuse, and the apparent absence of explicit purpose, responsibility, and jurisdiction, have given the United States a fragmented and costly student financial assistance effort that many argue is less efficient, and therefore less effective, than it might be. As a consequence of fiscal crises at the federal and state levels, the critical challenge before legislators and educational policymakers today is the reevaluation, consolidation, and simplification of the numerous student aid programs available at all levels. Their efforts have already resulted in the curtailment of the Law Enforcement Education Program (LEEP) and the Nursing Scholarship Program, and major modifications to the educational entitlement provisions of Social Security and the G. I. Bill.

The revived "era of accountability," a sometimes vague notion, has been given a precise structure and definition by the Reagan administration through proposed funding reductions and program limitations to federal student aid programs. Forced to compete for limited funding allocations with other segments of higher education, it is of utmost importance that the financial aid community continue to articulate its specific contributions to the well-being of college students.

The purpose of this research is thus to shed more light on the issue of the impact of financial aid on student persistence. "Persistence" is defined as the rate at which enrolled students complete a predetermined period of study. Persistence, or retention rates, are typically computed either on the basis of an academic year or persistence to the completion of degree requirements.

Several researchers (Boyd and Fenske, 1975; Carlson, 1980; Fife, 1957b) have determined that the availability of student aid has facilitated "access" to postsecondary education among students from low and moderate income families. A growing body of research (Astin, 1978; Corwin and Kent, 1977; Fife, 1975a) also suggests that student assistance has played a significant role in the improvement of student "choice" of educational environment.

Although student financial assistance is reputed for its contribution toward improved access and choice, there is a dearth of empirical research tying it to college persistence. Most legislators and educational policymakers contend that aid expenditures should also have some positive effects on student persistence in addition

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to providing access and choice. Students should be expected to persist for a reasonable length of time beyond initial entry into college so that they are able to 1) take advantage of what postsecondary educational institutions have to offer, 2) determine whether or not these services will be of use to them, and 3) complete specified degree objectives.

The lack of evaluation studies concerning the impact of financial aid on student persistence has created an information gap between what student aid is expected to do and what it actually accomplishes. Within this context, the study of the persistence of financial aid recipients looms extremely important.

Predictors of College Persistence

There is little doubt that measures of scholastic aptitude are predictive of college persistence. Studies using such measures have consistently found higher scores for college persisters than dropouts (Summerskill, 1962). However, measures of scholastic aptitude appear to predict only that portion of college student attrition associated with low college grades (Juola, 1964).

Other studies of college persistence have found that measures of other variables, (e.g., degree objective, sex, age, ethnicity, socio-economic status, residence while attending college, type(s) and amount(s) of financial aid awarded, marital status, and number of children), discriminate between persisters and dropouts, but the results are by no means clear and consistent (Pantages and Creedon, 1978; Tinto, 1975).

While academic aptitude measures may only be useful in predicting dropout due to poor grades, these other measures may be more useful in predicting which students will leave college for non-academic reasons. Thus, in selecting independent variables for studies concerned with the impact of student aid on college persistence, it should be useful to distinguish between financial aid persisters and dropouts using a comprehensive combination of input measures. In this way, the predictors most associated with receipt of financial aid and college persistence can be identified.

Method

This article reports on the findings of a two-year longitudinal study of financial aid persisters, dropouts, and stopouts at California State College, Bakersfield, a member institution of the nineteen-campus California State University (CSU) system. The study sought to distinguish between financial aid persisters and dropouts using a diverse combination of input variables. Discriminant analysis was employed as the analytical technique in order to develop a mathematically precise discriminating function based upon a set of fourteen variables or attributes identified as independent (discriminating) variables in the investigation. These discriminating variables included students' admissions eligibility index (GPA/standardized aptitude test score composite), degree objective, sex, age, ethnicity, Pell Grant eligibility index (a conjectured measure of socio-economic status), residence, scholarship award, grant award, loan award, College Work-Study (CWS) award, financial need, marital status, and number of children. In this way, those predictors most associated with college persistence could be determined. Potential college dropouts could be identified in order to provide these students with special enriched instructional programs and/or modified financial aid packages in order to increase their chances of persistence. This approach in turn would make better use of limited federal and state tax revenues currently being used to fund student financial aid programs.

The data necessary for the study were obtained from students who entered California State College, Bakersfield, as first-time freshmen during Fall terms 1975 through 1978 and received financial aid. A first-time freshman was defined as a student who had not completed any units toward a baccalaureate degree. A total of

226 subjects were included in the sample. Ninety of the subjects were males and 136 were females. The age of the subjects ranged from 17 to 31, with the median age being 18.

The key concepts in the investigation, and the dependent variables in the analyses, were persistence and attrition. The major problem in defining persistence and attrition is that any classification of students as dropouts is dubious in that dropouts can return to college at any point in their lives. Consequently, those circumstances under which a student should appropriately be classified as a dropout had to be identified. The study attempted to resolve this problem by differentiating three principal groups of aid recipients:

1. *Persisters* — those students who attended college on at least a half-time basis (6 or more quarter units) during the two academic years under study and who were enrolled in the Fall of the third successive year after college entry. This group included students who had transferred to another postsecondary institution with the intention of completing their educational objective at the new institution.

2. *Dropouts* — those students who had dropped out of school and who had not re-enrolled as of the Fall of the third successive year after college entry. These were students who had left the college before completing their educational goals, and who had not transferred to another institution. Dropouts included students who left voluntarily and involuntarily (academic and/or disciplinary dismissals).

3. *Stopouts* — those students who had interrupted their undergraduate education but had returned to school by the Fall of the third successive year after college entry.

Data for the study were extracted from students' admissions and registration files, residence hall rosters, financial aid and scholarship records, and a computerized student data base. The records of the students sampled were reviewed after two years from the date of the students' initial enrollment in order to study their progress in college and determine how the variables selected for the study had affected their persistence. Each student's permanent record card (PRC) was reviewed for number of registered units and quarters of attendance to ascertain their criterion variable classification status, i.e., *persister*, *dropout*, *stopout*. In some cases follow-up was necessary in order to determine if the student had dropped out or stopped out. One hundred and twenty-eight (128) students were judged to be *persisters*, 85 were categorized as *dropouts*, and 13 were classified as *stopouts*.

Discussion

The SPSS DISCRIMINANT subprogram analysis selected only three of the fourteen independent variables, admissions eligibility index, College Work-Study (CWS), and residence, for the discriminant function. The standardized discriminant function coefficients are presented in Table 1. Each coefficient represents the relative contribution of its associated variable to the discriminant function. The interpretation is analogous to that of beta weights in multiple regression. Thus, Table 1 reports that admissions eligibility index was found to be more than twice as important a discriminator as CWS and residence, with residence being the least important discriminator of the three. The remaining eleven independent variables were judged as not contributing significantly toward further discrimination at the 0.001 level of statistical significance.

The findings suggest that the financial aid recipients most likely to persist at Cal State Bakersfield are those who have good high school grades and standardized aptitude test scores, receive CWS as a type of financial aid, and reside in the college residence halls.

These findings are consistent with those reported by other researchers indicating that the principal predictors of persistence in college are 1) high school gradepoint

average (GPA), class rank, and scores on standardized aptitude tests (Pantages and Creedon, 1978); 2) participation in the College Work-Study Program (CWS), defined as an aspect of college involvement, thus enhancing retention (Astin, 1975); and 3) living on-campus (Astin 1973, 1975, 1977; Chickering, 1974).

TABLE 1
Standardized Canonical Discriminant
Function Coefficients

| <i>Independent Variable</i> | <i>Coefficient</i> |
|------------------------------|--------------------|
| Admissions Eligibility Index | .90751 |
| College Work-Study (CWS) | .35721 |
| Residence | .35596 |

Conclusions

The discriminant function developed in the investigation can be used in several ways to improve upon the likelihood of financial aid recipients persisting at the college. By measuring future year's entering financial aid recipients on the three discriminating variables, it is possible to predict potential dropouts in order to provide these students with special enriched instructional programs and/or modified financial aid packages in order to increase their chances of persistence. These specially enriched instructional programs might include referral to services already being provided by the college, i.e., basic and advanced skills development (study skills, reading and English), English as a Second Language (ESL)/bilingual learning assistance, math phobia labs, tutorial services, academic counseling and peer counseling.

Since receiving College Work-Study (CWS) was found to be a good predictor of persistence, students should be encouraged to accept CWS rather than loan monies as an element of their financial aid package. Students usually have a choice of receiving CWS or loan as a self-help component of their aid package provided funds are available.

Inasmuch as college residence was also found to be a good prognosticator of persistence, financial aid recipients should be encouraged to reside in the college residence halls during their freshman and sophomore years in college. The findings from this study provide further evidence that students living on-campus are much more likely to persist than those who live off-campus.

The findings of this study seem to support the theory that student involvement is a key factor in persistence. Briefly stated, this theory holds that a student's tendency to drop out of college is inversely related to the degree of direct involvement in the academic and social life of the institution. Supporting this notion are the positive effects on persistence of participation in College Work-Study (CWS) and residence hall living found in this investigation. The strong relationship between admissions eligibility index and persistence is also, in a sense, additional support for this theory, given the assumption that scholastic aptitude and better academic preparation will enable the student to be involved in the academic life and milieu of the institution.

Recommendations

Inasmuch as this study focused intensively on the single outcome of student persistence in college, the following recommendations are based implicitly on the assumption that decision makers want to minimize students' chances of dropping out. Manifest in this supposition is that any decision must simultaneously weigh

other outcomes for which no data were presented in this investigation. Examples might include other aspects of the student's development, i.e., satisfaction with the college, knowledge gained from the educational experience, etc., as well as the relative cost of different alternatives and programs, the possible side effects of each, and the constraints operating in the decision process.

The user of these findings need not necessarily assume that dropping out is always inadvisable to all students. There are cases where the student's personal development is clearly enhanced by leaving college. What this study does assume is that a great many legislators, educational policymakers, financial aid administrators, and students have a legitimate interest in understanding the financial aid-related circumstances that lead a student to drop out of college and that they may wish to alter these circumstances to maximize the student's chances of persisting.

Some qualifications about the following recommendations should be kept in mind. First, the recommendations are not necessarily applicable to all types of students attending all types of postsecondary institutions. The data were obtained from freshman students enrolling for the first time at California State College, Bakersfield, a relatively small, liberal arts college in the California State University (CSU) system.

Second, some findings may not apply to students who are married or who have children about to enter college. Unfortunately, the small number of married students and those with offspring in the sample precluded a full-scale separate study of them.

Even with these qualifications in mind, it does appear that there are ways in which financial aid can be utilized to reduce students' chances of dropping out. However, because of the many constraints imposed on federal and state financial aid monies, institutions have relatively little discretion in awarding such funds. For example, the current federal Pell Grant program, which for most freshmen represents the most common single source of grant support, is based strictly on an independent determination of student financial need. Many state scholarship and grant programs, the second most likely resource for these freshmen, are similarly outside the control of individual institutions. Generally speaking, the largest sources of discretionary financial aid for individual institutions are internal funds such as tuition/fee and endowment income, and the programs brought about by the Higher Education Act of 1965: College Work-Study (CWS), the National Direct Student Loan (NDSL), and the Supplemental Educational Opportunity Grant (SEOG). Institutions have the responsibility for combining these sources in financial aid "packages" to meet the need of individual students.

For institutions with substantial amounts of discretionary financial aid dollars, several uses can maximize the beneficial impact on student persistence. Where possible, loans should be avoided in favor of College Work-Study (CWS). This study corroborates the findings of others that have supported that CWS programs are effective in contributing to greater student persistence. Another positive spin-off of awarding College Work-Study as opposed to loan monies is that some return is enjoyed by the college in that useful campus service is performed by the working student.

The findings of the study clearly indicate that institutions should encourage students to reside in the college dormitories at least during their first two years of college attendance. The research conclusively shows that students living off-campus are much more likely to drop out than those who live on-campus.

Few studies have tested the significance of housing factors relative to other variables, and thus it has been difficult to determine the degree of the importance of housing on retention. The findings of this study support the notion that housing is a significant factor, and reveal that it is third in importance of the fourteen in-

dependent (discriminating) variables selected for the investigation. The reasons for the positive effects of on-campus housing on college persistence are unclear. This researcher would hypothesize that on-campus housing generally serves a valuable and positive socialization function that facilitates a student's adjustment and consequent satisfaction with the institution.

The findings of the investigation also point to the fact that financial aid officers should perhaps consider the composition of financial aid packages more cautiously. Receipt of grants and loans did not appear to have any positive effect on persistence. Participation in the College Work-Study program, on the other hand, clearly does increase chances of persistence. While the meaning of these findings is not entirely clear, financial aid officers would be well advised to undertake more systematic research on the effects of different amounts and combinations of financial aid.

Complex interaction among independent variables — type and amount of financial aid, need, etc., — make it difficult to say whether there are ways that various types of aid can be packaged so as to aid rather than hinder the student's chances of persisting in college. Considering the manifold nature of the problem and the large sums of federal, state, and institutional funds involved, legislators and educational policymakers might consider allotting a fraction of such aid to systematic research on these interacting factors. Such research would most assuredly provide a better empirical basis for developing future financial aid policies.

In a sense, the investigation whose results are presented here is an exploratory one. Although a great deal of college persistence/attrition research has been conducted, many of the studies have failed to include the impact of financial aid on the criterion variables to any degree. This study has attempted to ascertain the impact of various financial aid-related variables on student persistence/attrition in addition to those independent variables commonly included in such studies.

It is hoped that this investigation will help to answer some of the questions that educators have concerning student financial aid and the effects that these programs have on student persistence. Findings of this nature can be valuable to at least four groups of decision makers: students, financial aid administrators, legislators, and educational policymakers.

Financial aid recipients, more than anyone, have a vested interest in knowing what their chances of completing college really are. This information may influence their institutional choice or possibly even their decision to attend college. Financial aid administrators, legislators, and educational policymakers need this knowledge in order to obtain more objective estimates of the probable impact of student aid policy alternatives, both nationally and at the state and institutional levels.

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