This study used data from the National Education Longitudinal Study (NELS) to look at the influences on choice of college for students who applied for financial aid and those who did not apply. Logistic regression was used to assess how background characteristics, academic predictors, and expectations were related to the selection of a four-year college. The results suggest that application for financial aid is associated with a greater likelihood that a student will attend a four-year college. Most of the predictors examined influence the selection in a similar way. The findings also indicated that student aid does facilitate choice in the college selection process and does to some degree mitigate for lower SES and lack of college savings. Further research needs to take a closer look at differences in SES, the composition of the financial aid award, and other resources available to the student. (Contains 3 tables and 12 references.) (JDM)
Influences in College Choice for Student Aid
Applicants and Non-Applicants

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Abstract

Influences in college choice for students who applied for financial aid, and those who did not apply for financial aid was investigated using data from the National Education Longitudinal Study (NELS). Logistic regression was used to assess how background characteristics, academic predictors, and expectations were related to the selection of a four year college for students who attended college and applied for student aid, and students who attended college and did not apply for student aid. The study finds that, controlling for other factors, application for financial aid is associated with a greater likelihood that a student will attend a four year college. In general the study finds that most of the predictors examined influence the selection of a four year college in a similar way. However, the findings also indicate that student aid does facilitate choice in the college selection process and, to some degree, mitigate for lower SES and lack of college savings.
Influences in College Choice for
Student Aid Applicants and Non-Applicants

A great deal has been written in the popular press about the skyrocketing cost of higher education, and in the policy debates related to federal and state support for student financial aid. A survey from the American Council on Education indicates that Americans overestimate the cost of tuition by as much as three times, and 71% believe that college is too expensive for most Americans (Reisberg, 1998). Recently, we have seen a trend away from state and federal support for a need-based model of financial aid to an ever increasing emphasis on various forms of merit aid following the precedent set by Georgia’s HOPE scholarship, and a recent take on the same idea in the form of Washington’s Promise scholarship. The Chronicle of Higher Education indicates that there are now several states offering, or developing, similar programs (Selingo, 2000). Further evidence of this movement away from need-based aid can be found in the proliferation of tax breaks targeted at middle income families with kids in college and the relative decline in value of the Federal Pell Grant, from 38% of average cost of a private four-year university in 1980 to about 14% today (Burd, 2000).

In the scholarly journals we see a debate over the relative merits of need-based financial aid. This includes the debate over high tuition and high aid versus low tuition and low financial aid. St. John (1990) shows that an increase in financial aid is at least as effective as a tuition decrease in promoting enrollment, and that for low income students an increase in aid was considerably more effective in promoting enrollment than an equivalent decrease in tuition.

There is a rich literature relating the extent to which family income, socio-demographic background characteristics, parental and student aspirations, and the composition of student
financial aid awards, influence the college choice process. However, little is written comparing factors that influence college choice between students who apply for student financial aid, and those who do not. This study will explore the extent to which application for student financial aid influences the selection of a four-year college. This becomes an increasingly important question as we change the way state and federal dollars are allocated to higher education. Additionally, an improved understanding of this process will help enrollment managers at institutions who want to attract students from a diverse socioeconomic background and counselors who advise students during the college choice process.

**Background:**

A number of theoretical models describing the college choice process have been developed over the years. A common element in these models is that none assumes college choice occurs in the twelfth grade, when students are filling out college applications. Rather, the models presume that college choice is a process that occurs over a longer period of time. Many, such as Hossler and Gallagher (1987), break this process down into stages. They assert the college choice process is represented by three stages: Predisposition, Search, and Choice. The Predisposition stage deals primarily with background variables that are known to be associated with college attendance such as socioeconomic background and parental encouragement. This stage ends with a decision to apply for college. The Search stage picks up from the decision to apply, usually by the junior year in high school and focuses on the alternatives a student considers. Here students may be looking at issues such as cost, location, academic quality, and availability of financial aid. It is at this stage that differences in student resources appear to have the greatest influence on the set of schools a student considers. The last stage is the Choice stage.
where the student identifies those schools he/she will apply to, and makes the final decision to attend (Stage, Braxton & Coopersmith, 1996).

In his work on college choice using the SISFAP-A data set, Hearn (1984) attempts to assess how the nature of a students' educational experiences are affected by what he calls "educationally relevant student characteristics" and "ascribed SES characteristics." Using cost of attendance and institutional resources, and selectivity in admissions as indicators of quality of the institution Hearn found that students from lower SES backgrounds are less likely to attend higher resource, higher cost institutions. Additionally, he finds that although educationally relevant factors powerfully influence the selectivity of the institution the student attends, there is also a significant independent effect of ascribed socioeconomic background characteristics.

"Controlling for the educationally relevant factors, black and female students, students whose parents had lower incomes and lower educational attainments, and students who had larger numbers of brothers and sisters were all somewhat less likely to go to highly selective institutions." (Hearn, 1984, 25).

Stage and Hossler (1989) examine factors that influence the Predisposition stage of Hossler and Gallagher's college choice model. Using LISREL in a study of 1400 ninth graders, they found parental expectations for their children's postsecondary education to be the best predictor of the student's predisposition to attend postsecondary education, and that the parent's expectation for their children was most notably influenced by the educational attainment of the parents (especially that of the father) and family income. Additionally, for males, they found that parents who were married were more likely to save for college, and talk with kids about college.
The research seems to indicate that females are more likely to be considered “place bound,” and they appear to receive less parental support to attend college. (Stage & Hossler, 1989)

Hurtado, Inkelas, Kurotsuchi, Briggs & Rhee (1997) look at student predisposition and college application behavior as indicators of access, choice, educational opportunity. Using the theoretical model of Hossler and Gallagher, they look at the National Education Longitudinal Study (NELS 88/92), and the Beginning Postsecondary Student Longitudinal Study (BPS 90/92). With NELS 88/92 the authors looked at the students’ expectations for degree attainment in the 10th and 12th grade. They found that most students seek some form of postsecondary training. They find that in the 10th grade the level and type of training varies considerably depending upon race, and although aspirations have generally increased by 12th grade a similar pattern still exists, and is also present when students report the type of institution they are most likely to attend. Using the number of college applications a student submits as a measure of their ability to choose the institution they attend, and their degree of strategic planning in the application process, they find that the number of applications a student submits is associated with race/ethnicity, income, and ability level. Additionally, they find that students from low income families are less likely to apply to college in the 12th grade, or apply to very few schools. (Hurtado, Inkelas, Kurotsuchi, Briggs, & Rhee, 1997)

Adelman (1999) dissects the issue of predisposition by looking at changes in aspirations over time in a study of time to degree for students working toward a bachelors degree. He looks at years to completion based on student aspirations by grouping students whose aspirations are: Bachelor’s Consistent (M= 4.52), Increased to Bachelor’s (M= 4.98), and Lowered from Bachelor’s (M= 5.42) (Adelman, 1999).
Looking at the Choice stage of the college choice process, St John (1990) looks closely at the impact of financial aid and tuition on the college choice process. He finds family income is positively associated with college attendance, and availability of aid was not sufficient to overcome the negative effects of low income on college enrollment rates. Student aid was found to be more effective than an equivalent decrease in tuition in encouraging students to enroll. Overall, a $100 decrease in tuition was associated with a .28% increase in the probability a student would enroll, while a $100 increase in grant, loan, or work aid increased the likelihood of enrollment by .43%, .38%, and .46% respectively. The effects of grant aid increase to .88% per $100 for low-income students, middle-income students were more responsive to loans than to grants, and upper-income applicants were not responsive to aid (St John, 1990).

Previous work has shown the extent to which family income, socio-demographic background characteristics, parental and student aspirations, and the composition of student financial aid awards, influence the college choice process. None of this work compares how these factors differently influence the college choice processes for students who apply for student financial aid and students who do not. For the purpose of this study college choice will be defined by looking at factors that influence the decision to attend college and the type of college the student first attends after high school (i.e., either a four-year college or other college). This study will confirm previous work indicating an association between family socioeconomic status and college choice and test the following hypothesis:

- As indicated by Adelman (1999), student expectations appear to affect time to degree.

Also, Hurtado and others find an association between student expectations and the type of
institution they expect to attend. This study will build on this work and determine whether students’ and parents aspirations for the student to complete a bachelors degree are positively associated with attending college, and with the selection of a four-year college.

- St. John (1990) looks at how a financial aid award influences students college choice. He breaks apart the aid award and finds differences in the way students from different SES backgrounds respond to different types of aid. This study will take a step back and assess whether applying for financial aid increases the chances a student will choose to attend a four-year college independent of student and parent aspirations.

- Clearly the college choice process is a complex decision for many families. Previous studies show the importance of a number of factors, SES, Race, gender, expectations (those of the parents, and the students), and student aid. The diversity of factors brought out in other research leads me to suspect that the factors that influence college choice interact in different ways for those students who apply for student aid, and those who do not. Specifically, I assert that consistent parent, and student expectations are more important to the selection of a four-year college for students who apply for aid than for students who do not apply for aid.
Database:

The National Education Longitudinal Study of 1988 (NELS) is a major, longitudinal study from the National Center for Education Statistics beginning with students in the 8th grade, and follow-ups at two year intervals. NELS tracks a host of variables over time, including items to track student learning, predictors of dropping out, and school effects on access to programs. The first follow-up (1990) allows us to look at issues associated with transitions to high school. The second follow-up (1992) allows for comparisons with items measured in National Longitudinal Study 72 (NLS-72), and High School & Beyond 1980 (HS&B). Most of the respondents were in their senior year. The third follow-up looks at plans for postsecondary education, or transition to the labor force. By the third follow-up (1994) the majority of the participants had completed high school. This follow-up again allowed for comparisons with NLS-72, and HS&B, and looked deeply at issues of postsecondary access, choice, and employment. The third follow-up student file includes 14,915 respondents, and 11,560 in the follow-up postsecondary attendance file. The 1994 institutional file is a smaller sample with 2,771 respondents. Response rates have been consistently high for this study, with an overall rate exceeding 90% for the follow-up three studies (Haggerty, C., Bernard, Reed L., Cedarlund, & Taylor, 1996; NCES, 2000).

Analytic Sample:

For the purposes of this study all students in the NELS 88/94 data set were included for some of the initial analyses. For other analyses the sample was reduced to include just those students who attended college. Finally, the set was refined to two groups, those who attended college and applied for student aid, and those who attended college and did not apply for student
aid. Variables from the Base Year (BY), Second Follow up (F2), and Third Follow up (F3) were examined. This study explores changes in thinking about college, and the importance of financial aid from the 8th grade through the application process in the senior year (F2) and two years after high school (F3).

Variables:

Predictors:
The variables influencing college choice and aspirations will be broken down into four general categories.

- Socio-demographic characteristics include items such as socioeconomic status, race, sex, parental education, and savings for college.
- The Academic predictor used is high school GPA.
- Perceptions and expectations include questions about the importance of college reputation, cost, availability of financial aid, ease of admissions, and students' and parents' expectation of how far the student will go in school. Each of these predictors is constructed by combining responses from base year and follow-up two, for the parents, and the students.
- Whether the student applied for financial aid.

Outcomes:

This study defines college choice in two ways. The first is to look at whether the student attended college. Second, is to look at the type of postsecondary institution first attended by the student. Both of these outcomes use the NELS student file. Whether the student attends college is determined using the variable which records the number of postsecondary institutions the
student attended. The variable was recoded as a dichotomous outcome: Did not Attend College, Attended College, and all missing values were set to system missing. The type of college is determined by a variable which uses the IPEDS code of the postsecondary institution the student first attended and groups institutions into broad categories. In order to simplify this analysis this variable is also recoded as a dichotomous variable: Four Year College and Other College, all missing values are set to system missing.

**Specification of Analytic Strategy**

Correlation was used to measure associations between socioeconomic status and college choice; parent and student aspirations and college choice; and application for student aid and college choice for the entire sample. Correlation analyses were conducted using the standard weight provided in the NELS data set for base year through follow-up three analysis.

In order to compare factors important for those students who apply for student aid, and those who do not, and determine to what extent parent, and student aspirations are more or less important to college choice for each group I will draw from work by Antony (1998) who looked at factors influencing medical career aspirations. Using separate regression analyses for men and women, Antony was able to identify a common set of predictors, which he entered into a second analysis. By doing this Antony was able to identify those variables that were important for both groups, then using these common variables determine if and how their importance was different for each group (Antony, 1998).

Using a similar strategy for this study a logistic regression analysis was conducted for all students who attended college, then separate analyses were run for students who applied for
student aid, and those who did not. Variables were entered into the analyses in the following blocks:

- **Block 1**: Socio-demographic characteristics.
- **Block 2**: Academic predictors.
- **Block 3**: Perceptions and expectations.
- **Block 4**: Whether the student applied for financial aid (this variable was only added for the first analysis which included all students who attended a postsecondary educational institution.)

For the logistic regression analyses missing values were replaced with the series mean for all predictors except Race and Sex. This yielded a sample size of $n=8369$ for these analyses.

**Results:**

*Confirm previous work indicating an association between family socioeconomic status and college choice.* Consistent with previous work, this study demonstrates an association between Socioeconomic status and college choice for both of the college choice outcome measures. SES and college attendance were correlated with coefficient of $r= .401$, SES also correlates positively with the selection of a four-year college ($r= .309$) (see table 1). This association is confirmed for the second outcome measure, selection of a four-year college, using logistic regression. The model indicates that an increase in SES increases the likelihood a student will select a four-year college by 63% (see table 2).

*Student and parent aspirations to complete a bachelors degree are positively associated with college choice.* Students’ and parents’ expectations of how far the student would go in school was positively associated with college attendance ($r= .453$) and selection of a four-year
A series of questions about expectations was also used as a measure of student and parent attitude toward postsecondary education. A higher importance of college reputation was associated with college attendance ($r = .121$) and the selection of a four-year college ($r = .236$). Greater importance of college expenses, financial aid, and ease of admission standards were negatively associated with college attendance ($r = -.12, -.102, -.189$ respectively) and the selection of a four-year college ($r = -.228, -.085, -.377$ respectively) (see Table 1).

Independent of student and parent aspirations applying for financial aid influences college choice. Application for financial aid significantly improved the odds a student would select a four-year college or university. Students who applied for aid were 3.4 times more likely to attend a four-year college (see table 2).

Factors that influence college choice interact in different ways for those students who apply for student aid, and those who do not. Specifically consistent parent, and student aspirations are more important to the selection of a four-year college for students who apply for aid. Parent and student aspirations were important for all students. The expectation that a student would complete at least a bachelor’s degree was slightly more important for students who applied for aid than for those who did not. However, the difference was small. Higher expectations increased the chances a student would attend a four-year college by 114% for students who applied for aid compared to 95% for those who did not. The influence of factors such as importance of college expenses, college reputation, and ease of admission standards remained fairly consistent across the groups (see table 3). Greater importance of financial aid slightly increased the odds a student who applied for aid would attend a four-year college (10.2%) and it
decreased the odds that a student who did not apply for aid would attend a four-year college by 9.4% (see table 3).

When the background variables were examined, some interesting results emerge. For students who applied for aid Race was a significant factor. Nonwhite students who applied for aid were more likely to attend a four-year college. Socioeconomic status was significant for both groups, an increase in SES improved the chances a student who did not apply for aid would select a four-year college by 89.6% compared to 58.4% for a student who did apply for financial aid. This finding suggests that applying for financial aid helps students access a four-year college or university. This is further supported by the finding that Savings for college is significant for students who did not apply for financial aid, increasing the odds they would attend a four year college by 29.6% and savings is not significant for students who did apply for aid. An unexpected finding that stands out is the presence of a relative who will help pay for college actually decreases the odds that a student who applied for aid will select a four-year college by 44.1%, this variable is not significant for students who did not apply for aid (see table 3).

Discussion:

This study indicates that parent and student aspirations affect the college choice process in similar ways for students who apply for aid and those who do not. Clearly, family concerns about college cost are important to the selection of a four-year college. Less clear is what drives this concern. This study finds that families who place greater importance on college expenses are less likely to select a four-year college. However, families that place greater importance on college reputation, and set higher expectations for degree attainment are more likely to select a four-year college.
Correlation data indicate higher income parents, and better educated parents are less concerned with college expenses ($r = -0.25$). The regression analyses support this with the finding that for students who apply for aid SES has slightly less impact on the selection of a four-year college than for students who do not apply for aid. This is an area that should be studied further in future work, a break down of factors by SES may better reveal how these interactions play out.

In general this study indicates that application for financial aid had a strong influence on the selection of a four-year college. As the analysis is broken down into sub groups, some interesting differences in influence of background characteristics emerge. College savings had a significant influence in the selection of a four-year college for students who did not apply for aid. However, this variable was not significant for students who did apply for aid. Perhaps more than SES this stands out as an important indicator that financial aid is used as a tool to provide access, and choice in the college selection process. This finding demonstrates that additional resources are important in the selection of a four-year college. To some extent financial aid is able to make up for funds the family was unable, or unwilling to set aside for college. A seemingly contrary finding is that students who applied for aid were less likely to attend a four-year college if they indicated that a relative would help with college expenses. One way many families manage the cost of higher education is through the less expensive community college system, this result may indicate that students who apply for aid are choosing to attend community college if they have resources available that would allow them to avoid debt during the first years of college. Although beyond the scope of this study, it would be important to take a closer look at the interaction of resources on the selection of a four-year college, this would need to include a
detailed break down of the financial aid award, and other resources including family support and student work while in school.

It is difficult to parse out exactly what some of these findings mean. For example this study indicates that nonwhites who apply for financial aid are more likely to attend a four-year college. Is that because nonwhites are more likely to be coming from a lower SES background, and therefore more likely to require financial aid in order to attend college? Whatever the causal relationship it is clear that financial aid is an important factor in providing access to baccalaureate education for nonwhites.

Implications

Student financial aid has undergone many changes over the years. It began as a means to provide access to higher education for those who come from low and middle income families. Some would argue that this has largely been accomplished through a number of federal, state, and institutional grant, loan and work opportunities. The 1992 reauthorization of the federal aid policies dramatically changed the type of aid many students qualify for with a greater reliance on loan programs as a means to provide access. Astin (1998) notes that changes in the federal aid programs that have limited the amount of need-based aid available to students have forced many families to pay more attention to college cost as part of the college selection process. Additionally Hossler, Braxton, & Coopersmith (1996) find a strong association between a student’s final college choice and the institutions net cost (cost of attendance less grant and scholarship aid). If we believe that it is important for access to higher education to include an element of choice for all students then it is essential that we better understand how students from different backgrounds use resources available to provide access. One step in understanding this
difference is to better understand how students who take advantage of student financial aid programs, or at least how those who apply for aid, differ from those students who do not, in the influences that affect their college choice. This study has taken a step in that direction by looking at influences in the selection of a four-year college. Further work will need to take a closer look at differences in SES, the composition of the financial aid award, and other resources available to the student.
Reference List


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Correlations (weighted sample)

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+ significant at .05
* significant at .01
** significant at .001
# Table 3

Logistic Regression of College Choice (Attend Four-Year College, by Financial Aid Application)

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- Socioeconomic Status 1.584**
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- Relatives will Help with College Expenses .694*

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- Importance of College Reputation 1.463** 1.480**
- Importance of Easy Admission Standards .653** .618**

* significant at .05
* significant at .01
** significant at .001
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<td>RANDY SPARLING</td>
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