

Predictors of Transfer to 4-Year, For-Profit Institutions

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Logistic regression was employed to determine whether student transfer to for-profit, 4-year colleges (as opposed to other 4-year colleges) is a function of students' social background characteristics, the students' academic experiences at the community college, and the transfer context of the community college attended (i.e., the overall transfer rate of students from the community college and the distance of the community college from a public university). Study results, based on records for 613,595 California community college students who transferred to 4-year institutions between July 2000 and June 2004, indicate that the strongest predictors of transfer to for-profit institutions include part-time enrollment, age, and grade point average. However, students of color were more likely to transfer to for-profit institutions than White students, and students attending community colleges with lower overall transfer rates were also more likely to transfer to the for-profit sector. Finally, students who used the community college transfer center were less likely to transfer to 4-year, for-profit universities.

Keywords: *for-profit institutions; student transfer; minority students; transfer centers; transfer rates; California*

Although the literature on college access suggests that the selectivity of a student's baccalaureate institution has a far-reaching effect on future social and economic opportunities (Bowen & Bok, 1998; Karabel & McClelland, 1987; Lee & Brinton, 1996; Lewis & Kingston, 1989; Sewell & Hauser, 1975; Smart & Pascarella, 1986), scholarship about the community college transfer function has yet to adequately address this issue. Within states with well-developed public higher education systems, the debate surrounding community college transfer has focused almost exclusively on transfer to institutions within the public sector of higher education, dealing specifically with the enhancement of transfer to the most selective group of institutions within the public segment. This focus has allowed an important trend—the rise of the 4-year, for-profit university as a transfer destination for community college students (California Community College Chancellor's

Office, 2002)—to emerge with relatively little notice. Because for-profit institutions have a general reputation for being less selective and for attracting low-income and minority students who are heavy users of federal student aid programs (Kinser, 2006; Phipps, Harrison, & Merisotis, 1999; Ruch, 2001), it is important to recognize whether these institutions appeal to similar groups of community college students. Understanding institutional and student characteristics associated with transfer to for-profit institutions can help determine whether community colleges and public universities could restructure curriculum delivery strategies, enrollment practices, or student support services to facilitate transfer to more selective institutions for particular groups of students.

The purpose of this study is to examine and assess the predictive power of student and institutional characteristics in the transfer process and, in so doing, to elaborate our understanding of community college transfer behavior. Specifically, this study explores the characteristics of community college students who have chosen to transfer to 4-year, for-profit institutions.

Related Literature

Conceptual Framework

For the most part, previous research in the area of community college transfer has focused on general transfer rates and trends (Grubb, 1991) and on impediments to transfer and baccalaureate attainment observed at the community college (Dougherty, 1987, 1992; Dougherty & Kienzel, 2006; Lee & Frank, 1990). To date, there has been little scholarship related to the transfer choice process of community college students; however, there is a substantial body of literature on the college choice process as it relates to the transition between high school and college. McDonough (1997) noted three general modes of inquiry with respect to college choice: social psychological studies, which emphasize cognitive factors that influence the choice process, such as institutional fit, academic program, cost, peers, and location; economically oriented studies, which focus on college choice as an investment decision, emphasizing rational choice and the costs and benefits of choosing one institution over another; and social status and attainment studies, which examine social status and its role in developing educational aspirations as well as shaping access to postsecondary opportunities. It is the social status and attainment studies that provide the conceptual framework for this study. Specifically, studies of social status and attainment posit that an individual's

location within the social structure is related to postsecondary destinations even after controlling for academic achievement. Thus, these studies suggest that it is misleading to assume that an individual's college destination is based solely on academic achievement.

To provide background information for this study, this section presents an overview of previous research examining the significance of an individual's social background characteristics and academic experiences in the college choice process and outlines the limited scholarship available about for-profit universities and their students.

Social Background Influences on College Choice and Transfer

Some of the first documented evidence suggesting that social background characteristics (e.g., socioeconomic status and race) play a role in limiting access to higher education opportunities came from an examination of the college destinations of students who graduated from high school in 1975 (Hearn, 1984). Using data from the Cooperative Institutional Research Program at the University of California, Los Angeles, to assess the selectivity of high school students' college destinations, Hearn noted that "educationally relevant factors" (p. 22), such as institutional quality and academic programs, had greater explanatory power than socioeconomic characteristics in predicting the selectivity of college destinations. However, it is important to note that Hearn also found that students from lower socioeconomic classes were less likely to attend more selective institutions. Specifically, Hearn noted that "inequity in the college choice process, from a meritocratic perspective, lies more in class-related factors than in academic ability" (p. 28).

In another study of high school students' college destinations, Hearn (1991) turned to the nationally representative 1980 High School and Beyond data set to determine whether social background characteristics had predictive value in determining high school students' college destinations. The major finding of this particular study was that, net of academic factors, "there were still traces of nonmeritocratic influences on college destinations in the early 1980s" (p. 164). Variables such as father's education, mother's education, and household income demonstrated significant predictive power in determining the selectivity of the college destination of high school students. Specifically, these variables explained 10% of the variance in the selectivity of college destination. Perhaps more distressing is the finding that students from lower socioeconomic strata were more likely to attend less selective institutions even when their academic abilities were high.

More recently, Karen (2002) found in his replication of Hearn's study that a student's social background continues to exert significant predictive power in the selectivity of students' college destinations. Using data from the National Educational Longitudinal Survey (1988-1994), Karen found that although academic ability had a substantial effect on the selectivity of a student's college destination, ascribed characteristics such as race, parental income, and father's education were also significant predictors of college selectivity. Karen's full model, which includes measures of academic achievement and experiences in addition to social-structural indicators, accounted for roughly 37% of the variance in college selectivity. The social-structural indicators alone accounted for about 17% of the variance in selectivity.

McDonough (1997) has also examined the influence of social class in shaping the educational aspirations and college destinations of female high school students. Using qualitative methodology, McDonough documented the way in which students from lower social classes limit their aspirations and outcomes, a phenomenon MacLeod (1987) referred to as a systematic deselection process. McDonough's study demonstrates that students from higher socioeconomic backgrounds engage in college preparation much earlier, apply to more schools, and view barriers to attendance more broadly than students from lower socioeconomic backgrounds. In particular, her study found that students from higher socioeconomic backgrounds had different perceptions of physical distance, defining distant locations as those that require more than two hours of air travel, than did students from lower socioeconomic strata who tended to define distant locations as those that are inaccessible by car.

Another of McDonough's observations that is germane to this study of community college transfer is the finding that the high school as an institution played a role in shaping or lowering the students' expectations for themselves. Specifically, high school districts that served students from lower socioeconomic positions tended to guide students toward attending community colleges or local, regional universities rather than toward more selective universities that were more distant, even when the students had academic profiles that would qualify them for admission to the more selective institutions.

In their study of the factors related to transfer events, Lee and Frank (1990) used path analysis to assess student characteristics that facilitate transfer from community colleges. Most significantly, the datasets used by these authors, the 1980 High School and Beyond study as well as the 1982 and 1984 follow-up studies, revealed that "social disadvantage impedes community college students from transferring" (p. 191). In the study by Lee

and Frank, the community college student's social class had an effect on nearly every variable in the model. Specifically, social class was documented to have a direct or indirect effect on high school behaviors, high school outcomes, and college behaviors. Not surprisingly, these authors found that of all the variables in the model, social class had the most explanatory power in predicting student transfer from the community college. Social class operated through high school behaviors, outcomes, and college behaviors to affect the transfer outcome of community college students, ultimately explaining 18% of the total variance in the model. More recently, Dougherty and Kienzel (2006), using data from the National Education Longitudinal Study of the 8th Grade in 1988 and the Beginning Postsecondary Student Longitudinal Study, also found that a student's socioeconomic status and age have a significant effect on transfer. Unlike previous studies, however, they did not find significant effects for gender or ethnicity on transfer rates.

Clearly, studies of the college choices of high school students, as well as studies such as those by Dougherty and Kienzel and by Lee and Frank, document the importance of social background characteristics and institutional or organizational context in not only the decision to transfer but also the actual college choices of high school students. Given this evidence, it seems reasonable to assume that social background characteristics of community college students, net of academic achievement, will also have an influence on the particular transfer destinations of students.

For-Profit Universities and Their Students

Although for-profit institutions date back to the colonial era (Ruch, 2001), it was not until 1976, when amendments to the 1965 Higher Education Act made these institutions full partners in the receipt of federal student aid (Cohen, 1998), that the for-profit postsecondary sector began its significant expansion and metamorphosis. Over the past 30 years, the sector has seen tremendous growth in terms of the number of institutions and enrollment, and it has transformed itself from a sector principally comprised of small, proprietary schools to one that is now dominated by the practices and policies of publicly traded university systems (Kinser, 2006; Ruch, 2001). Although the majority of institutions within the for-profit sector can still be categorized as small, subbaccalaureate, proprietary establishments that teach skills and trades, these institutions have been overshadowed by the ascendance of large, "well-capitalized" (Ruch, 2001, p. 51) university systems during the 1990s.

The influence of the publicly traded universities is evidenced by their ability to attract significant numbers of students. Together, the major for-profit university systems enrolled nearly 188,000 students across 235 branch campuses in the year 2000 (Ruch, 2001). In 2000, the Apollo Group, the parent company of the University of Phoenix, enrolled more than half of the students within the publicly traded 4-year, for-profit category, followed by DeVry, Inc., which enrolled slightly more than a quarter of the students (Ruch, 2001). In 2000, the Apollo Group also accounted for approximately 20% of all 4-year, for-profit campuses (Kinser, 2006). Despite evidence that the for-profit sector is the fastest growing segment of American higher education (Snyder & Hoffman, 2003), recent scholarship about the for-profit sector and the outcomes of for-profit students is limited.

Apling (1993), Kinser (2006), and Phipps, Harrison, and Merisotis (1999) provided the most comprehensive information about students at for-profit institutions. Specifically, these studies provide evidence that students attending subbaccalaureate, for-profit postsecondary institutions are more likely to be White, female, less than 24 years of age, and from low-income backgrounds. Not surprisingly, these students are heavy users of federal higher education assistance programs. In contrast, students attending 4-year, for-profit universities are more likely to be White, male, and over 29 years of age. Because these studies focus on students who are already enrolled at for-profit institutions, they do not address whether community college students who transfer to 4-year, for-profit universities mirror the characteristics of those students already enrolled. Furthermore, because of their descriptive nature, these studies do not examine the predictive power of student and institutional characteristics in the transfer choice process.

The college choice literature, the studies by Dougherty and Kienzel and by Lee and Frank, and the scholarship on for-profit institutions demonstrate the effect of social background characteristics on the college destinations of high school students and the likelihood of transfer from a community college; yet none of these studies assesses whether these characteristics play a role in the particular transfer destinations of community college students. Both Dougherty and Kienzel (2006) and Lee and Frank (1990) provide the best evidence that some form of social reproduction occurs within the realm of community college transfer; however, these studies do not illuminate the influence of social background characteristics and institutional or organizational context on the selectivity of the institutions community college students transfer to. Furthermore, many college choice studies, as well as the studies by Lee and Frank and by Dougherty and Kienzel, rely on data from

the 1980s, well before 4-year, for-profit universities began their rapid and systematic expansion across the United States.

Accordingly, an assessment of the relative influence of social background characteristics, academic experiences, and the organizational context of the community college on the decision to transfer to a 4-year, for-profit university is warranted. This study seeks to improve our understanding about this emerging trend within American higher education and, in doing so, attempts to answer two fundamental yet vital questions. First, in considering the likelihood of transfer to for-profit institutions, what factors are most important? Second, what matters most: ascribed characteristics, academic experiences, or institutional context?

Hypotheses

This study applies and assesses a merit-based standard of equity to the community college transfer process. Consequently, if the merit-based standard of equity is present, we would expect to see no relationship between the social background characteristics of students and the likelihood of transferring to a for-profit university. Plainly stated, students with social backgrounds indicative of economic and academic disadvantage should be no more likely than other students to transfer to 4-year, for-profit institutions when academic experiences at the community college are held constant. Similarly, students from economically and academically disadvantaged backgrounds who are immersed in college environs that present challenges to transfer should be no more likely than other students to transfer to 4-year, for-profit institutions when academic experiences at the community college are held constant. To that end, this study tests the following hypotheses:

Hypothesis 1: An individual's social background characteristics (i.e., ethnicity, required remediation units, English as a second language [ESL], citizenship status, and the receipt of financial aid) are significantly and positively associated with transfer to for-profit universities when academic experiences such as grade point average (GPA), academic program focus, and part-time status are held constant.

Hypothesis 2: Students immersed in constraining transfer contexts (i.e., those attending community colleges with lower transfer rates and that are farther away from a public university) will also be more likely to transfer to for-profit universities when academic experiences are held constant.

Method

Data Source and Analytic Approach

The data for this study were drawn from the California Community Colleges' Management Information System (MIS), a multipurpose, state-wide system providing data on all of the state's community college students; the National Student Clearinghouse (NSC), a national database containing records of students at most institutions across the United States; and student records from both segments of the state's university systems (the California State University and the University of California). Student records from the MIS were matched against the NSC and the state university systems to create a database of all California community college students who transferred to any 4-year receiving institution between July 1, 2000, and June 30, 2004.¹ The total number of students meeting this criterion was 730,893. No other criteria, such as the number of units completed in the community college sector prior to transfer, were used to select the population for this study.

In this investigation, the goal was to assess the probability of transfer to the for-profit sector, given a set of social, academic, and institutional characteristics. Logistic regression was selected as the analytic technique because it is well suited to assessing the likelihood, measured dichotomously, of whether a discrete event occurs (Pampel, 2000). After listwise deletion (i.e., the deletion of cases with missing information on any of the variables in the model) the subset of transfer students considered in the analysis numbered 613,595. Of these cases, 51,134, or roughly 8% of the state's total community college transfer population between 2000 and 2004, had transferred to a 4-year, for-profit university.

Variables

The dependent variable for this study was the transfer destination of the student. It was constructed as a dichotomous variable that indicates whether a student transferred to a 4-year, for-profit university or to any other 4-year receiving institution. On the basis of previous research, transfer to a for-profit institution was theorized as a function of three categories of indicators: social background characteristics, academic experiences, and the organizational context of the community college. The independent variables representing these indicators are described in the following paragraphs.

Social background characteristics. For the purpose of this study, a student's social background included measures of demographic, academic preparation, and financial need characteristics. The student demographic characteristics germane to this study were sex, ethnicity, citizenship status, and age. Academic preparation indicators included the number of remedial education units the student had been required to take, whether the student had been categorized as having English as his or her second language, or whether the student had been classified as academically disadvantaged and had therefore received special services. Students were considered to be academically disadvantaged and therefore in receipt of special services if they were not high school graduates or if they had ever participated in California's Equal Opportunity Programs and Services (EOPS), had ever been on academic probation or dismissal, or had been identified as needing remedial coursework or basic skills instruction. Finally, financial need indicators were taken from the student's financial aid history and consisted of variables identifying whether the student had ever received any need-based form of financial aid as well as whether the student had ever participated in the state's public aid program, CalWorks.

Academic experiences at the community college. The academic experiences of community college students that were of interest in this study included the student's attendance pattern (i.e., whether he or she attended the community college primarily as a part-time or full-time student), GPA at the time of transfer, whether or not the student earned a vocationally oriented associate's degree versus a liberal arts associate's degree, and whether the student had ever used a community college transfer center. Part-time attendance patterns were identified by calculating student's average unit load per term. An average load of less than 12 units was considered part-time attendance.

Organizational context. This category of predictor variables included the distance in miles of the community college from the nearest public university and the actual transfer rate of the community college. The transfer rates of the community colleges were calculated by tracking—over a 6-year period—a cohort of first-time students who had attempted any transferrable or degree-applicable mathematics or English course at each college. These students were matched against databases from the state's public universities and from the NSC.

Table 1
Summary of the Logistic Regression Analysis for Variables Predicting
Transfer to For-Profit Universities ($N = 613,595$)

Variable	Coefficient	Standard Error	Odds Ratio	Standardized Odds Ratio
Social background characteristics				
Age	.3134**	.0027	1.368	1.663
Male	.1633**	.0098	1.177	1.084
Asian	-.2500**	.0174	0.7788	0.9105
African American	.3875**	.0160	1.473	1.107
Latino	.1358**	.0136	1.146	1.053
Other	.2403**	.0153	1.272	1.081
Noncitizen	-.0708**	.0155	0.9317	0.9754
CalWorks recipient	-.1155*	.0476	0.8909	0.9880
ESL student	-.2673**	.0294	0.7654	0.9458
Financial aid awards	-.0076	.0072	0.9925	0.9948
Remedial units	-.0006	.0016	0.9994	0.9981
Received special services	.0130**	.0029	1.013	1.023
Academic experiences				
Transfer GPA ^a	-.0831**	.0006	0.9203	0.5522
Part-time student	.7470**	.0190	2.111	1.333
Used transfer center	-.2565**	.0176	0.7738	0.9265
Vocational program focus	.2891**	.0184	1.335	1.069
Community college context				
Transfer rate ^b	-.0457**	.0037	0.9553	0.9391
Distance to nearest public university ^c	.0123**	.0026	1.012	1.023
-2 log likelihood	313,247.84			
McFadden's Pseudo R^2	.1101			

Note. ESL = English as a second language; GPA = grade point average.

^a Transfer GPA is coded as GPA/.10.

^b Transfer rate is coded as actual transfer rate/.05.

^c Distance to nearest university is coded as actual distance in miles/10.

* $p < .05$. ** $p < .001$.

Results

The logistic regression model, which included 18 variables, assessed the likelihood of transfer to a for-profit university as a function of students' social background characteristics, academic experiences, and the organizational context of the community college. The model was assessed for its explanatory value by calculating the -2 log likelihood and the McFadden pseudo R^2 (see Table 1). In this model, the chi-square test of the -2 log likelihood was statistically significant, indicating that the model makes better

predictions of transfer to for-profit institutions with the set of independent variables than does the intercept alone.

In addition, odds ratios, which indicate the percentage increase or decrease in the probability of transfer to a for-profit university for each unit increase in an independent variable, were calculated to assess the practical significance of each of the predictor variables in the model. For the purpose of interpretation, odds ratios greater than one indicate an increase in the likelihood of transferring to a for-profit institution, whereas odds ratios of less than one indicate a decrease in the chances of transferring to a for-profit university. For example, an odds ratio of 1.25 would indicate that a student possessing that particular characteristic is 25% more likely than a student without the characteristic to transfer to a for-profit university. Conversely, an odds ratio of .75 would indicate that the student possessing the characteristic is 25% less likely than a student without the characteristic to transfer to a for-profit university. In this study, the odds ratios associated with social background characteristics and the community college context are of particular interest.

Table 1 presents the results of the logistic regression model predicting transfer to for-profit universities for the state's community college students. Because this study utilized a large number of observations, nearly every variable in the model produced a statistically significant effect. The analysis, therefore, focuses only on those effects that are both statistically significant and have practical, interpretive value.

The Predictive Value of Social Background Characteristics

In examining the effects of social background characteristics on the likelihood of transferring to a for-profit university, the model shows that a student's age, being male, and identifying as African American, Latino, or Other ethnicity all exerted positive effects on the choice to transfer to a for-profit university. Specifically, older students were more likely to transfer to for-profit universities than younger students. In fact, for every 5-year increase in a student's age, the likelihood of choosing a for-profit university as a transfer destination increased by nearly 37%. In addition, males were also approximately 18% more likely than females to transfer to for-profit institutions. These results are consistent with previous research indicating that 4-year, for-profit students are more likely to be older and male (Phipps et al., 1999). Being a noncitizen, receiving CalWorks services, and being an individual for whom English is a second language exerted a negative predictive influence in the model. These indicators reduced the odds of transferring to a for-profit

university by 7%, 11%, and 24%, respectively. Somewhat surprisingly, the number of remedial units completed and the receipt of financial aid did not exert any predictive effects in the model.

Most significant, in terms of social background characteristics, were the findings that African American students were approximately 47% more likely than White students to transfer to for-profit universities, and that Latino students were nearly 15% more likely than White students to select a for-profit transfer destination. By way of contrast, Asian students were 22% less likely than White students to transfer to for-profit universities. To be clear, the results suggest that when the effects of age, transfer GPA, and major area of study are held constant, a student's race plays a role in the decision to transfer to a for-profit institution. This effect is particularly pronounced for African American students. Although the data for this study cannot address why African American students are more likely to transfer to for-profit universities, one possible explanation is that African American students may perceive greater barriers than other students to transferring to particular types of institutions, such as the state's more selective university segment. Another possible explanation is that for-profit institutions have a history and tendency of locating in urban areas and are thus more accessible to low-income and minority students (Kinser, 2006).

The Predictive Value of Academic Experiences

The model also shows that various academic experience variables had significant effects on whether a student transferred to a for-profit university. Part-time students were 111% more likely to transfer to a for-profit institution than full-time students. Similarly, students who received associate's degrees in vocationally oriented programs, such as computer science or business, were approximately 34% more likely than nonvocationally oriented students to choose for-profit transfer destinations. Conversely, GPA and use of the community college transfer center exerted a negative effect on the likelihood of transferring to a for-profit university. Students who had used a transfer center at least once during their community college career were approximately 23% less likely than students who had not used a transfer center to transfer to a for-profit institution. Although this finding is not causal in nature, it does suggest that use of transfer support services is related to the decision to transfer to particular institutions. More research is necessary to determine whether students who seek out and use transfer support services are predisposed to transfer to more selective institutions. Likewise,

a student's GPA also plays a role in the selection of a transfer destination. As illustrated in Table 1, for every .10 increase in GPA, the odds of transferring to a for-profit institution decreased by about 8%.

The Predictive Value of Organizational Context

In examining the effect of the organizational or community college context, the analysis indicated that the actual transfer rate of the community college was negatively associated with transfer to for-profit institutions. That is, students enrolled at community colleges with higher transfer rates were less likely to transfer to a for-profit institution. Specifically, each 5% increase in a community college transfer rate reduced the odds of transferring to a for-profit university by approximately 4.5%. This finding seems to indicate that the stratification that exists among community colleges with respect to transfer rates may also produce stratification in terms of the selectivity of student transfer destinations. Individual students who attend community colleges with established reputations as transfer institutions (as evidenced by higher transfer rates) are less likely to transfer to for-profit institutions than students who attend institutions with lower transfer rates, all else being equal. Interestingly, the distance of the community college to the nearest public university exerted no practically significant effect on the likelihood of transfer to a for-profit university.

Evaluation of Research Questions and Hypotheses

One of the goals of this study was to assess whether social background and organizational characteristics have predictive value when academic experiences are held constant. The results of the logistic regression model provide evidence to support the assertion that social background characteristics, such as race, age, and sex, influence the decision to transfer to a particular institution (in this case, a for-profit university) independent of academic experiences, such as GPA, part-time enrollment status, and vocational area studies. Similarly, there is also some support for the idea that the organizational context of the community college influences the decision to transfer to for-profit institutions. Specifically, the transfer rate of a community college exerts an influence even when the student's GPA is held constant. That is to say, a student identical to other students in terms of social background and academic experiences is more likely to transfer to a for-profit institution if the student attends a community college with a lower transfer rate.

Another goal of this study was to identify the relative strength of each of the predictor variables. To get at the question of what matters most in the decision to transfer to a for-profit university—social background characteristics, academic experiences, or organizational context—standardized odds ratios were calculated (see the rightmost column in Table 1). The standardized odds ratio indicates the percentage increase or decrease in the chance of transferring to a for-profit university for every one standard deviation increase in the independent variable. The analysis indicated that the strongest predictors of for-profit transfer relative to the other predictors in the model were, in fact, somewhat obvious—part-time enrollment, age, and GPA. However, race, gender, transfer rate, vocational program focus, and use of the transfer center also exerted statistically and practically significant effects, relative to the other predictors, that cannot be ignored.

To dismiss transfer to for-profit universities as the domain of older, male, part-time, vocationally oriented, and academically marginal students misses an important point—that all other things being equal, students of color are more likely than White students to transfer to for-profit universities. Among students of color, the effect was strongest for African-American students. Students who attended community colleges with lower transfer rates were also more likely, all other factors held constant, to transfer to for-profit universities. Finally, use of the transfer center also exerted a practically and statistically significant negative influence on transfer to a for-profit university. Thus, the results of this study suggest some support for the stated hypotheses. Although academic experiences play an important role in the decision to transfer to a for-profit university, social background characteristics and organizational context also influence the transfer destinations of community college students.

Conclusion

To summarize, social background characteristics, academic experiences, and the organizational context of the community college all play a role in a student's decision to transfer to a for-profit institution. However, three specific results have implications for the practice of higher education. In particular, this study revealed that race, independent of other factors, was related to the decision to transfer to a for-profit institution. Given the evidence that institutional selectivity shapes future economic and social opportunities, it is important to understand why students of color, especially African-American

students who may qualify for admission at more selective universities, would choose to attend less selective, for-profit institutions. In addition, when student characteristics were held constant, institutional characteristics, such as the community college transfer rate, had a demonstrated effect in the decision to transfer to a for-profit institution. Specifically, students who attended community colleges with an established reputation for transfer were less likely to attend for-profit institutions. Related to this finding is the discovery that students who used the transfer center were also less likely to transfer to for-profit institutions. Together, these institutional effects suggest that although individual student preparation and other academic experiences play a role in the decision to transfer to a particular institution, it is possible for community colleges to foster a culture of transfer that could result in students transferring to more selective institutions.

Clearly, more research is needed to fully understand the transfer choice process for community college students as it relates to for-profit universities. Future studies should address the reasons why students select particular community colleges to more fully understand the relationship between attendance at specific community colleges and transfer destinations. Transfer center usage should also be examined in terms of how the centers affect student knowledge of transfer opportunities and how this knowledge influences the choices students make about transfer to particular institutions. Studies of this nature could reveal important information about the practices and policies of community college transfer centers that may inhibit or enhance transfer for particular groups of students. Similarly, these studies could also reveal the perceptions community college students have of enrollment barriers at 4-year institutions. This is especially important for stakeholders concerned with increasing the accessibility of more selective institutions for economically disadvantaged or historically underrepresented students.

In this study, the receipt of need-based financial aid did not exert a practically or statistically significant effect on transfer to for-profit universities. One possible explanation for the lack of a practically or statistically significant finding concerning this variable is that a minority of California community college students are the recipients of need-based aid. Evidence for this can be seen in Table 2, which details the percentage of California community college students receiving need-based aid in the form of fee waivers, the need-based financial aid program with the highest level of student participation in the state's community college system (California Community College Chancellors Office, 2008).

Table 2
Number and Percentage of All California Community College
Students Receiving Primary Form of Need-Based Financial
Aid in the Form of Fee Waivers

Year	Number of Students Receiving Need-Based Fee Waivers	% of All Students Receiving Need-Based Fee Waivers
1999-2000	579,657	22.77
2000-2001	500,257	18.89
2001-2002	548,283	19.53
2002-2003	616,348	21.79
2003-2004	663,024	26.06

Source: California Community College Chancellor's Office (2009).

In addition, students receiving need-based aid may be less likely to persist to the point of transferring to a 4-year university. In her work on predicting California community college student transfer to particular types of institutions, Sheldon (2006) found that only 12.9% of the total population of students transferring from a community college to a 4-year university received any need-based form of financial aid. Although a crude estimation, the gap between the proportion of all community college student enrollees receiving needs-based fee waivers, as presented in Table 2, and the much smaller proportion of student transfers receiving any form of need-based aid, as detailed by Sheldon, lends support to the idea that the population of students who persist to the point of transferring to a 4-year university is less likely to have received need-based aid. However, this wide gap also suggests that the receipt of need-based financial aid may not be the best indicator of a student's socioeconomic status. Future research should attempt to capture and employ better indicators of a student's socioeconomic status. More robust indicators of socioeconomic status, although unavailable in this data set, may be the student's or parents' income as well as parental educational levels.

This study makes three substantive contributions. First, it adds to the body of literature on for-profit institutions by highlighting an emerging trend—transfer from community colleges to this particular segment. In so doing, the study uncovers factors associated with transfer to these institutions and provides a basis for further inquiry, especially with regard to race and choice of transfer destination. In addition, the study suggests that community colleges can affect the transfer choices of their students by investing resources in the transfer function and developing a culture of transfer or an established reputation as a transfer destination. Finally, this investigation applies some findings from studies of college access to the transfer process, suggesting that the

community college transfer function should also be evaluated in terms of the particular transfer destinations of community college students.

Note

1. Coverage of the receiving institutions by the National Student Clearinghouse (NSC) was an important consideration in creating the data set for this study. Beginning in 2000, the NSC database covered enrollment at approximately 91% of all colleges ($n = 2,700$) in the United States (Vice Chancellor of Technology, Research, and Information Systems, California Community Colleges, personal communication, November 1, 2004). Patrick Perry, P. Perry.

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