

2005 AIR/NPEC RESEARCH GRANT/DISSERTATION PROPOSAL

How Complex Postsecondary Educational Transitions

Shape Student Success

National Education Longitudinal Study (NELS:88/2000) Data Set

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Project Summary

Pathways through the broad and widely differentiated American higher education system are changing. Students are making more choices about which schools to attend and facing more enrollment options than ever before. Yet we know very little about how the sequencing of the choices students make affects their chances for success in the form of a degree. In other words, it is unclear how each student decision affects subsequent decisions, and whether, in fact, student success is “path-dependent.” We also do not know whether the effects of these decisions affect students from different social backgrounds differently.

The proposed study will contribute to our knowledge by examining the educational transitions occurring within postsecondary education, and the effects of those transitions on student success. The project has three objectives:

1. To determine how earlier transitions affect the probability of later transitions;
2. To determine which transitions matter most in predicting the final transition to graduation; and
3. To determine which transitions matter most for the success of low-income students.

The project will use the recently released postsecondary transcript data from the National Education Longitudinal Study of 1988 (NELS:88) in order to examine college attendance patterns. The conceptual model underlying the study assumes that these patterns consist of a series of educational transitions—a sequence of student choices—and treats those choices not as binary options, but as polychotomous outcomes. The multinomial transition model developed by Breen and Jonsson (2000) is employed to allow for an examination of different types of decisions at each juncture and changes in the effects of social origin at specific transition points. Thus, the project will draw on both higher education conceptualizations of college choice and sociological methodologies of educational transitions. Modeling student choice in this manner will make it possible to expand upon existing models in the higher education literature (St. John & et al., 1996).

The project findings will provide both theoretical and practical insights into the ways in which complicated postsecondary trajectories affect student success. In addition, the results will highlight the importance of specific transition points for promoting degree completion generally and among low-income students. Current policies to improve the success of disadvantaged students are most often directed at the initial transition into the system; this study will assess whether those efforts are well targeted. If students’ college careers are found to be path-dependent,

policy makers will need to turn their attention to state and institutional changes that will promote seamless college careers. If student's college trajectories are found to be influenced by family background in significant ways that researchers have not before identified, policy makers will need to work to equalize the resources available to students of lower socioeconomic status.

Table of Contents

Project Description.....	5
Statement of Problem	5
Literature Review	7
Proposed Plan of Work.....	11
Dissemination Plan.....	14
Policy Relevance	15
Innovations.....	15
Audience.....	15
Appendix.....	16
References Cited	19
Biographical Sketch	21
Budget	26
Current and Pending Support.....	29
Facilities, Equipment and Other Resources	29

How Complex Postsecondary Educational Transitions Shape Student Success

Project Description

Statement of Problem

Pathways through the broad and widely differentiated American higher education system are changing. Students are making more choices about which schools to attend and facing more enrollment options than ever before. Over fifty percent of today's college students attend more than one institution, and nearly one third take some time off after starting college and later return (Berkner, 2002; Carroll, 1989; McCormick, 2003). Thus, the normative transition from high school to college is now only one of many transitions students make, and as a result postsecondary education can no longer be accurately viewed as a discrete choice between enrollment and non-enrollment, or schooling and nonschooling. Following the initial entry to the first college they attend, students must pass through a series of transitions in order to achieve success in the form of a bachelor's degree. Among students seeking a bachelor's degree, these transitions occur as they achieve credit thresholds, advancing from freshman to sophomore, sophomore to junior, and junior to senior, progressing toward the degree. At those critical junctures, students must decide whether to persist (remain enrolled) at the same school at which they began, move to a different school, or leave school altogether.

Extant research tells us little about the relative importance of each of those decisions, especially with regard to how each transition affects the next. In other words, it is unclear how each student decision affects subsequent decisions, and whether, in fact, student success is "path-dependent." We also do not know whether the effects of these decisions affect students from different social backgrounds differently. The proposed study will address these issues by (a) examining the significance of specific transition points for promoting degree completion, using a multinomial model, and (b) assessing which transitions are more essential for low-income students. Current policies to improve the success of disadvantaged students are most often directed at the initial transition into the system; this study will assess whether those efforts are well targeted.

The harsh reality of our higher education system is that some students are more likely than others to obtain bachelor's degrees. There is a significant, persistent gap between the completion rates of students from economically disadvantaged backgrounds and those of students from wealthy families. Among 1992 high school seniors, 62 percent of those from the highest socioeconomic status (SES) quintile finished a bachelor's degree by

age 26 or 27, compared to barely 17 percent of those from families in the lowest SES quintile (Adelman, Daniel, Berkovitz, & Owings, 2003). It is worth noting, however, that the educational trajectories of low-income students differ from those of high-income students (Rab, 2004). Poor students are more apt to move among institutions and experience enrollment interruptions, rather than remain in the same college until completion. Wealthy students, although somewhat less likely to change schools, tend to maintain enrollment continuity when they do make a move. There is some evidence that attending multiple institutions, particularly with interruptions, lowers students' chances for degree completion (Rab, 2004). But it remains unclear whether there is a distinct connection between social origins, specific educational transitions, and student success.

The proposed study will attempt to address the limitations of our knowledge in this area by examining the educational transitions occurring within postsecondary education and the effects of those transitions on student success. The project has three objectives: to determine how earlier transitions affect the probability of later transitions; second, to determine which transitions matter most in predicting the final transition to graduation; and third, to determine which transitions matter most for the success of low-income students. The specific research questions to be addressed in this study are:

1. To what extent are postsecondary transitions path-dependent?
2. To what extent do students' chances for graduation depend on their earlier college enrollment decisions?
3. Are specific transition points more important than others in promoting successful completion by certain groups of students? In other words, what is the influence of social origins at each educational transition, and does it vary over time?

The conceptual model proposed here treats educational transitions as a sequence of student choices and views those choices not as binary options, but as polychotomous outcomes. Higher education research tends to lump these individual transitions together in studies of persistence, and sociologists concerned with educational transitions tend to examine only the transitions leading up to entry into higher education. The methodology employed in the proposed project will follow the proposed theoretical framework by allowing for an examination of different types of decisions at each juncture and for changes in the effects of social origin at specific transition points. Thus, the project will draw on both higher education conceptualizations of college choice and sociological methodologies of educational transitions. Modeling student choice in this manner expands upon existing models in the higher education literature (St. John, Paulsen, & Starkey, 1996). The project findings will provide both theoretical and

practical insights into the ways in which complicated postsecondary trajectories affect student success. If the proposed study finds that students' college careers are path-dependent, policy makers will need to turn their attention to state and institutional changes that will promote seamless college careers. Should the study find that students' college trajectories are influenced by family background in significant ways that researchers have not before identified, policy makers will need to work to equalize the resources available to lower SES students.

Literature Review

Changing Postsecondary Pathways and College Completion

Students who follow the traditional route to a bachelor's degree are now in the minority—by one estimate, comprising only one fourth of the undergraduate population (Choy, 2002).¹ Today, over 50 percent of undergraduates who begin at a 4-year college attend more than one institution within five years, and 15 percent attend more than two (McCormick, 2003). In the last 30 years, a significant shift has occurred in the number of schools undergraduates attend—from one or two in the 1970s, to one to three or more in the 1990s (Adelman, 1999; Adelman et al., 2003). National studies also reveal that 25%–30% of undergraduates take some time off from college and subsequently return, a pattern known as stopout (Berkner, 2002; Carroll, 1989). There is also some evidence that multi-institutional attendance and discontinuous enrollment intersect in student attendance patterns. One study of first-time freshmen who began their postsecondary education in 1995–1996 found that among those students who transferred institutions at least once before 2001–2002, 30 percent also stopped out of school for a period of time (Berkner, 2002). In other words, they began college at one school, took time off, and returned to another school.

These new forms of attendance are evidence that the American higher education system provides a great deal of choice and opportunity to its students. Individuals may choose to enroll in several different types of institutions, to enroll full- or part-time, and to enroll continuously or with interruptions. Once in the system, students may opt to major early or late, to enroll in two schools at once, and to earn multiple types of degrees. For all of these reasons, our system might be considered an open one. At the same time, the choices students make greatly structure their eventual outcomes. For example, students who begin at a 2-year college are significantly less likely to finish a bachelor's degree than students who begin at a 4-year institution (Brint & Karabel, 1989; Dougherty, 1994).

¹ Choy (2002) defines the traditional route as enrolling in a 4-year college immediately after high school, attending that institution continuously and full-time, and completing a degree in 4 years.

Students who transfer to a new institution are less likely than students who remain at their first institution to complete a degree in a timely fashion (Adelman 1999). Adelman's (1999) "tool box" study of degree completion found that the number of institutions attended had a negative impact on a student's chances for completion, if the student did not return to the first school attended. The odds of receiving a bachelor's degree were reduced by nearly half if a student attended multiple institutions (leaving the first school attended and not returning). This effect was notably more evident among students with the same levels of college performance. A discontinuity in enrollment may also derail a student's plans for a degree. Cabrera and his colleagues (2003) found that students who engaged in continuous enrollment while in college were 23 percent more likely to complete a bachelor's degree. Continuity of enrollment was a particularly strong predictor of degree completion among lower SES students: students in the second lowest SES quartile increased their chances for completion by 38 percent, and students in the lowest quartile increased their chances by 27 percent, if they maintained continuous enrollment.

Postsecondary pathways differ in their outcomes in part because of constraints imposed by state and federal policies, such as those governing transfer, articulation, and financial aid. It is essential to recognize these qualitative differences in postsecondary pathways when examining educational transitions and to assess the probability of engaging in one of several options rather than focus simply on yes/no questions of enrollment (Lucas, 2001). As student movement into, out of, and among institutions increases, it is likely that where a student attends college, when, and for how long will be increasingly significant for educational outcomes (Eckland, 1964; Hearn, 1992). Variation in these facets of postsecondary pathways may contribute to some of the observed differences in completion rates, particularly those between social classes.

The Student-Choice Framework

In contrast to prior research on postsecondary attendance patterns, which has approached those patterns as complete pathways, viewing them in their entirety, this study will employ a *student-choice* perspective. This perspective recognizes that students do not set out to follow a particular trajectory, but rather make specific choices throughout college that result in an accumulation of transitions that together make up a trajectory. I posit that each of those choices may be affected by prior choices and constrained by resources and prior educational experiences. Thus, I will seek to understand whether higher education trajectories are "path-dependent"—in other words, "the degree to which transition probabilities from one level and/or type of education to another may be influenced by the particular educational pathway by which students arrived at the point of choice" (Breen & Jonsson, 2000, p. 755).

Credit thresholds represent significant transition points in the postsecondary trajectory of degree-seeking students. Students who fail to cross a certain credit threshold (i.e., 30, 60, 90, and 120 credits) are unable to earn a degree, and those who do not accumulate credits in a timely fashion are unlikely to receive a degree on time. Prior research has found that those who do not move continuously from one credit threshold to the next are more likely to depart college without a degree (McCormick, 1999), implying path dependence. Thus, I hypothesize that each higher education transition depends in part on the occurrence of prior transitions. For example, a student who takes time off from college after accumulating 30 credits, and then returns to college at a different institution, is less likely to eventually accumulate 90 credits than a student who earns 60 credits all at one institution. In this scenario, students' chances for success are influenced by their prior educational decisions.

The student-choice construct developed by St. John and his colleagues (1996) informs my analysis. This construct was designed to account for a sequence of choices in diverse pathways influencing educational achievement. As outlined by St. John, the essential principles of this construct are the following:

1. Students follow a sequence of educational choices.
2. There are diverse educational patterns of choice, given that students from different backgrounds confront different choice sets.
3. The choices students make are contextualized and affected by student achievement, beliefs, and financial standing.

I will take the first principle into account in my modeling strategy and extend it by testing whether later choices are influenced by earlier choices in the sequence. I will examine the second principle in great detail, through a test of the *maximally maintained inequality* (MMI) model developed by Raftery and Hout (1993), described below. Finally, I will test the last principle by examining the relative importance of social origins, achievement, and expectations in predicting student choices.

The one existing study of credit production of which I am aware found that low SES students averaged fewer credits than middle and upper SES students, net of academic ability and performance (McCormick, 1999).² Students from lower social class backgrounds are likely to follow qualitatively different paths throughout college, in part because they have less access to information when choosing colleges and fewer resources to draw on once in college

² It is important to note that McCormick's (1999) models predicted the average number of credits completed (using ordinary least squares regression), not the odds of completing each credit threshold. Moreover, his data set was High School and Beyond, not the more recent NELS:88 used in this study.

(McDonough, 1997; Walpole, 2003). Disadvantaged students are particularly susceptible to making ineffective choices when the linkages between their choices and the likely outcomes are unclear, as is often the case. Indeed, nearly all high school students (90%) indicate that they expect to attend college, even if their career choice does not require it (Schneider & Stevenson, 1999). Students with misaligned ambitions, and those who are simply confused by the system, are more likely to make ineffective choices, such as taking time off from school (Rosenbaum, 2001; Schneider & Stevenson, 1999). As Rosenbaum (2001) has noted, in order to make effective decisions in an environment with a plethora of choices, actors need both more and better information. Following this model, students with fewer resources and less access to information may be more likely to follow an “involuntary pathway” through college that will likely lower their odds for completion (Wagner, 2001).

I hypothesize that the impact of social origins will vary throughout the postsecondary educational trajectory, with greater effects at transition points most closely linked to positive student outcomes. Thus, whereas prior studies in the tradition of educational transitions research (Mare, 1980; Shavit & Blossfeld, 1993) have suggested that the effects of social background are weaker for later educational transitions than for early ones, I posit the opposite—namely, that greater social background effects will be observed when predicting completion, compared to initial attendance, once prior pathways are accounted for. At least two factors support this hypothesis:

1. Earlier studies usually modeled secondary school transitions, with the final transition being the one into college. In this study, the earliest transition will be that from freshman year to sophomore year, and the latest will be the transition from the final year of college to graduation. I believe that educational pathways are qualitatively different in the K–12 and higher education systems.
2. Federal policies are most often directed at opening doors to college, rather than promoting college completion. As a result, college attendance is more widespread across social classes than ever before. Thus, I expect to see greater social class effects where financial aid policy has less often been directed at ameliorating them (Manski & Wise, 1983).

My hypothesis is also supported by the previously mentioned sociological theory of *maximally maintained inequality* (MMI; Raftery & Hout, 1993), which says that we will see greater social origin effects for transitions that are *not* universal. In other words, the effect of a student’s class background ought to be smaller during initial transitions in college and larger for the final transition to a college degree, given that far fewer students finish than start college.

Importantly, Lucas (2001) has challenged the theory of MMI with a theory of *effectively maintained inequality* (EMI), which suggests the existence of substantial social background effects “even for nearly universal transitions” because economically advantaged students will use their advantages to secure better education by availing themselves of whatever qualitative differences exist at a given transition (p. 1642). According to Lucas’s theory, we might find similar social class effects at the first and last transitions. However, Lucas’s study examined the effects of tracking high school students, and he followed them only until the transition into college. In contrast, the proposed study will examine transitions *within* higher education and therefore promises to inform the debate over MMI and EMI and contribute to an assessment of the generalizability of Lucas’s findings.

Proposed Plan of Work

Data

Achieving an accurate understanding of complex postsecondary attendance patterns and the students that follow them requires tracking students across all of the postsecondary schools they attend, not simply the ones where they begin. This study will accomplish that task by using the most recently released national longitudinal postsecondary transcript data. The data will be drawn from the last three waves of the National Education Longitudinal Study of 1988 (NELS:88). NELS is a longitudinal education study of a national probability sample of 25,000 students first surveyed as eighth graders in 1988 and interviewed again during four follow-ups. The fifth and final wave occurred in 2000, when students were 26 or 27 years old; at that time, 12,144 individuals were interviewed, and requests for the postsecondary transcripts of the 9,602 students who had attended college were submitted to the relevant institutions. These requests yielded 15,562 transcripts for 8,889 students. Thus, students were followed for 8 years after high school graduation, which provides a substantial window within which to measure degree completion.

Sample

The sample to be used in this study will come from the NELS 2000 wave and include only those students who:

1. Participated in the second (1992), third (1994), and fourth (2000) follow-ups;³
2. Attended at least one postsecondary institution; and
3. Had a complete transcript record ($N = 8,285$).⁴

³ The sample will not be further limited to students who participated in the first survey since information from the eighth-grade year is not central to this study’s questions.

The college transcript data is essential to this study, since it provides a detailed account of credit accumulation and grade point average (GPA), which cannot be assessed from self-report data (McCormick, 1999). As in Grodsky's (2002) study of college choice and constraint, I will restrict the proposed study to students who attended college. The reasons for this decision are threefold:

1. Only those students who decide to enroll in college are at risk for subsequent college transitions, which are the focus of this analysis.
2. The effects of social origins on transitions are of great interest to this study, and this restriction ensures that the observed effects are particular to in-college transitions.
3. From a methodological standpoint, this restriction serves to eliminate some selection bias resulting from unobserved heterogeneity (for more on this, see Grodsky, 2002).

As a further restriction, I will begin by examining only those students who initiated their studies at a 4-year institution ($N = 4,628$) in order to model my approach using the credit thresholds most appropriate for bachelor's degree seekers. I will then expand the study to examine students who began at a 2-year school and aspired to a bachelor's degree, and adjust the credit thresholds to more accurately reflect progression towards a BA under those conditions.⁵

Modeling Approach

Drawing on the work of Breen and Jonsson (2000),⁶ the proposed study will use a multinomial transition model to analyze complex educational transitions. I will estimate the following model for all students (where $i = 1$ to N ,

⁴ Restricting the sample in this way seems appropriate given that attempting to impute for the dependent variables in this analysis would be inadvisable. Limiting the sample to students with complete records will mean excluding 14 percent of cases. Students will be excluded if they enrolled in only GED or basic skills programs or took only a single course or less than five credits. The number of institutions attended is highly correlated with having a complete transcript record, thus all means and regressions presented will be weighted. Patterning by socioeconomic status has not found among the excluded cases in prior analyses utilizing similar restrictions (Rab, 2004).

⁵ Although it is also common in this type of research to employ a minimum credit threshold for inclusion in the sample (Adelman, 1999; McCormick, 1999), I will not do so, given that such thresholds disproportionately exclude low SES students (see McCormick, 1999, footnote 17), who are of primary interest in this analysis.

⁶ Breen and Jonsson's (2000) model is an extension of Mare's (1980) sequential model of educational transitions, which employed logit regression with binary outcomes. Breen and Jonsson's model has been shown to more accurately capture the multiplicity of choices available at transition points and better assess the importance of social origins at transition points. The model to be used in the proposed study is a variant of a discrete-time hazard-rate model, an alternative to the Breen and Jonsson model that allows each variable to have a specific coefficient for each transition (in contrast to survival analysis, in which each X variable has only one coefficient). This model will better enable the proposed study to assess the effect of social class on each transition point.

with N being the total sample size), for each of the possible outcomes ($k = 1, 2, K$), and for each of four transitions ($t = 1, 2, 3, 4$):

$$\ln \frac{P_{ik}}{P_{iK}} = \mathbf{f} + \sum^{n-2} \mathbf{I}_n \mathbf{BACK}_{in} + \mathbf{I}_c \mathbf{ACH}_{ic} + \mathbf{I}_m \mathbf{GPA}_{im} + \sum^{p-1} \mathbf{I}_p \mathbf{PATH}_{ip}$$

The estimated outcome is equal to the natural logarithm of the expected probability of accomplishing alternative k (P_{ik}), divided by the expected probability of leaving school (P_{iK}), where $k = 1$ indicates that the student completed the transition, $k = 2$ indicates that the student persisted but did not complete the transition, and K indicates that the student left school either during or at the end of the school year. My proxy for transitions is credit threshold; thus, I model the likelihood of completing 30, 60, 90, and 120 credits, which are significant markers of progress towards bachelor's degree completion (McCormick, 1999).

Phi (Φ) is an intercept term, pertaining to all students, indicating the mean log odds of accomplishing alternative k , relative to leaving school. The first summation pertains to a vector of n background characteristics of the individual student i (\mathbf{BACK}_{in}), including continuous measures of parents' education, occupation, and household income,⁷ and dichotomous measures for race and gender.⁸ Lambda (\mathbf{I}_n) is a subsequent vector of parameter estimates for the influence of the background characteristics. Achievement (\mathbf{ACH}_{ic}) is the high school NELS achievement test score for student i and is the parameter estimate for the influence of prior achievement on the likelihood of making a transition. Grade point average (\mathbf{GPA}_{im}) is the prior GPA of student i (\mathbf{I}_m) and is the parameter estimate for the influence of GPA on making a transition. GPA varies over time in this model.⁹ The second summation pertains to a vector of p postsecondary pathways prior to a specific transition t (\mathbf{PATH}_{ip}) and is a vector of parameter estimates associated with each of the postsecondary pathways. The pathways are designed to account for the role of timely entry into college, continuity of enrollment, and multi-institutional attendance in

⁷ These three components of SES will be measured separately in order to identify precisely how family background shapes postsecondary transitions (Mare, 1980). Knowing whether family income or parental education matters more in promoting the transition to 60 credits will aid policy makers and practitioners.

⁸ This explains the $n - 2$ at the top of the summation.

⁹ Two measures of GPA will be used: (a) the GPA for the year before each transition point; and (b) the difference between the prior year's GPA and the baseline (first year's) GPA.

promoting transitions. Table 1 in the appendix illustrates the specific transitions to be modeled, along with the possible outcomes and the path-dependent measures (dummies, coded 0,1) associated with each transition.

It is important to note that underlying this model is the idea that each transition point differs from the others. For example, the process of decision making after a student has accumulated 90 credits differs from that after a student has accumulated only 30 credits. As Manski and Wise (1983) have observed, students' perception of the costs and benefits associated with attending college may change over time. Manski and Wise posited that these changes occur when a student graduates from high school; I contend that perceptions may continue to change after a student enters college. At each transition point, a student must weigh available college and noncollege opportunities and decide to complete the transition, persist but not complete, or depart. This study will therefore make explicit the transitions occurring within higher education and the extent to which each affects the probability of student success. In addition, the study will specifically examine the role of a student's socioeconomic background in shaping these transitions.

Dissemination Plan

Findings generated by this research will be disseminated through presentations (at the national and local levels) and publications. Project findings will be presented at the national AIR Annual Forum in 2006, and the NPEC 2006 Symposium on Student Success. I also anticipate presenting this research at the annual meetings of the American Educational Research Association, the Association for the Study of Higher Education, and the American Sociological Association. In addition, as a faculty affiliate of the Wisconsin Center for the Advancement of Postsecondary Education at the University of Wisconsin–Madison (UW-Madison), I am able to convene colloquia in order to present new research. Thus, results from the proposed study will be presented at one or two colloquia during 2006. The usual attendance at these events is 20–30 faculty members, students, and interested members of the Madison community. I will also present my results during the 2005–2006 academic year at one of the sociology of education brownbag sessions directed by sociologist Adam Gamoran. These sessions are attended by 10–15 students and faculty from across the UW-Madison campus.

Working papers generated from this project will be posted on the project's website, to be constructed and maintained by the Wisconsin Center for Educational Research. When papers are ready for publication they will be submitted to *Sociology of Education*, *Journal of Higher Education*, and *Research in Higher Education*, among others.

Policy Relevance

Recent growth in multi-institutional attendance and discontinuous enrollment presents significant challenges to policy makers who hope to track and improve bachelor's degree completion rates. As congressional hearings on the reauthorization of the Higher Education Act revealed legislators are displeased with the class and race gap in college completion and are considering efforts to diminish those gaps by holding institutions accountable. Institutional representatives contend that with students moving across schools as never before, it is difficult to calculate accurate completion rates, and thus institutions of higher education ought not to be evaluated in this way. Implicit in this debate is the notion that complex educational trajectories may affect student success, particularly for disadvantaged groups. Yet there is little support for this contention in the extant research literature. The proposed study promises to provide important knowledge to policy makers and institutions about the relative importance of academic achievement, ascriptive characteristics, and prior educational transitions in predicting student success.

Innovations

The proposed study contains three innovations. First, the study acknowledges that the way students are attending college is changing and that these changes affect student success. Therefore, rather than focus only on initial college choice, the study will examine student movement across institutions, using newly released college transcript data. Second, a review of the sociological literature on educational transitions reveals a lack of studies on transitions *within* higher education (as opposed to transitions prior to college entry). Thus, this study will contribute much needed knowledge about the importance of prior postsecondary educational transitions in predicting future postsecondary educational transitions. It will also provide a test of two competing theories of how socioeconomic inequality is maintained over time. Finally, the study will use methods in the proposed analysis that will advance prior research on student choice. In particular, the multinomial transition framework, which has not yet been employed in research on higher education, will allow for consideration of polychotomous outcomes.

Audience

I anticipate that my findings will be of interest to several audiences, including but not limited to higher education researchers, sociologists, policy makers, and practitioners. In disseminating the results, I will strive whenever possible to use language that crosses disciplines and fields and to present my findings in a fashion that enhances understanding.

Appendix

Table 1

Sequence of Postsecondary Transitions Affecting Student Success

Transition One: Sophomore Transition

Multinomial outcome categories:

- Completed freshman year (30 credits)
- Persisted through freshman year but did not complete (< 30 credits)
- Departed school

Path descriptive variables:

- Entered college immediately after high school (no delay)

Transition Two: Junior Transition

Multinomial outcome categories:

- Completed sophomore year (60 credits)
- Persisted through sophomore year but did not complete (< 60 credits)
- Departed school

Path descriptive variables:

- Entered college immediately after high school (no delay)
- Entered Year 2 immediately after Year 1 (no stopout)
- Entered Year 2 in same school as Year 1 (no movement)
- First try at completing Year 2

Transition Three: Senior Transition

Multinomial outcome categories:

- Completed junior year (90 credits)
- Persisted through junior year but did not complete (< 90 credits)
- Departed school

Path descriptive variables:

- Entered college immediately after high school (no delay)
- Entered Year 2 immediately after Year 1 (no stopout)
- Entered Year 3 immediately after Year 2 (no stopout)
- Entered Year 2 in same school as Year 1 (no movement)
- Entered Year 3 in same school as Year 2 (no movement)
- First try at completing Year 2
- First try at completing Year 3

Table 1 (continued)

Sequence of Postsecondary Transitions Affecting Student Success

Transition Four: Graduation Transition

Multinomial outcome categories:

- Completed senior year (120 credits)
- Persisted through junior year but did not complete (< 120 credits)
- Departed school

Path descriptive variables:

- Entered college immediately after high school (no delay)
- Entered Year 2 immediately after Year 1 (no stopout)
- Entered Year 3 immediately after Year 2 (no stopout)
- Entered Year 4 immediately after Year 3 (no stopout)
- Entered Year 2 in same school as Year 1 (no movement)
- Entered Year 3 in same school as Year 2 (no movement)
- Entered Year 4 in same school as Year 3 (no movement)
- First try at completing Year 2
- First try at completing Year 3
- First try at completing Year 4

Notes

1. Of course, students are not always required to complete a given number of credits in order to officially transition from a freshman to sophomore, etc. However, these credit thresholds and titles are proxies for timely progression towards a bachelor's degree (on a 4-year timeline).
2. There can be difficulty in determining whether a student moved to a new school or simply enrolled in two schools at once, in this "age of multi-institutional attendance" (Adelman 1999). The transcript data will be particularly useful here. I will create several different definitions of *movement*, using the institutional IPEDS (Integrated Postsecondary Education Data System) codes, dates of attendance, and credit thresholds, and test which definitions appear to best capture movement, as opposed to simple dual enrollment. The often-used definition of *transfer*—movement from School A to School B without a subsequent return to School A (McCormick, 2003)—will also be tried.
3. In brief, the purpose of including the *first try* variables is to account for students who departed school and then returned for a second attempt at that transition. Such students will be flagged as repeating an attempt at a

transition and will be included in a subsample of students who are trying to make a transition for a second or third time.

4. Delaying entry into postsecondary education after high school has been found to negatively correlate with a student's odds for graduation (Adelman, 1999), but not with credit production per se (McCormick, 1999). Given these seemingly contradictory findings, a measure of delay is included.

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Biographical Sketch

Sara Youcha Rab earned her Ph.D. in sociology from the University of Pennsylvania. She is currently an Assistant Professor of Educational Policy Studies and Sociology at the University of Wisconsin-Madison. She is also an affiliate of the Wisconsin Center for the Advancement of Postsecondary Education, and the Institute for Research on Poverty. Dr. Rab was recently named a 2004 National Rising Scholar by the National Forum on Higher Education for the Public Good.

Dr. Rab's research agenda focuses on identifying and understanding new forms of tracking in higher education that perpetuate socioeconomic inequality. Her doctoral research, funded by grants from the Spencer Foundation and the American Educational Research Association, examined complex college attendance patterns ("swirling") using the National Education Longitudinal Survey postsecondary transcript data. Her study found that students differed in their attendance patterns, based in part on their socioeconomic status. Low-SES students were more likely to follow a pattern of interrupted movement; mobility in, out, and among schools that rarely resulted in the completion of a bachelor's degree within eight years of high school graduation. On the other hand, high-SES students moved across schools fluidly; this movement reduced their odds for completion, but did not incur the same penalty at the interrupted pathways followed by the low-SES students. Her current research attempts to better understand the social context of college students' lives and how that context shapes their attendance patterns. She has received two grants (one internal University grant, and the Rising Scholars Award from the National Forum on Higher Education for the Public Good) to look at the role of marriage, childbirth, and finances in postsecondary pathways, using survival analysis techniques. The proposed study moves her agenda forward by delving deeper into the process of student choice.

Dr. Rab is the co-author of a forthcoming book titled *Work-First or Work Only? Welfare Reform, the Workforce Investment Act, and Access to Postsecondary Education*, and has authored several papers on college attendance patterns that have been presented at the meetings of numerous professional associations, including the Association for Institutional Research, the American Educational Research Association, and the American Sociological Association. She recently completed a review of higher education research on the transition to college, commissioned by the Social Science Research Council. She teaches courses on higher education policy, community colleges, and the sociology of education.

DISSERTATION

Swirling Students: Putting a New Spin on College Attrition. Doctoral dissertation, ms., 154 pp. Department of Sociology, University of Pennsylvania. Douglas Massey, chair.

PUBLICATIONS

Articles

Kathleen Shaw and Sara Rab. 2003. "Market Rhetoric Versus Reality in Policy and Practice: The Workforce Investment Act and Access to Community College Education and Training." *Annals of the American Academy of Political and Social Science*. v586, March, 172-193.

Christopher Mazzeo, Sara Rab and Susan Eachus. 2003. "Work-First or Work Only: Welfare Reform, State Policy and Access to Postsecondary Education." *Annals of the American Academy of Political and Social Science*. v586, March, 144-171.

Sara Rab. 2003. "Research in Brief: Building a Career Pathways System: Promising Practices in Community College-Centered Workforce Development." *Educause*. V26n1, January-March.

Monographs

Christopher Mazzeo, Sara Rab and Julian Alssid. 2003. *Building Bridges to Colleges and Careers: An Examination of Contextualized Basic Skills Programs at Community Colleges*. Annie E. Casey Foundation: Baltimore, MD.

Christopher Mazzeo and Sara Rab. 2001. *Developing Career Pathways for Basic Skills Students: A Review of the Literature*. Annie E. Casey Foundation: Baltimore, MD.

Tom Waldron, Brandon Roberts and Andrew Reamer with assistance from Sara Rab and Steve Ressler. 2004. *Working Hard, Falling Short: America's Working Families and the Pursuit of Economic Security*. Annie E. Casey Foundation: Baltimore, MD.

RESEARCH AND PUBLICATIONS IN PROGRESS

Books

Kathleen Shaw, Sara Rab, Christopher Mazzeo, and Jerry A. Jacobs. *Work-First or Work Only? Welfare Reform, The Workforce Investment Act, and Access to Postsecondary Education*. Revise and Resubmit, Russell Sage Foundation.

Article-length monographs

"Work-First Federal Policies: Eroding College Access for Latinos." With Kathleen Shaw. Under review at *Educational Evaluation & Policy Analysis*. (Quantitative analysis)

"The Effect of Work-First Federal Policies on Access to Community Colleges for Latinos." With Kathleen Shaw. Under review at *New Directions for Community Colleges*, special issue edited by the Harvard Civil Rights Project. (Qualitative analysis)

"Following Their Every Move: How Social Class Shapes Postsecondary Pathways." Invited for revision and resubmission by *Sociology of Education*.

"What Higher Education Literature Has to Say About the Transition to College." Review of research commissioned by the Social Science Research Council, to be published by SSRC.

Funded Research in Progress

“Situating Swirling Students: Exploring the Role of Social Context in Postsecondary Pathways.” Funded by the National Forum on Higher Education for the Public Good & UW Graduate School Research Committee.

RESEARCH SUPPORT

External Funding

- 2004-2005 National Forum on Higher Education for the Public Good, Rising Scholar Award (\$3,000)
- 2003-2004 The Spencer Foundation, Dissertation Fellowship (\$20,000)
- 2003-2004 American Educational Research Association/ National Science Foundation/ National Center for Education Statistics of the Institute of Education Sciences, Dissertation Fellowship (\$15,000)

Internal Funding

- 2005-2006 University of Wisconsin-Madison, Graduate School Research Committee Grant (\$17,221)
- 2002 University of Pennsylvania, Department of Sociology. Gertrude and Otto Pollak Summer Research Fellowship (\$11,000)

PAPERS READ AT PROFESSIONAL MEETINGS

“Temporal Dimensions of the Swirling Attendance Pattern.” Paper presented at the Annual Meetings of the American Educational Research Association, Montreal: April 2005.

“The Challenges of Comparative State-Level Higher Education Policy Research.” Paper presented at the Annual Meetings of the Association for the Study of Higher Education, Kansas City: November 2004.

“Swirling Among Schools: Social Class, Institutional Type, and Postsecondary Pathways.” Paper presented at the Annual Meetings of the Association for the Study of Higher Education, Kansas City: November 2004.

“The Effect of the Swirling Attendance Pattern on Degree Completion.” Paper presented at the Annual Meetings of the American Sociological Association: August 2004.

“Social Class and the Swirling Student.” Paper presented at the Annual Meetings of the Association for Institutional Research, Boston: May 2004.

“Comparing the Predictors of Multi-Institutional Attendance Among Two and Four-Year Undergraduates.” Paper presented at the Annual Meetings of the American Educational Research Association, San Diego: April 2004.

“How the Workforce Investment Act Reduced Access to Education and Training.” Paper presented at the Annual Meetings of the American Educational Research Association, San Diego, CA: April 2004 (with Kathleen Shaw).

“Work-First Federal Policies: Eroding Access to Community Colleges for Latinos and Other Low-Income Populations.” Paper presented at the Annual Meetings of the American Educational Research Association. San Diego, CA: April 2004 (with Kathleen Shaw and Christopher Mazzeo).

“Student Characteristics and Nontraditional Postsecondary Attendance Patterns: An Exploration of “Swirling.” Paper presented at the Annual Meetings of the Association for the Study of Higher Education, Portland, OR: November 2003.

“Eroding the Equity Agenda: The Impact of Welfare Reform and the Workforce Investment Act on Access to Higher Education.” Paper presented at the Annual Meetings of the Association for the Study of Higher Education, Portland, OR: November 2003. (with Kathleen Shaw and Christopher Mazzeo).

“Understanding the “Swirling” Undergraduate Attendance Pattern: The Role of Student Background Characteristics and College Behaviors.” Paper presented at the Annual Meetings of the American Sociological Association, Atlanta, GA: August 2003.

“Assessing the Effects of Welfare Reform on Access to Community College Education and Training for Low-Income Individuals.” Paper presented at the Annual Meetings of the Eastern Sociological Society, Philadelphia, PA: February 2003 (with Christopher Mazzeo, Kathleen Shaw, and Jerry A. Jacobs).

“The Influence of Welfare Reform and the Workforce Investment Act on Community College Training and Education for Low Income Workers.” Paper presented at the Annual Meetings of the Association for the Study of Higher Education, Sacramento, CA: November 2002 (with Kathleen Shaw and Christopher Mazzeo).

“Building Bridges to Colleges and Careers: An Examination of Contextualized Basic Skills Programs at Community Colleges.” Paper presented at the meetings of The Council for Adult and Experiential Learning, Washington, DC: April 2002 (with Christopher Mazzeo and Julian Alssid).

“Market Rhetoric Versus Reality in Policy and Practice: The Workforce Investment Act and Access to Community College Education and Training.” Paper presented at the Annual Meetings of Society for the Study of Social Problems, Chicago, IL: August 2002 (with Kathleen Shaw).

“When ‘Community’ Means the Business Community: The Influence of the Business Sector on Community College Training and Education for Low-Income Workers.” Paper presented at the Annual Meetings of the American Educational Research Association, New Orleans: April 2002 (with Kathleen Shaw).

“Work-First or Work Only: Welfare Reform, State Policy and Access to Postsecondary Education.” Paper presented at the Annual Meetings of the American Educational Research Association, New Orleans: April 2002 (with Christopher Mazzeo and Susan Eachus).

“Contextualized Basic Skills Learning in Community Colleges.” Paper presented at the Spencer Urban Research Graduate Student Symposium, Philadelphia: February 2002.

INVITED PARTICIPANT

Wisconsin Center for the Advancement of Postsecondary Education, Forum on P-16. October 5, 2004.

University of Wisconsin Committee on Undergraduate Recruitment, Admissions and Financial Aid. Committee Meeting Invitee. November 17, 2004.

TEACHING

Educational Policy Studies 780: Seminar in Higher Education Policy

Educational Policy Studies/Sociology 648: Sociology of Education

Educational Policy Studies 600: Seminar on Community Colleges: Issues and Research

SERVICE

Reviewer of Articles and Conference Papers

American Sociological Review
Social Science Quarterly
Sociology of Education
American Educational Research Journal

Professional Affiliations

American Educational Research Association
American Sociological Association (and Sociology of Education section)
Association for the Study of Higher Education

Service to Affiliates

I have served as conference reviewer, chair, and discussant at meetings of the American Educational Research Association, American Sociological Association, Association for the Study of Higher Education, and the Eastern Sociological Society.

Committee Work

Educational Policy Studies: Lecturer Selection Committee (2004-05); Willing Award Committee (2004-05)

School of Education: Committee on Graduate Assistant Policies and Procedures (2004-05)

Academic Consulting

Workforce Strategy Center (2002-present)

Brandon Roberts Associates (2003-present)

Social Science Research Council (2004-present)

Budget
7/1/05-6/30/06

PERSONNEL	% OF EFFORT			FTE	AMOUNT
Rab, Sara, PI \$52,000/9 Mo.*	25% Spring Semester '06			0.10	\$6,843
Graduate Assistant \$32,134/12 Mo.	33.3% AY			0.25	\$8,011
Project Coordinator \$36,680/12 Mo.	5% 12 Mo.			0.05	\$1,834
TOTAL PERSONNEL				0.40	\$16,688
FRINGE BENEFITS					
Rab, S.				\$2,292	
Graduate Assistant				\$2,044	
Project Coordinator				\$615	
Tuition Remission	0.25	X	\$8,011	\$2,003	
TOTAL FRINGE BENEFITS					\$6,954
TRAVEL					
1 trip 5 overnights AERA meeting					
Air Fare			\$574		
Lodging			\$560		
Meals			\$270		
TOTAL	\$1,404	/Trip		\$1,404	
2 trips 2 overnights - AIR Forum					
Air Fare			\$480		
Lodging			\$351		
Meals			\$188		
TOTAL	\$1,019	/Trip		\$2,038	
TOTAL TRAVEL					\$3,442

OTHER DIRECT COSTS

Supplies			
Software - SAS	\$200		
Total Supplies		\$200	
Conference Registration Fees	PI - \$500, PA - \$110	\$610	
Publication Costs		\$520	
Computer Support	0.40 FTE X\$2,274	\$907	
e-Services	0.40FTE X\$1,703	\$679	
TOTAL OTHER			\$2,917
TOTAL DIRECT COSTS			\$30,000

*Merit increment calculated at 4.5% effective Fall '05.

Budget Justification

Estimated resource costs have been generated by the Wisconsin Center for Education Research (WCER) Business Office integrating salaries, projected merit increases, projected fringe benefits, travel, supplies, and identified and normal services. All estimates are based on current costs and/or past WCER accounting data.

PERSONNEL

All persons who work regularly for the Center are placed on the University of Wisconsin Payroll in accordance with established University procedures. Titles and stipends are regulated and approved by WCER management, the Dean of the School of Education, Madison Campus, and University Central Administration. Salaries for professorial, professional (project coordinator) and graduate assistant staff are based on current salaries. A merit increment is calculated at 4.5% effective fall semester for the principal investigator.

The level of effort indicator used throughout the budget presentation is Full Time Equivalent (FTE). One FTE equals one person working full time for one year. One year for academic staff (professorial) is a nine-month academic year and two and two thirds-month summer session. One year for annual staff (project coordinator and graduate assistant) is a twelve-month basis.

Sara Youcha Rab, Assistant Professor of Educational Policy Studies and Sociology, will serve as the Principal Investigator and oversee the implementation of this project. She will develop the concepts and models used, supervise and participate in the necessary computing, and develop the written reports related to the project. We request compensation for .10 FTE calendar months of her time, the equivalent of one course release for Spring Semester 2006.

The project coordinator will assist the principal investigator with managerial duties (data entry and management, word processing, maintaining project files, and correspondence with research sites). The graduate assistant will conduct statistical analyses for the project, working with the principal investigator.

FRINGE BENEFITS

Fringe benefit rates vary by employee classification. Classifications and rates are established by the University. In recent years, fringe benefit rates have increased consistently on an annual basis and are increased slightly for each year following June 30. (See attachment A.). Tuition remission costs are calculated at a rate of 25% of salaries paid to graduate assistants. These charges are in accordance with OMB Circular A-21, Section J.41, "Scholarships and Student Aid Costs," and Section A.2.c. "Purpose and Scope."

TRAVEL

All reimbursements to staff for transportation, lodging, meals and related costs are included in this category. All travel expense reimbursements are made on the basis of actual and reasonable expenditures. Payments are governed by Wisconsin State Statutes and the University of Wisconsin System Travel Regulations. Travel estimates are based on past WCER accounting experience, recent travel quotes from Madison travel agencies, and allowable travel expenses based on the University and State of Wisconsin travel regulations. The travel includes one trip to the AIR Forum for the principal investigator and graduate assistant, as required by the terms of the grant program. Travel also includes one trip to the AERA meeting for the principal investigator, for the purpose of disseminating project results.

OTHER DIRECT COSTS

Supplies. The supply budget includes funds to purchase computing software, the SAS program.

Conference Registration Fees. The registration fees budget is for the AIR forum--\$550 for the PI and \$110 for the project assistant.

Publication Costs. This includes the printing costs associated with disseminating the project results.

Computer Support. Computer support includes: microcomputer hardware acquisition consultation and setup; installation and upgrading of software; end-user training; providing access and management on a local area network; troubleshooting of hardware and software; and technical assistance on a daily basis. This service is calculated at \$2,274 per FTE based on past WCER accounting data.

eServices. eServices offers an array of programming and creative services to researchers at WCER. eServices will provide web, internet, and database support to the project, including creating and maintaining a project website. Papers produced by the project will be posted on the website, to facilitate dissemination of the results. This service is available to all WCER projects and is calculated at \$1,703 per FTE based on the Center's past year's accounting data.

Current and Pending Support

1. "Situating Swirling Students: Exploring the Role of Social Context in Postsecondary Pathways."

Funded by:
The National Forum on Higher Education for the Public Good
UW Graduate School Research Committee.

2004-2006

2 months of 2005-2006 will be devoted to this project, primarily in July-August 2005.

2. "How Complex Postsecondary Educational Transitions Shape Student Success."

AIR/NPEC

2005-2006 PENDING

2 months of 2005-2006 will be devoted to this project, primarily between January-May 2005.

Facilities, Equipment and Other Resources

The proposed project will be conducted at the University of Wisconsin-Madison in the Department of Educational Policy Studies (EPS) in the School of Education. The Principal Investigator receives support from her department, as well as the Wisconsin Center for the Advancement of Postsecondary Education (WISCAPE) and the Wisconsin Center for Education Research (WCER). The computing and web resources for this project will be provided by WCER, assistance for dissemination will be provided by WISCAPE, and the PI and her graduate student will be housed in offices in EPS.