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Project Description I

Title:

"Engines of inequality" or vehicles for social mobility? The influence of socioeconomic status on the college-to-career pathways of high-achieving, low-income students.

Statement of the research problem and national importance:

Researchers predict that nearly two-thirds of the job openings that will be created in the United States by 2018 will require workers with at least some college education (Carnevale, Smith, & Strohl, 2010). On average, those with a college degree have higher incomes, lower rates of unemployment, and shorter bouts with unemployment than those with a high school degree or less (Bureau of Labor Statistics, 2012; Day & Newburger, 2002; Grubb, 1993; Jaeger & Page, 1996). And despite the fact that the proportion of Americans with a college degree is the highest in our history (U.S. Census Bureau, 2012) the earnings gap between those with a degree and those without has grown from a 40 percent premium in 1980 to over 65 percent in 2000, evidence that the supply of college graduates is not meeting the demand (Card & Lemieux, 2000; Long, 2010; Turner, 2004).

Given the increasing demand for college-educated workers and the strong relationship between postsecondary attainment and positive socioeconomic outcomes, many have argued that colleges and universities are the primary gateways of social mobility in the United States (Carnevale & Strohl, 2010). But despite the emphasis our nation places on the value of social mobility, our actual rates of mobility are estimated to be below that of many other democratic nations with advanced economies (Bowles & Gintis, 2002; Jantti, 2006; Restuccia & Urrutia, 2004; Solon, 2002). If our nation so highly prizes social mobility and our postsecondary system is ostensibly open to anyone with a high school diploma, why would our rates of social mobility be so low? Put differently, how effectively does our higher education system serve students from disadvantaged socioeconomic backgrounds and allow them to experience social mobility?

Disaggregating college attainment figures by students' socioeconomic origins reveals significant and growing disparities. Mortenson's (2010) estimates of bachelor's degree attainment by family income using census data are alarming: 82.4% of students born into families in the top quartile of family income earn a bachelor's degree by age 24, while only 8.3% of students from families in the bottom quartile do so; the bachelor's degree attainment rate for dependent students who enrolled in college was 97.9% for students from the top income quartile but only 19.9% for students from the bottom income quartile; and of all bachelor's degrees awarded in 2009, 55.1% were awarded to students from the highest income quartile while only 7.3% were granted to students from the lowest quartile. Mortenson concluded that "in 2009 a student born into the top quartile of family income is ten times more likely to earn a bachelor's degree by age 24 than is another student born into the bottom quartile of family income" (p. 2), and that this disparity has doubled since 1980.

Although the gap in college attainment by socioeconomic background is clear, the causes of this disparity are less straightforward.

Common explanations include: low-income students are clustered in community colleges and less-selective universities (Cabrera, Burkum & La Nasa, 2005), are more likely to attend school part-time and work more hours (Corrigan, 2003), are more likely to stopout temporarily and transfer between institutions (Goldrick-Rab, 2006), and are increasingly disadvantaged by the relative costs of higher education (Dynarski, 2000; Paulsen & St. John, 2002). But perhaps the most prominent explanation of this disparity is that low-income students are often less academically prepared for postsecondary than their higher-income peers (Adelman, 1999, 2006; Cabrera & La Nasa, 2000, 2001; Kim, 2004; McPherson & Shapiro, 1998; Terenzini, Cabrera & Bernal, 2001). For example, Adelman's (1999, 2006) influential studies showed that socioeconomic status (SES) had a statistically significant but modest impact on bachelor's degree attainment once pre-collegiate achievement had been controlled for.

If "academic resources" (Adelman, 1999, 2006) are the most important predictors of college attainment, we would expect the attainment gaps between high-achieving, low-income students and their more advantaged peers to be modest. Although some studies have examined these patterns (College Board, 2005; Wyner, Bridgeland, & Diiulio, 2007), few studies have investigated the entire college-to-career pathways of high-achieving students from different SES backgrounds. The purpose of this study is to extend our understanding of this phenomenon by investigating the influence of SES on the various stages high-achieving students take through the postsecondary system and into the labor market: access, choice, transfer and persistence behavior, completion, and eventual earnings. The goal is to discover at what stages SES is most influential in students' college-to-career pathways in order to develop more effective strategies to assist low-income students to complete postsecondary and experience social mobility.

Review the literature and establish a theoretical grounding for the research:

Although a number of researchers have developed useful conceptualizations of educational attainment and social mobility, studying the influence of SES on students' entire college-to-career pathways requires the extension and integration of multiple conceptual frameworks. This study will begin with the framework developed by Mare (1980) who described this process as a series of "school continuation decisions" (p. 295), each of which may be influenced by SES to a different degree. Mare began with a cohort of elementary students and defined the stages of school continuation as completing eighth grade, completing high school, entering college, earning a postsecondary degree, and entering graduate school. The SES variables he used included parental education, family income, and parents' occupational status among others. He found that "the overall predictive ability of social origins and separate parental socioeconomic effects decline over schooling levels" (p. 302). In other words, students' socioeconomic backgrounds have a greater impact on whether they finish high school and enroll in postsecondary but have less of an influence on college completion and whether students enroll in graduate school. Mare did not distinguish between different types of postsecondary institutions that students attend, investigate the various postsecondary pathways students of different economic backgrounds take, or estimate the impact of SES on eventual earnings. However, the current study will borrow from his conceptualization of the impact of SES on the various stages of postsecondary continuation and extend the number of stages he studied by also investigating the influence of students' SES on their eventual earnings.

While Mare's study provided estimates of the extent to which SES influences various stages of school continuation, his primary intent was not to explain how or why SES impacts these stages. However, other researchers have developed alternative and complementary conceptualizations of individual stages of this process that can be used to extend his framework. Paulsen and St. John's (2002) *financial nexus model* is particularly useful for studying the effects of socioeconomic background on college choice. This model presumes that students' choices of postsecondary institutions are heavily mediated by their perceptions of the relative costs and benefits of the institution they are considering, and that these perceptions are largely influenced by their SES. From this model we would predict that high-achieving students from disadvantaged background would be less likely to attend selective and prestigious institutions even if the monetary costs of attending that institution would be the same as students from more privileged backgrounds, as long as they perceive the costs to be higher or the benefits to be lower. Empirical research has confirmed that "academic undermatch," or qualified students choosing to attend less selective institutions, is widespread in higher education, particularly among low-income students (Bowen, Chingos, & McPherson, 2009; Roderick et al., 2008; Smith, Howell, Pender, & Hurwitz, 2012).

Paulsen and St. John also showed how these initial college choices relate to subsequent persistence decisions and attainment, but the processes and mechanisms that influence persistence were not their primary interest. This study will therefore incorporate theories of student persistence and retention made prominent by Tinto (Tinto, 1975; Tinto, 1997; Tinto & Pusser, 2006; Engle & Tinto, 2008). Tinto's (1975) model of student retention seeks to explain how various characteristics of individual students interact with the qualities of the institution they attend in order to influence subsequent persistence decisions. Tinto identified two constructs, *academic integration* and *social integration*, as the most important factors that contribute to persistence and attainment. Academic integration is defined as the alignment between students' academic preparation and the institution's academic demands, while social integration is the degree to which students interact positively with their peers and faculty members and feel congruence between their values and the values of the institution. In Tinto's model, high-achieving students should experience generally the same degree of academic integration regardless of their socioeconomic background. However, low-income students may experience significantly lower levels of social integration than their higher-income peers, particularly if they attend school part-time, live off-campus, or work more hours off-campus. Additionally, low-income students may feel reduced levels of social integration if they attend institutions with few students from similar SES backgrounds. As a result, there may be a complex relationship between institutional selectivity and persistence for low-income students. Generally, all students are more likely to persist and graduate the more selective the institution, but highly selective institutions often have smaller populations of low-income students which could decrease their social integration and dampen the positive effects of attending a more selective college or university. While Tinto's methods have been primarily used for studying institutional student retention, in this study his framework will be extended using other studies that have investigated system-wide persistence and attainment (Goldrick-Rab, 2006; National Student Clearinghouse, 2012).

As noted above, research has concentrated on how students' socioeconomic backgrounds influence their decisions to attend postsecondary, the institution they choose to attend, and their likelihood of persisting and completing their degree, but few studies have investigated how parental SES impacts students' eventual earnings controlling for the attainment of a college degree. Human capital theory generally presumes that an individual's wages are simply a product of their degree of human capital (measured primarily by education, experience, and ability level) and the demand for that capital in the market (Becker, 1962, 1964; Card, 1999; Card & Lemieux, 2000; Mincer, 1974; Schultz, 1961). Earnings disparities by SES background controlling for educational attainment, experience, and ability would therefore not be sufficiently explained by human capital theory. However, social capital theory predicts that students from privileged backgrounds may be able to access their social networks more effectively than low-income students in order to obtain higher paying and more prestigious positions in the labor market, even after controlling for human capital variables (Coleman, 1988; Conley, 2001). Although research in this area is limited, studies have found that parental SES does have a significant impact on children's eventual earnings even after controlling for educational attainment and measured ability levels (Rumberger, 2010).

Describe the research method that will be used:

This study intends to address two sets of research questions. The first set of research questions is: How do the college-to-career pathways of high-achieving students from different SES backgrounds differ?

a) What are the rates of postsecondary access for high-achieving students of different SES backgrounds?

b) What types of institutions do these students attend initially?

c) What are the rates and types of institutional transfer (2-year to 2-year, 2-year to 4-year, 4-year to 2-year, and 4-year to 4-year) for these students?

d) What are the attainment rates for the students that take each type of postsecondary path?

e) What are the average weekly and/or annual earnings of students that take each type of postsecondary path, disaggregated by whether students earned a degree?

The study will begin with a nationally representative cohort of seniors who graduated from high school in 2004. Achievement levels will

be defined in accordance with Adelman's (1999, 2006) methodology for calculating academic resources as a composite of the quality and intensity of students' high school curriculum, their ability levels as measured by the SAT, ACT, and other standardized assessments of ability, and their high school grade point average and/or class rank. Students that rank in the top quartile of academic resources will be defined as high-achieving and will be used as the sample for this and subsequent analyses. SES (i.e., students' socioeconomic background) will be defined by a composite measure of the mother and father's educational attainment, family income, and mother and father's occupational prestige. Students in the top quartile of the SES composite variable will be considered high-income, those in the lowest quartile will be considered low-income, and those in the second and third quartiles will be considered middle income.

After constructing the sample in this manner, this set of research questions will be answered primarily with counts and percentages of students traversing various postsecondary pathways and descriptive statistics of average earnings for students who follow different paths. Cabrera, Burkum, and La Nasa's (2005) analysis of the various pathways students take to a four-year degree will be used as a model for this portion of the analysis. Means, medians, ranges, and standard deviations in earnings will be calculated for groups of students that follow each college-to-career pathway.

The second set of research questions may be stated as: What is the impact of SES on the various transitions that high-achieving students take in their college-to-career pathways?

a) What is the impact of SES on the likelihood that students will enroll in postsecondary immediately after graduating from high school?

b) What is the impact of SES on the quality and/or selectivity of the institution that students initially enroll in?

c) What is the impact of SES on postsecondary persistence and transfer behavior?

d) What is the impact of SES on students' likelihood of attaining a postsecondary credential generally and a bachelor's degree specifically?

e) What is the impact of SES on students' eventual weekly and/or annual earnings in the labor market once postsecondary pathway, attainment, and prior ability have been controlled for?

For sub-questions a) and b) which pertain to postsecondary access and choice, the same student sample described in the above paragraphs will be used. For question c) the sample will be restricted to only students that enrolled in a postsecondary institution during their first year of possible postsecondary. The full sample will once again be used for question d) to allow for the possibility of students delaying entry into postsecondary but still earning a postsecondary credential within the study time frame. Question e) will also utilize the full sample and investigate earnings for all high school graduates regardless of their postsecondary participation and attainment.

These questions will then be investigated through various statistical analyses and techniques. Because students will be clustered in larger groups or organizations (e.g. schools, colleges and universities, etc.) multilevel modeling techniques will be utilized for each analysis to control for higher level variables that are assumed a priori to impact the outcome of interest (Bryk & Raudenbush, 1992).

The general equation that will be used for these analyses can be expressed as:

$$(y_{ij}) = \alpha_j + \beta_1 x_{ij} + \beta_2 x_{ij} \ldots$$

$$\alpha_j = \alpha + \gamma_1 z_j + \gamma_2 z_j \ldots + u_j$$

where y_{ij} is the outcome of interest for that analysis and the β terms are the estimates of the impact of the student-level covariates (x_{ij}), such as SES, on the outcome (a full list of variables to be included in the analyses is provided in the appendices). The equation also assumes that the intercept varies randomly at the higher level (school or postsecondary institution, depending on the analysis), with each level-2 intercept being a combination of the grand mean intercept (α), fixed effects (γ) of level-2 covariates (z), and the level-2 random effect (u_j) which is assumed to be normally distributed with mean 0 and standard deviation σ_u.

The specific statistical technique that will be used to answer each sub-question will depend on the dependent variable for that analysis. For sub-questions with dichotomous outcome variables such as a) and d), multilevel logit models (Guo & Zhao, 2000) will be used. Sub-question b) will be addressed with multilevel ordinal regression (Hedeker & Gibbons, 1994; Williams, 2006) where the outcome is the selectivity of the institution a student enrolls in as indicated by the institution's ranking on the Barron's Admissions Competitiveness Index. Sub-question c) will be answered using the technique known as survival analysis, failure analysis, or event-history analysis (Hosmer, Lemeshow, & May, 2008; Kleinbaum & Klein, 2005). Separate models will be run defining the outcome as either leaving the higher education system entirely or leaving the particular institution which the student originally enrolled in. Sub-question e) will be addressed using multilevel linear regression (Bryk & Raudenbush, 1992). Earnings will undergo a log-transformation to linearize the parameters, a common practice in the literature on the effects of educational attainment on earnings (Mincer, 1974; Willis, 1986).

Uploaded Appendix Document(s):

- Variable List

Project Description II

Will you use NCES target dataset? Yes

Please check all NCES datasets that apply
- Baccalaureate and Beyond Longitudinal Study (B&B) and Transcript Data
- Beginning Postsecondary Student (BPS) Longitudinal Study and Transcript Data
- Educational Longitudinal Study of 2002 (ELS: 2002)
- IPEDS 12-Month Enrollment (E12)
- IPEDS Institutional Characteristics (IC)
- IPEDS Student Financial Aid (SFA)

Explain why each dataset best serves this research. Include a variable list for each dataset used.

NCES' Education Longitudinal Study of 2002 (ELS:2002) will be utilized in this study. This survey follows a cohort of students who were sophomores in 2002 and tracks their transitions into postsecondary and the labor market. The study currently provides a wealth of data on student backgrounds, high school experiences, and initial college access and choice information. The third follow-up with students, which will provide information on their postsecondary persistence and attainment rates and labor market experiences, was completed in 2012 and these data are scheduled to be released in the summer or fall of 2013 (as indicated via email by Elise Christopher, the director of the ELS:2002 study). If the data are released according to schedule no further NCES longitudinal surveys will be needed. However, in the event that the data release is postponed, ELS:2002 will be used for analyses of postsecondary access and choice while the Beginning Postsecondary Students study (BPS:04/09) will be used for analyses of persistence, transfer, and attainment patterns and the Baccalaureate and Beyond study (B&B:08) will be used for analyses of earnings. Although the latter option of utilizing three separate datasets would be sub-optimal given the difference in the surveys' sample designs, the research questions would still be answerable with this strategy. Additionally, data from the Integrated Postsecondary Education Data System (IPEDS) will be used for variables related to postsecondary institutional characteristics. Please see the appendices for a full list of variables from the datasets that will be utilized in this study.

Will you use NSF target dataset? No

Explain why each dataset best serves this research. Include a variable list for each dataset used.

Will you address the NPEC focus topic? No

If yes, please briefly describe:

Project Description III

Provide a timeline of key project activities:

Spring 2013: I will propose my dissertation topic in March of 2013. Following approval of my dissertation topic by my committee I will apply for Institutional Review Board (IRB) approval and finalize the first three chapters of my dissertation (background and problem statement, literature review, and methodology). I will also apply for restricted-use licenses for the NCES datasets during this time period. Prior to gaining access to the restricted-use NCES datasets, I plan on reading the technical documentation and user manuals related to these datasets in order to become familiar with the data.

May-July 2013: I will begin creating my datasets and analyzing the NCES data during this time period. Given the likelihood that the third follow-up data for ELS:2002 will not have been released yet, this period will be dedicated to generating descriptive statistics of the cohort and addressing the research questions related to college access and choice.

August-December 2013: I will begin addressing the research questions related to postsecondary persistence, attainment, and eventual earnings upon release of the third follow-up of ELS:2002 during this time period. I anticipate that all analyses will be completed by December 2013.

January-May 2014: During this period I will write up the results, conclusion, and discussion sections of my dissertation. I will send my dissertation to the National Center of Education Statistics for their review as mentioned in the restricted-use data procedures manual given my intent to use restricted data for my dissertation. I plan to defend my final dissertation in April or May of 2013, depending on the availability of the members of my dissertation committee. I will also attend the annual AIR Forum in Long Beach, California from May 18th to 22nd and submit my final report to AIR during this time.

List deliverables such as research reports, books, and presentations that will be developed from this research initiative:

The first deliverable that will be produced from this research is my dissertation which will be available in various dissertation databases. Apart from my dissertation, I also plan to publish multiple articles from this research. The first article will present the results of the analyses related to the first set of research questions in order provide researchers, policymakers, and higher education administrators with a general understanding of the college-to-career pathways that high-achieving, low-income students take. The next article will discuss the results of the second set of analyses that estimate the impact of SES on the various transitions in students' college-to-career pathways in order to demonstrate the relative impact of SES on these various stages. Three additional articles will focus on particular stages of the college-to-career pathway (college access and choice, persistence and attainment, and entry into the labor market) in order to go into greater depth on the influence of SES on each stage. Presentations on various aspects of this research will also be given at the conferences of AIR, the American Education Research Association (AERA), the Association

for Studies in Higher Education (ASHE), and the University Council for Educational Administration (UCEA).

Describe how you will disseminate the results of this research:

As discussed above, the results of the research will be primarily disseminated through traditional academic outlets such as peer-reviewed journals and academic conferences. I currently work in my university's Office of the Executive Vice President and Provost on issues related to college completion, and I hope to continue my work with university administrators in order to develop more effective policies and procedures designed to help high-achieving, low-income students succeed in postsecondary and make successful transitions into the labor market. I also hope to secure a position as a faculty member at a university upon graduating from my dissertation program and teach courses on college access, higher education and social mobility, social stratification and inequality, and quantitative research methods that are appropriate for studying these phenomena.

Provide a reference list of sources cited:

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IRB Statement

Statement of Institutional Review Board approval or exemption:

I plan to submit a proposal to my Institutional Review Board upon successfully proposing my dissertation topic and advancing to

candidacy around March of 2013.

Statement of Use of Restricted Datasets

Restricted NCES datasets will be used for the purpose of this research. I currently serve as a graduate research assistant for the University of Texas at Austin Education Research Center. This research center maintains a number of secure computer terminals without internet access that are appropriate for use of NCES and NSF's restricted-use datasets. Our research center is currently in the process of receiving final approval from NCES to obtain restricted-use licenses for a number of datasets, and I will be an authorized staffmember on this license. In February or March of 2013 I will work with my supervisor Dr. Celeste Alexander, who is the Principal Project Officer for our research center's license, to apply for license to use the ELS:2002, BPS:04/09, and B&B:08 restricted-use datasets. I spoke with Elise Christopher of NCES about gaining access to the ELS:2002 survey specifically by going through my research center and she foresaw no issues with my ability to obtain access to ELS:2002 or the other restricted datasets through my research center.

Biographical Sketch

Prior to beginning my doctoral program in educational policy and planning at the University of Texas at Austin (UT), I earned a bachelor's degree in English with a minor in sociology from UT and then began a master's program in educational policy, organization, and leadership studies at Stanford University. While I was a student at Stanford I worked as a research intern both for Dr. Susanna Loeb at the Institute for Research on Education Policy and Practice and for Dr. Milbrey McLaughlin at the John W. Gardner Center for Youth and Their Communities. Both of these experiences solidified my interest in educational research, and I entered my current doctoral program at UT immediately following the completion of my master's program at Stanford.

I am extremely fortunate to have worked as a graduate research assistant for Dr. Pedro Reyes at the University of Texas at Austin Education Research Center (TERC) for the entirety of my doctoral program, as he has provided me with the opportunity to be the lead data analyst and co-author on a number of studies related to students' postsecondary pathways and outcomes. One study investigated the impact of a variety of pre-college factors, such as advanced and dual-credit coursework, demographic characteristics, and qualities of the districts that students graduated from, on postsecondary outcomes using multilevel logistic regression and survival analysis techniques. The results of this study are available at http://www.utaustinerc.org/files/publications/HISD_Report.pdf.

One of the interesting findings from this study was that dual-credit courses appeared to be particularly beneficial for helping students succeed in postsecondary, so our research center partnered with an organization called Jobs for the Future to conduct a more in-depth analysis of the impact of dual-credit participation on postsecondary outcomes. I served as the lead data analyst for this study as well and used a variety of statistical techniques, such as propensity score matching and multilevel modeling, in conducting this research. The report is available at http://www.jff.org/sites/default/files/TakingCollegeCourses_101712.pdf. I have presented the results of these and other studies at multiple academic conferences in the past, and I had both of my session proposals accepted for the upcoming 2013 American Educational Research Association Conference.

I have also been extremely fortunate to align other professional and academic experiences with my research interests related to higher education policy. I participated in a year-long research course directed by Dr. Harrison Keller, UT's Vice Provost for Higher Education Policy, on increasing productivity in higher education. This course was supported in part by a grant from the Lumina Foundation which allowed us to travel to a number of AAU universities across the country and interview chancellors, presidents, provosts, deans, and other university administrators regarding a number of issues related to higher education productivity. I personally traveled to the University of Pittsburgh and the University of Illinois at Urbana-Champaign and met with a number of such administrators regarding these issues.

Following this course, Dr. Keller asked me to work with him as a research assistant in the Office of the Executive Vice President and Provost during the summer of 2012. That experience allowed me to connect with other UT administrators, and I am currently working as a research assistant on a project related to increasing UT's graduation rates headed by Dr. David Laude. These experiences have been extremely valuable to me as they have allowed me to better understand issues of student success from the perspective of actual university administrators and higher education practitioners, rather than from a solely academic or theoretical perspective.

I have substantial experience with quantitative methods and have participated in a variety of opportunities in order to hone my quantitative methodological skills. I recently completed a graduate portfolio program in applied statistical modeling offered by my university's Division of Statistics and Scientific Computation in which I became comfortable with correlation and multiple regression, logistic and probit regression, survival analysis, multilevel modeling, and structural equation modeling among other strategies, the majority of which I utilized in the studies mentioned above. I was also selected as a fellow forto participate in AIR's National Data Institute this past summer. The Institute familiarized me with the various datasets maintained by NCES and NSF and solidified my interest in conducting research on a national scale by employing various NCES and NSF datasets. Given my research and professional experience, my statistical abilities, and the training I received at AIR's Data Institute, I am confident that I will be able to successfully complete a rigorous and high-quality dissertation using NCES data with support from AIR's dissertation grant.

Budget Requirements

Salary/Stipend: $18835.00
Tuition and fees: $0.00
Travel: $1065.00
Other travel related expenses: $0.00
Other research expenses: $100.00
Total Request: $20000.00

Funding History

I have no prior, current, or pending funding for this research.

Letter of Support from Dissertation Faculty Advisor

- Letter of Support

Variable List

Educational Longitudinal Survey of 2002 (ELS:2002)

- *Student Level Variables*
- Sex (BYSEX)
- Race/ethnicity
  - Dichotomous indicators of racial categories (BYRACE_1 through BYRACE_5)
  - Indicator of Hispanic origin (BYHISPAN)
- Language
  - Home language (BYHOMLNG)
  - English fluency (BYSTLNG2)
- Parental education
  - Highest education obtained by either parent (BYPARED)
  - Highest education obtained by mother (BYMOTHED)
  - Highest education obtained by father (BYFATHED)
- Parental occupation
  - Mother's occupation (BYOCCUM)
  - Father's occupation (BYOCCUF)
- Parental income
  - Total family income (BYINCOME)
- Socioeconomic status composites
  - Socioeconomic status composite (BYSES1)
  - Quartile grouping of SES composite (BYSES1QU)
- Academic ability assessments
  - ACT composite (F1RACTC)
  - Most recent ACT composite (TXACTC)
  - ACT English (F1RACTE)
  - ACT math (F1RACTM)
  - ACT reading (F1RACTR)
  - ACT science (F1RACTS)
  - SAT math (F1RSATMM)
  - SAT verbal (F1RSATVM)
  - SAT composite (TXSATC)
- GPA/class rank
  - Transcript reported cumulative HS GPA (F1RGPA)
  - Honors-weighted transcript reported cumulative HS GPA (F1RGPH)
- Transcript data
  - Transcript availability indicators (F1RTR09-12)
  - Transcript school identifiers (F1RTRFL1 & F1RTRFLL)
  - Carnegie units (F1RHTUNP & variables of Carnegie units earned in various subjects)
  - Total academic units (F1RHTAC & variables of academic units earned in various subjects)
  - AP/IB course variables (F1RAPCA, F1RAPMA, etc.)
- HS completion/dropout status
  - High school completion by 2004 (F2F1HSST)

    - High school completion by 2006 (F2HSSTAT)
    - Year received diploma, certificate or GED (F2HSCPP2)
    - Follow-up 1 dropout status (F1DOSTAT)
    - Follow-up 2 dropout status (F2DOSTAT)
- Plans and aspirations
    - F1PSEPLN
    - Highest level of education respondent expects to complete (F2STEXP)
- Postsecondary applications & acceptances
    - Ever applied to postsecondary (F2EVRAPP)
    - Highest selectivity of institutions applied to (F2PSAPSL)
    - Number of schools respondent applied to (F2NAPPLY)
    - Percentage and number of schools which accepted respondent (F2PCTACC & F2NACCPT)
    - Highest selectivity of institutions that granted acceptance (F2PSACSL)
- Postsecondary enrollment
    - Has ever attended a postsecondary institution (F2EVRATT)
    - Link number of first postsecondary institution attended (F2PS1)
    - Level of first postsecondary institution (F2PS1LVL)
    - Control of first postsecondary institution (F2PS1CTR)
    - Sector of first postsecondary institution (F2PS21SEC)
    - Selectivity of first postsecondary institution (F2PS1SLC)
    - Entrance exam scores relate to average scores at first postsecondary institution (F2PS2EEX)
    - Enrollment intensity at first postsecondary institution (F2PS1FTP)
    - Reason chose to attend school (F2B14)
    - Major (F2MAJOR4)
- Postsecondary persistence & transfer
    - Whether transferred or switched postsecondary institutions (F2SWITCH)
    - Reason for taking break in postsecondary attendance (F2B19A-K)
    - Reason for no longer being enrolled (F2B29A-K)
    - Reason for transferring to another institution (F2B21A-K)
    - Number of postsecondary schools attended since high school (F2B10)
- Employment
    - Whether currently employed (F2C13)
    - Hours per week on current job (F2C18R)
    - Held internship or co-op job while enrolled (F2C25A & F2C30A)
    - Held work-study job while enrolled (F2C25B & F2C30B)
    - Hours worked weekly (F2C26R & F2C31R)
    - Whether could have afforded school without working (F2C28 & F2C33)
    - Additional variables related to earnings and employment following postsecondary (*Data from follow-up 3 not yet released*)
- Postsecondary attainment data
    - *Data from follow-up 3 not yet released*
-
- *<u>High School Level Variables</u>*
- School control (BYSCTRL)

- School urbanicity (BYURBAN)
- Geographic region of school (BYREGION)
- Percent free lunch (BY10FLP & BYA21)
- Percent minority (CP01-04PMIN)
- Percent LEP or non-English proficient (BYA20)
- Total school enrollment (CP01STEN)
- Student/teacher ratio (CP01STRO)
- Percent of 10^{th} graders in various high school program (BYA14A-K)
- Percent full-time teachers are certified (BYA24A)
-
- *Postsecondary Institution Variables*
- Level of institutional (F2ILEVEL)
- Control of institution (F2ICNTRL)
- Sector of institution (F2ISECTR)
- Institutional selectivity (F2ISELC)
- Open admission policy (F2IOPNAP)
- SAT & ACT percentile scores (from SAT & ACT variables in IPEDS)

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January 10, 2013

Selection Committee
AIR Dissertation Grants Program
Association for Institutional Research

RE: Letter of Support for Matt Giani

Dear Selection Committee,

Matt Giani has been my research assistant since he began his Ph.D. program in the fall of 2009 and I am serving as the chair of his dissertation committee. He is a capable researcher who has served as the lead data analyst and co-author on a number of studies we have collaborated on together, including a two-year study investigating the postsecondary pathways taken by students from a number of districts in Texas and a study that estimated the impact of students completing dual-credit coursework on their postsecondary outcomes. I am currently assisting Matt in preparing these studies for submission in peer-reviewed journals.

Matt is particularly adept at quantitative research methods. Both of the studies mentioned above utilized a statewide, longitudinal P-16+ database which provided Matt with extensive opportunities to manage and analyze educational data. Matt has recently completed a graduate portfolio program in applied statistical modeling offered by our university's Division of Statistics and Scientific Computation. He also participated in AIR's Data Institute this past summer which familiarized him with the various longitudinal surveys and educational datasets maintained by NCES and NSF.

Matt has developed a strong interest in issues of higher education policy and practice, particularly in the area of college student success. In addition to working as my graduate research assistant, he also currently works as a research assistant in the University of Texas' Office of the Executive Vice President and Provost on the issue of increasing institutional graduation rates. Because of his capacity to conduct sound research, his skill in quantitative methodologies, and his commitment to issues of student success, I believe Matt is an excellent candidate for AIR's dissertation grant opportunity.

Please feel free to contact me with any additional questions about Matt at the email address provided below.

Sincerely,

Pedro Reyes, Ph.D.
Executive Vice Chancellor for Academic Affairs
Ashbel Smith Professor of Education Policy
preyes@utsystem.edu