



Dear Ya-Chi,

Thank you for submitting your proposal. A printable summary is below. Your confirmation number is 19901. A confirmation email will be sent to you within 24 hours.

Applicants will be notified of the status of the proposed project on February 2, 2018.

If you have questions or need assistance regarding your application please contact the AIR Grant staff at 850-391-7109 or grants@airweb.org.

SUMMARY

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Discipline of highest degree	
Position description	
Staff members in IR office	
Campus type	
Years of experience in IR	
IR Roles	
Year of birth	
Race/Ethnicity	
Gender	
Grant Type	
I am applying for a:	
Dissertation Grant	

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Project Description

Project title:

Diversifying Graduate Education: The Need to First Understand What Contributes to Graduate Degree Aspiration Changes During College

Statement of the research problem and national importance (limit 750 words):

- What is the research problem this proposal intends to address?
- How does this topic relate to the research priorities areas of access, affordability, and value of legal or graduate/professional education?
- Why is this topic of national importance?
- Why is it timely to conduct this research at this time?

Students today enter college thinking not just about earning their bachelor's degree but also their master's and doctoral degrees (Eagan, Stolzenberg, Ramirez, Aragon, Suchard, & Hurtado, 2014). Statistics suggest that moving through the educational pipeline, from completing high school through earning a graduate degree, is a crucial factor in achieving higher earning potential, better occupational opportunities, and higher socio-economic status (Institute of Higher Education Policy, 2005; US Bureau of Labor Statistics, 2015). Though earning a graduate degree has become an expected outcome for many college freshmen, researchers suggest that educational aspirations change over time, especially during the course of adolescence (Eccles, Barber, Stone, & Hunt, 2003; Gottfredson, 1981). Scholars also show that students significantly lower their plans to obtain a graduate degree after three years in college (Carter, 1999; Jagesic, 2015; Pascarella, Wolniak, & Pierson, 2003; Pascarella, Wolniak, Pierson, & Flowers, 2004) but little is known about what shapes students' aspirations and particularly graduate degree aspirations.

Historically, graduate aspirations have been treated as fixed constructs, which neglects to consider that while students may begin college with or without a graduate degree aspiration, institutional environments can have strong effects on students (Astin, 1993). To respond to this gap in the literature, this study aims to look at how college students change their graduate degree aspirations between freshman year and junior year to better understand what shapes students' decisions in graduate degree aspirations. This research seeks to extend existing theoretical frameworks to take into account changes in graduate degree aspirations.

This research is of national importance and timeliness for several reasons. First, understanding college students' development of graduate degree aspirations can potentially increase the number of diverse students who pursue graduate degrees. Diversity of graduate education is key to improving the quality of graduate education because diverse researchers and professionals can increase the possibilities for greater innovation and technological advancement (National Academy of Science, 2011). Though African American and Hispanic students report higher rate of graduate degree aspirations in comparison to White students (Carter, 1999; Hanson, Paulsen, & Pascarella, 2016; Pascarella et al., 2004), they continue to be underrepresented in graduate schools (Allum & Okahana, 2015).

Kao and Tienda's (1998) study suggests that students of color might struggle to keep up with their graduate degree plans. They found that African American and Hispanic high school students tend to aspire to go to graduate school more than White students, but are less likely to maintain their degree aspirations throughout high school years. Their study is important in understanding why students' decisions to maintain or change degree aspirations can influence their future educational attainment, but their study is limited to high school students. My proposed work will focus on undergraduates who change or maintain graduate degree aspirations in order to understand the pathway that lead undergraduate students to graduate education. This study can help inform campus leaders and administrators who are committed to college students' pursuit of post-baccalaureate degrees to create and maintain environments that are supportive of students of color's academic development and their graduate degree goals.

Second, some scholars suggest two-year institutions are the places to promote more graduate students (American Association of Community Colleges, 2015; Mooney & Foley, 2011), yet most of the work in graduate degree aspirations focus on the four-year level. This study addresses the timely issue of access to graduate/professional education by incorporating students who begin in two-year institutions as well as four-year institutions. Indeed, if community college students can be provided with the support and resources they need to persist with their graduate degree aspirations, they will be more likely to move through the educational pipeline, from completing bachelor's degree through earning a graduate degree.

Third, this study informs an understanding of college students' affordability of graduate school by examining their undergraduate debt. Scholars suggest that undergraduate debt has a negative effect on graduate school aspirations and enrollment (Carter, 1999; Heller, 2001; Malcom & Dowd, 2012; Weiler, 1991, 1994). However, we don't know whether debt have a similar impact on students' decisions to change or maintain their graduate degree aspirations.

In summary, this research will inform our understanding of racial/ethnic differences and community college students' changes in graduate degree aspirations. This work is a first study attempts to model the relationship between what happened during undergraduate years (e.g. debt and engagement experiences) and students' degree aspirations changes. The findings of this investigation can lead to creating and implementing interventions to help keep students, and particularly underrepresented students, on track to pursue graduate education.

Review the literature and establish a theoretical grounding for the research (limit 1000 words):

- What has prior research found about this problem?
- What is the theoretical/conceptual grounding for this research?

PRIOR RESEARCH

Some scholars have suggested that educational aspirations change over time, especially during the course of adolescence (Eccles, Barber, Stone, & Hunt, 2003; Gottfredson, 1981; Kao & Tienda, 1998). However, most of these studies are lacking empirical support, or fail to investigate the reasons for changes in degree aspirations. Though more than half of the first-year college students expect to complete a graduate degree, they are not able to

keep on track of their plans over the college years. For example, according to the most recent Beginning Postsecondary Students Longitudinal Study (BPS:12/14), when surveyed in the freshman year, half of the sample students expected to earn a master's degree or a doctorate or first professional degree; however, three years after college entry, only 64% of those students who initially aspired to pursue graduate school continued to have such plans. In another longitudinal study tracking students from 18 four-year colleges, Pascarella et al. (2004) also found that respondents significantly lowered their plans to obtain a graduate degree after three years of college. Such decreases in educational plans during college are not unique to these samples (e.g., Carter, 1999; Jagesic, 2015; Pascarella et al., 2003) but little is known about what caused students to maintain or give up their graduate degree aspirations.

What we know so far about the graduate degree aspiration changes is limited to background differences. Kao and Tienda (1998) found that African American and Hispanic high school students tend to aspire to go to graduate school more than White students, but are less likely to maintain their high aspirations throughout the end of high school years. The decline of educational aspirations by African American males was especially dramatic. However, we don't know whether this applies to college students.

Among other background factors, there is also ample evidence of persisting gender differences in educational aspirations. In general, women are less likely to have post-baccalaureate degree aspirations (Hearn 1987; Pascarella et al., 2004; Rocconi et al., 2015). However, it was not discussed in the previous literature as to whether females just don't have graduate degree plans or they tend to lower their plans when progress through college years.

Furthermore, when looking at students' changes in aspirations at the college level, it is also important to know what colleges and universities can do to facilitate the desired changes. College impact models (e.g., Astin, 1993; Pascarella & Tarenzini, 2005) highlight the importance of institutional factors such as size, type, and control to understand how college affects students. Many empirical studies have found that students who attend two-year colleges were less likely to aspire to attend graduate school than students who attend four-year institutions (Dougherty, 1987; Velez, 1985; Carter, 1999). The "cooling-out" function of community colleges suggested by Clark (1960) might provide some insight as to students' future educational plans. Community colleges offer ambitious but poor, minority, and limited academic performance students access to lower-quality institutions and cool out students from pursuing higher degree goals (Clark, 1960). Therefore, it is possible that community college students initial graduate degree plans are easily cooled out in such an environment.

Research has also explored the influences of academic factors in graduate degree aspirations. Academic ability measured as college grade point average maintains a strong, independent effect on graduate degree aspirations (Davis, Amelink, Hirt, & Miyazaki, 2012; Mullen et al., 2003). Academic self-confidence also has a positive effect on educational aspirations (Carter, 1999). Engagement experiences such as participation in undergraduate research (Hathaway, Nagda, & Gregerman, 2002; Strayhorn, 2010), interactions with faculty (Arredondo, 1995; Kim & Sax, 2009), and interactions with peers (Davis et al., 2012; Horvat & Lewis, 2003) are important predictors to graduate degree aspirations. Many studies have also looked into academic college majors influence on graduate degree plans (Bedard & Herman, 2008; Heller, 2001; Mullen et al., 2003; Rocconi et al., 2015; Sax, 2001; Zhang, 2005) and found students majoring in some fields of study are more likely to aspire to graduate schools.

Debt and financial aids are also critical to students' graduate degree plan. Studies suggested that there is negative effect of debt on graduate school aspirations and enrollment (Heller, 2001; Malcom & Dowd, 2012; Weiler, 1991, 1994). And receiving an institutional grant or work-study has a positive effect on graduate degree aspirations, because students feel supported from their institutions (Carter, 1999; Hanson et al., 2016).

However, we do not know in regards to all these institutional characteristics, college experiences, and financial issue, what factors keep students on track to maintain their graduate degree aspirations and what lead to later changes regarding graduate degree aspirations. Therefore, this study will include several of these factors, identified by previous research, seeking to identify whether and which ones might influence college students' decisions to maintain or change their graduate degree aspirations.

THEORETICAL FRAMEWORK

The proposed conceptual model is adapted from Carter's (2001) and Pascarella's (1984) empirical model. This study includes two and four-year college students with a focus on the influences of race/ethnicity and debt. I advance the existing models on graduate degree aspirations by taking into account the changing status of graduate degree aspirations. Instead of looking at graduate degree aspirations as a fixed construct, I looked at degree aspirations as the status between two time points. The outcome of the proposed conceptual model has four categories, which are measured at a students' first year and third year of college. I define the outcome of the study in four categories and each student will fit into each of the following four categories: a) having a graduate degree aspiration at both freshman and junior year, b) having no graduate degree aspiration at either freshman and junior year, c) aspiring to a graduate degree at freshman year but no longer aspiring to a graduate degree at junior year, or d) not aspiring to a graduate degree at freshman but aspiring to a graduate degree at junior year. The conceptual model includes four parts of influences in the change of graduate degree aspirations: background characteristics, college experience, debt, and institutional characteristics. See Appendix A for the conceptual model.

Describe the research method that will be used (limit 1000 words):

- What are the research questions to be addressed?
- What is the proposed research methodology?
- What is the statistical model to be used?

RESEARCH QUESTIONS

Guided by the theoretical framework and previous research in graduate degree aspirations, my study seeks to answer the following questions:

- Q1. What is the profile of college students and graduate degree changes between freshman year and junior year?
 Q1a. What is the profile of African American, Hispanic, Asian, and White college students in graduate degree changes?
 Q1b. What is the profile of students enrolled in two-year and four-year institutions in graduate degree changes?
 Q1c. What is the profile of students' debt in graduate degree changes?

Q2. What is the influence of race/ethnicity, gender, college experiences, undergraduate debt, and institutional characteristics on graduate aspirations changes during the college years?

Q2a. What is the influence of race/ethnicity on graduate aspirations changes when controlling all other influences?

Q2b. What is the influence of institutional level on graduate aspirations changes when controlling all other influences?

Q2c. What is the influence of debt on graduate aspirations changes when controlling all other influences?

DATA

The study employs data from the 2012-14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14), a survey sponsored by the National Center for Education Statistics (NCES) that tracked students enrolling in postsecondary education for the first time. Students were surveyed at the end of their first academic year (2011-12) and then participated in follow-up surveys at the end of their third academic year (2013-14) after beginning college. Data include student persistence in, and completion of, postsecondary education programs, transition to employment, demographic characteristics, and changes over time in goals, marital status, income, and debt, among other indicators. For the purpose of this study, students who have ever enrolled in for-profit colleges and universities were excluded for analysis.

SAMPLE

The sample includes college students who began their postsecondary education at two-year and four-year institutions in 2012 and remained enrolled in 2014. A total of 9,808 students are included in the analysis. Among them, 40% constantly had a graduate degree aspiration at both freshman and junior year and 31% of the students did not have graduate degree aspirations at either freshmen or junior year. Twelve percent of the college students had no graduate degree aspiration at freshman year but became aspired to graduate degree at junior year; 17% had a graduate degree aspiration at freshman year but didn't aspire to graduate degree at junior year.

VARIABLES

For the purpose of this study, I define the outcome variable into four categories. These four categories define a student's graduate aspiration status between freshman year and junior year from the same question on each of the BPS 2012 survey and the 2014 follow-up survey: "What is the highest degree you expect to attain?" A student can fit into one of the four categories: Category 1 are the students who constantly have a graduate degree aspiration at both freshman and junior year; Category 2 are the students who constantly have no graduate degree aspiration at either freshman and junior year; Category 3 are the students who aspired to a graduate degree at freshman year but no longer aspire to a graduate degree at junior year; Category 4 are the students who did not aspire to a graduate degree at freshman but aspire to a graduate degree at junior year. With the Category 1 as the reference group because it is the most desirable of the outcome.

The dependent variable is a combination of an individual's responses to the same item on the BPS 2012 survey and the 2014 follow-up survey: "What is the highest degree you expect to attain?" The two items are recoded into 1=had a graduate degree aspiration and 0=had no graduate degree aspiration. A complete list of the variables in the study is presented in Appendix B.

ANALYTIC PLAN

Descriptive Analysis

Descriptive analyses will help answer the research question 1 by examining whether graduate degree aspirations changes differ across racial/ethnic groups and across students enrolled in different levels of higher education institutions (two-year and four-year), and whether debt situations are different across groups. I will perform a chi-square analysis and one-way ANOVA to examine whether significant differences are evident across different student groups. This phase of the analytic plan will provide a general understanding of group differences and will inform our interpretation of results from the final multivariate stage of analysis.

Hierarchical Generalized Linear Models

In order to answer research question 2 and identify significant factors that influence students' changes and maintenance in graduate degree aspirations, this study uses hierarchical generalized linear modeling (HGLM) to analyze the data. HGLM is a type of Hierarchical Linear Modeling (HLM) that is appropriate to use when analyzing multilevel data to predict a categorical outcome (Raudenbush & Bryk, 2002). The BPS data has a clustered design, as students are nested within institutions and HGLM accounts for the inherent hierarchical nature of such data and provides robust standard errors to reduce the likelihood of Type I statistical errors (Raudenbush & Bryk, 2002). Refer to Appendix C for the modeling equations associated with HGLM.

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Project Description - Appendix

- [Appendix](#)

Datasets

List the datasets that will be used and explain why they best serve this research (limit 500 words)

Data for this study come from the 2012-14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14), a survey sponsored by the National Center for Education Statistics (NCES) that tracked students who are enrolling in postsecondary education for the first time. Students were initially surveyed at the end of their first academic year (2011-12) and then received invitations to participate in follow-up surveys at the end of their third academic year (2013-14) after entry in to postsecondary education. The BPS:12/14 dataset contains information on total 24,766 students. While exploring college student's aspirations in different graduate programs, such as law school or business school is valuable to understanding nuances in graduate education, this dataset only contains the information of the level (master's or doctoral) of graduate degree a student aspires to, so does not allow me to disaggregate specific degrees.

Still, this dataset is appropriate for the proposed study because this national survey consists of data on college students' first-year and third-year degree aspirations, and on many aspects of college experiences, which allows me to explore the environmental factors contributing to students' change or maintenance in graduate degree aspirations between college years.

Statement of use of restricted datasets (limit 250 words):

Applicants should provide a statement indicating whether the proposed research will require use of restricted datasets. If restricted datasets will be used, the plan for acquiring the appropriate license should be described.

If restricted datasets will not be used, leave this text box blank and click *Save and Continue*.

The research uses restricted-use data from the BPS:12/14. I am currently authorized to use these restricted-use data through a site license at the Center for the Study of Higher Education of The Pennsylvania State University.

Timeline and Deliverables

Timeline:

Provide a timeline of key project activities.

I successfully defended my dissertation proposal in October 17, 2017. I have completed the Introduction, Review of the Literature, and Methods chapters of my dissertation. I have secured access to the data, and completed preliminary analysis on this research project. Here is the timeline for my dissertation research.

Spring 2018

- Refine variables for analysis
- Conduct missing data analysis
- Clean data
- Refine data analysis plans as needed

Summer 2018

- Finalize data cleaning
- Perform data analysis

- Prepare and submit mid-year progress report

Fall 2018

- Finalize data analysis
- Write up results and prepare final report
- Present findings at the 2018 AccessLex Institute Legal Education Research Symposium
- Present findings at the 2018 annual conference of the Association for the Study of Higher Education
- Prepare and submit end-year progress report

February 2019

- Submit final report
- Prepare drafts to submit for peer-reviewed publications

Deliverables:

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

I will submit mid-year and end-year progress reports and a final report to AIR and present findings at the 2018 AccessLex Institute Legal Education Research Symposium. I will also submit a proposal and present at the 2018 annual conference of the Association for the Study of Higher Education.

Disseminate results:

Describe how you will disseminate the results of this research.

(Note: Costs of travel to meetings should be calculated on the budget page.)

The final dissertation will be submitted to AIR and presented at the Symposium. I will also write research articles based on the research and submit them for publication in top-tier peer-reviewed journals (i.e. The Review of Higher Education, Research in Higher Education, Journal of Higher Education).

IRB Statement

Statement of Institutional Review Board approval or exemption (limit 250 words):

As part of the proposal, a statement outlining a plan for Institutional Review Board (IRB) approval is required. The statement should outline the applicant's timeline and plan for submitting the proposal to an IRB or explain why IRB approval is not necessary. Final IRB action is not necessary prior to submitting the application.

The IRB for this research will be reviewed by the Institutional Research Board at the Pennsylvania State University. My research proposal is expected to be exempt because I will be using de-identified data.

Biographical Sketch(es)

Biographical sketch (limit 750 words):

Ya-Chi Hung is a doctoral candidate in the Pennsylvania State University's Higher Education program, with a minor in Educational Psychology. Her research interests are college student development, diversity of higher education, and institutional research. Specifically, she is interested in using quantitative methods and analyses drawn from large-scale databases to study college student experiences. Hung has extensive training and experience in advanced quantitative research methods involving large-scale national and state longitudinal databases. She also received training in the AIR/ASHE IPEDS Workshop. With the training from her coursework and research experiences, she performs advanced analysis and modeling techniques, such as data mining, time series analysis, and structural equation modeling with her advanced knowledge of SPSS, SQL, R, and Stata, among others.

Hung has worked in various government funded research projects that were dedicated to improve the equity and diversity of education. One of these projects evaluated the impact of college access services on high school graduation and college access for low-income students in the state of Pennsylvania. Based on the results of the project, she co-authored and presented with her colleagues at the annual meeting of the Association for Institutional Research.

Hung possesses strong research design, implementation, and analytic skills, and has used these skills in her work as a data analyst graduate assistant for three years in the Office of Student Affairs Research and Assessment at Penn State. In this role, she conducted research and assessment projects for the University's main campus and other 20 plus Commonwealth Campuses. Examples of these are the Student Experience Survey, the Sexual Misconduct Climate Survey, and program evaluations for Penn State SAFE, an online alcohol education program. She developed extensive and advanced knowledge of MS Access and SPSS for extracting, managing, manipulating, aggregating, analyzing, mining, visualizing, and reporting data. As a result of working in research and assessment, she has become strongly committed to supporting a culture of data literacy and evidence-based decision making.

For her dissertation research, Hung has performed a thorough review of BPS:12/14 data, completed an extensive review of the literature, and developed appropriate analytic plans. Her content and methodological expertise, along with her experiences working with data, qualifies her to complete the proposed study.

Budget

- [Dissertation Grant Budget](#)

Funding History**Funding history (limit 250 words):**

A statement of prior, current, and pending funding for the proposed research from all sources is required. The statement should also include a history of all prior funding from AIR to any of the PIs for any activity. Funding from other sources will not disqualify the application but may be considered in the funding decision.

I have not applied for other dissertation grant programs for this proposed research. I have no prior funding history from AIR or other organizations.

Dissertation Advisor Letter of Support

- [Letter of Support](#)

How Did You Hear About This Grant Opportunity?

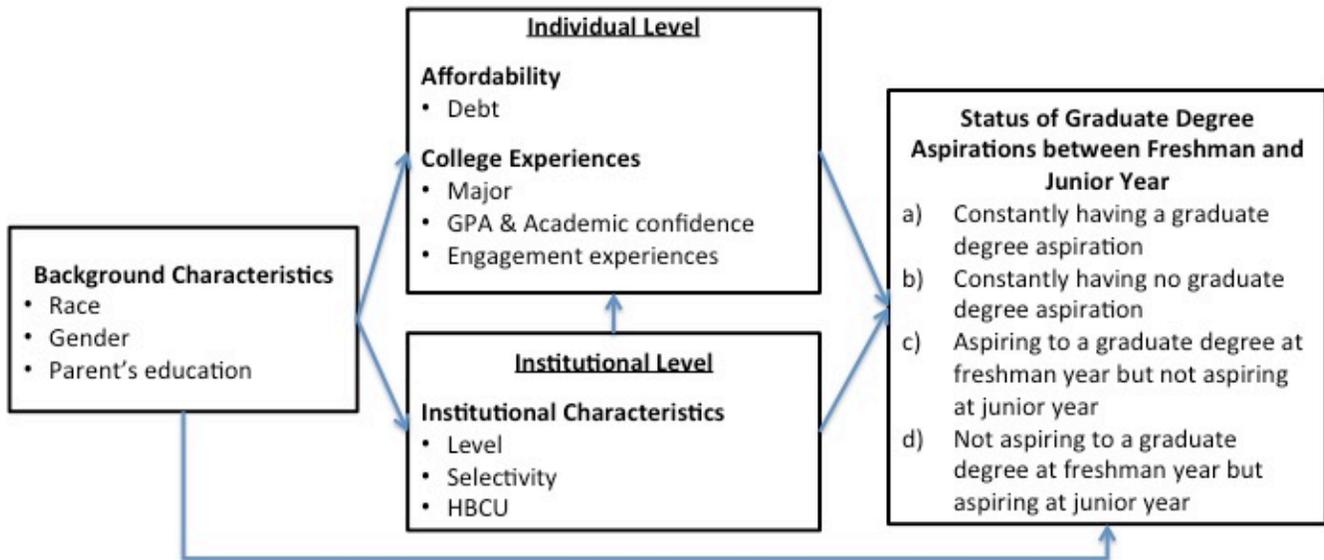
Check all that apply:

- Association for Institutional Research (AIR) website or direct communication
- Association for Institutional Research (AIR) eAIR Monthly electronic newsletter

n/a

Appendix A. Conceptual Model

Factors Influencing College Students' Change of Graduate Degree Aspirations



Appendix B. List of Variables in the Proposed Study

Variable Name	Description	BPS:12/14 Label
Dependent Variable		
Status of Graduate Degree Aspirations between freshman and junior year	a) Constantly graduate degree aspiration b) Constantly no graduate degree aspiration c) Decrease graduate degree aspiration d) Increase graduate degree aspiration	HIGHLVEX DGEVR14
Independent variables		
<i>Background Characteristics (Individual Level)</i>		
Gender	1=female;0=male	GENDER
Race/ethnicity	A series of dummy codes for African American, Asian, Hispanic with White as the reference category	RACE
Age	Age at the time of first enrollment in postsecondary education	AGE
Parental Education	1=have bachelor's degree; 0=no bachelor's degree	PAREduc
<i>Affordability and College Experience (Individual Level)</i>		
Debt	Total loans	TOTLOAN
Major	Recoded and reduce to eight major fields	MAJOR23
Academic confidence 2012	Scale 1 to 5	CURCONF
Academic confidence 2014	Scale 1 to 5	CURCONF14
Engagement 2012	A combine of five engagement items from the measure in the 2012 survey: interaction with faculty, interaction with peers, satisfaction with academic studies, social experience, and sense of belonging	FACULTY PEERINT ACDSATIS SOCSATIS BELONG
Engagement 2014	A combine of five engagement items from the measure in the 2014 follow-up survey: interaction with faculty, interaction with peers, satisfaction with academic studies, social experience, and sense of belonging	FACULTY14 PEERINT14 ACDSATIS14 SOCSATIS14 BELONG14
College performance	Grade point average through 2014	GPALAST14
<i>Institutional Characteristics (Institutional Level)</i>		
Control: private	1=private; 0=public	CONTROL
Level: 4-year	1=4-year; 0=2-year	LEVEL
Selectivity	Selectivity of the respondent's first enrolled postsecondary institution	SELECTV2
HBCU	1=yes; 0=no; historical black college indicator at first institution 2011-12	HBCU

Appendix C. Hierarchical Generalized Linear Modeling

The within-college model is shown below, where i denoted the student and j denotes the institution.

$$Y_{ij} = \beta_{0j} + \beta_{1j} * (\text{Background Characteristics})_{ij} \\ + \beta_{2j} * (\text{College Experiences})_{ij} \\ + \beta_{3j} * (\text{Debt})_{ij} + e_{ij}$$

The between-college model is expressed as the follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * (\text{Institutional Characteristics})_j + \mu_{0j}$$



Dissertation Grant Proposal Budget Form



Name: Ya-Chi Hung

Salary

\$

Travel

2018 AccessLex Institute Legal Education Research Symposium:

\$

Other research related travel:

\$

(*Note:* Other planned travel should be listed in the "Timelines and Deliverables" section)

Other research expenses

Please provide a breakdown of expenses below and add the total value in the box to the right. Allowable expenses include: materials, such as software, books, supplies, etc.; consultant services, such as transcription, analysis, external researchers, etc.; and costs for publishing articles in journals. The purchase of computer hardware, overhead or indirect costs, and living expenses are not allowable. If you have questions about specific expenditures, please contact AIR.

\$

TOTAL REQUESTED – Maximum Allowable is \$25,000

\$



Center for the Study of
Higher Education

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University Park, PA 16802-3201

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<http://www.ed.psu.edu/cshe>

November 29, 2017

Re: Letter of Support for Ms. Ya-Chi Hung

Dear Selection Committee,

I write in strong support of Ms. Ya-Chi Hung's application for the The AccessLex Institute/AIR Research and Dissertation Fellows Grant Program. I am her advisor and dissertation chair and have worked closely with her on multiple research projects since she entered graduate school. I am also working closely with her on her dissertation topic which she successfully defended her proposal in October 2017. I am confident that Ms. Hung will successfully complete her dissertation in the period necessary to meet the eligibility parameters of this grant competition. Ms. Hung has strong analytic skills that she has honed over her graduate school career.

Ms. Hung plans to study how graduate degree aspirations change between the first and third year of college. Ms. Hung's dissertation topic and subsequently, understanding the factors that lead to pattern variations in graduate school aspiration is important for at least three reasons: 1) maintaining graduate aspirations are predictive of actual graduate school attendance so understanding how diverse students' alter their graduate school aspirations has implications for how colleges and universities work with students' future educational goals; 2) we know very little about how students' aspirations change among those students who begin at the community college so this work will expand our understanding of the factors that shape students attending both community colleges and traditional four-year colleges; 3) colleges and universities are increasingly tasked with measuring student outcomes and the percentage of students who move onto graduate school is typically an outcome measure of interest. Ms. Hung's work will inform not just what shapes maintenance of aspirations but also what may account for students who lower their aspirations for graduate school as well as students who raise their educational aspirations for graduate school. Ms. Hung's dissertation will also advance a new theoretical understanding of graduate aspirations changes as she is creating various measures of change that she will then test as predictors of aspiration change. Her work addresses the competition call as her dissertation will inform how access to graduate education occurs via graduate aspirations. She is focusing on both gender diversity as well as racial and ethnic diversity and her work also

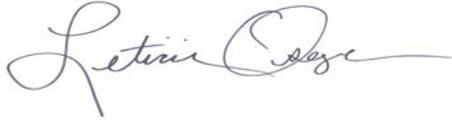
informs diversity across institutional sectors. Ms. Hung has already been granted access to work with the restricted-use 2012-14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14) data and has already begun cleaning the dataset.

I am confident that Ms. Hung has the requisite methodological and analytic skills to undertake her proposed research of study. Her interest in access to educational opportunities has persisted throughout graduate school. Ms. Hung helped me with a funded evaluation of several high school college access centers throughout the state of Pennsylvania. In this particular project, Ms. Hung worked with data collected or hosted from different agencies, including the State Department of Education, the National Student Clearinghouse, school district offices, high schools that hosted the college access program, and the college access program centers. These data files were mostly non-uniform and required extensive cleaning. Her main role was to lead the team in the data cleaning and analysis process. She also conducted site visits, interviewed center coordinators, co-wrote the final evaluation report, and presented the results with the team to the National Program Office. In 2014, we also co-wrote and presented a paper titled: *Evaluating a college access program- Being flexible and maintaining fidelity* at the annual meeting of the Association for Institutional Research. Ms. Hung was proactive in her role as one of the lead graduate assistants on this project and the skills I witnessed will translate well into a sophisticated study on graduate aspirations and diverse student populations.

With an interest in institutional research, Ms. Hung further strengthened her research and analytic skills through working as a data analyst for three years in the Office of Student Affairs Research and Assessment at the Pennsylvania State University. In her position, she was responsible for survey design, data collection, survey sampling, and data analysis. She analyzed student record data from Penn State's Data Warehouse together with student survey responses to explore the relationship between student inputs, experiences, and various student outcomes. She also wrote and disseminated findings to support decision-making in student services. Supporting other offices within Student Affairs, she collaborated with the Center for Collegiate Mental Health in analyzing student counseling experiences and graduation rate, and co-authored a peer-reviewed journal article based on the findings. Through years working as a data analyst, Ms. Hung has developed strong skills in working with large datasets and performing advanced statistical analysis and modeling.

Ms. Ya-Chi Hung's experience in research and assessment along with her training in the Higher Education doctoral program has prepared her with the essential skills to perform and complete her proposed dissertation study. Please do not hesitate to contact me at lzo1@psu.edu or at 814-863-2659 if you have any questions about her work.

Sincerely,

A handwritten signature in cursive script, reading "Leticia Oseguera". The signature is written in black ink and is positioned below the word "Sincerely,".

Leticia Oseguera, Ph.D.
Associate Professor and Senior Research Associate
Center for the Study of Higher Education
Department of Education Policy Studies
Pennsylvania State University