

2005 AIR DISSERTATION FELLOWSHIP PROPOSAL

**Exploring the Effects of Financial Aid
On the Gap in Student Dropout Risks by Family Income**

Database: BPS:96/01 & IPEDS

Fellowship Amount Requested: \$10,000

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Project Summary

The last decade has witnessed a shift in student funding from grants to loans and a widening gap in college educational attainment between students from the affluent and poor families. Although there have been some important studies on the effects of financial aid on student dropout behavior in general, research focusing on understanding the differences in dropout risks among income groups and the role that different types of aid play in reducing these gaps is virtually nonexistent. My dissertation will fill this void in the literature by examining how the sources of aid differentially affect the dropout risk of students based on family income.

By using event history methods to investigate the longitudinal process of student dropout, this study will examine what types of aid are relatively more effective in lowering the dropout risk of certain income groups. The results will allow us to identify the types of aid that help reduce the dropout risk gap among income groups. A nationally representative sample from the Beginning Postsecondary Students Survey will be used. It includes measures of important predictors of student dropout, allows us to track student careers over a six year period, and the observation period spans substantially important variations in student aid policies in higher education. This dissertation will push the methodological and conceptual boundaries of higher education research, as well as provide policy-makers with much needed empirical evidence on how financial aid can be used to reduce the substantial difference in dropout risks among these students.

Project Description

Statement of Problem

Nearly forty years ago, the first U.S. Higher Education Act institutionalized federal support for higher education as a national interest and pledged that no student would be denied the opportunity for postsecondary education due to financial constraints. Accordingly, policymakers set out to implement a system of financial aid that would meet these goals.

The last decade, however, has witnessed a dramatic shift in college student funding from grants to loans, and a widening gap in educational attainment between students from affluent and poor families. Although student financial assistance increased by 139% from 1993 to 2003 (College Board, 2003a), federal grant aid increased by only 47%, while federal loan disbursement rose by 137% and non-federal loans by 427%. Along with these changes in financial aid policies since the early 1990s, widening gaps of student affordability and educational attainment by family income are evident. In the last 10 years, the total costs at public four-year institutions have remained constant at about 6% of income for students from high income families, but for low-income families, the share of income required to cover the costs rose from 64% in 1993 to 71% in 2003 (College Board, 2003b). Moreover, among the first-time beginning students who entered college during the 1995-96 academic year, 56 % of students from high-income backgrounds attained a bachelor's degree, while only 26 % of youth from low-income families earned a bachelor's degree (National center for Educational Statistics, 2003). It is believed that this educational attainment gap is partly due to the fact that lower-income students have insufficient resources to pay the bills for higher education and are more sensitive to these financial aid policy shifts in their dropout decisions (Price, 2004; Tinto, 2004).

Although there have been some important studies on the effects of financial aid on student dropout behavior in general, research focusing on understanding the differences in dropout risks among income groups and the role that different timing and types of aid play in reducing these gaps is virtually nonexistent. My dissertation will fill this void in the literature by examining how the sources of aid differentially affect the dropout risks of students based on family income. This research is important because education, particularly higher education, is a major means of social mobility for low socio-economic groups, and any improvement in the educational attainment of these students would provide substantial individual and social benefits.

Proposal of Work

Research Questions

With the purpose to examine the variation in aid effect by parental income, this dissertation addresses the following major research questions:

- How different types of aid were distributed among students of various parental income backgrounds?
- Were there any differences in the dropout risk between students from low-income families and their upper-income counterparts?
- What impacts did different types of financial aid have on student dropout in general, and did the impacts vary over time?
- Did the aid effects vary across parental income groups? In other words, were there any types of aid that were relatively more effective in lowering the dropout risk of certain income groups, especially in reducing the risk gap between low-income students and their upper-income counterparts?

Theoretical Framework

Often, scholars examine the issue of student dropout from a number of theoretical perspectives: psychological, societal, organizational, interactional, and economic approaches. The psychological perspective emphasizes psychological attributes of individual students (Bean, 1980), whereas the societal perspective focuses more on broader social forces (Pascarella & Terenzini, 1980). The organizational approach (Spady, 1970) sees student dropout as affected by immediate organizational influences; while interactional theory stresses both individual and environmental forces (Tinto, 1975). Viewing higher education as an investment for students, the economic approach (St. John & Starkey, 1995) maintains that decisions to leave college are no different from any other economic decision that weighs the costs and benefits of alternative ways of investing one's economic resources. Accordingly, financial attributes, such as tuition and financial aid, are included in this line of research.

The existing theoretical approaches have laid solid foundations for our explanation of student dropout process. They are, however, deficient in a number of ways. While the psychological approach ignores external factors, the societal theories are insensitive to important institution-specific characteristics, and models using the organizational perspective have not adequately explained how organizational factors influence students' dropout decisions. Similarly, while interactional approach does not include important financial variables, the economic approach has not paid due attention to the importance of academic and social integration.

Moreover, two important elements are missing from all of these theoretical perspectives. One is the temporal dimension, in particular how the timing of financial aid influences student dropout risks. Prior studies provide only "snapshots" for understanding the aid effects at one or

two points in time, rather than giving a comprehensive and longitudinal picture of student careers in higher education. The other missing element is the variation of aid impacts by family income, the information of which can help policymakers identify what types of aid are relatively more effective in reducing the dropout gap due to income disparities. Thus, my dissertation will create a new model that integrates the best of the existing theoretical frameworks, and remedies some of the deficiencies by introducing these two new elements.

Research Methodology

Data source and sample

I will use data from the Beginning Postsecondary Students survey (BPS:96/01) and the Integrated Postsecondary Education Data System (IPEDS), both of which are sponsored by the National Center for Educational Statistics (NCES). The BPS:96/01 is a nationally representative survey that follows a cohort of students who started their postsecondary education during the 1995-96 academic year over a six-year observation period. It contains year-by-year information on student dropout, financial aid, as well as other important factors such as indices measuring students' social and academic integration. In addition, the BPS:96/01 provides timely information about aid policy changes during the 1990s (Dowd, 2004). Given these advantages, BPS:96/01 presents a unique chance for this study to examine the effect of financial aid on student dropout risk over time. IPEDS is a comprehensive system that consists of institution-level data, and provides information for institutional characteristics. As substantial differences exist in student dropout between two-year and four-year institutions (Tinto, 1998), and degree completion is often not the ultimate goal of students attending two-year colleges, this dissertation will focus on undergraduate student dropout at four-year institutions only.

Research variables

The preliminary models will consider the following variables from the BPS 96/01 and IPEDS: the outcome will be measured by a dichotomous variable (dropped out or did not), and the explanatory variables will be chosen based on the conceptual model I developed and include eight clusters measuring the constructs shown below.

Student background: This group of variables includes gender, race/ethnicity, and parental income and education. Prior studies exploring the relationship between gender and dropout have produced inconsistent results (Hu & St. John, 2001); minority students are often competitively disadvantaged in degree completion (e.g., Pascarella & Terenzini, 1991); and students who drop out of college are more likely to come from families with lower levels of education and income (e.g., Tinto, 1987).

Student educational aspiration: This variable can be seen as a non-cognitive dimension of dropout phenomenon, and its impact has been well documented in the literature. Previous studies (e.g., St. John & Starkey, 1995) suggested that students with high aspirations had significantly lower dropout rates.

Academic integration: Student performance such as high school GPA, college entrance examination performance, college GPA, as well as their academic interaction in college are important in predicting dropout (e.g., DesJardins, McCall, Ahlburg, & Moye, 2002). The present study will include both student academic performance and an interaction index that is based on a multiple-item scale measuring whether students participated in study groups with other students, and talked with faculty regarding academic matters, etc.

Social integration: This study will also use housing status (on/off campus), and a four-item index measuring students' contact with faculty outside class, and spending time in student centers or participating in student programs, etc., as the social integration construct.

Institutional characteristics: Considerable differences in student dropout rates are found by institutional type and control. For instance, private institutions as a group appear to have lower rates of dropout than public universities (e.g., Pascarella & Terenzi, 1991).

Financial factors: This cluster of variables includes student aid and cost of college tuition. In prior research the direction of aid effects was inconsistent. For example, the effects of grant and scholarship aid were negatively related to student dropout in some studies (e.g., Jensen, 1984); while in other research (e.g., Moline, 1987) no significant relationship was discovered. Regarding the effects of loans, a few studies demonstrated that Federal Perkins Loans had a strong negative relationship with dropout (e.g., Vorhees, 1985); some maintained that loans had no impact (e.g., Peng & Fetters, 1978); while others (e.g. DesJardins, Ahlburg, & McCall, 1999) found that loan-receivers were more likely to leave college. Limited research generally found that a higher level of tuition relates to a higher rate of student dropout (Heller, 1997).

Interaction effect: Apart from the traditional independent variables, the present study will add an interaction of financial aid and parental income to examine the variation of financial aid effects by income groups. According to two existing studies examining the interaction effect (e.g., Chen & DesJardins, 2004; Dowd, 2004), dropout rates for low-income students and non-low-income individuals were significantly different, but no evidence showed that any specific types of aid were effective in closing the dropout gap.

Time-varying effect: Finally, a time variable that enables an examination of the time-varying effect of predicting variables will also be considered. Limited studies demonstrate that

college GPA's negative effect on dropout appears to wane as time passes (e.g., DesJardins et al., 1999), and loans and student employment reduce dropout probabilities in the later years of one's student career (e.g., Ishitani & DesJardins, 2002).

Statistical method

The analysis will investigate the impact of aid on student dropout, with a particular focus on comparing the aid effect for low-income students versus their upper-income counterparts during the six-year observation period. Given the longitudinal nature of the student dropout process, event history analysis will be utilized. This technique permits one to determine whether certain types of financial aid have effects that change over time, and how various factors are related to student dropout rates at different points in a student's academic career. Originally developed in biostatistics modeling human lifetimes (e.g., Cox, 1972), event history analysis has been applied in economics and sociology modeling social transitions (e.g., Allison, 1982). Only recently has this technique been used to study the timing of educational events, even though it is more appropriate and powerful than cross-sectional approaches (Willett & Singer &, 1991). By now this method has been better understood and accepted as an ideal analytical tool to investigate how multi-faceted factors influence student dropout over time (e.g., DesJardins, 2003).

Initially descriptive statistics will be analyzed by income groups to characterize the relationship between income, financial aid, and student dropout. Factor analysis will then be conducted for the index variables measuring student academic and social experiences in higher education. In the event history model, the researcher will examine whether the likelihood of dropout varies by parental income and aid received. The differences in rates will be illustrated by

hazard function plots, and the variation in aid effect by income groups will be examined by testing the significance of the interaction effect between aid type and income level.

Dissemination Plan

The results of this study will be disseminated through national conferences and publication. Proposals for presentations will be submitted to professional conferences such as the yearly conferences of the Association for Institutional Research (AIR), the American Educational Research Association (AERA), and Association for the Study of Higher Education (ASHE). Preliminary findings from this study emphasizing the variation in aid effect on student dropout by income groups will be presented at each of these meetings. A final project report will be submitted to the AIR office in June 2005. After the dissertation is sufficiently refined with the help of the dissertation advisor, I will seek to publish the findings in scholarly journals such as *Research in Higher Education* and *Journal of Student Financial Aid*. Other dissemination possibilities include sending summaries of the research findings to scholars and organizations interested in low SES student success in higher education.

Innovative Aspects of Project

Although there have been substantial studies on financial aid on student dropout in general, little attention has been paid to the differences in dropout risks among income groups and the role that different types of aid play in reducing these gaps. Thus, differentiating the aid effects on dropout risks between students from low-income families and their higher-income counterparts as proposed in this project will be an innovative study in this field of research. The dissertation will also provide a theoretical base for a better understanding of this social-economic status related gap in student dropout risks, as well as for an improvement of low-income students' long-term educational development.

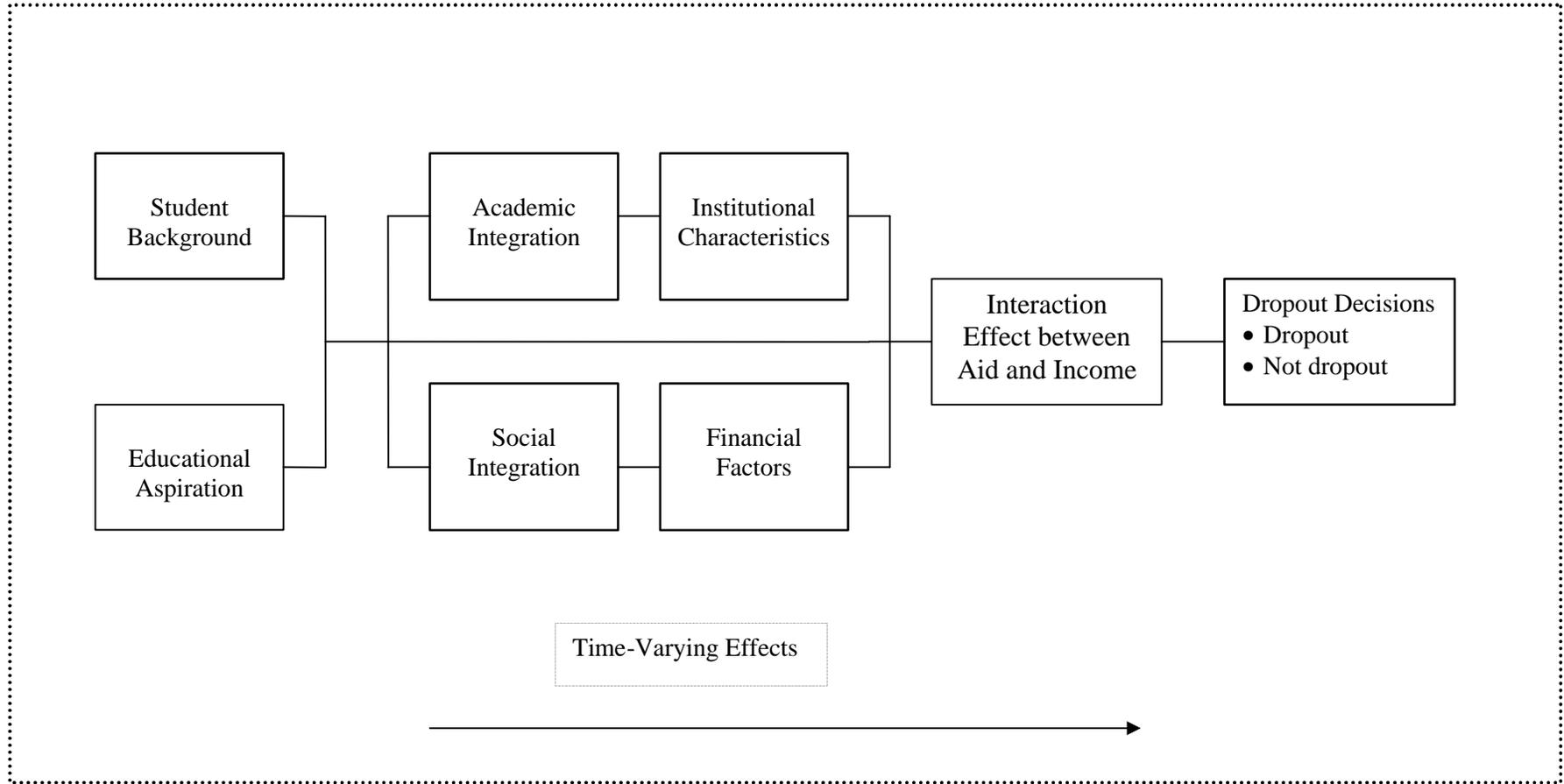
Policy Relevance/Significance of Research/Intended Audience

Identifying the relative effectiveness of financial aid in closing student dropout risks by family income is a crucial step in the effort to help low-income students become successful in their higher educational career. This dissertation intends to offer important contributions to financial aid policies, institutional retention practice, and higher education research. First, it will provide detailed information for a better understanding of the dropout risks gap between low-income students and their upper-income counterparts over the six years from 1996 to 2001. Given that this period was a time when student aid policies were experiencing a shift from grants to loans, this dissertation will help identify what types of aid are relatively more effective in reducing the dropout risks due to parental income disparities. The results of this research will inform the discussions surrounding the reauthorization of the Higher Education Act, and assist policy makers to improve the educational prospects of low-income students in the long term. Second, the findings regarding the impact of the student college experience will be constructive for institutional planners to establish or adjust student retention programs at the institutional level. Third, creating and testing the new theoretical framework I developed would be an important contribution to the dropout research. In a preliminary study presented as a conference paper, I explored how financial aid affects the gap in student dropout risks by family income in the first two years of college. By examining student careers over a six year period, this dissertation, a logical extension of my previous work, will push the methodological and conceptual boundaries of higher education research, as well as provide much needed empirical evidence on how financial aid can be used to reduce the substantial difference in dropout rates among these students.

Institutional researchers and administrators at institutional level, as well as educational policy makers at the state and national levels will be the major audience of the project. The proposed model in the dissertation will inform institutional researchers of a new research framework for their future investigation of student retention. The findings of the variables that influence the retention of undergraduate students will help administrators have a complete understanding of the barriers to persistence and better promote student success in higher education. Moreover, policy-makers at both state and national levels will be able to make informed decisions on student financial aid policies for the improvement of educational prospects of low-income students.

Appendix 1

Conceptual Model of Student Dropout Risk Gap by Family Income



Note: Lines indicates relationships between clusters of factors and outcome variable, but don't necessarily indicate the direct causal linkage. The heavy line with arrow shows the time-varying nature of the factors influencing student dropout risks.

References

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- Cox, D. R. (1972). Regression models and life-tables (with discussion). *Journal of the Royal Statistical Society*. 34: 187-220.
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7. Biographical Sketches

Rong Chen

Rong Chen is a fourth-year doctoral student at the Center for the Study of Higher and Postsecondary Education (CSHPE), University of Michigan, with a specialization in assessment, evaluation and research in higher education. Her research interests focus on student access to and persistence in college, and examining the differences in these students' experiences due to differences in race/ethnicity and financial aid. In this proposed project, she will investigate the dropout risk gap between students from low-income families and their higher-income counterparts and the role student financial aid plays in reducing this gap.

Through intensive training in her graduate program and involvement in research projects during her educational career at University of Michigan, Ms. Chen has accumulated essential knowledge and strong analytical skills for completing this research project. She has taken several research and evaluation courses at CSHPE, and statistics courses such as factor analysis, multiple regression, logistic regression, and multi-level data analysis from the Statistics Department and School of Education. Funded by the School of Education, she participated in the workshop on Event History Analysis at the 57th Annual Summer Institute in Survey Research at University of Michigan, where she learned advanced techniques in event history methods, which is important for this proposed project. In addition to her doctoral work, she has also been involved in some national research projects at the University of Michigan that require the use of large databases and sharp analytical skills. She has also conducted independent research on college student dropout by using High School and Beyond data (HS&B) from the National Center for Educational Statistics (NCES) and thus has quite extensive experience in using national longitudinal data sets. In summer 2004, she was selected to participate in the National Education

Longitudinal Study of 1988 database training seminar sponsored by the NCES, Department of Education. This helped her improve her skills in working with weighted sample surveys in general. The statistics software she is experienced with includes SPSS, R, SAS, STATA and HLM. Within three years of doctoral study, Ms. Chen has completed all of her required coursework, the comprehensive qualifying exam, and two required research papers. She is currently a Ph.D. candidate in the department and will complete her dissertation within the next year and a half.

Curriculum Vitae

Education

Ph.D. Candidate, Assessment, Evaluation, and Research in Higher Education, Center for the Study of Higher and Postsecondary Education, University of Michigan.

Comprehensive Exam: *Contributions of the Economic Approach to the Traditional Research on Undergraduate Student Persistence*. (Committee Chair: Marvin Peterson)
Dissertation: *Exploring the Effects of Financial Aid on the Gap in Student Dropout Risks by Family Income*

Committee Members: Stephen DesJardins (Chair), Marvin Peterson, Edward St. John, and Robert Schoeni.

M.A. Higher Education, Center for the Study of Higher and Postsecondary Education, University of Michigan, April, 2003.

M.A. English Literature and Translation, Beijing Second Foreign Language Institute Beijing, P.R. China, June 1999.

B.A. English Education, Hunan Normal University, P.R. China, June, 1996

Research

2004 summer. Research intern. Division of Student Affairs, University of Michigan. Project: "Student expectations and college choice".

PI: Dr. [Malinda Matney](#).

Responsibilities: Research design, data analysis, and assisting with the final report.

2003-2004. Research Assistant. School of Education, University of Michigan.

Project: "Diverse Democracy", funded by the U.S. Department of Education, and the Spencer Foundation.

PI: Dr. Sylvia Hurtado

Responsibilities: Database management, data analysis, assisting with the final report, and writing a research paper.

2002-2003. Research Assistant. School of Education, University of Michigan.

Independent research: "Impact of Financial Aid on College Choice and Student Persistence".

Advisor: Dr. Stephen DesJardins

Responsibilities: Data analysis and paper writing.

2001-2002. Research Assistant. School of Education, University of Michigan.

Project: "The Backgrounds, Preparation, Admissions Test Performance, Aspiration and Choices of High Potential African-American College Bound Seniors", funded by The Andrew W. Mellon Foundation.

PI & Advisor: Dr. Michael Nettles

Responsibilities: Developing project library, literature review, and writing final report.

Teaching

1999-2001. Lecturer. Beijing Second Foreign Languages Institute, P.R. China.

1996-1999. Graduate Instructor. Beijing Second Foreign Languages Institute, P.R. China.

Other Experience

2004-2005. Co-President of MCF (Michigan China Fellows), University of Michigan.

2003-2004. Interpreter and coordinator for the Chinese University President Training Program at University of Michigan

2002. Volunteer committee member at MID (Michigan International Development, a nonprofit organization for the development of children's education and health in the Third World)

Presentation

Chen, Rong & Zeng, Ji (2005). Kindergarteners' Social-Economic Status and Math Achievement: A Multilevel Analysis of School Effects. Proposal accepted and will be presented at American Educational Research Association 2005 Annual Meeting.

Chen, Rong. (2004) Accreditation and Quality Assurance in Higher Education: A Comparison between the United States and China. Paper submitted to the Annual Conference of Chinese American Educational Research and Development Association.

Chen, Rong & DesJardins, Stephen (2004). A Longitudinal Investigation of Undergraduate Student Departure. Association for Institutional Research 2004 Annual Meeting.

Bowman, Nick; **Chen, Rong** & Hurtado, Sylvia (2004). College Diversity Experiences and Academic Achievement. Association for Institutional Research 2004 Annual Meeting.

Chen, Rong & Nettles, Michael (2003). Toward Excellence of Graduate Education in China: A Comprehensive Institutional Evaluation Plan". International Conference on Higher Education Reform in China. Xiamen, China.

Publication and project report

Bowman, Nick; **Chen, Rong**, Hurtado, Sylvia & Ponjuan, Luis (2004). College Diversity Experiences and Academic Achievement. Paper submitted to the *Journal of College Student Development*.

Chen, Rong & DesJardins, Stephen (2004). Undergraduate Students' Permanent Departure across the First Two Years: A National Study. Paper to be submitted for journal publication.

Chen, Rong (2004). An Overview of the Theoretical Approaches to Evaluation in American Higher Education. Paper submitted for publication in China as a book chapter.

Chen, Rong & Nettles, Michael. (2004). Toward Excellence of Graduate Education in China: A Comprehensive Quality Evaluation Model. *2004 Proceedings of International Conference on Higher Education Reform in China*, Xiamen, China: Xiamen University Publishers, Inc.

Improving Minority Students' Performance on College Admission Tests. (2002). Report for the project of "the Backgrounds, Preparation, Admissions Test Performance, Aspiration And Choices of High Potential African-American College Bound Seniors", funded by The Andrew W. Mellon Foundation. (As research assistant).

Chen, Rong; Wang, Tongjun; Zhang, Wen (1999). *Van Loon's Lives* (Van Loon, Henrik, Translation). Beijing, China: Beijing Publishing House (Original work published in 1943, New York: Simon & Schuster).

Chen, Rong (1998). Application of Text Analysis in Translation. Beijing, China: *Beijing Second Foreign Languages Institute Journal*.

Fellowships, Scholarships, and Awards

2005. Nominated by School of Education for the Pre-Doctoral Fellowship, University of Michigan

2004-2005. Barbour Scholar, Nominated by School of Education, and granted by Rackham Graduate School, University of Michigan

2003. Graduate Student Research Award. Institute for Research on Women and Gender, University of Michigan

2003. Spencer Fellowship, School of Education, University of Michigan.

2001-2002. School of Education Fellowship, University of Michigan

1999. Title of “Excellent Graduate Student”, Graduate School, Beijing Second Foreign Languages Institute, China.

Workshops and Certifications

2004. Categorical Data Analysis. Annual Summer Program in Inter-University Consortium for Political and Social Research, University of Michigan

2004. Event History Analysis. The 57th Annual Summer Institute in Survey Research Techniques. Institute for Social Research, University of Michigan.

2004. NELLS:88 & ELS:2002 Database Training Seminar. Selected and funded by National Center for Education Statistics, Washington DC.

2003. Multi-level analysis of survey data. The 56th Annual Summer Institute in Survey Research Techniques. Institute for Social Research, University of Michigan.

2003. Questionnaire Design. The 56th Annual Summer Institute in Survey Research Techniques. Institute for Social Research, University of Michigan.

Memberships

Association for Studies of Higher Education

Association for Institutional Research

American Educational Research Association

Institute for Research on Women and Gender, University of Michigan

Other Skills

Research method software: SPSS, R, SAS, STATA, and HLM.

Multi-lingual: Fluent in Chinese, English, and Fair in reading Japanese

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ACADEMIC BACKGROUND

Ph.D. Educational Policy and Administration - Higher Education, 1996

University of Minnesota, Minneapolis, Minnesota
Primary concentration: Policy Evaluation and Research Methods
Secondary concentration: Economics of Education / Educational Planning
Dissertation title: *Using Event History Modeling to Study the Temporal Dimensions of Student Departure from College*. Dissertation Director: Darrell Lewis.

M.A. Public Affairs, 1994

Hubert H. Humphrey Institute of Public Affairs
University of Minnesota, Minneapolis, Minnesota
Primary Concentration: Policy Analysis
Secondary Concentration: Labor Economic Theory
Thesis title: *Using Hazard Models to Study Student Careers*.
Thesis Director: Stephen Hoenack.

B.S. Economics, 1983

Northern Michigan University, Marquette, Michigan
Major: Economics
Minor: Political Science

RESEARCH INTERESTS

Public and Higher Education Policy Analysis
Strategic Enrollment Management

Economics of Education
Institutional Research

METHODOLOGICAL INTERESTS

Econometrics
Event History Analysis

Logistic Regression Analysis
Neural Network Modeling

PROFESSIONAL EXPERIENCE SUMMARY

University of Michigan, Ann Arbor, Michigan

Associate Professor, September 2002 to present

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The University of Iowa, Iowa City, Iowa

Associate Professor, April 2002 to July 2002

Tenured April 2002

Assistant Professor, August 1998 to April 2002

Educational Policy and Leadership Studies

Senior Policy Analyst (.5 appointment; August 1998 to August 2002)

Office of the Provost

University of Minnesota, Minneapolis, Minnesota

Lecturer, August 1996 to August 1998

Educational Policy and Administration

Senior Policy Analyst, September 1996 to August 1998

Research Fellow, August 1994 - September 1996

Academic Affairs: Office of Planning and Analysis

Senior Scientist, December 1991 to August 1994

Student Affairs: Data and Information Services/Office of Admissions

Scientist, June 1990 - December 1991

Associate Scientist, November 1987 to June 1990

Student Support Services: Data and Reporting Services

Private Sector

Project Director, September 1986 - June 1987

Winona Market Research Bureau, Inc., Bloomington, Minnesota

Product Testing Team Leader, December 1984 - August 1986

Market and Research Counselors, Inc., Dallas, Texas

Demographic and Market Analyst, May 1984 - December 1984

MPSI Americas, Inc. (now COMARC, Inc.), Dallas, Texas

UNIVERSITY TEACHING EXPERIENCE

Center for the Study of Higher and Postsecondary Education, University of Michigan

Graduate Level Courses

Advanced Regression Methods for Education Research

Planning, Analysis, and Institutional Research

Public Policy in Postsecondary Education

National Economic and Financial Issues in Postsecondary Education

Economics of Education

UNIVERSITY TEACHING EXPERIENCE (cont'd)

Educational Policy and Leadership Studies, The University of Iowa

Graduate Level Courses

An Introduction to Planning, Policy Analysis, and Evaluation

Economics of Education

Program Evaluation

Policy Analysis and Evaluation

Independent Studies in:

Event History Modeling

Logistic Regression Analysis

Student Choice Theory

Educational Policy and Administration, University of Minnesota

Graduate Level Courses

The Economics of Education

Dissertation Research Seminar (Co-taught with Darrell Lewis)

Departmental Consultant on Statistical Methodology

RECENT/RELEVANT PUBLICATIONS

Refereed Scholarship

Stephen L. DesJardins, Halil Dundar, and Darwin Hendel (1999). Modeling the College Application Decision Process in a Land-Grant University. *Economics of Education Review*, 18(1): 117-132.

Stephen L. DesJardins (1999). Simulating the Enrollment Effects of Changes in the Tuition Reciprocity Agreement Between Minnesota and Wisconsin. *Research in Higher Education*, 40(6): 705-716.

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (1999). An Event History Model of Student Departure. *Economics of Education Review*, 18(3): 375-390.

Stephen L. DesJardins, Brian P. McCall, Dennis A. Ahlburg, and Melinda J. Moyer (2002). Adding a Timing Light to the "Tool Box." *Research in Higher Education*, 43(1): 83-114.

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (2002). Simulating the Longitudinal Effects of Changes in Financial Aid on Student Departure from College. *Journal of Human Resources*, 37(3): 653-679.

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (2002). A Temporal Investigation of Factors Related to Timely Degree Completion. *Journal of Higher Education*, 73(5): 555-581.

Refereed Scholarship (cont'd)

Stephen L. DesJardins (2002). An Analytic Strategy to Assist Institutional Recruitment and Marketing Efforts. *Research in Higher Education*, 43(5): 531-553.

Terry Ishitani and Stephen L. DesJardins (2002). A Longitudinal Investigation of Dropout from College in the United States. *Journal of College Student Retention*, 4(2): 173-201.

Stephen L. DesJardins and Jie Wang (2002). An Analytic Model to Assist Academic Advisors. *NACADA Journal: Journal of the National Academic Advising Association*, 22(1): 32-44.

Stephen L. DesJardins, Dong-Ok Kim, and Chester S. Rzonca (2003). A Nested Analysis of Factors Affecting Bachelor's Degree Completion. *Journal of College Student Retention*, 4(4): 407-435.

Stephen L. DesJardins (2003). Event History Methods: Conceptual Issues and An Application to Student Departure from College. *Higher Education: Handbook of Theory and Research XVIII*: 421-471.

Stephen L. DesJardins (2003). The Returns to Instruction of a University of Minnesota Education. In *The Public Research University: Serving the Public Good in New Times*. Darrell R. Lewis and James Hearn (Eds.). Lanham, MD: University Press of America.

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (in press). An Integrated Model of Application, Admission, Enrollment, and Financial Aid. *Journal of Higher Education*.

Kevin A. Cunningham, Stephen L. DesJardins, and Michael G. Christensen (in press). Predictive Efficacy of Chiropractic College Assessment Test Scores in Basic Science Chiropractic Education. *Journal of Manipulative and Physiological Therapeutics*

Stephen L. DesJardins and Robert K. Toutkoushian. (in press). Are Students Really Rational? The Development of Rational Thought and Its Application to Student Choice. *Higher Education: Handbook of Theory and Research XX*.

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (revise and resubmit). The Effects of Interrupted Enrollment on Graduation from College: Racial, Income, and Ability Differences. *Economics of Education Review*.

RECENT/RELEVANT GRANTS

Lumina Foundation for Education, 2005-2007, “Studying Student Transitions to College.” Stephen L. DesJardins, Principle Investigator. Dennis A. Ahlburg and Brian P. McCall, University of Minnesota, Co-Investigators. \$508,560

U. S. State Department, 2000 to 2004, “Higher Education Partnership Between the University of Minnesota and Azerbaijan International University.” Darrell Lewis, University of Minnesota, Principle Investigator. Stephen L. DesJardins, Co-Investigator. \$326,000.

Pew Grant Program in Course Redesign, July 2000 to June 2002. “Transforming General Chemistry Education at the University of Iowa.” Norbert Pienta, General Chemistry Coordinator, The University of Iowa, Principle Investigator. Stephen L. DesJardins, Co-Investigator. \$200,000.

Association for Institutional Research/National Center for Education Statistics, June 1999 to June 2000. “Studying the Timing of Student Departure from College.” Stephen L. DesJardins, Principle Investigator. \$28,000

Budget

Personnel:	
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Rong Chen -- 12 months salary	
Salaries (partial)	\$ 6,000
Travel	\$ 1,500
Other Costs	
Statistical software	\$ 1,500
Computer hardware	\$ 500
Miscellaneous costs	\$ 500
TOTAL AMOUNT OF AWARD	\$10,000

Budget Explanation

The salary together with funding from other sources is budgeted at a level that would allow me to focus on my dissertation without taking any full-time jobs during this time frame.

Domestic travel costs are budgeted to attend the 2006 ASHE and 2006 AIR Annual Forum.

Other costs cover books, paper, statistical software, and computer hardware to store my project files.

Current and Pending Support

I currently receive university funding in the form of Barbour Scholarship that covers tuition, healthcare and provides a monthly stipend for Fall and Winter term 2004/2005. This support will terminate at the end of the 2004 academic year. I have also applied for an AERA Dissertation Grant in order to cover other costs that are not accounted for in the proposed budget.

Facilities, Equipment, and Other Resources

I, along with my faculty advisor, have obtained a restricted data license for the BPS 96/01 dataset. In my office in the School of Education, I have access to a computer, which complies with the security guidelines outlined in the NCES Restricted Use Data License. All of the resources available to graduate students in the School of Education will be available for use in conducting the proposed study. These resources include printers, photocopy machines, a research library, and statistical support.

Special Information and Supplementary Documentation

Reference letter

January 11, 2005

AIR Dissertation Fellowship Program
Association for Institutional Research
P.O. Box 2314
Tallahassee, FL 32316-2314

Dear Committee Members;

I am writing to support Ms. Rong Chen's application for an AIR Dissertation Fellowship. Rong is currently a student in the Center for the Study of Higher and Postsecondary Education here at the University of Michigan and is pursuing a Ph.D. in Higher Education. Rong is my advisee, has worked for me as a graduate research assistant, and she has taken my Institutional Research, Planning, and Analysis and National Economic and Financial Issues classes, and I will serve as her dissertation chair so I know her well and fully support her candidacy for this funding opportunity.

Regarding her academic course work, the institutional research course helped Rong acquire techniques in policy research and understand the unique process of planning, governing and decision making in institutions of higher education. The final project she completed for this course focused on the theoretical models for persistence research, which aroused her strong interest in this field of research and laid the theoretical foundation for her proposed dissertation. The National Economic and Financial Issues in Postsecondary Education was beneficial for her in that she developed an understanding of the broad economic and financial forces that affect student choice and persistence. Her final paper was on how policy changes in higher education, particularly those related to financial aid policy, have influenced low-income students' access to and persistence in college. Rong has also completed a research practicum and presented the results of this study at last year's AIR Forum. She investigated how a myriad of factors are related to student persistence in the first two years of college; again much of her focus was on financial aid effects. This paper is currently under revision and will be submitted to an appropriate higher education journal in the near future. In the next year Rong will also be assisting me on a project in which we investigate the transition of high school students to college using the Florida tracking data base.

As evidence of her superior academic performance, Rong was awarded the prestigious Barbour Scholarship, one of the longest standing academic scholarships at the University of Michigan. Rong is one of only a few (less than five) School of Education students who have been awarded this one-year scholarship since its inception in 1917. What is even more impressive than her academic performance, however, is her search for knowledge that will help her become a first-rate scholar. She has taken the initiative to find relevant course work (which is now completed) outside the School of Education that will improve her general understanding of social science research, but will also be instrumental in her next big academic challenge: successful completion of her dissertation by the end of 2005. For instance, although not required she took courses in the statistics department to improve her understanding of the theoretical foundations of the analytic methods often used in educational research. She took course work in survey design and analysis (at the prestigious Institute for Social Research here at Michigan) so she would be well-versed in these methods which are used heavily in educational research in China. Also, last summer she took a course in event history methods in order to obtain more formal training in the technique she will use to conduct her dissertation research.

As foreshadowed above, Rong's dissertation topic will focus on how student financial aid differentially affects the dropout propensities of students from different income groups. Higher education policy makers and researchers have seen an increase in the dropout rates of students from low income groups relative to their peers in higher income groups. One possible explanation for the growing gap is that low income students are more sensitive to recent changes in student financial aid packaging (e.g., an increased reliance on loans) and this sensitivity is increasing their risk of non-completion of the bachelor's degree. Rong intends to study this important higher education problem by integrating data from two NCES data sets, Beginning Postsecondary Students (96/01) and relevant IPEDS data sets. She will employ a statistical technique (event history or survival analysis) heretofore rarely used in higher education research. Coupling nationally representative longitudinal data with a technique specifically designed to study temporal processes will provide much needed insight into whether changes in financial aid packages are resulting in dropout among low income students, and if so how these packages can be restructured to improve the persistence and graduation chances of these students.

Her research will not only be useful to policy makers in the United States, but will also be important for decision makers in her homeland. I just returned from China and Ministry of Education officials told me that the biggest problem they face in higher education today is the differential access to and persistence in postsecondary education of students from different social strata. They are especially concerned about inequities in access to and completion of higher education among rural and urban citizens. That Rong has been and continues to be interested in issues of access and completion is evidenced by the research she conducted with Professor Michael Nettles examining how to improve access to higher education for African-American students in the United States. Rong also assisted me in researching how financial aid affects student enrollment and retention in college in the United States, and she assisted Professor Sylvia Hurtado on the federally-funded Diversity Democracy Project, which provided empirical evidence in support of the affirmative action case recently decided by the Supreme Court.

Although Rong will certainly bring badly needed skills to bear on the educational problems of her homeland, she has already been involved in projects designed to assist educational development in China and other countries. She recently volunteered to work for Michigan International Development, a non-profit organization housed at the University of Michigan that is committed to addressing problems of children's education and healthcare in developing countries. Last year she was a committee member for the China Project, which assisted in the design and implementation of an elementary school and an orphanage in a rural region of the Chinese province of Jiang Xi. Also, her research efforts are already informing educational issues in her homeland as evidenced by her paper "Toward Excellence in Graduate Education in China" which was recently presented at the International Conference on Higher Education Reform in China.

Rong's keen intellect, superior academic performance, professional potential, and commitment to social justice in the United States and in her homeland certainly make her a candidate worthy of your strongest consideration. If I can provide any other information in support of her candidacy please do not hesitate to contact me.

Sincerely,

Stephen L. DesJardins
Associate Professor
Center for the Study of Higher and Postsecondary Education
School of Education
University of Michigan