2005 AIR/NPEC DISSERTATION FELLOWSHIP PROPOSAL

Factors Influencing Nontraditional Age Student Participation in Postsecondary Education: How do Student Motivations and Characteristics Relate to Participation in Credential Programs?

Dataset of Interest: National Household Education Survey, Adult Education (NHES:1999)

Grant Amount Requested: \$15,000

Sandra Kortesoja, Doctoral Candidate
Center for the Study of Higher and Postsecondary Education
University of Michigan
2117 SEB, 610 East University Ave.
Ann Arbor, MI 48109-1259
Home Phone: 734-622-8206 Fax: 734-622-8041
E-mail: slzkort@umich.edu

Faculty Dissertation Director:
Stephen L. DesJardins
Associate Professor
Center for the Study of Higher and Postsecondary Education
University of Michigan
2108-D SEB, 610 East University Ave.
Ann Arbor, MI 48109-1259
Phone: 734-647-1984 Fax: 734-764-2510
E-mail: sdesj@umich.edu

Authorized Institutional Representative:
Division of Research Development and Administration
3003 South State Street
Ann Arbor, MI 48109-1274

Principal Investigator/Doctoral Student	Authorized Institutional Representative
	Faculty Dissertation Director

2. PROJECT SUMMARY

In recent years, enrollment growth in postsecondary education has reflected not only population growth and an increase in the proportion of high school students who seek to continue their formal education; in addition, growing numbers of adult learners are returning to college (Kim & Creighton, 2000) either to complete an unfinished initial degree or to pursue advanced professional credentials. From a business perspective, Peter Drucker (1994) has described the rise of new types of workers and an "emerging knowledge society." In education, Merriam and Caffarella (1999b) describe the connection between adult learning and contemporary society in terms of three dimensions of the sociocultural context shaping today's world: demographics, the global economy, and technology. Fueled by structural changes in the national economy (resulting in early retirement or career changes), as well as the rapidly changing economics of information technology, the demand by adult learners for postsecondary education (Kerka, 2001; Rowley, Lujan, & Dolence, 1998; Dill & Sporn, 1995) seems likely to continue. Yet, comparatively little research has been done to better understand the factors that influence participation in postsecondary education by nontraditional age (25 years and older) students.

This proposal addresses the research question: How do student motivations and characteristics relate to participation in credential programs—either in the form of a college or university program, or a program leading to a diploma or certificate from a vocational or technical school or program? Through logistic regression analysis of the 1999 National Household Education Survey Adult Education Interview (AE-NHES:1999) data, I will evaluate the influence of individual motivational and contextual factors, including demographic characteristics of adult learners as well as their experience through educational programs with limited aspects of the information technology infrastructure. The proposed study will be of interest to multiple audiences, with policy relevance to all levels of government. From an institutional perspective, the proposed analysis will help to suggest strategies for maintaining or increasing future enrollment levels, as well as for designing and implementing effective policies and programs.

3. TABLE OF CONTENTS

1. PROPOSAL COVER PAGE	1
2. PROJECT SUMMARY	2
3. TABLE OF CONTENTS	3
4. PROJECT DESCRIPTION	4
4.1. Statement of Problem and Variables	4
4.2. Proposal of Work	9
4.3. Dissemination Plan.	9
4.4. Description of Policy Relevance	9
4.5. Discussion of Innovative Aspects of Project	10
4.6. Discussion of Audience to Whom the Project Will Be Important	11
4.7. Appendix: Diagram of Proposed Conceptual Framework	12
5. REFERENCES CITED	13
6. BIOGRAPHICAL SKETCHES	16
6.1. Sandra Kortesoja (Doctoral Student)	16
6.2. Stephen L. DesJardins (Faculty Dissertation Director)	18
7. BUDGET	23
8. CURRENT AND PENDING SUPPORT	24
9. FACILITIES, EQUIPMENT AND OTHER RESOURCES	24
10 SDECIAL INFORMATION AND SUDDI EMENTADY DOCUMENTATION	24

4. PROJECT DESCRIPTION

4.1. Statement of Problem and Variables

While participation in adult education has grown steadily in recent decades, increasing to 45 percent of adults and 40 percent of all college students in 1999 (Kim & Creighton, 2000; *Chronicle of Higher Education Almanac*, 1999-2000), it has been argued that "our understanding of the unique factors that predict adult student success has not increased likewise" [*sic*] (Lundberg, 2003, p. 665). Much of the literature on nontraditional age students, defined here as adult learners aged 25 years or older, is now more than twenty years old. Some authors of more recent work have suggested that the culture of higher education includes bias against such students (Sissel, Hansman, & Kasworm, 2001; Quinnan, 1997). From another perspective, the past twenty years have seen dramatic changes in American society (Schlesinger, Jr., 1998). Several major forces since the end of the cold war—i.e., economic globalization and increased cultural exchange; personal computers, internet access, and the information explosion—are changing the educational landscape. Since 1991, periodic National Household Education Surveys (NHES)—each including an adult education component—have been conducted by the U.S. Department of Education, National Center for Education Statistics (NCES). I believe that analysis of these data, particularly AE-NHES:1999 will help to increase understanding of the factors that influence internet-era adult students to participate in education programs for a postsecondary credential.

Since the "golden age" of higher education, definitional parameters of adult education, as well as enrollment composition, have changed. During the 1960s, most colleges and universities focused their attention and resources on the overwhelming numbers of traditional age applicants each year; while programs in *adult education* became popular at community colleges. The 1972 higher education amendments redirected federal aid "from institutions to students who could demonstrate financial need" and "broadened the definition of which institutions were eligible to receive students with federal aid by including nondegree-granting postsecondary institutions and proprietary institutions" (Peterson & Dill, 1997, pp. 5-6). Thus, adult education can mean participation in formal coursework (across the range of institutional types)—or in a variety of informal educational activities (Kim & Creighton, 2000). In the terminology of the National Household Education Surveys, the focus of this analysis will be *credential programs*: "formal postsecondary programs leading to a college or university degree, a postsecondary

vocational or technical diploma, or other education certificates related to qualifications for jobs" (Kim & Creighton, 2000, p. 3).

Dependent Variable

The dependent variable for this study is participation in a credential program, either in the form of a college or university program or a program leading to a diploma or certificate from a vocational or technical school or program. The NHES:1999 survey questions relating to credential programs ask first about participation (during the past 12 months) in "any courses that are part of a <u>program</u> leading toward…" a) "A college or university degree, such as an associate's, bachelor's, or graduate degree?" or, b) "A diploma or certificate from a vocational or technical <u>school</u> after high school or a <u>formal vocational training</u> program." Respondents who have answered affirmatively to either choice are then asked what type of degree, diploma, or certificate program they were in.

Initially, I plan to estimate a multinomial logistic regression model, and test whether or not the IIA (independence irrelevant alternatives) assumption is violated. If so, I will then estimate a nested logistic regression model to account for the nesting of the decisions: first, to enroll in a postsecondary program or not; then to choose either a college/university or some type of vocational/technical school or program.

Independent Variables

Based on a review of the literature relating to nontraditional age students in postsecondary education, variables in this study are organized into two main groups to reflect two general approaches or classes of literature: motivational studies and analyses of student characteristics. Educators such as Malcolm Knowles and K. Patricia Cross authored multiple works throughout their careers, each establishing different priorities (as well as different terminology) for studying nontraditional age students. Much of their work reflects an interest in designing effective programs for nontraditional age students based on *why* they participate in postsecondary education. By 1980, enrollments in higher education had peaked and begun to decline for the first time in history. Since that time, economic issues, including the rising cost of obtaining a college education, have often been in the policy arena spotlight. Seeking to facilitate study of issues related to financing the cost of college and student aid sources, NCES conducted its first survey for the National Postsecondary Student Aid Study (NPSAS) series during 1986-1987. Just as federal aid (in the form of the GI Bill) to returning military personnel after World War II had helped to encourage

the expansion of postsecondary education, federal agency programs today continue to influence postsecondary terminology as well as participation rates. Thus, a second class of literature (including governmental reports) consists of analyses of the characteristics of nontraditional students (Berker & Horn, 2003; Choy & Premo, 1995; Horn, 1996; Hurtado, Kurotsuchi, & Sharp, 1996).

Motivational Studies.

Building upon the work of Malcolm Knowles (1970, 1978), K. Patricia Cross (1974, 1981) and others interested in nontraditional age students, much of the post-golden-age literature consists of studies seeking to understand motivational factors for adult learners in order design and implement more effective program for these students (e.g., Morstain & Smart, 1977; Wolfgang & Dowling, 1981). Comparatively few research studies have explored the reasons that nontraditional age students participate in credential programs. Tinto (1987) and Astin (1993), among others, have studied factors that contribute to student persistence in college. At least one study (Allen, 1999), suggests a link between high levels of motivation and college persistence. Some authors have argued that adult students have been marginalized in higher education (Sissel, Hansman & Kasworm, 2001; Quinnan, 1997). Others, however, have echoed Cross' conviction that lifelong learning will continue to be required of everyone in today's rapidly changing Information Age environment (Jarvis, 1999; Rowley, Lujan, & Dolence, 1998).

Several previous research studies provide useful background for design of further research. Dill and Henley (1998) investigated differences in psychological stressors between traditional and nontraditional students, suggesting that the existing scale and survey instrument employed for traditional students may inadequately identify issues for older students. Kasworm and Pike (1994) evaluated the appropriateness of a traditional model of academic performance for adult undergraduates. Kasworm (2003) has also evaluated adult engagement in alternatives, such as accelerated degree programs. The causal model developed by Lundberg (2003) seeks to predict adult student learning success, rather than factors that affect participation or choice of institution. However, the conceptual model and methodology employed provide a useful point of reference for this study.

Studies that most directly focus on adult learner motivation include the following. Morstain and Smart (1977) analyzed a sample of 648 students enrolled for part-time degree-credit coursework in the evenings at a large

state college and present a typological framework based on the Educational Participation Scale (EPS) developed by Boshier (1982, 1971). Similarly, Wolfgang and Dowling (1981) used the EPS to test motivational differences between adult and younger undergraduates. Fujita-Starck's (1996) study of 1,142 students participating in programs at a large state university represents a more recent study of interest with respect to motivational factors. Fujita-Starck re-tested the factor stability and construct validity of Boshier's (1982, 1971) EPS and confirmed Boshier's typology. Boshier's seven-factor motivation typology for adult students includes: a) communication improvement, b) social contact, c) educational preparation, d) professional advancement, e) family togetherness, f) social stimulation, and g) cognitive interest. Finally, Eppler and Harju (1997) applied an alternative model (of achievement motivation) to a sample including nontraditional age college students, examining the relationship between goal orientations and academic performance.

Studies of Student Characteristics.

In contrast with motivational studies, another category or class of literature analyzes the characteristics of nontraditional age students. Many of the recent analyses of characteristics identified are based upon national survey data, primarily the NPSAS series of surveys begun in 1986-1987 and repeated every three to four years since then. NCES has sponsored the preparation of Statistical Analysis Reports, later called Postsecondary Education Descriptive Analysis Reports, to help organize and disseminate survey findings by topic. Two such reports based on NPSAS data, *Profile of Older Undergraduates*, 1989-90 (NCES 95-167 by Choy & Premo, 1995) and *Nontraditional Undergraduates: Trends in Enrollment from 1986 to 1992* (NCES 97-578 by Horn, 1996) have been important sources of background on characteristics of nontraditional undergraduates as well as a source of considerations other than age that define students as nontraditional. Another study by Hurtado, Kurotsuchi, and Sharp (1996), and referenced in *Nontraditional Undergraduates*, challenged the delineator of age 24; based on an analysis of characteristics, these authors argue that students aged 20-24 who delayed entry should not be considered traditional for policy purposes. Finally, the NCES report *Work First, Study Second: Adult Undergraduates who Combine Employment and Postsecondary Enrollment* (NCES 2003-167 by Berker & Horn, 2003) provides an analysis of characteristics of students who work (and consider themselves primarily employees) while enrolled.

Variables Analyzed.

Reflecting both classes of relevant literature, I have identified motivational factors as well as descriptive characteristic variables in the AE-NHES:1999 dataset. According to Caffarella and Merriam (1999a), "Research in adult learning has been framed by two primary perspectives on how we work with adult learners: the individual and the contextual;" they conclude by advocating that "more research be undertaken from an integrative framework;" that is, a framework that integrates the individual perspective with the contextual. In this study, variables representing the individual perspective are based on the survey question that asks the main reason the respondent participated (during the past 12 months) in the program being discussed. Choices suggested to the respondent include: improve, advance or keep up to date on current job; train for a new job or career; improve basic reading, writing, or math, skills; meet a requirement for a diploma, degree, or certificate; personal, family, or social reason; or other reason (specified in the restricted use data set). Variables representing Caffarella and Merriam's "contextual" perspective (which incorporates the "interactive nature of learning and the structural aspects of learning grounded in a sociological framework") include student demographics such as age, gender, marital status, race/ethnicity.

Comprising a third point of reference from the literature, a limited number of studies shed light on the effects of computers and information technology on student learning (Hancock, 1993; Kinzie, Delcourt, & Powers, 1994; Kuh & Vesper, 2001), and on higher education institutions (Duderstadt, Atkins, & VanHouweling, 2002). Based on a study of undergraduates across a range of academic disciplines (Kinzie, Delcourt & Powers, 1994), attitudes toward computer technologies may have more influence than discipline pursued on successful acclimation to new technologies, although these variables may be more highly correlated for nontraditional age students. Thus, I plan to include a final contextual perspective reflecting the respondent's use or non-use of distance education ("Did you receive instruction for any of these classes or courses through distance education?"), and experience with information technology ("What types of technologies were used for the teacher and students to communicate?") including television or radio, e-mail, computer conferencing, the Internet, satellite broadcast, video conferencing, or some other way.

4.2. Proposal of Work

This is an analysis of federal survey data collected and compiled by NCES into the National Household Education Survey (NHES:1999), with emphasis on the Adult Education Interview component. NHES:1999 was chosen as a data source because of its structure combining the full range of credential programs into a single path, its more detailed coverage of motivational factors for adults, and its subset of questions related to the use of technology in educational programs. After exploratory data analysis (such as frequency tables) of the variables of interest, I will construct a logistic regression analysis to determine the relative influence of the motivational and contextual independent variables described above. As described above in section 4.1. (see *dependent variable*), I plan to initially estimate a multinomial logistic regression model, and test whether or not the IIA (independence irrelevant alternatives) assumption is violated. If so, I will then estimate a nested logistic regression model to account for the nesting of the decisions: first, to enroll in a postsecondary program or not; then to choose either a college/university or some type of vocational/technical school or program. In addition to statistical analysis, this work will include preparing required progress reports, as well as summarizing results for submission to conferences and journals. After all fellowship responsibilities have been met, this work will receive final review by my dissertation committee. As discussed later in section 6.1 (biographical sketch), I am well aware of the importance of using sample weights, for example, and of other issues associated with analysis of complex sample survey data.

4.3. Dissemination Plan

My plan for disseminating the findings of this study focuses on national conferences and peer-reviewed scholarly journals. In addition to the 2006 AIR Forum, I will submit proposals to the fall 2006 Association for the Study of Higher Education (ASHE) conference, and journals such as *Research in Higher Education* and the *Review of Higher Education*.

4.4. Description of Policy Relevance

In view of the turbulent societal context of recent decades (Schlesinger, Jr., 1998), this seems a particularly appropriate time to study national household survey data. College and university education no longer takes place in

an ivory tower, isolated from outside societal influence. The purpose of this study is to analyze variables available in the AE-NHES:1999 data set to identify factors that may influence participation by nontraditional age students in postsecondary education for a degree or other credential, and to categorize these factors within the context created by the literature and the American federal policy environment. Recognition of this context and its significance for future policy implications can be enhanced through consideration of an historical perspective: from the earliest colleges established in colonial America to today's complex organizations continually evolving to meet the needs of twenty-first century society, the surviving institutions of higher education have been those that reflect the interests of the society that supports them (Ashby, 1966; Ben-David, 1992). If present trends continue, the emerging knowledge society will continue to create demand for lifelong learning by nontraditional age students for the foreseeable future.

However, to the extent that some of the issues relevant for older students (such as family responsibilities) may overlap those relevant for students from Hispanic backgrounds (who represent a growing presence in American education), for example, the policy relevance of this work may go beyond nontraditional age student participation. From a federal policy perspective, according to the ideal of a democratic society, most educators believe that providing effective access to higher education for minority groups of all kinds helps to encourage national political stability, perhaps in turn encouraging economic productivity supported through information literacy (Hancock, 1993). From a state and local policy perspective as well, a better understanding of participation by nontraditional age students in postsecondary education has special relevance in today's environment of fiscal constraints. In the State of Michigan, for example, state cutbacks to higher education have been accompanied by new goals of increasing the number of college graduates in the State as well as creating economic opportunities to keep graduates employed in the State after graduation. These goals suggest State interest in understanding and adapting postsecondary education programs and in seeing such programs more closely linked with labor force requirements.

4.5. Discussion of Innovative Aspects of the Project

As a conceptual model incorporating both individual and contextual characteristics of adult learner, this project represents an innovative approach to earlier models of adult education in two ways. First, the recognition of contextual elements represents a departure from frameworks based solely upon individual learning as an inward-

focused or psychological activity. Secondly, the design of this model includes elements of the information technology infrastructure in the sociocultural context. Since nontraditional age students are less likely to have grown up experiencing today's rapid rate of technological change, they may be more likely than traditional age students to have difficulty in college or other programs due to the new technological environment they will encounter. Gumport and Chun (1999) describe some of the ways that new technology may impact higher education. Whether or not computers enhance student learning (Kuh & Vesper, 2001), new competitive forces in the "e-economy" are challenging the traditional role of colleges and universities (Duderstadt, Atkins, & Van Houweling, 2002). Thus, this study will employ a broad definition of credential programs, including participation in vocational or technical programs leading to a diploma or certificate as well as participation in college and university degree programs.

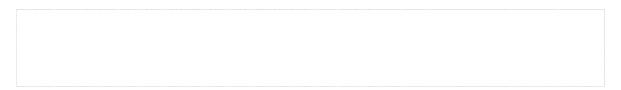
4.6. Discussion of Audience to Whom the Project Will Be Important

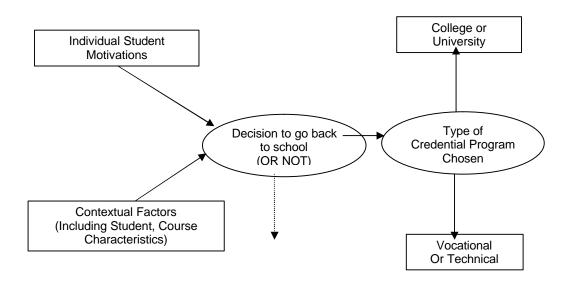
Irrespective of the specific study findings, this project will be of interest to multiple audiences. Educators and administrators with a career interest in adult learners/adult education will be interested to evaluate the usefulness of expanding the more widely recognized model focusing on the individual (motivational, psychological aspects) of learning to a new model that includes consideration of the context for learning. Similarly, those interested in student development (both educators and administrators) will also find results based on contextual variables relevant. As time to degree completion increases among traditional age undergraduate students, and as increasing numbers of undergraduates (especially those of Hispanic derivation, and other minorities) opt to stop out then re-enroll at a later date, the age limit differentiating nontraditional students from traditional ones becomes more difficult to justify. Today, the term *adult education* has lost its former meaning since traditional age students are already generally considered adults for purposes of institutional policy interpretation. In the United States, the potential for increased access to global information from the earliest ages continues to contribute to increasing political pressure for change from formerly accepted norms. Thus, although this is a study of adult education data, its findings may have a much broader relevance for all higher and postsecondary education stakeholders.

From an institutional perspective, studying the characteristics and motivations of any group of prospective students can represent a proactive approach to addressing important questions such as: How to increase enrollments?

How to design and implement programs to reduce attrition? Compared to traditional age undergraduates, nontraditional age are more likely (Choy & Premo, 1995) to be married, have dependents other than a spouse, be the first generation in their family to attend college, and choose an institution close to their home. These individual characteristics may or may not be changing over time. However, in the rapidly changing societal context of globalization, the above questions seem likely to remain important ones for many institutions.

4.7. Appendix: Diagram of the Proposed Conceptual Framework





5. REFERENCES

- Allen, D. (1999). Desire to finish college: An empirical link between motivation and persistence. *Research in Higher Education*, 40(4), 461-485.
- Altbach, P. G., Berdahl, R. O., R. & Gumport, P. J. (Eds.). (1999). *American higher education in the twenty-first century: Social, political and economic challenges*. Baltimore: The Johns Hopkins University Press.
- Ashby, E. (1966). Universities: British, Indian, African. Cambridge, MA: Harvard University Press.
- Astin, A. (1993). What matters most in college? Four critical years revisited. San Francisco: Jossey-Bass.
- Ben-David, J. (1992). *Centers of learning: Britain, France, Germany, United States.* New Brunswick, NJ: Transaction Publishers. (Original work published 1977. New York: McGraw-Hill Book Co.)
- Berker, A. & Horn, L. (2003). Work first, study second: Adult undergraduates who combine employment and postsecondary enrollment. (NCES 2003-167). U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved from http://nces.ed.gov on October 20, 2004.
- Boshier, R. W. (1982). Education participation scale. Vancouver: Learning Press.
- Boshier, R. W. (1971). Motivational orientations of adult participants: A factor analytic exploration of Houle's typology. *Adult Education*. No. 2, 21, 3-26.
- Caffarella, R. S. & Merriam, S. B. (1999a). *Perspectives on adult learning: Framing our research*. 1999 Adult Education Research Conference (AERC) Proceedings. Retrieved from http://www.edst.educ.ubc.ca/aerc/1999/99caffarella.htm on March 29, 2004.
- Caffarella, R. S. & Merriam, S. B. (1999b). *Learning in adulthood: A comprehensive guide* (2nd ed.). San Francisco: Jossey-Bass Publishers.
- Choy, S. & Premo, M. (1995). *Profile of Older Undergraduates: 1989-90.* (NCES 95-167). U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved from http://nces.ed.gov/pubs95/web/95167.asp on June 27, 2004.
- Chronicle of Higher Education Almanac (1999-2000). College enrollments by age of students, p. 24.
- Cross, K. P. (1981). Adults as learners. San Francisco: Jossey-Bass Publishers.
- Cross, K. P., J. Valley, and Associates. (1974). *Planning Non-Traditional Programs*. San Francisco: Jossey-Bass Publishers.
- Dill, D. D. & Sporn, B. (Eds.). (1995). Emerging patterns of social demand and university reform: Through a glass darkly. Tarrytown, NY: Pergamon for the International Association of Universities and Elsevier Science Inc.
- Dill, P. L. & Henley, T. B. (1998). Stressors of college: A comparison of traditional and nontraditional students. *The Journal of Psychology*, 132(1), 25-32.
- Drucker, P. F. (1994, November). The age of social transformation. The Atlantic Monthly, 274, 53-80.

- Duderstadt, J. J., Atkins, D. E., & Van Houweling, D. (2002). *Higher education in the digital age: Technology issues and strategies for American colleges and universities*. Westport, CT: American Council on Education and Praeger Publishers.
- Eppler, M. A. & Harju, B. L. (1997). Achievement motivation goals in relation to academic performance in traditional and non traditional college students. *Research in Higher Education*, 38(5), 557-573.
- Fujita-Starck, P. J. (1996). Motivations and characteristics of adult students: Factor stability and construct validity of the educational participation scale. *Adult Education Quarterly*, 47 (1), 29-40.
- Geiger, R. (1993). Research and relevant knowledge: American research universities since World War II. New York: Oxford University Press.
- Gumport, P. J, & Chun, M. (1999). Technology and higher education. In P. G. Altbach, R. O. Berdahl, R., & P. J. Gumport (Eds.), *American higher education in the twenty-first century: Social, political and economic challenges* (pp. 370-395). Baltimore: The Johns Hopkins University Press.
- Hancock, V. E. (1993). *Information literacy for lifelong learning. ERIC Digest.* Syracuse, NY: ERIC Clearinghouse on Information Resources. (ERIC Document Reproduction Service No. ED 358 870)
- Horn, L.. (1996). Nontraditional undergraduates: Trends in enrollment from 1986 to 1992 and persistence and attainment among 1989-90 Beginning Postsecondary Students. (NCES 97-578). Project Officer: C. Dennis Carroll. U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved from http://nces.ed.gov on June 27, 2004.
- Hurtado, S., Kurotsuchi, K., & Sharp, S. (1996). *Traditional, delayed entry, and nontraditional students*. Annual meeting of the American Educational Research Association.
- Jarvis, P. (1999). Global trends in lifelong learning and the response of the universities. *Comparative Education*, 35(2), 249-257.
- Kasworm. C. E. (2003). From the adult student's perspective: Accelerated degree programs. *New Directions for Adult and Continuing Education*, No. 97, 17-27. EJ664047.
- Kasworm, C.E. & Pike, G. R. (1994). Adult undergraduate students: Evaluating the appropriateness of a traditional model of academic performance. *Research in Higher Education*, 35(6), 689-710.
- Kerka, S. (2001). *Financial aid for lifelong learning. ERIC Digest No. 224*. Columbus, OH: ERIC Clearinghouse on Adult Career and Vocational Education. (ERIC Document Reproduction Service No. ED 452 365)
- Kim, K. & Creighton, S. (2000). *Participation in adult education in the United States: 1998-99.* (NCES 2000-027). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Kinzie, M. B. Delcourt, M. A. B. & Powers, S. M. (1994). Computer technologies: Attitudes and self-efficacy across undergraduate disciplines. *Research in Higher Education*, 35(6), 745-768.
- Knowles, M. S. (1978). The adult learner: A neglected species (2nd ed.). Houston: Gulf.
- Knowles, M. S. (1970). *The modern practice of adult education: Andragogy versus pedagogy*. New York: Association Press.

- Kuh, G. D. & Vesper, N. (2001). Do computers enhance or detract from student learning? *Research in Higher Education*, 42(1), 87-102.
- Lundberg, C. A. (2003). The influence of time-limitations, faculty, and peer relationships on adult student learning: A causal model. *Journal of Higher Education*, 74(6), 665-688.
- Morstain, B. & Smart, J. C. (1977). A motivational typology of adult learners. *Journal of Higher Education*, 48(6), 665-679.
- Peterson, M. W. & Dill, D. D. (1997). Understanding the competitive environment of the postsecondary knowledge industry. In M. W. Peterson, D. D. Dill, & L. Mets (Eds.), *Planning and management for a changing environment* (pp. 3-29). San Francisco: Jossey-Bass.
- Peterson, M. W., Dill, D. D. & Mets, L. (Eds.). (1997). *Planning and management for a changing environment*. San Francisco: Jossey-Bass.
- Quinnan, T. W. (1997). Adult students "at-risk:" Culture bias in higher education. Westport, CT: Bergin & Garvey.
- Rowley, D. J., Lujan, H. D. & Dolance, M. G. (1998). *Strategic choices for the academy: How demand for lifelong learning will re-create higher education*. San Francisco: Jossey-Bass Publishers.
- Schlesinger, Jr., A. M. (1998). The disuniting of America: Reflections on a multicultural society (2nd ed.). New York: W. W. Norton & Company.
- Sissel, P. A., Hansman, C. A. & Kasworm, C. E. (2001). The politics of neglect: Adult learners in higher education. *New Directions for Adult and Continuing Education*, 91, 17-27.
- Stubblefield, H. W. & Keane, P. (1994). *Adult education in the American experience: From the colonial period to the present*. San Francisco: Jossey-Bass Publishers.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- Wolfgang, M. E. & Dowling, W. D. (1981). Differences in motivation of adult and younger undergraduates. *Journal of Higher Education*, 52(6), 640-648.

6. BIOGRAPHICAL SKETCHES

6.1. Principal Investigator/Doctoral Student: Sandra Kortesoja

As a Doctoral Candidate at the University of Michigan (UM) Center for the Study of Higher and Postsecondary Education (CSHPE), I have completed all program requirements except the dissertation; myself a nontraditional age student, I am familiar with many of the outside responsibilities that can act as obstacles to academic progress for such students. Having returned to graduate school after a first career that began with developing management information systems, followed by experience as a financial analyst, followed by experience in financial administration, I wrote my doctoral qualifying examination on *The Role of Information Technology in Shaping Federal Policy toward University Research*. I had completed my bachelor's degree in economics directly after high school; and a master's degree in information technology (my doctoral cognate area) as a nontraditional age graduate student, during 1994-1996. My interest in the increasingly significant impact of information technology in higher education prompted me to apply to the UM doctoral program at CSHPE for enrollment during Fall 2001. I am currently employed as a Curriculum Development Program Assistant, a part-time hourly graduate student position in another UM unit.

I have studied survey methodology, data management, and statistical analysis in a variety of contexts. In addition to studying statistical analysis for earlier degree programs, I have completed two courses in quantitative methods for non-experimental research in the CSHPE curriculum. Weekly assignments in these two courses involved the use of SPSS, including work with data from the Cooperative Institutional Research Program (CIRP) at UCLA. During the second of these two courses, I also gained experience with national data sets available through the ICPSR International Archive of Educational Data (IAED), including *High School and Beyond* and *Recent College Graduates*. Two summers ago, I studied survey methodology at the 2003 Institute of Social Research (ISR) Summer Institute. Last year, I was awarded a fellowship to attend the 2004 AIR/NCES/NSF Summer Data Policy Institute, at which I began exploring my current research question through analysis of *National Postsecondary Student Aid Study* (NPSAS) data. Most recently (December 2004), I completed a UM Center for Statistical Consultation and Research (CSCAR) workshop entitled *Issues in Analysis of Complex Sample Survey Data*.

Through these experiences, as well as through my own further reading¹, I am well aware of the importance of using sample weights, for example, and of other issues associated with analysis of complex sample survey data.

My background includes experience with a wide range of computer technology, as well as familiarity with major information technology policy issues in higher education and in postindustrial society. In addition to my early career work with management information systems, my 1994-1996 master's degree from the UM School of Information (formerly, the School of Information and Libraries Studies) has given me a broad perspective on the internet-era role of information technology in higher and postsecondary education. Today, the study of information technology is my doctoral program cognate area, and this field continues to frame my view of public policy.

Upon my CSHPE enrollment in 2001, I was awarded the UM School of Education's Thomas and Elizabeth Mann Diamond Fellowship for the study of educational technology; and, for the 2002-2003 academic year, I was awarded a UM Rackham Graduate School Fellowship for Non-Traditional Students to study the uses of technology in higher education. In spite of my continuing responsibilities for frail elderly parents, I have persisted toward completion of my doctoral degree, and now hope to contribute to the higher education literature on nontraditional age student success in the internet era, through my dissertation work on the factors that influence nontraditional age students to return to postsecondary education. I learned a great deal at the AIR/NCES/NSF 2004 Summer Data Policy Institute, and look forward to furthering my experience with national data sets. I believe that NCES NHES:1999 data on Adult Education—an underutilized dataset—will be a valuable source of national data for my project, and I would very much appreciate financial support for my dissertation work in the form of a 2005 AIR/NPEC Dissertation Fellowship.

Conference Presentations

"Factors Influencing Nontraditional Age Student Re-enrollment in Postsecondary Education: An Analysis of NCES NPSAS:2000 Data," Michigan Association for Institutional Research (MI-AIR),18th Annual Conference, Ypsilanti, MI. October 2004.

"The Role of Information Technology in Shaping Federal Policy Toward University Research," Association for the Study of Higher Education (ASHE), 29th Annual Conference, Kansas City, MO, November 2004.

-

¹ Thomas, S. L. & Heck, R. H. (2001). Analysis of large-scale secondary data in higher education research: Potential perils associated with complex sample design, *Research in Higher Education*, 42(5), 517-540.

6.2. Faculty Dissertation Director:

STEPHEN L. DESJARDINS

2026 Welch Court Ann Arbor, MI 48103 (734) 994-5926 (Home) (734) 647-1984 (Office)

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 Economics of Education Strategic Enrollment Management Institutional Research

METHODOLOGICAL INTERESTS

Econometrics Logistic Regression Analysis Event History Analysis Neural Network Modeling

PROFESSIONAL EXPERIENCE SUMMARY

University of Michigan, Ann Arbor, Michigan Associate Professor, September 2002 to present

Center for the Study of Higher and Postsecondary Education

PROFESSIONAL EXPERIENCE SUMMARY (cont'd)

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

Refereed Scholarship (cont'd)

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.

Stephen L. Des Jardins (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. Des Jardins 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

7. BUDGET

Factors Influencing Nontraditional Age Student Participation in Postsecondary Education

Personnel: Sandra Kortesoja – 12 months salary @ \$1,100/month \$13,200 Total Salaries and Wages \$13,200 Travel Expense (2006 AIR Forum, 2006 ASHE conference) \$1,500 Other Direct Costs: Materials and Supplies \$200 Dissemination/Publication Costs \$100 **Total Other Direct Costs** \$300 TOTAL AMOUNT OF AWARD \$15,000

Budget Explanation

The monthly salary is budgeted at a level that would allow me to forego other graduate student employment for this 12-month period, facilitating timely completion of this project. If available during 2006, I will apply for University of Michigan travel grants (up to \$300 from the School of Education; up to \$400 from the Rackham School of Graduate Studies) to partially offset Travel Expense. Material and Supplies includes books and journal reprints not available in electronic form or through libraries. Dissemination/Publication Costs includes the estimated cost of photocopying for presentation slides, handouts, etc.

8. CURRENT AND PENDING SUPPORT

As of the beginning of Fall 2004, I have exhausted all prior University of Michigan institutional fellowship awards completing program (tuition expense) requirements to date. I am currently employed approximately half-time (16-19 hours per week; hourly pay rate) as a Program Assistant in another UM unit. This is a nine-month Fall/Winter/Spring term Professional/Administrative position that ends June 15, 2005. I have no other pending support at this time.

9. FACILITIES, EQUIPMENT AND OTHER RESOURCES

Having begun my investigation of this research question with analysis of the NPSAS:96 and NPSAS:2000 restricted use datasets (with the assistance of my faculty dissertation director who requested and received a license amendment), I have my own non-networked laptop computer which complies with the security guidelines outlined in the NCES Restricted Use Data License. I have downloaded the AIR-sponsored AM software, and also have SPSS (version 12.0 for Windows). I also have access to Stata and may use this program as well, or instead of AM/SPSS, to facilitate sample subgroup analysis.

10. SPECIAL INFORMATION AND SUPPLEMENTARY DOCUMENTATION

Please see attached letter of recommendation from my Faculty Dissertation Director.