

Deborah Carr and Jennifer Sheridan

Back to School: A Life Course Approach
to Understanding Men's And Women's
College Attendance in Adulthood

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**Back to School: A Life Course Approach to Understanding Men's
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Abstract:

Over the past 30 years, adult students have accounted for a rapidly growing share of college enrollments. Students over age 40 now comprise 11.2 percent of total higher education enrollments (The Institute for Higher Education Policy 1996). At the aggregate level, this growth pattern is attributable to the sheer size of the large Baby Boom cohort. Less is known, however, about the individual-level factors which affect women's and men's college attendance at midlife. Using data from Wisconsin Longitudinal Study, we explore the factors associated with college attendance and degree receipt in adulthood. Event history analyses reveal that marital dissolution increases women's risk of returning to school. Having one's youngest child turn 18, a proxy for empty nest phase, is unrelated to adult educational transitions. Past military service increases men's risk of returning to school. Both women and men seeking a career change are more likely to return to college and earn a degree. Social background factors do not affect adult college transitions, net of adult status attainment characteristics. The findings suggest that men pursue work and education in an "orderly" fashion while the life course of women is more flexible.

Datasets Used: Wisconsin Longitudinal Study (WLS): USA, 1957, 1975, 1993.

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About the Authors:

Deborah Carr, Faculty Associate, Population Studies Center, Assistant Professor, Department of Sociology, University of Michigan, Ann Arbor, MI 48103 (carrds@umich.edu).

College Attendance in Adulthood

Jennifer Sheridan, Doctoral Candidate, Department of Sociology, University of Wisconsin, 1180 Observatory Drive, Madison WI 53706 (jsherida@ssc.wis.edu).

Throughout the twentieth century, access to higher education has increased for men and women, across all social strata and in most nations (Meyer et al. 1977; Bell 1974). Educational opportunities have also been expanded over the life course, as adult men and women enroll in college in unprecedented numbers. Between 1970 and 1990 in the United States, enrollment for full-time college students aged 25 and older grew by 164 percent, compared to just an 18 percent increase for traditional (i.e., under age 25) full-time students. The increase is even more marked among women and persons over age 40. Between 1970 and 1990, the number of nontraditional female students on college campuses increased by 477 percent and the enrollment of students ages 40 and older grew by 235 percent. Students over age 40 now comprise 11.2 percent of total higher education enrollments (The Institute for Higher Education Policy 1997).

At the aggregate level, these growth patterns are attributable to the sheer size of the large Baby Boom cohort (Jacobs and Stoner-Eby 1998). Less is known, however, about the individual-level factors which affect women's and men's college attendance at midlife. While numerous studies examine the timing and sequencing of schooling in the transition *to* adult work and family roles (Pallas 1993; Blossfeld and Huinink 1991; Swicegood, Rosenfeld and Rindfuss 1987; Marini 1984; Hogan 1981), little is known about the influence of work and family roles on the timing and sequencing of schooling *during* adulthood.

We use data from the Wisconsin Longitudinal Study (WLS), a longitudinal study of men and women who graduated high school in 1957, to examine the factors that affect two educational transitions at midlife (age 35-53): enrollment in a formal college or university degree program, and the receipt of a formal degree. Using the life course paradigm as a guiding framework, we have four objectives: (1) to assess whether midlife educational transitions are a response to changes in one's family roles - including marital dissolution, the onset of the empty nest phase, and onset of caregiving; (2) to examine whether adult college attendance is a strategy for pursuing one's earlier career aspirations; (3) to explore linkages between human capital/economic resources (including education and workplace experiences at baseline) and adult college attendance; and (4) to assess whether the patterns documented in objectives 1-3 vary by gender.

The Importance of Higher Education

Education is a critical factor in determining one's life chances in the United States. Educational attainment is predictive of diverse outcomes, including the timing of entry into adult roles such as worker, spouse, and parent (Pallas 1993; Rindfuss, Swicegood and Rosenfeld 1987; Marini 1985, 1984; Hogan 1981); adult occupational status and earnings (Blau and Duncan 1967; Sewell and Hauser 1975; Featherman and Hauser 1978); childrearing styles (Baumrind 1968); and cognitive development and problem-solving skills (Kohn and Slomczynski 1993; Pascarella and Terenzini 1991). While the importance of educational attainment has been documented persuasively, nearly all sociological studies of the precursors and consequences of educational attainment are based on the assumption that schooling is completed in early adulthood, typically by one's mid 20s. It is reasonable

to assume, however, that at least some of the benefits of education attained in early adulthood may also be reaped through education completed later in the life course.

Education obtained during adulthood may provide workers with the credentials to enter new jobs or industries, to expand their responsibilities at their current jobs, to enhance earnings, or to gain psychological benefits such as the fulfillment of a personal goal or interest. As recent enrollment statistics suggest, demands for lifelong education are heightened among current cohorts of midlife adults (e.g., The Institute for Higher Education Policy 1996). Over the past fifty years, the progressive rationalization and bureaucratization of the economy - coupled with declining employment in the manufacturing and farming sectors - has heightened the value of educational qualifications for occupational mobility (Blau and Duncan 1967; Collins 1979). Two current demographic trends also suggest a growing demand for lifelong education. First, relatively low birth rates since the mid-1960s mean that the decreasing supply of qualified entry-level workers may not meet the demands of industry. Older workers may need to retrain in order to fill these gaps in the labor market (Kutscher and Fullerton 1990). Second, delayed mortality and improved health at midlife and beyond means that older workers may extend their work lives and delay retirement (Riley 1986). If older workers plan to start second careers or take "bridge jobs" later in life, they may desire and require further education (Mannheimer 1998; O'Rand 1996).

Occupational opportunities (and the accompanying economic returns) may be greatest for those who receive a degree, compared with those who simply enroll in classes. Official credentials are critical to occupational success because employers use formal qualifications to screen and select, especially when job candidates outsupply job openings (Collins 1979). Thus, our analyses will assess the predictors of both college enrollment and degree receipt at midlife.

Economic Influences on College Attendance Over the Life Course

One of the most widely documented findings in education research is that the social background of one's family of origin is a crucial determinant of young adults' educational attainment (Sewell and Hauser 1975; Bowles and Gintis 1976; Bourdieu and Passeron 1977). Social background comprises diverse components, including: human/economic capital, or the financial resources to defray both the direct and opportunity costs of schooling (Boudon 1974); social capital such as social ties and networks which encourage education (Coleman 1988); and cultural capital, including the attitudes, preferences, knowledge, and behaviors generally held by members of the dominant social class (Lamont and Lareau 1988; Bourdieu and Passeron 1977). Those from families with richer social and economic resources - broadly defined - attain more years of schooling, and have a greater risk of making a transition to the next year of schooling at every stage of the educational trajectory (Mare 1981, 1980; Blossfeld and Shavit 1993).

The extent to which socioeconomic resources affect educational attainment among adults is less certain, however. On one hand, adults from resource-rich backgrounds may have developed tastes for learning which persist over the life course. Moreover, those with greater economic resources in

adulthood (e.g., higher personal or household income) are better able to defray the direct costs of education (Settersten and Lovegreen 1998). Yet economic resources may be inversely related to college attendance in adulthood; the short-term opportunity costs of college attendance may be greatest for those with the highest earnings and the most generous work benefits. Standard indicators of human capital (Becker 1964) such as years of experience with one's employer may serve as a disincentive for adults to pursue full-time education, if it means that desirable pension and retirement benefits will be foregone. In other words, those with the greatest resources have the most to lose if they cut back on their paid employment in order to attend school.

The predictors of adult college attendance likely extend beyond economic resources. Adults must also consider the allocation of their time; most adults hold family and work roles which may compete with the role of student. Moreover, plans for one's future work life might guide adults' decisions to pursue education. We believe that the process through which adults pursue higher education is far more complex than it is for traditional college students, and we use the life course paradigm as a framework for understanding the unique influences on adult men's and women's college transitions.

Life Course Framework

The life course paradigm provides a relevant framework for examining adult college attendance. A central theme of the paradigm is that human lives comprise a series of interlocking age-graded trajectories, such as school attendance, work careers and family experiences, that are marked by sequences of events and social transitions (Elder 1994). Three other assumptions of the life course paradigm guide our research: (1) human lives unfold differently for different birth cohorts, reflecting the intersection of historical, social and individual occurrence; (2) diverse life domains, such as family, work, and education are "linked" or interconnected; and (3) people are planful and make choices among the set of options available to them.

Influence of birth cohort

A consideration of historical context, including economic trends, social norms, and shifts in family structure is crucial for understanding adult educational transitions. In this study, we look intensively at one cohort; the birth cohort of 1939-40 who participated in the Wisconsin Longitudinal Study (WLS). Men of this cohort typically expected to secure stable and continuous careers and to be the main breadwinner of the family, while women often truncated their education or work pursuits before entering the roles of wife and mother (Coontz 1992; Marini 1984; Baruch, Barnett and Rivers 1983). Between the 1950s and 1970s, however, major changes in family, gender and work roles occurred. When the WLS women reached their mid-30s (in the mid 1970s), their childrearing responsibilities diminished at roughly the same time that diverse work and educational opportunities

opened up to women (Bardwick 1980).¹ Macrolevel shifts in family structure also occurred during this period. Unlike earlier cohorts, the WLS men and women are more likely to see their marriages end from divorce than from widowhood. (Cherlin 1981: 22; Stone, Cafferata, and Sangl 1987).

The work trajectories of the WLS sample also reflect social and economic context. The WLS graduates faced economic prosperity when they entered the workforce in the late 1950s and early 1960s, yet later faced spells of recession and widespread unemployment in the late 1970s, declining employment in the manufacturing and farming sectors accompanied by job growth in the service sector, a tripling in the number of corporate mergers and acquisitions between 1976 and 1986 (*Mergers and Acquisitions* 1987), and the glut of workers created by the Baby Boom (Easterlin 1980). For the WLS cohort, adult education may be necessary to retool for new lines of work, or may be a strategy for midlife women to begin or complete education that might have been forsaken for marriage and parenting earlier in adulthood.

Interconnection of Work and Family Lives

The life course concept of “linked lives” holds that adults’ work, educational, and family activities are interconnected and may be contingent upon one another (Elder 1994). This assumption is supported by numerous sociological studies which show that family demands - particularly caring for young children - constrain the labor force decisions and educational pursuits of young women and men, to a lesser degree (Salvo 1984; Mason and Kuhlthau 1992; Presser 1988; Camarigg and Glass 1992; Desai and Waite 1991; Marini 1984; Felmler 1988). Yet few studies examine the extent to which family roles enhance or constrain one’s educational prospects in adulthood.² We explore the effects of marital dissolution, onset of the empty nest phase, and the onset of caregiving duties on educational transitions. Each transition represents a major shift in the economic and time resources available to the individual. We also include indicators of spousal characteristics as indicators of available resources.

Marital Dissolution. A woman’s economic standard of living may drop from 20 to 70 percent following divorce, while men’s standard of living generally increases slightly, from 10 to 20 percent (Holden 1988; Smock and Holden 1991). Such economic declines may force a woman to re-invest in her own education and job skills, or to seek lucrative employment. Men and women who experience a stressor such as divorce or widowhood may also adapt by channeling their energies into meaningful

¹Marriage and childbearing are nearly universal experiences for members of the WLS sample; 96 percent had ever married as of age 53, and 94 percent have at least one child. The majority of women first gave birth in the early 1960s.

² Two sociological studies focus on the link between family characteristics and adult college attendance, yet both focus on strictly defined samples; Bradburn, Moen and Dempster-McClain (1995) studied women’s school enrollment following a first birth only, while Felmler (1988) examined women’s transitions from full-time work to full-time school only.

personal pursuits.

We expect that marital dissolution will increase the risk that a woman both enters college and receives a degree at midlife. The economic crises that accompany such transitions may force women to make drastic shifts in their work lives. For men, we also expect that marital dissolution will increase the risk of returning to school for a degree, as an increase in one's standard of living and an increased desire for personal growth might be associated with returning for a college degree.

Empty Nest Phase. Launching one's adult children from the family home is considered a developmental task of midlife (Havighurst 1948). While early research on midlife portrayed the empty nest stage as a crisis point when midlife women shed the role of mother, these years are now characterized as a time when women seek new opportunities for self-definition (Robertson 1978; Rubin 1979). Financial pressures may peak during this time, however. Parents of young adults may face a "life cycle squeeze," a period when children's college expenses coincide with a plateau in one's earnings (Moen and Moorehouse 1983).

We include two indicators of launching children into adulthood; having one's youngest child turn age 18 and making an economic transfer to any child to defray educational expenses. We expect the indicators to behave in different ways, given that the former is associated with increased time resources while the latter is associated with decreased economic resources. Specifically, we expect that women's risk of an educational transition will increase as a child leaves the family home, yet we expect no effect for men, who (in this cohort) presumably invested less time in daily childrearing activities. Having a child leave home may not impact men's daily lives to the extent that it would impact their wives' lives. In contrast, we expect that giving money to a child to defray educational expenses reduces both men's and women's risk of attending school, given the high costs of financing children's and parent's educational pursuits simultaneously.

Caregiving Duties. Women are the primary caregivers for ailing spouses, parents and other family members (Lee 1992; Stone, Cafferata and Sangl 1987). Elder care, like child care, creates a greater imposition for women's than men's work lives; women who are caring for elderly parents are more likely to leave the work force than men, and are more likely to reduce their work hours (Pavalko and Artis 1997). Whether caregiving also differently impacts men's and women's educational pursuits is unknown, however.

We explore whether midlife educational transitions are affected by two indicators of caregiving: providing instrumental help to family members, and financial transfers to parents or in-laws. We expect that providing instrumental assistance will reduce the likelihood that a woman would return to college, given that role overload, or the competing demands between caregiving and attending school may occur. We expect no significant relationship for men, given the gendered nature of caregiving duties. We expect financial transfers to parents to decrease college attendance among both women and men, as economic resources might be scarce during these periods.

Spouse Characteristics. The financial and social support of a spouse can be instrumental in making the transition to college for midlife adults (Suitor 1988). Returning to college often requires that

one either reduces hours of paid employment, or exits employment all together. Having the safety net of spousal earnings may enable individuals to return to school. We expect that having a spouse who is employed, and who has higher education will increase the risk of returning to college and receiving a degree for both men and women.

Planful Activity

An important assumption of the life course paradigm is that men and women construct their lives by making and implementing decisions, yet these decisions and actions are constrained by historical context, social structure, and political/economic forces (Elder 1994). A central aim of our analysis is to assess whether one's occupational aspirations affect subsequent college transitions, even after the constraints of current economic resources, human capital investments, and social background are controlled. We believe that adult college attendance may be a strategy to pursue one's earlier occupational goals.

Occupational Aspirations. We know of no sociological studies which examine linkages between adult's occupational aspirations and their subsequent enrollment in college. The omission is surprising; classic studies of educational attainment among young adults find that occupational aspirations are a strong predictor of educational outcomes (Sewell and Hauser 1975). For midlife adults, occupational aspirations may be even more meaningful than those held by high school students, given that adults may have a more realistic understanding of both their current occupational opportunities, and the necessary steps to achieve their long- and short-term goals (Clausen 1991). Because the WLS data provide a direct assessment of future occupational goals (at age 35), and these aspirations are measured *temporally prior* to the midlife educational transition, we can assess whether adult education represents the pursuit of one's earlier career goal.

We expect that men and women who, at age 35, desired a career change in the future, will have an increased risk of college attendance at midlife as they will need to acquire the skills or credentials to enter a new line of work. We expect that women whose goal was to be keeping house are substantially less likely to experience an educational transition, given that advanced education is not necessary to pursue the occupational goal of homemaker.

Human Capital Characteristics. One's occupational aspirations at age 35 may be constrained by one's human capital investments prior to that time. Yet one's education (at baseline) and work experiences might also have a direct effect on adult college enrollment. Our analyses thus include indicators of baseline education, mental ability, and workplace characteristics. We expect that higher levels of baseline education increase the risk of returning to school, as earlier educational attainment may signify one's tastes for learning (Elman and O'Rand 1998; Bradburn, Moen and Dempster-McClain 1995; Felmllee 1988).

We also expect that educational transitions are linked to one's earlier work experiences. First, persons working in declining industries, such as farming and manufacturing, may have developed plans to seek new lines of work, and may require further education to pursue these new plans. We therefore

include indicators of whether one worked in farming or manufacturing industries at baseline. We also include an indicator of prior military service; we expect that men with military experience will be more likely to attend school in adulthood as military experience simply delays the time at which men can pursue educational and occupational goals. Finally, we include an indicator of self-employment; we expect that self-employed individuals will be less likely to obtain a degree as educational credentials are important for being hired in the public sector yet may be less important for success in one's own business.

We further expect that men and women working in more rewarding occupations (i.e., jobs with higher occupational status) may be less likely to return to school, as the opportunity costs of pursuing higher education are greatest for those with the most lucrative occupations. We also consider the role of job loss. Job loss may force an individual to return to school in order to enhance their chances of finding a better job in the future (Powell and Driscoll 1979; Burman 1988). We hypothesize that job loss will be negatively associated with men's return to school, and positively associated with women's return to school. Given that men traditionally have been primary breadwinners, men who lose their jobs may feel heightened pressure to find a new job and earn money, rather than to spend money on education. Women, conversely, may take the opportunity to invest further in their own human capital to ensure a more stable work life in the future.

Social background factors. One final set of factors - early social background - are considered. One's family of origin is associated not only with the availability of economic resources to defray educational expenses, but also with the cultural and social capital which fosters educational pursuits (Coleman 1980; Bourdieu and Passeron 1977). We do not expect social background factors to be significant predictors of adult educational transitions. First, as individuals age, they will rely less on parental resources for their educational pursuits (Muller 1990:9). Perhaps more importantly, though, we believe that if social background characteristics influence adult educational pursuits, they will operate indirectly through early educational and occupational attainment (see Sewell and Hauser 1992 for a review).

DATA AND METHODS

Data

The Wisconsin Longitudinal Study (WLS) is a long-term study of a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957. Respondents were interviewed during their senior year in high school (1957), at ages 35-36 years old (1975), and ages 53-54 (1992/93). Of the 10,317 members of the original WLS sample, 9,139 (88.6 percent) were re-interviewed in 1975 and 8,493 (82.3 percent) were re-interviewed in 1992/93. More than 99 percent of the sample is white non-Hispanic, reflecting the racial composition of Wisconsin high school graduating classes in the 1950s. Roughly one-fifth of the sample is of farm origin, but this proportion is consistent with national estimates of persons of farm origins in cohorts born in the late 1930s (Hauser et al. 1993).

Analyses focus on the 4,277 women and 3,741 men who completed the 1957 questionnaire,

the 1975 and 1992/93 telephone interviews. We will analyze the risk of making a school transition between the 1975 and the 1992/93 interviews. By design, all respondents in our sample graduated from high school, thus all educational transitions are entries to college (for either undergraduate or graduate study). We do not limit our analytic sample on the basis of past educational attainment, and recognize that this is a departure from standard techniques for modeling educational transitions (see Mare 1980 for a review)³. We believe that entrances to college at midlife may be fundamentally different from young adult entrances to college. Entrances to college at midlife might represent the completion of a degree program which was disrupted earlier in the life course, or may involve a return for a second degree which is lower, higher or equivalent to one's prior degree. Our interest is in the *process* of receiving college-level education at midlife, rather than the ultimate *level* of education attained.⁴

Dependent Variables

Two midlife educational transitions are considered: *enrollment in a formal degree program*, and *receipt of a college degree*. Both enrollments and degrees are limited to formal educational programs in two- and four-year colleges and graduate degree-granting institutions. On-the-job training and certificate programs are not included in our definition. Each event is recorded in terms of the quarter (i.e., the three-month spell, such as January through March) and year when the transition occurred. Events are recorded by quarter rather than by month because many individuals named the academic semester (e.g., Fall 1980) of the event.

Enrollment in college is operationalized as entrances to school which occurred after 1975 (i.e., age 35), and which occurred at least five years since one's prior enrollment. We exclude from the risk set those who were already enrolled in school in 1975, in order to capture entries to school rather than continuations of schooling. *Degree receipt* at midlife is measured as the receipt of a formal degree

³A widely-used technique for modeling educational transitions estimates the risk of transition to grade level N, given that an individual has completed N-1 years of schooling. A central assumption is that education is completed in stages; stages are sequential, irreversible, and will not be repeated.

⁴ Overall, 16 percent of WLS respondents returned to college in adulthood, although the rates varied based on baseline levels (1975) of educational attainment. Roughly 10 percent of those with only a high school diploma (as of 1975) returned. In contrast, 22% with some prior college, 31% of those with a bachelor's degree, and 32% of those with some graduate education enrolled in college after age 35. Only 3.9 percent received a degree at midlife; this figure also varied by past educational attainment; 8.3 % with bachelor's degrees as of 1975 received a later degree, while only 2.4% of those with high school education as of 1975, and 6.4% with some college as of 1975 did the same. Roughly 5% of those with some graduate education as of 1975 received a degree after 1975. These statistics suggest that it is not sensible to limit our risk set only to those who had never attended nor completed college as of 1975.

(i.e., a 2-year, 4-year, or graduate degree) after age 35 (1975) and at least ten years after the receipt of any previous degree.⁵ Again, any respondent who was in school during the 1975 interview is excluded from the risk set.

The dependent variables were formulated with two goals in mind. First, we want to focus on transitions that occur at midlife. Second, we want to ensure that we are examining actual educational *transitions*, rather than the *continuation* of an educational trajectory that has persisted for several years. To meet the first objective, we focus on transitions that occurred between ages 35 (1975) and 53 (1992/93), as midlife is generally believed to begin at age 35 (Farrell and Rosenberg 1981; Brooks-Gunn and Kirsh 1984). To meet the second objective, we impose time restrictions to ensure that we are examining educational transitions rather than continuations. In earlier analyses, we used several alternative (and less restrictive) definitions of adult educational transitions, including: any entrance to college or degree receipt after age 35 (regardless of date of prior enrollment); receipt of first-ever college degree after age 35; and receipt of first degree after age 35 and at least 10 years after last enrollment. The size and direction of the covariates were virtually identical regardless of the measurement of midlife college entrance, thus we present results here for the outcomes that we believe best represent midlife transitions.

Independent Variables

Family Transitions and Resources

The family transitions considered are: *marital dissolution*, *onset of empty nest phase*, and *onset of caregiving responsibilities*. Each of these transitions is a time-varying covariate; that is, the variable “turns on” (i.e., is set equal to 1) during the quarter of the year that the event took place and “turns off” (i.e., is set equal to 0) when and if the state is exited. Although the WLS obtains data on the precise month that each family transition occurred, we record events here by quarter (three-month period) because the dependent variable is measured in quarters. *Marital dissolution* includes both divorce/separation and widowhood. Dissolutions are measured as the quarter when the WLS respondent stopped living with his or her spouse (in the case of divorce or separation), or the quarter when the respondent’s spouse died (in the case of widowhood). In earlier analyses we included separate indicators of divorce and widowhood, yet the effects were not significantly different, nor did the model fit improve when we used two specific rather than one general indicator.

“*Empty nest*” phase is indicated with two variables; *one’s youngest child turning age 18*, and *financial transfers to a child to defray educational expenses*.⁶ Other indicators of parenting

⁵ We excluded respondents who did not report the date they received their degree (20 women and 17 men—see Table 1)

⁶ The WLS does not collect data on the timing of each child’s departure from the family home. However, the “empty nest” stage is generally believed to begin when one’s youngest child turns age 18

status and transitions in the parenting role, including number of children, youngest child starting elementary school, and child death, were included in earlier analyses and were not significant predictors of educational transitions, and were thus dropped from the final analysis.

Caregiving responsibilities include the intertransfers of both instrumental assistance and money. *Instrumental assistance* is coded as 1 if the respondent provided care to a sick family member or friend for a spell of one month or longer. The WLS assesses whether a respondent has provided care during the last year, and if yes, obtains the start and stop date of the last caregiving spell. For most respondents who provided care, the “start date” began far earlier than 1992-93; the longest spells of caregiving began as early as 1958. *Financial intertransfers* are assessed with a time-varying covariate indicating whether and when the respondent gave money to his/her parents or in-laws to defray living expenses.

We also consider two indicators of family-level economic resources: spouse’s education and employment status. *Spouse’s educational attainment* is assessed with three dummy variables (attended college, college degree, post-graduate work. High school graduate is the reference group). *Spouse’s employment status* is a dummy variable set equal to 1 if one’s spouse was not working in 1975. A dummy variable signifies those cases where the respondent was *not married in 1975*. More detailed indicators of spousal employment, including occupational status (Hauser and Warren 1997) and military history, were included in preliminary analyses yet were dropped from the final analyses as they were not significant predictors of college transitions (both net and gross of spouse’s education).

Human capital and aspirations

A central theme of the life course paradigm is that individuals make choices given the constraints imposed upon them. The indicators of choice and constraint included here are career aspirations, human capital characteristics, work characteristics and social background. *Career aspirations* (1975) were elicited when respondents were age 35, with the question, “If you were free to choose, what kind of work would you like to be doing ten years from now.” Dichotomous variables indicate whether the respondent hoped to be: *working in a different occupation* (than one’s 1975 or most recent job), *keeping house/not working*, or *did not know their future goals*. The reference group includes those who wanted to continue working in their 1975 jobs.

Formal education (as of 1975) is years of schooling completed as of 1975, and is coded as three dummy variables (attended college, college degree, post-graduate work. High school graduate is the reference category). *Mental ability* is assessed with the Henmon-Nelson (1946, 1954) Test of

and/or graduates from high school (Rubin 1979). Financial transfers to defray a child’s educational expenses are a second way to approximate a child’s transition to adulthood. The WLS ascertained the *last* date at which money was given to children for their education. Thus, to construct this variable, we took a two-year window both before and after the given date as the period when the child may have been in college.

Mental Ability, administered during respondents' junior year in high school and normed on the population of all Wisconsin high school juniors.

Employment characteristics include the *occupational status of one's 1975 (or most recent) occupation*; and dummy variables signifying *in military service in 1975, farmer in 1975, manufacturing in 1975, and self-employed in 1975*.⁷ We use two conceptually and statistically distinct measures of occupational status: occupational education and occupational income scores (Hauser and Warren 1997). *Occupational education* is the percentage of persons in a three-digit occupation category who completed one or more year of college as reported in the 1970 Census. *Occupational income* is the percentage of persons in a three-digit occupation category who earned more than \$10,000 per year in 1969, as reported in the 1970 Census. By including two distinct measures of status, rather than an averaged index such as the Duncan SEI scale, we can assess the impact of different dimensions of job status on educational transitions (Hauser, Sheridan and Warren 1998). The raw percentages are reported in Appendix A, yet in the multivariate analyses these percentages are transformed into a started logit in order to normalize the distribution (Hauser and Warren 1997). A dummy variable signifying that one is *not employed* is turned "on" and "off" as one enters and exits spells (i.e., three-month long spells) of unemployment. Earlier analyses used two time-varying indicators which differentiated involuntary (e.g., due to business closing/relocation, lay-offs, lost business or farm) and voluntary spells of non-employment (e.g., left work force for family responsibilities, wanted not to work, etc.). Because the two indicators did not have significantly different effects on the risk of transition, we now include only a single indicator.

Finally, drawing on the Wisconsin model of status attainment (Sewell and Hauser 1975), we include the following indicators of early family background; *father's (or householder's) occupational status* (Duncan SEI score) in 1957; whether the respondent's *mother worked for pay* while the respondent was growing up (coded 1 if yes); *family income*, measured as the logged average of family income reported on Wisconsin tax records from 1957-60; *father's years of completed education*; *mother's years of completed education*; *farm background* (coded 1 if respondent's father was a farmer); and *family structure in 1957* (coded 1 if the family was not intact); *number of siblings* (top-coded at 8).

Missing values for all independent variables are replaced with the sample mean (or the median,

⁷ For several occupations (i.e., school teachers and nurses), continuing education may be required, rather than voluntary. Thus, we include dummy variables indicating whether a respondent worked as an elementary or secondary school teacher or nurse prior to enrolling or receiving a degree. In the WLS, 15 percent of women and 7 percent of men who obtained a degree after age 35 were employed as teachers at or prior to the time they received their degree, and 13 percent of women who received a degree in midlife were in a nursing occupation in 1975. These variables are included as controls only, and coefficients will not be presented.

for dichotomous variables), and dummy variables indicate that data the mean (or median) was imputed (coefficients for the missing data flags are not presented in our tables, and none are statistically significant). Descriptive statistics for independent variables are presented in Appendix A. For ease of interpretation, all events are recorded as the average century month in which a transition occurred, and the average duration (in months) that a spell persisted.

Analytic Method

Event history analysis is used to evaluate the effects of covariates on the rate of making an educational transition. The basic hazard model is:

$$h_i(t) = a_0(t) \exp(b_1x_{i1} + b_2x_{i2} + \dots + b_nx_{in} + b_mx_{im}(t) + \dots + b_zx_{iz}(t))$$

where $h_i(t)$ is the hazard for individual i at time t , b_1 to b_n are the slopes or regression coefficients associated with fixed covariates x_i , b_m to b_z are the slopes associated with time-varying covariates $x_i(t)$, and $a_0(t)$ is an unspecified baseline hazard function. A hazard rate is the probability that an event will occur at a particular time to a particular individual, given that the individual is “at risk” at that time.

Chi-square tests were used to determine which of five baseline hazards (Exponential, Weibull, Gompertz, quadratic, and cubic) best fit the data in models which combined data for men and women. The Gompertz model is used for estimating the risk of midlife entry to college, and the Weibull model is used to estimate the risk of degree receipt at midlife (although the coefficients of interest (b_1 to b_n and b_m to b_z) did not change appreciably across models).⁸ Sex-specific models predicting college enrollment (Table 2) and receipt of a college degree at midlife (Table 3) are presented. We first estimated models for a pooled sample of men and women, with all independent variables interacted with gender. Interaction models reveal which independent variables have significantly different effects on men’s and women’s risk of educational transition. Significant gender differences in effects are noted in Tables 2 and 3.

FINDINGS

The frequency and timing of midlife educational transitions are presented in Table 1. Women are substantially more likely than men to enroll in college after age 35, a pattern consistent with prior studies (see Jacobs and Stoner-Eby 1998 for a review). One-fifth of women and 12 percent of men returned to college at midlife, and a higher proportion of women than men completed a degree after age 35 (5.5 percent and 2 percent, respectively). The average date of both returning to school and receiving a degree was 1984 (age 44-45) for men and 1985 (age 45-46) for women.

[Table 1 about here]

⁸We use the Continuous Time Models (CTM) software (version 5, Yates 1987) to estimate our models, which allows us to specify the Exponential, Weibull, Gompertz, quadratic, and cubic baseline functions.

Multivariate Analyses

Family Transitions and Resources

Consistent with a large literature demonstrating that women's work and educational pursuits are contingent on family experiences (Maines and Hardesty 1987; Marini 1978), we find that selected family transitions are linked to women's (yet not men's) midlife educational transitions. Surprisingly, events associated with a *decline* in women's economic resources, (i.e., marital dissolution and defraying a child's educational expenses) increased women's educational transitions. Marital dissolution increases women's risk of returning to school by 63 percent, and increases her risk of receiving a degree by 83 percent. Contrary to our starting hypothesis, transferring money to a child to defray college expenses increases women's risk of college enrollment by 35 percent, although the effect is only marginally significant. Having one's youngest child turn age 18 is unrelated to both men's and women's risk of either enrolling in school or earning a degree at midlife. For men, not one marital or parenting transition was linked to college attendance or degree receipt at midlife.

[Tables 2 and 3 about here]

Providing instrumental assistance to an ailing family member or friend is unrelated to men's and women's adult college attendance, although transferring money to one's parents to defray living expenses increases men's risk of returning to school. Spouse's educational attainment significantly influences the risk of one's own educational transitions - confirming our hypothesis that persons with greater family-level economic resources will be more likely to return to school. Among women, having a husband with at least some graduate-level education significantly increases the risk of both enrolling in college (exp $\beta=1.70$) and receiving a degree (exp $\beta=1.86$). Having a spouse with some college education (exp $\beta=1.54$) or a 4-year college degree (exp $\beta=1.34$) increases women's risk of enrollment, yet not degree receipt. Men who are married to a woman with some college education have a 60 percent greater risk of returning to college, compared to men whose wives have 12 or fewer years of schooling. Interestingly, wives' educational levels do not significantly influence men's risk of receiving a degree at midlife.

Planful Activity

Occupational aspirations are a strong predictor of women's midlife college enrollment and degree receipt, yet are less closely linked to men's educational transitions. Compared to women who (at age 35) said they wanted to remain in their current job, women who sought a new job are 25 percent more likely to return to school, and 46 percent more likely to earn a degree. In contrast, women who did not want to work or who desired to be homemakers are 37 percent less likely to return to school. Women who aspired to occupations requiring high levels of education also had increased risk of both returning to school and earning a degree.

The occupational aspirations of the WLS men, however, affect midlife educational transitions in only one case. Like women, men who sought a different job (at age 35) have a 25 percent higher risk of returning to school than those men who wanted to remain in their 1975 job. No other aspiration

variable has a significant effect on men's risk of educational transitions.

Education (at 1975 baseline) and IQ are more strongly linked to educational transitions among women than among men. Women's educational attainment (at 1975 baseline) is positively associated with educational transitions, although the relationship shifts for women with graduate education at baseline. Having some graduate education increases the risk of returning to school ($\exp \beta=1.47$), relative to high school graduates, but does not increase the risk of obtaining a degree in midlife. Measured mental ability, another indicator of personal resources, has a significant effect on women's risk of both returning to school and receiving a degree; each 10-point increase in IQ score increased the risks by 22 and 39 percent, respectively. For men, having attended some college is the only significant predictor of midlife enrollment ($\exp \beta=1.86, p \leq .05$), suggesting that men's entries may be largely continuations of educational careers that were truncated earlier in life. Mental ability is not related to men's adult educational transitions.

As we expected, men's educational transitions are significantly linked to work experiences. Occupational education has a significant impact on men's enrollments and a marginally significant effect on their midlife degree receipt. As the average educational level of men's occupation rises, the risk of both enrolling in college and receiving a degree increases. Being self-employed reduces men's risk of returning to school by 48 percent, while military service quadruples men's risk of enrollment and increases men's risk of degree receipt by a factor of 15. In contrast, only two aspects of women's work lives are significant predictor of midlife educational transitions. The educational level of one's job is significantly and positively linked to women's midlife education, while job loss increases women's risk of midlife degree receipt by 69 percent.

Only one indicator of social background has a significant effect on midlife educational transitions, despite the strong relationship between parental social status and early educational attainment (Sewell and Hauser 1975). For women, having a greater number of siblings significantly increases the risk of midlife degree receipt. Women's risk of enrolling in college at midlife is positively linked to number of siblings and inversely related to father's educational attainment, although these effects are only marginally significant ($p \leq .10$).

DISCUSSION

Taken together, our findings reveal important linkages among family characteristics, career aspirations, workplace experiences and midlife educational transitions. Yet our findings also have broader implications for the study of the life course and social stratification. First, we find that transitions in one's family roles are linked to women's midlife educational transitions. Second, midlife educational transitions may be a strategy to fulfill one's earlier occupational aspirations. Third, the clear-cut link between economic resources and school attendance documented for young adults does not necessarily hold for adult educational attainment. Finally, the study of midlife college attendance highlights gender differences in the shape and content of the life course.

Family Transitions

Our findings revealed that marital dissolution increases women's educational transitions at midlife. Surprisingly, we found counterintuitive linkages between empty nest indicators and midlife educational attainment. First, we found that having one's youngest child turning age 18 did not impact educational transitions. This might be attributable to measurement issues in the WLS; we cannot ascertain whether the child's 18th birthday actually coincides with that child's leaving of the family home, either for college, or the establishment of one's own home.

Yet the weak linkage between a child's transition to adulthood and women's educational transitions might also reflect shifting patterns in the life course of women and children. Nearly all of the children of WLS parents were age 21-35 at the time of the 1992-93 interview. As members of the "Generation X" cohort, these children are more likely than prior generations of young adults to live with their parents or to return to their parents' home following divorce, or difficulties in the labor force (Aquilino 1996, Goldscheider and Goldscheider 1993). Thus, a child's 18th birthday does not necessarily signify that a child has been "launched" successfully into adulthood. Moreover, for the WLS cohort of women, the "empty nest" phase may be less meaningful than it was for earlier cohorts of women. Nearly all (98 percent) of the WLS women had ever worked for pay, and most worked while they were raising children. In the time period from 1957 (age 18) to 1992-93 (age 53), only 12 percent of the WLS women had worked for fewer than 10 years. Although women of earlier cohorts may have been reluctant to return to school before their youngest child reached adulthood, for women of the WLS, children might not have been an impediment to either work or educational pursuits.

Interestingly, we found that providing money to a child for educational expenses increased women's risk of both returning to school, and receiving a degree. From an economic standpoint, this is surprising; defraying children's educational expenses may limit the amount of resources available for one's own education. However, this finding might display an interesting case of social capital being transmitted from child to parent. Perhaps the child's encounters with higher education created an awareness of and desire for higher education in the mother. Our interpretation is merely speculative however, and warrants further research.

Marital transitions substantially increase the risk of women's college enrollments and degree receipt. Newly-single women may return to college in order to obtain the skills and credentials necessary to support themselves financially. Returning to school also may represent an adaptive strategy in the face of adversity, as women channel their energies into self-improvement and personal growth following the loss of the spousal role. Although much sociological research has focused narrowly on the economic consequences of marital dissolution for women and children (Smock and Holden 1991, McLanahan and Sandefur 1994), future research should focus on the diverse trajectories women pursue following marital dissolution such as returning to school, or making a career change.

Although we expected caregiving to reduce women's risk of educational transitions, we found no significant relationship between providing instrumental assistance and returning to school. This may reflect the fact that we cannot ascertain how time-intensive the caregiving activity was; presumably only

the most time-intensive caregiving would provide an obstacle for women to pursue other educational or work activities (Pavalko and Artis 1997; Ruhm 1996). The data also reveal the anomalous finding that providing money to parents for living expenses increases men's risk of returning to college. Finally, having a spouse with education beyond high school generally increased the hazard of returning to school for both women and men, while there was little effect of spouse's education for either sex on the hazard of obtaining a degree (except if a woman's husband had some graduate school). In earlier analysis (not shown), economic characteristics of the spouse's job (such as occupational income) were unrelated to educational transitions. While our results do not necessarily refute the importance of family economic resources in guiding adult educational transitions, our findings do suggest that other resources, such as a spouse who values education and encourages educational pursuits, may be equally important. Having a highly educated spouse not only indicates higher income, but also implies that one has a social network in which educational pursuits are encouraged.

The Role of Aspirations

One important distinction of our paper is the inclusion of direct measures of career aspirations (measured prior to educational transitions). Our findings suggest that midlife educational pursuits may be a first step toward career change. Both men and women who desired a new job (at age 35) were 25 percent more likely to return to college. Moreover, the nature of the job sought also influenced women's subsequent educational transitions. Women who wanted a job requiring higher levels of education returned to college significantly faster than other women, and also received degrees much faster. The receipt of an official credential may be necessary for women who sought upward career mobility. At the same time, women who did not want to work in the paid labor force were significantly slower to return to college in midlife. Increased educational attainment may have relatively little value for individuals who did not want to work for pay.

Economic and Human Capital Resources

Unlike studies of educational transitions during adolescence and young adulthood, we found that only one social background factor was a significant predictor of adult educational transitions; women with more siblings were more likely to earn at degree at midlife. We also found weak evidence that women's midlife entries to school are inversely related to father's education and positively related to number of siblings. These results suggest that women from families with more meager resources are more likely to pursue education in adulthood. Perhaps for women of the WLS generation, parents channeled their resources to son's rather than daughters' education, and women postponed their education until later in life, when they were dependent on their own and their spouses' resources.⁹

⁹ Alternatively, the number of siblings can be considered a positive resource in later life (as opposed to early in life, when having more siblings tends to decrease the amount of family resources

Our findings also suggest that midlife educational transitions may be a way for highly competent women to pursue the opportunities forsaken earlier in life. Mental ability had a significantly larger positive effect on women's adult educational transitions than men's. Moreover, (in analyses not shown) we found that the effect of IQ on women's adult educational transitions is significantly larger for women who had less than a college degree at baseline (relative to those with a college degree and/or graduate training). Earlier studies of educational attainment, based on WLS data, showed that among high ability students, men went on to achieve significantly more education and higher status occupations than comparable women (Sewell and Shah 1967; Sewell 1971; Sewell, Hauser and Wolf 1980). This pattern was described as indicative of a "great loss in potential" by William H. Sewell, in his 1971 address to the American Sociological Association (Sewell 1971: 796). Our findings suggest that high ability women may be fulfilling their potential, yet do so later in the life course.

Consistent with past research (Felmlee 1988; Bradburn et al 1995), one's own levels of education prior to age 35 had strong effects on later educational attainment, with stronger effects for women than men. Compared to high school graduates, WLS women who completed at least some college are substantially more likely to return to college and to receive a degree at midlife. The one exception is women who attended graduate school prior to 1975; women who attended graduate school prior to 1975 did not differ significantly from high school graduates in their rates of receiving a college degree in midlife, yet they were substantially more likely to return to college. This finding emphasizes the importance of examining both college enrollment and degree attainment at midlife. Women with at least some graduate education might have returned to college for personal enrichment or to keep up in their field, but because they had already attained a high level of education are unlikely to change career paths and obtain another degree.

Work characteristics were among the few significant predictors of men's educational transitions. Men holding jobs which require higher education were more likely to return to school, suggesting that certain occupations might require that workers "keep up" with the changing technology in the workplace. Although we expected that working in declining industries during the 1970s and 1980s would be associated with an elevated risk of educational transitions, neither working in farming nor manufacturing affected educational transitions.

Owning one's own business affected men and women quite differently. Self-employed men had sharply decreased rates of returning to college, while self-employed women had somewhat higher rates of midlife degree attainment. This finding is not surprising. Among self-employed women and men, the gender gap in earnings - even among full-time year-round workers - is much starker than among wage and salary workers (Devine 1994). Women who have their own businesses may seek to expand their educational credentials in order to increase their future earnings. Self-employed men may require only

available to any one sibling), as the adult in a large sibship has more potential sources of financial and emotional support.

very specific training to succeed in their jobs; obtaining general skills or a credential to be hired in the wage and salary sector may be of limited value.

Implications for Gender and the Life Course

Overall, we found that women's college enrollment and degree receipt are responses to shifting family roles and to one's adult occupational goals. For men, educational transitions were guided largely by prior work experiences. These findings are consistent with some core assumptions of life course research. Women's lives traditionally have been more firmly bound to the family sphere, which operates on a nonlinear time line, while the traditional lives of men are tightly bound to spheres outside the family, which operate on a linear time line (Hagestad 1991; Hagestad and Neugarten 1985; Maines and Hardesty 1987; Settersten and Lovegreen 1998). Consequently, men's lives and role transitions unfold in a (relatively) orderly sequence, while women's lives are more flexible.

Our results suggest that for current cohorts of midlife men, education is largely confined to the first "third" of the life course (Kohli 1986). Men are less likely than women to pursue or complete their education later in the life course, and few factors - whether enduring family characteristics or unexpected family transitions - will affect their educational outcomes. It appears that men's early life education shapes the outcomes in later life, rather than life outcomes shaping men's educational attainment. Our data suggest that the timing and content of men's life course are constrained by rigid norms and social institutions. Not surprisingly, the one covariate that had largest effect on men's college attendance exemplifies the normative sequencing of the male life course. Men who were in the military (and who presumably enlisted immediately following high school graduation) returned to college at the "appropriate" time in the life course - after they had completed their military obligations (Elder, Shanahan and Clipp 1994). Moreover, institutional support is in place to support the transition from military to education; the receipt of military benefits facilitates the completion of a college education for veterans (Greenberg 1997; Bennett 1996).

The story for women is far more complex, at least among the WLS cohort of women. Just as marriage and childbearing influence women's educational attainment in young adulthood (Marini 1978), shifting family roles impact women's midlife educational transitions. The women of this cohort experienced a substantial amount of change in both family and work roles during their early and middle adult years. Settersten and Lovegreen (1998) argue that current cohorts of adult women have "new time budgets." Given a reduction in the number of years spent bearing and rearing children, and an increase in the number of "healthy" years to be experienced by these women in late adulthood (see Watkins, Menken and Bongaarts 1987), women (and men) may have many more years to spend in work and educational roles. As a result, age might be less important in determining one's experiences, and education, work and leisure pursuits might be allocated across the entire life course, rather than being limited to the final stages (Kohli 1988; Riley 1986).

Our findings also have important implications for the study of education more generally. Educational opportunities have gradually equalized for women and men, with current cohorts of young

women actually enjoying slightly higher rates of transition to college compared to men (see Blossfeld and Shavit 1993 for review). Yet the strides that women have made may be underestimated, given that most educational research neglects adult educational attainment. Whether the gender gap in adult college attendance and enrollment will persist in future cohorts is uncertain. Women of the WLS cohort often delayed or gave up their educational pursuits in young adulthood, given that most married and began having children in their late teens and early 20s. As the average age at first marriage and first birth have increased, women and men may be equally likely to complete their education the “first time around.”

Myriad unanswered questions remain about adult education. Further research is needed on racial, ethnic, nativity status and cohort differences in adult education. Moreover, it is not yet clear what role adult education plays in the processes of both intra- and inter-generational mobility. Are economic returns to adult education equivalent to the returns reaped through traditionally-timed education? Will adult education play a role in diminishing the large gender gap in poverty levels in late life? Given the relatively weak linkages between social background and adult educational attainment (documented in this paper), might adult education be a strategy for weakening the intergenerational transmission of social class? The answers to these questions will be of tremendous importance as Americans increasingly spread their education to mid-adulthood and beyond.

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Table 1. Wisconsin Longitudinal Study Sample Selection

	Women				Men			
	Eligible	Experienced Event	Mean Century Month of Trans.	St. Dev. (Months)	Eligible	Experienced Event	Mean Century Month of Trans.	St. Dev. (Months)
Original 1957 Sample	5325	---	---	---	4992	---	---	---
1992/93 Survey Respondents	4512 (84.7%)	---	---	---	3981 (79.7%)	---	---	---
1975 and 1992/93 Survey Respondents	4277 (80.3%)	---	---	---	3741 (74.9%)	---	---	---
Not in School in 1975	4136 (77.7%)	---	---	---	3594 (72.0%)	---	---	---
Returned to School in Mid-Life	4088 (76.8%)	791 [19.3%]	August 1985	59.06	3565 (71.4%)	435 [12.2%]	April 1984	62.09
Returned to School in Mid-Life and Received a Degree	4115 (77.3%)	228 [5.5%]	October 1985	54.91	3577 (71.7%)	70 [1.9%]	March 1984	56.52

NOTE: Percent of original sample in parentheses. Percent of eligible sample in brackets.

Table 2. Parameter Estimates and Relative Risks of Enrolling in College at Midlife, Women and Men of the Wisconsin Longitudinal Study, 1957-1993.*

Covariate	Women			Men				
	Beta	S.E.	RR	Beta	S.E.	RR		
Intercept	-8.89	0.64		-8.58	0.89			
Gamma One	0.02	0.00		0.01	0.00			
Linked Lives								
<i>Family Transitions</i>								
Youngest Child turns Age 18	-0.06	0.10	0.95	-0.21	0.15	0.81	a	-0.59
Gave Money to Child for Education	0.25	0.09	1.28	0.06	0.14	1.06	<i>b</i>	2.64
Marital Dissolution	0.49	0.10	1.63	0.02	0.19	1.02	a	4.95
Caretaking	-0.10	0.23	0.90	0.27	0.28	1.31		-0.45
Gave Money to Parent for Living Expenses	-0.61	0.43	0.54	1.15	0.40	3.15	a	-1.42
<i>Spouse Characteristics</i>								
Spouse's Education - Attended College	0.43	0.12	1.54	0.47	0.14	1.60		3.54
Spouse's Education - College Graduate	0.29	0.11	1.34	<i>0.28</i>	<i>0.16</i>	<i>1.32</i>		2.56
Spouse's Education - Graduate School	0.53	0.11	1.70	0.16	0.22	1.17	<i>b</i>	4.69
Spouse Not in Labor Force	0.56	0.61	1.75	-0.09	0.11	0.91		0.91
Planful Activity								
<i>Human Capital</i>								
Mental Ability	0.20	0.03	1.22	0.03	0.04	1.03	a	6.91
Educational Attainment-Attended College	0.55	0.11	1.73	0.62	0.16	1.86		5.05
Educational Attainment-College Graduate	0.66	0.12	1.94	<i>0.29</i>	<i>0.17</i>	<i>1.34</i>	<i>b</i>	5.45
Educational Attainment-Graduate School	0.39	0.17	1.47	0.17	0.20	1.19		2.24
1975 Occupational Education	0.10	0.05	1.10	0.34	0.07	1.41	a	2.03
1975 Occupational Income	-0.05	0.04	0.95	-0.06	0.08	0.94		-1.13
In Military in 1975	**	**	**	1.40	0.23	4.04		
Farming Industry in 1975	0.00	0.26	1.00	-0.50	0.49	0.61		0.02
Manufacturing Industry in 1975	0.10	0.14	1.10	0.00	0.13	1.00		0.70
Self-Employed in 1975	0.10	0.15	1.11	-0.66	0.21	0.52	a	0.70
Unemployment Spell	-0.01	0.10	0.99	0.13	0.24	<i>1.14</i>		-0.15
<i>1975 Occupational Aspirations</i>								
1975 Aspirations, Occupational Education	0.13	0.04	1.14	0.00	0.05	1.00	a	3.53
1975 Aspirations, Occupational Income	<i>0.06</i>	<i>0.04</i>	<i>1.06</i>	-0.10	0.07	0.90	a	<i>1.54</i>
1975 Aspirations, Wanted Different Job	0.22	0.09	1.25	0.22	0.11	1.25		2.47
1975 Aspirations, Wanted Housework/No Work	-0.46	0.20	0.63	-0.19	0.45	0.83		-2.32
1975 Aspirations, Don't Know Aspirations	-0.09	0.15	0.91	0.02	0.21	1.02		-0.61
<i>Social Background</i>								
Mother's Educational Attainment	0.02	0.02	1.02	-0.01	0.02	0.99		1.13
Father's Educational Attainment	-0.02	<i>0.01</i>	<i>0.98</i>	-0.02	0.02	0.98		<i>-1.91</i>
Family Income	-0.04	0.06	0.96	<i>0.18</i>	<i>0.09</i>	<i>1.19</i>	a	-0.63
Head's Occupational Status	0.00	0.00	1.00	0.00	0.00	1.00		-0.29
Farm Background	-0.12	0.12	0.89	0.03	0.17	1.03		-1.02
Mother Works	0.07	0.08	1.07	0.11	0.11	1.11		0.92
Non-Intact Family	-0.03	0.13	0.97	<i>0.30</i>	<i>0.17</i>	<i>1.35</i>	<i>b</i>	-0.25
Number of Siblings	<i>0.04</i>	<i>0.02</i>	<i>1.04</i>	0.02	0.03	1.02		<i>1.96</i>
Total N		4088			3565			
Number of Events		791			435			
-2 Log Likelihood		5031.91			2975.46			

NOTE: (1) Baseline hazard is Gompertz.

(2) ** signifies that parameters could not be estimated due to small number of events.

(3) **Bold** coefficients are twice their standard error; coefficients in *italics* are 1.5 times their standard error.

(4) Models were also estimated for a pooled sample of men and women, and gender was interacted with all independent variables, to assess gender differences in the effect of each independent variable on the risk of transition. 'a' signifies that gender interaction term was significant at the .05 level, while *b* denotes that the gender interaction is significant at the $p < .10$ level.

(5) Missing data flags are included in the model for all variables. The coefficients were not statistically significant and are not presented. Two additional variables, signifying that a respondent worked as a nurse or school teacher are included as controls only and results are not presented.

Table 3. Parameter Estimates and Relative Risks of Receiving College Degree at Midlife, Women and Men of the Wisconsin Longitudinal Study, 1957-1993.

Covariate	Women			Men				
	Beta	S.E.	RR	Beta	S.E.	RR		
Intercept	-12.65	1.27		-13.49	2.98			
Gamma One	0.47	0.13		0.30	0.25			
Linked Lives								
<i>Family Transitions</i>								
Youngest Child turns Age 18	0.03	0.17	1.03	-0.39	0.39	0.68		0.17
Gave Money to Child for Education	<i>0.30</i>	<i>0.17</i>	<i>1.35</i>	-0.15	0.51	0.86		<i>1.75</i>
Marital Dissolution	0.60	0.20	1.83	0.17	0.58	1.18		2.97
Caretaking	0.47	0.33	1.60	-0.71	2.08	0.49		1.44
Gave Money to Parent for Living Expenses	-0.09	0.85	0.91	**	**	**		-0.11
<i>Spouse Characteristics</i>								
Spouse's Education - Attended College	0.29	0.25	1.34	0.08	0.49	1.09		1.16
Spouse's Education - College Graduate	0.01	0.23	1.01	0.20	0.61	1.22		0.03
Spouse's Education - Graduate School	0.62	0.21	1.86	0.02	0.90	1.02		2.90
Spouse Not in Labor Force	1.19	0.80	3.29	0.10	0.37	1.11		1.49
Planful Activity								
<i>Human Capital</i>								
Mental Ability	0.33	0.06	1.39	0.05	0.12	1.05	a	5.54
Educational Attainment-Attended College	0.76	0.21	2.13	0.43	0.43	1.53		3.64
Educational Attainment-College Graduate	0.78	0.23	2.18	-0.32	0.61	0.73	<i>b</i>	3.33
Educational Attainment-Graduate School	0.14	0.34	1.15	-0.97	0.65	0.38	<i>b</i>	0.41
1975 Occupational Education	0.19	0.09	1.21	<i>0.47</i>	<i>0.24</i>	<i>1.60</i>		2.08
1975 Occupational Income	-0.13	0.09	0.88	-0.24	0.28	0.79		-1.47
In Military in 1975	**	**	**	2.68	0.54	14.60		
Farming Industry in 1975	-0.73	0.78	0.48	0.11	1.35	1.11		-0.93
Manufacturing Industry in 1975	0.23	0.29	1.26	-0.13	0.43	0.88		0.79
Self-Employed in 1975	<i>0.46</i>	<i>0.29</i>	<i>1.58</i>	-2.21	2.63	0.11		<i>1.60</i>
Unemployment Spell	0.53	0.17	1.69	0.28	0.53	1.32		3.11
<i>1975 Occupational Aspirations</i>								
1975 Aspirations, Occupational Education	<i>0.12</i>	<i>0.08</i>	<i>1.12</i>	-0.06	0.22	0.94		<i>1.51</i>
1975 Aspirations, Occupational Income	0.08	0.08	1.08	0.06	0.28	1.06		0.99
1975 Aspirations, Wanted Different Job	0.38	0.19	1.46	0.03	0.39	1.03		2.04
1975 Aspirations, Wanted Housework/No Work	-0.43	0.42	0.65	**	**	**		-1.01
1975 Aspirations, Don't Know Aspirations	0.08	0.31	1.08	0.32	0.61	1.38		0.26
<i>Social Background</i>								
Mother's Educational Attainment	0.04	0.03	1.04	0.07	0.07	1.07		1.24
Father's Educational Attainment	0.00	0.03	1.00	-0.02	0.05	0.98		0.06
Family Income	-0.14	0.12	0.87	0.35	0.33	1.41		-1.18
Head's Occupational Status	0.00	0.00	1.00	0.00	0.01	1.00		-1.16
Farm Background	-0.22	0.23	0.81	0.36	0.57	1.43		-0.94
Mother Works	0.09	0.15	1.10	0.23	0.37	1.26		0.62
Non-Intact Family	-0.39	0.32	0.68	0.48	0.51	1.62		-1.22
Number of Siblings	0.08	0.04	1.08	-0.01	0.11	0.99		2.22
Total N		4115			3577			
Number of Events		228			70			
-2 Log Likelihood		1692.25			575.64			

NOTE: (1) Baseline hazard is Gompertz.

(2) ** signifies that parameters could not be estimated due to small number of events.

(3) **Bold** coefficients are twice their standard error; coefficients in *italics* are 1.5 times their standard error.

(4) Models were also estimated for a pooled sample of men and women, and

gender was interacted with all independent variables, to assess gender differences

in the effect of each independent variable on the risk of transition. 'a' signifies that gender interaction term was significant at the .05 level, while *b* denotes that the gender interaction is significant at the p<.10 level.

(5) Missing data flags are included in the model for all variables. The coefficients were

not statistically significant and are not presented. Two additional variables, signifying that a respondent worked as a nurse or school teacher are included as controls only and results are not presented.

**Appendix A. Descriptive Statistics for Independent Variables Used in Analysis:
Men and Women of the Wisconsin Longitudinal Study, 1957-1993**

	Women			Men		
	Mean	St. Dev.	N	Mean	St. Dev.	N
Linked Lives						
<i>Family Transitions</i>						
No Children as of 1992/93	0.08	(0.26)	4133	0.08	(0.27)	3592
Youngest Child turns Age 18	Nov. 1986	(56.79)	3777	Dec. 1988	(63.42)	3277
Gave Money to Child for Education						
Mean Number of Transfers	0.90	(1.09)	4136	1.01	(1.09)	3594
Mean Year of First Transfer	1987	(49.10)	1966	1988	(45.11)	1929
Marital Dissolution						
% Experienced 1+ Marital Dissolution	0.26	(0.44)	4136	0.26	(0.44)	3594
Mean Number, Divorces/Widow Periods	0.31	(0.57)	4136	0.31	(0.58)	3594
Mean Length of Spell (Months)	94.48	(78.40)	1300	71.80	(67.24)	1105
Mean Date, 1st Marital Dissolution	Sept. 1979	(65.62)	1089	Jan. 1980	(64.55)	929
Caretaking						
Mean Date Spell Began	Nov. 1989	(53.00)	625	Dec. 1988	(60.52)	288
Mean Length of Spell (Months)	36.50	(53.54)	625	46.93	(60.77)	288
Gave Money to Parent for Living Expenses						
Mean Year of First Transfer	1988	(57.73)	101	1989	(61.13)	89
<i>Spousal Characteristics</i>						
Not Married in 1975	0.11	(0.31)	4127	0.11	(0.31)	3586
Never Married as of 1992/93	0.04	(0.20)	4136	0.04	(0.20)	3594
Spouse's Educ - High School Graduate**	0.50	(0.50)	3655	0.62	(0.49)	3202
Spouse's Educ - Attended College	0.13	(0.34)	3655	0.14	(0.35)	3202
Spouse's Educ- College Graduate	0.13	(0.33)	3655	0.13	(0.34)	3202
Spouse's Educ - Graduate School	0.13	(0.33)	3655	0.04	(0.19)	3202
Spouse Not in Labor Force	0.00	(0.06)	3665	0.58	(0.49)	3209
<i>Social Background</i>						
Mother's Educational Attainment	10.27	(2.82)	4136	10.56	(2.83)	3594
Father's Educational Attainment	9.62	(3.35)	4136	9.76	(3.45)	3594
Family Income	8.53	(0.66)	3899	8.54	(0.69)	3488
Head's Occupational Status	34.36	(23.16)	4097	34.34	(23.23)	3563
Farm Background	0.20	(0.40)	4045	0.21	(0.41)	3511
Mother Works	0.38	(0.48)	4123	0.35	(0.48)	3581
Non-Intact Family	0.10	(0.30)	4132	0.09	(0.29)	3589
Number of Siblings	3.20	(2.26)	4129	3.08	(2.18)	3588

(Appendix A continued on next page).

**Appendix A. Descriptive Statistics for Independent Variables Used in Analysis:
Men and Women of the Wisconsin Longitudinal Study, 1957-1993**

	Women			Men		
	Mean	St. Dev.	N	Mean	St. Dev.	N
Planful Activity						
<i>Human Capital</i>						
Mental Ability	10.07	(1.43)	4136	10.14	(1.52)	3594
Education-High School Graduate**	0.71	(0.45)	4136	0.57	(0.50)	3594
Education-Attended College	0.12	(0.32)	4136	0.13	(0.34)	3594
Education-College Graduate	0.12	(0.33)	4136	0.14	(0.35)	3594
Education-Graduate School	0.05	(0.21)	4136	0.16	(0.36)	3594
1975 Occupational Education***	0.33	(0.26)	3527	0.38	(0.30)	3571
1975 Occupational Income***	0.13	(0.16)	3527	0.40	(0.23)	3571
In Military in 1975	0.00	(0.02)	4136	0.02	(0.13)	3594
Farming Industry in 1975	0.03	(0.17)	4136	0.05	(0.22)	3594
Manufacturing Industry in 1975	0.11	(0.31)	4136	0.36	(0.48)	3594
Self-Employed in 1975	0.07	(0.26)	4136	0.15	(0.36)	3594
<i>Unemployment Spells</i>						
Percent Never Worked 1975-1992/93	0.08	(0.27)	4136	0.00	(0.06)	3594
Percent Experienced 1+ Unemployment S	0.60	(0.49)	4136	0.25	(0.44)	3594
Mean Number, Unemployment Spells	0.95	(0.90)	3818	0.31	(0.59)	3581
Mean Length, Unemployment Spell (Mo	49.82	(46.77)	3645	35.23	(36.70)	1124
Mean Year, 1st Unemployment Spell	1978	(56.14)	2478	1983	(69.23)	915
<i>1975 Occupational Aspirations</i>						
Occupational Education score***	0.44	(0.27)	3046	0.41	(0.29)	3092
Occupational Income score***	0.16	(0.18)	3046	0.40	(0.21)	3092
Wanted Different Job	0.51	(0.50)	4135	0.41	(0.49)	3591
Wanted Housework/No Work	0.10	(0.30)	4135	0.02	(0.14)	3591
Don't Know Aspirations	0.13	(0.34)	4135	0.09	(0.28)	3591
<i>Other Controls</i>						
Teaching Occupation in 1975	0.07	(0.25)	4136	0.05	(0.22)	3594
Nursing Occupation in 1975	0.04	(0.19)	4136	0.00	(0.04)	3594

NOTES: (1) The base sample comprises WLS Graduates who answered both 1975 and 1992/93 surveys and were not in school in 1975. For women, N=4135; for men N=3594.

(2) ** denotes the reference category.

(3) *** denotes percentages reported here are transformed into started logits in the following models--see text.