Later Life Education in the 1990s: Increasing Involvement and Continuing Disparity

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Objectives. We examine age differences in adults’ participation in, perceived barriers to, and institutional support for educational activities provided by schools, businesses, and community organizations in the 1990s.

Methods. We conduct descriptive and logistic regression analyses on a sample of respondents aged 30 to 74 from the National Household Education Surveys.

Results. Adult education participation rates increased for all ages over the 1990s, but gains were proportionately largest among people in later phases of the life course. Although age was a weaker predictor of engaging in educational activities at the end of the 1990s than it was at the beginning of the decade, older adults continue to be less likely than younger ones to participate in education and training provided by businesses and schools. Some of this age discrepancy occurs because employers are more likely to provide financial support for training to younger employees. Older adults, however, are less likely than younger adults to perceive obstacles to their participation in education and training.

Discussion. Although age-graded roles of student, worker, and retiree are becoming increasingly blurred, Americans’ pursuit of education at the end of the twentieth century was still guided by age-related role expectations.

OVER the past 30 years, middle-aged and older adult learners have emerged as a major constituency in various educational programs. Between 1971 and 1991, the enrollment of full and part-time students aged 35 and older in higher education rose by 248% (NUCEA, 1995). Participation in vocational training and work-related courses has grown at an even faster rate (Elman, 1998). Institutes for learning in retirement, senior centers, and community colleges have increased educational opportunities for senior adults, as well (Manheimer, 1998). This trend of expanding adult education suggests that we may be moving toward a more age-integrated society in which people of all ages have access to learning in universities, technical institutes, places of employment, and community organizations. We cannot assert this conclusion, however, because the paucity of scholarly attention to later life education leaves many unanswered questions. Did education over the past decade become a significantly more common experience for adults in later life? Which education providers contributed most to the trend in adult education participation rates and which contributed least? What differentiates older adults who pursue educational activities from those who do not? Do older people face particular barriers to adult education that younger adults do not?

Using data from the 1991 and 1999 National Household Education Surveys (NHESs), this article addresses those questions by examining adults’ participation in, perceived barriers to, and institutional support of educational activities. We first examine the decade-long trend in adults’ participation in classes provided by schools, businesses, and community organizations, and we compare trends across age categories. Next, we explore who is most likely to participate in adult education, highlighting differences and similarities by age group. Finally, we compare younger and older adults’ perceived barriers to adult education and analyze differential institutional support for engaging in educational activities.

What Is Adult Education?

Adult education is an expansive field and can be defined in many ways. Since the 1960s and 1970s, an influential categorization of learning systems has emerged, one that distinguishes between formal, nonformal, and informal education (Coombs, 1968; Coombs, Prosser, & Ahmed, 1973; UNESCO, 1972). Although boundaries between these definitions may be blurry, the conceptual scheme reminds us that education occurs both within and outside of school walls. In this tripartite classification, formal education is the hierarchically structured, chronologically graded education system from primary school through university. It includes general academic studies and a variety of specialized institutes for technical and professional training. Nonformal education is any organized and intentional educational activity that takes place outside of recognized educational institutions. Nonformal education occurs in libraries, businesses, senior citizen centers, religious institutions, museums, labor unions, and various other organizations. Learners in these settings may receive a certificate of completion, but are not usually seeking a degree or credential. Informal education is a private process whereby individuals transform their daily experiences and the educative resources in their environments into knowledge, skills, values, attitudes, and beliefs (Holford, Jarvis, & Griffin, 1998). Informal education transpires in the course of daily activity, such as from reading the newspaper or interacting with family and friends.

In addition to examining the source and content of
instruction, other researchers focus on adults’ motivation for pursuing education. Although some people engage in learning for personal development (expressive orientation), others direct their learning toward a specific outcome or external objective (instrumental orientation). A 1994 survey of adult learning, for example, found that 90% of Americans aged 64 and younger who engaged in adult education did so for career or job-related purposes (Bélanger & Valdivielso, 1997). Older employees, as well, are motivated to acquire new skills and knowledge to remain productive workers (Bass & Caro, 2001). Older adults no longer in the workforce may learn for personal enrichment and as a way to remain independent and socially engaged.

Although we acknowledge the value of the multiple purposes for formal, nonformal, and informal education across the life course, this paper does not examine people’s motivation to learn or informal educational activities. Self-directed learning, social interaction, and “edutainment” through the Internet, how-to books, and informative TV programs are important ways to increase knowledge, awareness, and skills. Older adults especially may engage in and benefit from informal educational activities in which no instructor is involved. Because adult education is typically defined as structured and institutionally based, however, our approach in this paper is to focus on adults’ participation in formal education provided by credential programs and nonformal education provided by business, industry, and community-based organizations.

Who Participates and Why?

In 1969, only 10% of Americans participated in adult education provided by high school or college degree programs; this number increased to 14% by 1984 (Manheimer, 1998). A 1962 survey reported that 22% of adults participated in some type of adult education (Johnstone & Rivera, 1965); reports from the 1990s indicate that more than 40% of adults participated (Kim & Creighton, 1999). The most striking increase in adult education participation rates occurred among the nontraditional student population. In 1970, for example, less than 10% of students in degree-granting institutions were aged 35 and older. By 2000, 21% were (National Center for Education Statistics [NCES], 2000).

There are numerous reasons for this increase in the number of older students. An upward shift in the age distribution accounts for much of the change (Jacobs & Stoner-Eby, 1998). As the baby boom cohort aged, the size of the adult population grew more rapidly than the population of traditional-aged students. But age-specific rates of participation also increased as the baby boom cohort moved into the stage of life where education traditionally was uncommon. The baby boom cohort was more highly educated than preceding cohorts, and education level is positively related to participation in adult education. Furthermore, changes in jobs and the development of new technology stimulated more interest in lifelong learning (Bills, 2000).

As demand for later life education grew, new programs offered educational opportunities for older adults and existing institutions adapted to meet the changing sociopolitical climate and older learners’ needs and interests. During the 1950s and 1960s, few educational programs were available to older adults, due in part to a general emphasis on youth culture and widely held expectations of age-related cognitive declines, which were supported by prevailing research (Manheimer, 1998). Since then, however, the creative and learning potential of the aging population has become recognized. Viewing aging as a problem education could help solve (Moody, 1985), legislators in the 1970s began funding programs containing the knowledge and skills needed to handle the challenges of aging. By the early 1980s, older adults could take tuition-free public college courses in 38 states. Since the 1980s, federal and state governments have played a limited role in the burgeoning growth of older learners. Despite a 22% inflation-adjusted increase in spending by the U.S. Department of Education between 1990 and 2000, federal funds for vocational and adult education decreased by 37% (NCES, 2000). As public financial support for adult education dries up, older learners have experienced the national trend toward privatization in education. Increasing numbers of private organizations—such as travel agencies, corporations, college alumni organizations, brokerage firms, and computer network clubs—offer educational opportunities to healthy, affluent older adults (Manheimer, 1998). In fact, providing educative experiences to middle- and upper-income older persons has become a lucrative industry.

In response to changing demographic, social, and economic conditions, institutions of higher education are in the process of opening their doors to a broader sector of students (Oliver, 1999). Influenced by prevailing ideals of social inclusion, universities seek to widen the participation of groups who have been traditionally underrepresented on college campuses. Older adults, for example, may for a small fee attend class through a college-based Elderhostel program or an Institute for Learning in Retirement.

Not all people, however, seek or benefit from the growing educational opportunities (Elman, 1998; Manheimer, Snodgrass, & Moskow-McKenzie, 1995; Quinnan, 1997). Earlier studies have shown that rates vary greatly by educational attainment. In 1995, about 10% of adults with an eighth grade education or less participated in some program of adult education, compared with 31% of high school graduates, 57% of bachelor’s degree graduates, and 59% of people with master’s degrees (Snyder, Hoffman, & Geddes, 1997). The opportunity to participate in adult learning is unbalanced among other social strata based on sex, race, and income (Bélanger, 1999; Carnevale & Desrochers, 2000; Gower, 1997; Luttrell, 1997; O’Rand & Henretta, 1999).

In addition to these influences on differential participation rates, previous research has shown that older adults are not as likely as younger people to engage in organized forms of adult education (Bélanger & Valdivielso, 1997). Older adults receive less training at work and are often displaced by younger employees. These findings support Matilda White Riley’s age stratification theory (Riley, 1987), which begins with the assumption that age, like gender and race, is a basis for grouping people into social categories and channeling them through different role expectations, opportunity structures, and age-segregated social institutions (Riley, 1998; Riley & Riley, 2000). This “tripartition” of the life course (Kohli, 1986) into education, work, and leisure mapped onto the first, second, and last thirds of life is a
significant barrier to educational experiences throughout adulthood (Settersten & Lovegreen, 1998). Our current approach to education, for example, involves an intensive concentration in the first 25 years of life, but lacks systematic attempts to update skills and knowledge throughout adulthood.

Other scholars (e.g., Settersten & Hagestad, 1996), however, point to a growing relaxation of expected age-related transitions and argue that age is becoming less relevant as a determinant of life course trajectories. Modell’s (1989) work, for example, examines the trend toward the loosening of the normative transition to adulthood. He highlights the competing forces that influence the sequencing and timing of life course transitions. On the one hand, people’s lives are structured by normative age expectations and roles, whereas on the other hand, there is a relaxation of expected age-related transitions. In the case of education across the life course, we predict that younger people are more likely to engage in formal educational programs, but that the association between involvement and age weakened over the 1990s. Furthermore, we predict that age differences are more pronounced for enrollment in recognized educational institutions (e.g., college courses) than nonformal education programs (e.g., Bible studies), which are more loosely tied to age-graded institutions.

**Methods**

**Data**

We use data from the NHES to examine the relationship between demographic characteristics and participation in, perceived barriers to, and institutional support of adult education. The NHES is a system of telephone surveys that randomly collects data representative of the noninstitutionalized U.S. civilian population. The Adult Education and Lifelong Learning component of this survey was conducted in 1991 (N = 14,892) and 1999 (N = 6,679). Our samples include respondents aged 30–74 in both cross-sectional survey years.

The National Center for Education Statistics (NCES, 1999) selected households using random digit dialing methods and collected data using computer-assisted telephone interviewing procedures. To produce reliable estimates of the targeted population’s educational experiences, people of color and students were oversampled. Although 95% of all adults age 16 and older live in households with telephones (Brick, 1996), the failure to include persons who do not live in households with telephones could result in nonsampling error. Because the complex sample design of the NHES deviates from the assumption of simple random sampling and would underestimate the variability of parameter estimates, we use weighted data that adjust estimates for telephone coverage and the oversampling of adult education participants and people of color. Based on the recommendations of the NHES Data File User’s Manual (1999), we adjust the simple random sample standard error estimate by the root design effect.

There are several reasons why the NHES is an excellent data source for exploring the decade-long trend of Americans’ participation in adult education. First, it provides current data on adults’ educational activities (the 1999 survey was released in August 2000) that have not been thoroughly analyzed. Second, the NHES is one of the few nationally representative data sets that provides comprehensive information on adults’ learning activities in organizations both inside and outside the formal education system. Although most surveys of adult education neglect to examine the educational activities of older adults, the NHES surveys respondents in their 60s and 70s. Finally, the repeated-measures design allows for trend analysis over the 1990s, and the oversampling of racial and ethnic minorities increases the reliability of estimates for these groups.

**Measures**

In addition to extensive background, employment, and household information, the surveys provide reliable estimates of adults’ educational experiences in colleges, universities, vocational programs, basic skills classes, work-related training, and personal development courses. Because we are examining changes in participation across time, slight variations in survey design between 1991 and 1999 should be noted. In 1991, respondents were first asked about their full- and part-time enrollment in classes for credit toward a degree. Then they specified other adult education activities they had participated in during the past 12 months. For the four most recent classes, respondents identified who provided the instruction. In 1999, respondents were asked about their participation in a series of education programs: English as a Second Language, basic skills and General Educational Development preparation, degree programs, job-related training, and personal interest courses. Similar to the 1991 survey, respondents were then asked who provided the instruction. For all survey years, we classify respondents as either participants (Y_i = 1) or nonparticipants (Y_i = 0) in adult education provided by schools (community colleges, vocational programs, technical institutes, and 4-year colleges and universities), business and industry, and community organizations (public libraries, neighborhood centers, community groups, and religious organizations).

In 1991, non-full-time students reported on barriers that prevented them from participating in adult education. For each of the following 10 potential obstacles, we created a dichotomous dependent variable to compare respondents who perceived this barrier (Y_i = 1) to those who did not (Y_i = 0): too busy, family responsibilities, program costs, location of classes, class meeting time, limited course offerings, lack of information about classes, no transportation, health problems or old age, and lack of interest in or desire to attend education programs.

Our final set of dependent variables focus on the sources of financial support for adult education participants. For each educational activity, respondents specified whether they paid for the course(s) themselves (including loans), took free classes, or received financial support from the government or business and industry. Again, we created dichotomous measures of whether or not respondents (Y_i = 1 or 0) paid for their educational activities through these various means. Independent variables of key interest are age, sex, race/ethnicity (White vs. non-White), education level (no high school degree, high school degree, or college degree), total household income over the past year (10-point scale,
where \( 1 \leq \text{less than } \$10,000 \text{ to } 11 = \text{more than } \$75,000 \), marital status (married vs. not married), and employment status (worked for pay or not).

**Analytical Methods**

We first use descriptive statistics to assess trends in adult education over the past decade. Then we use multivariate regression analyses to explore the demographic determinants of participation in, perceived barriers to, and institutional support for various forms of adult education. Because we code all dependent variables as dichotomous measures, we use logistic regression analyses. In these models,

\[
\log \frac{P_i}{1 - P_i} = \beta^T X_i,
\]

where \( P_i \) is the probability that \( Y_i = 1 \) and \( 1 - P_i \) is the probability that \( Y_i = 0 \). \( \beta^T \) is the vector of estimated coefficients, and \( X_i \) is the vector of observed linear predictors. The presented coefficients are exponentiated and refer to the odds of the dependent variable equaling one. Significant predictors with values greater than one multiply the odds, and significant predictors with values less than one decrease the odds.

**Results**

**Trends in Adult Education During the 1990s**

The rates at which adults in different age categories were participating in educational programs in 1991 and 1999 are shown in Table 1. Respondents are grouped in 8-year birth cohorts to facilitate answering questions about trends over this decade. Looking across a row, one can see the age pattern in adult education in a particular year. Looking down the columns, one can observe changes in participation rates for each age category between 1991 and 1999. Looking down the diagonals reveals changes for cohorts as they moved from one age category to the next over this time period.

The general age pattern of participating in adult education is similar in both years and for each type of program. The peak age for involvement is either 30–38 or 39–47, followed by continuous decline after that age (with one trivial exception). The largest differences by age occur for education provided by schools or by business and industry, in which the oldest age category is only about one fifth as likely to participate as the under 50 categories. Participation in the less formal educational activities provided by churches and other community organizations also declines with age, but not nearly so steeply. Despite the much heralded dawning of a “lifelong learning society,” we find that even at the most recent date (1999), only one fifth of the young-old (66–74) reported that they had participated in any educational experience in the preceding year.

Comparing participation rates in 1999 with those in 1991, however, suggests that considerable progress was made in extending the reach of adult education. With one minor exception, participation rates increased over the decade for each age category in each program type. By far the largest increase in adult education occurred in programs provided by community organizations, where participation rates more than doubled. Increases in these nonformal educational programs were fairly uniform across the age categories. For the other types (provided by schools or businesses), the largest percentage increases occurred for the two older age categories. Combining all types of adult education, the 66–74 age category experienced the greatest increase over the 1990s. In 1991, 8.4% of the oldest age group had taken at least one adult education class in the previous year. By 1999, this number had increased to 19.9%. No doubt the strong economy of the 1990s facilitated the expansion of adult education, but it is unlikely that there will be a future retreat for older adults. Indeed, a majority of the older population’s educational activities seem to be motivated by personal development goals, not career goals.

Looking down the diagonals allows us to see how educational involvement changed within various cohorts as they aged. In every educational category, the cohort aged 30–38 in 1991 (the late baby boom cohort born between 1953 and 1961) increased its level of participation in adult education as it aged over the 1990s. For example, the proportion of cohort members taking courses offered by business or industry increased from 16.5% in 1991 to 22.6% in 1999. For every other cohort, participation rates in more formal types of education declined as they aged. It can be seen, however, that declines over the 1990s for the cohorts initially aged 39–47 and 48–56 were fairly small (less than 15%). The only large decline (32%) occurred in the area of job-related education for the cohort that moved into old age (66–74) over the decade. Each cohort more than doubled the rate at which it participated in community provided education.

Focusing just on the older adult population (defined here as those aged 55–74), we observe a significant increase in participation in both formal and nonformal education programs over the 1990s. In 1991, 5.5% of older adults had taken a course in a school or university in the previous year compared with 8.6% in 1999. For education provided by business and industry, older adults’ participation rates rose from 5.7% to 9.7%. The most dramatic increase occurred for participation in community-provided education, rising from 4.6% in 1991 to 11.6% in 1999.

How much of this increase can be attributed to a changing propensity of older people to take courses, and how much is

| Table 1. Adult Education Participation Rates by Age Group and Provider |
|-------------------|----------------|-----------------|----------------|----------------|----------------|
| Credential program |       |       |       |       |       |
| 1991              | 18.0  | 20.1  | 11.3  | 5.7  | 2.8  |
| 1999              | 23.9  | 19.8  | 17.1  | 9.8  | 4.8  |
| Business or industry |     |       |       |       |       |
| 1991              | 16.5  | 22.2  | 12.6  | 7.3  | 2.0  |
| 1999              | 21.7  | 22.6  | 19.6  | 12.1 | 4.8  |
| Community organizations |     |       |       |       |       |
| 1991              | 7.1   | 6.7   | 5.4   | 4.9  | 4.5  |
| 1999              | 16.4  | 16.6  | 15.1  | 11.2 | 11.5 |

simply a consequence of changing characteristics of the older population? Compared with older adults in 1991, for example, older respondents in 1999, on average, were more educated, had higher incomes, and were more likely to be employed. Based on these demographics, we might expect a higher proportion to pursue adult education courses in 1999. We can provide a fairly direct answer to that question by calculating the expected change that would occur simply because of changing population characteristics. We calculate a logistic regression analysis using the 1991 data to predict the likelihood that a respondent had taken any course provided by schools, businesses, or community organizations in the previous year (student = 1, nonstudent = 0). The independent variables in this equation were age, sex, education, income, race, employment, and marital statuses. The predicted probability of being a student for the average older person in 1991, that is a person with weighted mean characteristics of the 1991 sample, was .08. Substituting the weighted mean characteristics for respondents in 1999 into the 1991 logistic regression, we find the probability of being a student increased by only 0.02. We conclude that changes in population characteristics over this time period had little to do with the increasing involvement of older people in educational programs. Only about one sixth of the increase can be attributed to changes in the characteristics of the cohort occupying the 65–74 age category. Although only a minority participates in any organized learning activity, there is a growing propensity for older people to be active learners.

**Multivariate Analyses**

How much of the difference across age categories in adult education participation rates is a result of differences in characteristics of older versus younger people? For example, compared with younger adults, those over age 65 tend to have less education and lower rates of labor force participation. Previous studies report a positive relationship between years of education and participation in adult education, and one obviously expects that employed people would be more likely than nonemployed to take courses provided by businesses. Thus, one might expect that controlling for education and employment status would reduce differences in adult education across age categories. Other potentially important determinants of engaging in adult education include race, gender, income and marital status, and age categories vary in composition related to each of these variables. Using a multivariate model, we can examine whether the relationship between age and adult education is, at least to some extent, a consequence of age-related differences in these various characteristics. Based on the results of the multivariate analysis shown in Table 2, we make three observations.

First, many of the independent variables had a significant effect on the likelihood of engaging in adult education. As expected, education and employment status were significant determinants of participation in adult education. In both 1991 and 1999, those who had completed college were significantly more likely to participate in each type of adult education than those with a high school degree, whereas those with less than a high school education were not even half as likely to participate as those who graduated from high school. Controlling for other factors, those who were employed were more than four times as likely to have participated in an educational program provided by business or industry as those who were not employed. Employed persons also had greater odds of taking courses offered by schools in 1999, but employment status was not a significant predictor of participating in programs provided by community organizations.

In addition to employment and education, gender and income tended to be significant predictors of engagement in adult education. Females had greater odds than males of participating in educational programs provided by schools and community organizations, and persons with higher incomes were more likely to engage in all types of adult education. On the other hand, controlling for other factors, participation rates did not vary much by marital status and race.

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<tbody>
<tr>
<td>Age 30–38</td>
<td>5.71*</td>
<td>3.53*</td>
<td>2.92*</td>
<td>1.83*</td>
<td>1.95</td>
<td>1.23</td>
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<tr>
<td>Age 39–47</td>
<td>6.29*</td>
<td>2.77*</td>
<td>3.93*</td>
<td>1.89*</td>
<td>1.60</td>
<td>1.26</td>
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<tr>
<td>Age 48–56</td>
<td>3.49*</td>
<td>2.26*</td>
<td>2.19</td>
<td>1.58</td>
<td>1.35</td>
<td>1.04</td>
</tr>
<tr>
<td>Age 57–65</td>
<td>1.92</td>
<td>1.69</td>
<td>2.03</td>
<td>1.44</td>
<td>1.15</td>
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<td>Female</td>
<td>1.50*</td>
<td>1.67*</td>
<td>0.90</td>
<td>0.87</td>
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<td>2.29*</td>
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<td>College degree</td>
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<td>1.93*</td>
<td>1.47*</td>
<td>1.29*</td>
<td>2.08*</td>
<td>1.72*</td>
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<td>No high school degree</td>
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<td>0.23*</td>
<td>0.35*</td>
<td>0.44*</td>
<td>0.84</td>
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<td>Household income</td>
<td>1.03*</td>
<td>1.05*</td>
<td>1.19*</td>
<td>1.16*</td>
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<td>White, non-Hispanic</td>
<td>0.97</td>
<td>0.79</td>
<td>1.21*</td>
<td>1.06</td>
<td>1.30</td>
<td>0.91</td>
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<tr>
<td>Employed</td>
<td>1.29</td>
<td>1.57*</td>
<td>4.68*</td>
<td>4.39*</td>
<td>0.66</td>
<td>0.88</td>
</tr>
<tr>
<td>Married</td>
<td>0.74</td>
<td>0.91</td>
<td>0.93</td>
<td>0.99</td>
<td>1.39</td>
<td>1.34*</td>
</tr>
<tr>
<td>N</td>
<td>8,271</td>
<td>4,780</td>
<td>8,271</td>
<td>4,780</td>
<td>8,271</td>
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<td>–2 Log L</td>
<td>9,966.71</td>
<td>2,336.97</td>
<td>9,420.72</td>
<td>2,367.25</td>
<td>5,822.18</td>
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<td>$\chi^2$</td>
<td>377.60</td>
<td>264.61</td>
<td>818.83</td>
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<td>241.43</td>
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*p < .05.
There was, however, one interesting exception. In 1991, non-Hispanic Whites were more likely than others to participate in adult education provided by business or industry, but in 1999 this distinction no longer existed. This finding suggests that employers' racial discrimination in the provision of training programs may have been declining over this time period. Other possible explanations include increasing educational and occupational status among people of color and changes in labor force composition because of immigration.

Second, the age discrepancy in taking courses offered by schools or businesses was reduced when other variables were included in the model. The odds ratios for younger versus older persons taking courses offered by schools are substantially lower in the multivariate analysis than in the bivariate analysis. For example, simple cross-tabulations indicate that, in 1999, the odds ratio for those aged 30–38 taking a course offered by schools was 6.2 times that of those aged 66–74. But, as shown in Table 2, this odds ratio is reduced to 3.5 when other factors are included in the model. Controlling for other variables consistently had a larger effect in 1999 than in 1991, although the odds ratios were lower in the multivariate model than in the bivariate model for each younger age category relative to the oldest one in both years.

Controlling for other factors has an even greater effect on the differences across age categories in taking courses provided by business. The odds ratio of someone aged 39–47 versus someone aged 66–74 engaging in this type of adult education in 1991 falls from 14.0 to 3.9 as one moves from a bivariate to a multivariate analysis. The same comparison in 1999 shows a drop from 5.6 to 1.9. These big effects are, of course, primarily because of the tendency for business or industry provided courses to be job related, so that retired persons are unlikely to participate. In contrast to other types of education, the relationship between age and taking courses offered by community organizations is hardly changed when other variables are taken into account.

Third, controlling for other variables does not eliminate the significant effect of age on participating in adult education provided by schools or businesses. The odds ratios shown in Table 2 indicate that, in 1999, net of other factors in the model, people aged 30–47 are about twice as likely as people aged 66–74 to take courses offered by businesses, and about three times as likely to take classes offered by schools. It is only in programs run by churches, libraries, and other community organizations that age is not a significant predictor of participation. The results of this analysis also suggest that the time in the life course when age begins to be a barrier to participating in adult education occurs before old age. Indeed, the likelihood of participating in adult education is not significantly different for those aged 57–65 and those aged 66–74.

We have seen that older adults have lower odds than younger adults of participating in education programs provided by schools and businesses. Such age differences do not exist, however, in the likelihood of taking courses provided by community organizations. Why? Do older adults in general face more barriers to their participation in adult education than younger adults? One might speculate that older adults are more likely to have health problems that prevent them from attending, or might find it more difficult to arrange transportation to classes. These hypotheses can be examined using data from the 1991 NHES, which asked respondents to identify personal reasons for not participating in adult education. Table 3 presents the odds ratios of younger age groups perceiving specific barriers to their participation, compared with those aged 66 to 74. These logistic regression models include controls for sex, education, income, race, employment, and marital status; results available upon request.

<table>
<thead>
<tr>
<th>Perceived Barrier</th>
<th>Age 30–38</th>
<th>Age 39–47</th>
<th>Age 48–56</th>
<th>Age 57–65</th>
</tr>
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<tbody>
<tr>
<td>Too busy</td>
<td>5.9</td>
<td>3.4</td>
<td>3.2</td>
<td></td>
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<td>Family responsibilities</td>
<td>9.0</td>
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<td></td>
</tr>
<tr>
<td>Cost of classes</td>
<td>5.7</td>
<td>4.4</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Meeting time of classes</td>
<td>3.4</td>
<td>3.2</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>No interesting classes offered</td>
<td>3.1</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Lack of information about classes</td>
<td>4.2</td>
<td>3.5</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Location of classes</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>No transportation to classes</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Sickness or old age</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Lack of interest or desire</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>


*Reference group is respondents aged 66–74. The sample includes the 3,004 respondents aged 30–74 who did not take courses from schools, businesses, or community organizations in the past 12 months. Regression analyses also control for sex, education, income, race, employment, and marital status; results available upon request.

*No statistically significant differences.
is most likely for students in credential programs, whereas respondents in community-based programs are most likely to take free classes.

Our primary interest is whether there is evidence that older adults receive less institutional support than younger ones for adult education. Results in Table 4 indicate that there are no statistically significant age differences in the odds of adult education participants receiving financial assistance from the government or taking free courses. Respondents in their 30s, 40s, and early 50s, however, are more than three times as likely as those aged 66–74 to receive financial support from business and industry, even when controlling for employment status. Separate analyses, not presented here, of a sample of employed formal adult education participants showed that employers are almost twice as likely to give younger employees time off from work to attend classes or pay at least part of the costs of education as they are to give these benefits to older employees. This finding is in line with previous research showing that employers often stop investing in older employees because of their stereotypical views of older workers as not easily trained and less productive than younger workers (American Association of Retired Persons, 1995; Global Aging Report, 1998; Rosen & Jerdee, 1985).

### Discussion

Analyzing NHES data from the 1990s leads to several straightforward findings. We conclude by highlighting four of these and discussing their implications. First, over the 1990s, an increasing proportion of older people participated in educational activities. The rise in adult education affected all ages, but gains were proportionately largest among people in later phases of the life course. Almost certainly, the proportion of older people participating in adult education classes in 1999 was unprecedented. This outcome might have been expected simply because the general educational level of older people was increasing, and educational attainment is positively associated with engagement in lifelong learning. However, most of the gains in later life education in the 1990s cannot be explained by changes in cohort characteristics. Formal and nonformal educational programs appear to have succeeded in reaching adults who previously would not have been involved.

Second, older adults continue to be less likely than younger ones to participate in education and training provided by businesses and schools. In fact, about 90% of the young-old population was not involved. Some of this age discrepancy occurs because employers are more likely to provide financial support for training to younger employees. But, there is evidence that much of the reason is associated with role expectations. Older adults’ failure to cite barriers to participating in educational activities may reflect internalized age expectations. In 1991, for example, 92% of adults aged 66–74 did not engage in structured learning. Of those respondents, only one third provided a reason for their lack of engagement in educational activities when prompted. Older adults appear to accept the notion that engaging in formal education is a responsibility and a right for the young. In contrast, younger adults are not only more involved than older ones in adult education, but also they are more likely to perceive family responsibilities and work schedules as obstacles to participating in educational activities. Thus, Americans’ pursuit of education at the end of the twentieth century is still guided by age-related role expectations.

Third, in contrast to their younger counterparts, older people are more likely to engage in educational activities provided by community organizations than in credential programs or job related training. The priority of nonformal over formal education in later life is in keeping with the cultural expectation that older adults pursue leisure activities. But, the importance of Bible studies, book discussion groups, and self-help classes as educational activities should not be discounted. It seems likely that the most promising way to extend the outreach of education in later life is to offer programs that older people identify as personally rewarding. Indeed, educators should be encouraged to find students who are motivated by other than vocational concerns. If goals of lifelong learning are intellectual growth and engagement with the world, there is no reason to assume that nonformal education is inferior to formal education.

Fourth, age was a weaker predictor of participation in adult education at the end of the 1990s than it was at the beginning of the decade. The multivariate analysis shows that the odd ratios associated with age declined between 1991 and 1999 for each type of adult education. These findings support the argument that age-graded roles of student, worker, and retiree are becoming increasingly blurred. If, as some argue, the life course is becoming less rigidly structured and experienced, we may be moving toward an age-integrated society in which opportunities for education are open to people of all ages and in which people of diverse ages learn together. Before concluding that educational programs are breaking down age segregation, however, we will need more information about the context in which education
occurs. Elderhostel, discussion groups at senior centers, and golden-age classes in churches may serve important educational purposes, but they do not promote age integration. Age homogeneous groupings limit opportunities for learning to be enriched by interaction between people with diverse life experiences, and they do not facilitate strengthening intergenerational relationships.

Later life education has an important role to play both in promoting increasing age integration and in enlarging the productive contribution of older people to society. Trends of increased longevity, earlier retirement, and improved health will provide increased opportunities for integrating education throughout adulthood. Expanding education across the life course, however, is not simply a matter of removing easily identified barriers, such as lack of transportation or expensive tuition. Many older adults underestimate their own capacity to learn and accept the notion that they should leave formal education programs at prescribed ages. To truly become a “lifelong learning society,” cultural values must be adjusted and educational institutions must be reorganized to meet older adults’ needs and interests. Further development of public policy and increased state and federal support for lifelong learning opportunities are needed.

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