CHAPTER 32

# Success and Challenge in Demographic Studies of the Life Course

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## INTRODUCTION

Beginning in the early 1970s social science research was transformed by new subfields in sociology, anthropology, developmental psychology, social history, and demography that emphasized the scientific study of personal lives. This refocus revolutionized demographic studies by enabling researchers to go beyond the *description* of populations and aggregate population groups to the *behavioral modeling* of the individual decisions and actions that constitute population dynamics.

Although this shift to understanding population dynamics through the study of individual lives can be described in a number of ways and from a variety of disciplinary perspectives, demography typically has characterized its studies as using a "life course" perspective. In this essay we outline some of the most impressive strides made in demography as a result of its paradigmatic shift to the life course perspective, and note missed opportunities.

We return to original conceptions of the life course to identify the ways in which the life course perspective challenges demography to continue to improve. Our particular emphasis is

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on the importance of collecting complete and valid event histories, agency in life course decisions, and a better assessment of the context in which behaviors of individuals occur. We argue that by returning to the original conception of the life course perspective, as a few studies are now beginning to do, demography will make dramatic progress.

## ORGANIZATION OF DEMOGRAPHY

The organization and structure of demography as a discipline was especially conducive to a rapid paradigmatic shift to the life course perspective for three reasons. First, demographers working singly or in small teams found it increasingly difficult to collect their own data from a nationally representative sample of the population in the United States. The need for specialized expertise in the complex and changing methodologies for sample and survey design, was associated with escalating costs of data collection. Since the 1970s, demography has relied heavily on *secondary data files* representative *of well-defined and geographically bounded populations*. These studies served multiple purposes, with a design that was driven by the broad community of researchers (by means of national advisory panels). Once the life course perspective was adopted by a few leading demographers on these advisory panels, it quickly became the standard by which major national surveys was judged. Thus, the data necessary to life course research were quickly available to all demographers.

Second, demographers depend on large research grants to fund their research teams. Reviewers of proposals, especially those submitted to the National Institutes of Health, expect demographic studies to use the latest methodologies, data, and statistical models. To maintain their research funding, demographers needed to adopt the research questions, data, and methodologies of the life course perspective. The study of individual demographic behaviors quickly became the norm in journals as well. (This is particularly important in demography where most publication is done through peer-reviewed journals.)

Third, demographers are motivated by their eagerness to develop and adopt new research methodologies. In contrast to many other disciplines, demography is inclined to accept and modify, rather than to debate and reject, innovations in research. Thus, demography as a discipline was receptive to the life course perspective, firmly establishing the study of individual lives as the preferred approach for demographic research.

## DEMOGRAPHY AND THE LIFE COURSE PERSPECTIVE

The "life course perspective" as used in demography was developed first and most fully in the work of Glen Elder (1975, 1978). The lives of ordinary persons became the prism for understanding the social impact of historic change by allowing scholars to examine the influence of social structures, culture, and personal environments on demographic behaviors. New research designs coupled with innovative strategies of data collection and statistical models appropriate to this new focus were developed (Cherlin, Kiernan, & Chase-Lansdale, 1995; Conger & Elder, 1994; Kertzer & Hogan, 1989).

Labor economists were important actors in this transition, using theories of the family from Becker (1991) to develop and test economic models of individual marriage and fertility behaviors. Economists also introduced the tools of econometrics to demography. As a result, demography made great advances *in behavioral modeling* during the 1980s and 1990s. While

economists do not usually describe their work as guided by the life course perspective, they explain current individual demographic behaviors as a result of rational choices made to optimize lifetime economic rewards. This "economics of the family" approach accords well with the life course perspective as adopted in other parts of demography.

The intellectual revolution associated with the life course perspective offered the potential to forge new interdisciplinary collaborations among cultural anthropologists, life-span developmentalists, social historians, sociologists, and demographers. These disciplines share many research questions, and have often focused on the community context of the populations they study. The only substantial interdisciplinary collaboration that has developed is between labor economists and demographers. The potential for other interdisciplinary linkages, however, remained largely unrealized in demography until the 1990s. Based on the gains made by collaboration with economists, we believe that this reluctance to form other interdisciplinary linkages has had serious opportunity costs.

## DATA COLLECTION

Many early surveys of individual demographic behaviors continued to rely on the measurement of behaviors at only a single point in time (the date of survey) or at a few points in time. From the 1980s onward major demographic surveys, done under government contract to highly professional survey organizations, have collected longitudinal data intended to capture the dynamics of peoples' lives. This was done retrospectively through the collection of event histories (e.g., the National Survey of Family Growth-V and the Demographic Health Surveys).

The development in the late 1980s of the life history calendar method to collect retrospective data on individual demographic behaviors offered an opening for demographers to improve the quality of retrospective life histories (Freedman et al., 1988). With this method, the recall and accuracy of life history information was improved by *simultaneously* collecting information on several life domains (such as education, work, cohabitation, marriage, fertility, and residence). The life history calendar identified discrepancies in the timing of events when one life domain is compared to another. The study of demographic behaviors worldwide would have benefited from the life history calendar method. Unfortunately, most demographic surveys still do not collect complete life histories using a life history calendar methodology.

An improvement over retrospective methods of collecting life histories involved *longitudinal* survey designs in which individuals are tracked from one survey wave to the next. These studies initially were developed to record changes of status for designated life domains (e.g., the National Longitudinal Study of Youth and the National Educational Longitudinal Study). This innovation in the portrayal of individual lives has made it possible to identify causes of adolescent fertility in the United States, the relationship of contraceptive use to fertility in developing nations, and husband/wife decision-making as it influences fertility, reproductive health, and child health behaviors.

Since the introduction of the life course perspective, demography has begun to rely heavily on prospective study designs (in which data are collected on life events that occur between survey waves). But many of these longitudinal surveys in demography initially did not collect complete information about the period of life before the initial interview (a situation demographers call left censoring). The lack of complete life histories hindered research on such key concepts as life turning points and biography.

Some studies have used a combination of the retrospective and prospective approaches. For example, the Panel Study of Income Dynamics began collecting panel data on marriage

and fertility events between yearly interviews. Later, as the value of complete life histories came to be appreciated, the PSID collected retrospective lifetime data to capture behaviors before the panel began. Prospective panels in the PSID and some other studies have continued for much longer than was initially anticipated. As a result, demography now has available excellent life history data representing decades of life experience. This will permit a much fuller investigation of individual demographic behaviors, understood in the context of the entire life course.

Major demographic surveys tried to collect psychological data at the time of the survey waves. But these demographic studies almost always used abbreviated psychological instruments of uncertain scale reliability and validity. Demographers typically have not appreciated the magnitude of inaccuracies (bias and/or random noise) its abbreviated instruments might introduce in the research of other disciplines. The result was that many demographers analyzed psychological dimensions of the life course without benefit of collaboration with psychologists, and most psychologists steered clear of demographic surveys. The cost to demography was considerable, leading as it did to a failure to incorporate ideas of agency and biography.

## HISTORICAL DEMOGRAPHY

We have thus far discussed demographic analyses of contemporary life events. But a large branch of demography has always been concerned with broader questions about how the forces of history have affected demographic behaviors, and how this impact might be accentuated for particular cohorts. This seemingly left a substantial portion of the demographic community stranded without a link to the life course perspective that had become the professional standard.

Demographers innovated by developing new sources of data that allowed them to use the life course perspective in historical research. Beginning first with the production of public use micro samples for each census as it was conducted (beginning in 1960) the Census Bureau provided a powerful tool that permitted individual level analysis of demographic behaviors. Demographers at the University of Wisconsin went one step further by going back to the manuscript census files for 1940 and 1950 to produce individual level data files.

The tremendous value of this new approach to the analysis of census data remained unappreciated, both because of the lack of data for long historical periods and because of incompatibilities among the censuses. Steven Ruggles (2002) and his associates at the University of Minnesota were among the first to recognize the potential value of enhanced census public use micro samples. These demographers went back to all existing census manuscript archives to cover much of U.S. population history from 1850 to the present). In addition, they have, in their preparation of the census files, provided data in a standardized format that facilitates intercensal comparisons (Ruggles, 2002). Examples of the research uses of these data are Ruggles (1993) and Hogan and Goldscheider (2001).

These census files (most based on at least a 1% sample of the national population) provide data on very large numbers of individuals. It is these data that allow demographers to examine the demographic behaviors of individuals in key population subgroups (race and ethnic minorities, immigrants, the very old), as well as over large periods of history.

While lacking information on individuals over time, successive censuses have provided data on individual persons in households that can be used to track the aggregate behaviors of carefully defined birth cohorts over time, and to interpret individual demographic behaviors in a given census year. The work of Steven Ruggles and his colleagues to produce census

public use micro samples has greatly enhanced the potential for demographic study of social change using a life course perspective.

## PERSONAL ENVIRONMENTS

Demography made tremendous strides in the representation of personal environments. An important innovation was the effort to better measure the *geographic* environments in which demographic behaviors occur. This involved matching individual respondents' records to information about the characteristics of geographic locales in which they live. Information on the local community of residence typically was provided by censuses, vital registers, or other administrative records for officially designated geographic units (such as block, tract, city, or county) to which individual respondents could be assigned. This methodology was adopted during the 1990s by the National Longitudinal Study of Youth (1979 cohort), the Panel Study of Income Dynamics, and NSFG-V.

Such information has made it possible for demographers to more fully investigate the influence of places on individual behaviors, a great step forward in life course studies in demography. But, despite its many values, this methodology did not fully capture personal environments as defined by a life course perspective, in so far as the local environment was *geographically* rather than *socially* defined. This difference was especially important in light of the influences of human agency and biography on life histories and perceived social environments.

Demographers have generally matched community data to individuals only for the *time of interview*, not to all places of residence over the life course (which would require residential histories). In fact, demographers still lack a working definition of neighborhood (Furstenberg & Hughes, 1997). Methods for collecting micro-community data over time were an important step towards collecting information on actual social environments of individuals (Axinn, Barber, & Ghimire, 1997).

An important development in demographic survey research has been the effort to capture individual environments through the relationships of individuals with social institutions, peer groups, and non-coresidential family. This approach may have been pioneered by the National Center for Education Statistics in its 1972 panel study of a school-based sample of students, which included information from students and schools; and its 1980 High School and Beyond study, which gathered data from students, parents, and schools.

By the 1990s population based demographic surveys on adolescents gathered personal environmental data about the family (from parent interviews), the school (from teachers and administrators), and sometimes the peer group (reported by self and peers), as well as information about economic and other social structural conditions in the geographically defined community. Examples of this comprehensive approach include the Early Childhood Longitudinal Study-Kindergarten Cohort, the 1997 Panel of the National Longitudinal Study of Youth, and the National Longitudinal Study of Adolescent Health.

## SELECTIVITY

In another innovation, demographers recognized that residents in a given geographic area were selective of persons with particular sociodemographic characteristics since they included only persons who were locally born or moved to the area, and have stayed. Demographers

also became cognizant of the potential error in inferring causal relation of individual behaviors from the characteristics of places (Firebaugh, 1978). The availability of individual person data from the censuses has largely eliminated the need for ecological correlation methods. Recent developments in Geographic Information Systems will enable demographers to portray the *community of each individual* in geographic terms, but without the use of arbitrary political boundaries.

Until recently, even when the necessary data were collected, demographers remained inattentive to the effects of personal environments on individual behaviors. These concerns about population selectivity and representativeness had the unfortunate consequence of leading demographers to question the value of all *community-based* studies. This happened even though community studies were proving an excellent vehicle for developmental, sociological, anthropological and historical studies of the life course (Elder, 1974, Conger & Elder, 1994, and Kertzer & Hogan, 1989).

In its efforts to define many characteristics of the local (geographic) environment, demography instead relied on the geographic distribution of persons selected in random national samples to identify neighborhoods in which particular environmental variables or combinations of variables might be found. Covariance models were used to show that demographic behaviors are affected largely by individual characteristics, with features of the community environment playing a minor role. Demographers failed to recognize that the *communities themselves were holistic environments* experienced and interpreted by individuals, based on their life course experiences.

Two studies that began in the 1990s—the Fragile Families and Child Wellbeing Study (directed by Sara McLanahan, 2002), and the Welfare, Children & Families: Three City Study (directed by Andrew Cherlin, 2002)—have returned to community study methodologies as an appropriate method of demographic research. The Three City study takes place in Boston, Chicago, and San Antonio to better understand the effects of welfare reform on the well-being of children and families and to follow these families as welfare reform evolves. The three cities chosen differ greatly in their economic and social characteristics, and in their welfare policies: Boston is a white city with a black minority (including many immigrants from the Caribbean) that is typical of a rustbelt economy, with Massachusetts policies on welfare reform being more flexible and more generous; Chicago is a former rustbelt economy that has gone through substantial economic renewal, with large numbers of blacks, Mexican Americans, and Puerto Ricans, in a state that has relatively stringent welfare reform policies; San Antonio is an economically bustling city typical of many Southern and Western cities, with large numbers of Mexican Americans (and undocumented persons), with welfare policies that are irrelevant to those who are not legal residents of the United States, and more inflexible and less generous than in the other three cities. The Three City Study thus selected particular cities for study, justifying their selection by the need to test specific hypotheses about welfare reform and families.

Greg Duncan has advocated a different approach that emphasizes the importance of sampling even when designating a set of areas for study. The Fragile Families Study in fact uses 18 different cities. The Fragile Families Study is designed as a prospective cohort study in each city, beginning with a sample of unmarried women selected at childbirth.

These scientifically rigorous, community-based, controlled comparison studies have also recaptured the interdisciplinary collaboration expected in life course studies. The longitudinal design of these studies will enable investigators to consider demographic behaviors during a time of dramatic changes in welfare and employment policies. We believe that these

studies have set a new standard of excellence for demographic research, a standard by which future demographic work will be judged.

## HISTORICAL CHANGE

Demographic studies have shown the potential for using information on individuals in a particular community to understand how historical changes have affected individual demographic behavior (see Kertzer & Hogan, 1989). Communities were selected on the basis of ideal types that would allow the testing of hypotheses. They do not produce coverage equivalent to nationally representative sample surveys. Clearly both national surveys and community studies offer valuable methodologies for the study of individual demographic behaviors.

Community studies have often relied on the long, painstaking retrieval of archival data on individuals matched to information (from legal documents, church records, tax information, newspaper/reported accounts) about social structure and change (Elder, Pavalko, & Clipp, 1993). Studies with this design proved useful for assessing the impact of broad historical changes on individual lives (Kertzer & Hogan, 1989).

But archival data on individuals in a community during a period of rapid social change have often lacked the longitudinal depth needed to assess the impact of social change in the early life course on the later life. In this kind of situation the archive can be used to identify persons who should be further studied. The study subjects were then located and interviewed (Elder, 1974).

The Wisconsin Longitudinal Study (directed by Robert Hauser, [2002]) is an example. The WLS began as a cross-sectional study of Wisconsin high school students in 1957. In the 1960s and 1970s the original archive was used to identify persons for longitudinal follow-up. The earliest follow-ups took the form of a panel study which recorded current statuses and statuses at particular ages. By the 1980s the WLS used each new survey wave to collect and update comprehensive retrospective life histories. Information from administrative records and places of residence at each point in the life course was collected to better define the social environment. Psychological and health information was collected at the baseline study and again during interviews as the respondents approached mid-life.

Imaginative foresight by the WLS investigators prompted the collection of information on health, savings, and later life aspirations for men and women in early midlife. Most recently, life course information was obtained as the cohort neared later middle age. The researchers hope to build on this first-rate research base by continuing interviews with this cohort as its members reach old age. The Wisconsin Longitudinal Study is unique in that it will allow the study of aging over the *full adult life course*, with data to measure agency and biographical change. This study, firmly rooted in the life course approach, provides a life-long perspective on aging that other longitudinal studies of aging (such as the Health and Retirement Study, which started when its respondents were at later mid-life) cannot.

## METHODS

New methodologies (e.g., discrete time and continuous time approaches to the study of life histories) and statistical techniques (e.g., multinomial logistic regression, multistate increment decrement life tables) became popular tools to uncover the complexities of individual lives. Latent structure and grade of membership models were developed to enable investigators to

empirically determine typical life pathways. All of these methods used dichotomous or categorical variables (measures of states and transitions) that have been the mainstay of demographic studies of the life course.

Research showed that the traditional demographic approach of matching behaviors in a population to the population at risk did not always work. An important example involved the estimation of the effect of women's wages on fertility. Traditional demographic methods would have first drawn the population for which such a decision could be made (i.e., the female labor force population doing paid work) and estimated the relationship. Demography's recognition of sequential decision making over the life course led to new conceptualizations and statistical models of the life course.

To accurately portray the effects of income on fertility behavior, for example, demographers developed a two-step model (Heckman, 1979). In its first step this involved the calculation of the expected wages of women who decide not to enter the labor force. In the second step, information from the first step is used to adjust for this joint "expected income/labor force entry" decision. Most demographers now recognize that sequential decision making is the essence of the life course perspective.

## BIOGRAPHY

Longitudinal research on adolescents becoming adults indicated how adolescent values and aspirations for education, work, and marriage influence life plans and later demographic behaviors (Hogan & Astone, 1986; Hogan, 1985). This led researchers to more closely examine opportunities and constraints in the personal environment (family, community, culture, or social structures) that map alternative life pathways among which an individual can choose (i.e., constrained decision making). For an outstanding overview and insightful analysis of "bounded strategic action" as it applies to research on the transition to adulthood, see Shanahan (2000). As developed in Shanahan (2000) the concept of bounded strategic reaction provides a way to describe the dynamic interplay between person and context.

As noted above latent structure models and grade of membership models offer promising avenues for the successful analysis of these very complex relationships, especially when decisions at one point in the life are conditioned on anticipated future actions (Shanahan, 2000). Hogan, Sandefur, & Wells (2002) have successfully used this approach to study differences in the pathways to adult roles, for children with disabilities compared to other children, with differences noted by sex.

Changes in personal environments (associated with war and peace, depression and prosperity, expanded college opportunities, or the expansion of job opportunities and the acceptability of women's work) were recognized as factors that might alter the life course of individuals, as cohorts responded to period changes in age-appropriate ways. This innovation has led demographers, using ideas from the life course perspective, to examine continuity and change in life pathways for a variety of demographic events (fertility, welfare dependence, work, and disability).

In its demographic formulation, attention to changing lives leads to an examination of current behaviors in relation to the prior life history (e.g., Goldscheider & Speare, 1987 on migration; Cherlin et al., 1995 on cohabitation and marriage). Demographers have eschewed behavioral models based on developmental trajectories and theories of ontogenetic change. This led to empirically driven research that documented the extremely varied sequences of

transitions that occur in a population, but lost analytic power by its failure to recognize general patterns and historical variations in transition sequences. With the emerging interest in genetic and biological factors in human behavior, demographers will need to reconsider this stance. This may take the form of collecting biological data for persons with different degrees of shared genetics and direct assays of biological tissues.

## CHANGE

A fundamental problem in the study of lives is unraveling impacts of aging, cohort change, and historical events on individuals. Because most recent demographic surveys were age-restricted (e.g., to those in the childbearing years or entering adulthood), they were unsuitable for the examination of the effects of major social changes on individual lives, while those with a broader age range often have too few cases at given life course stages (e.g., the PSID). Even though demography has seldom collected data suitable for intercohort comparisons, demographers have recognized that cataclysmic historical changes and major dimensions of identity (such as ethnicity, religion, and language) were key elements in structural inequality. Some studies collected data for many different cohorts, while others attempted to disentangle the age-period-cohort puzzle with data from repeated cross-sections (see Glenn, *this volume*).

The common demographic practice has been to use arbitrary 5-year cohorts (ending in digits 4 and 9), 5-year age groups (which has its roots in demographic analysis of aggregate census data), and 5-year periods to operationalize these aspects of time rather than socially defined cohorts, age groups, and periods. This practice resulted in the development of many ingenious strategies to solve the statistical identification problem associated with any two variables (from age, period, and cohort) being sufficient to determine the third. We believe that these efforts tended to yield rather limited understandings of the impact of historical changes experienced by cohorts over their life course.

Demographers have not been especially attentive to the ways in which individuals understand and interpret their own life histories (i.e., the concept of biography). This has limited demographers in their studies to research on individual transitions and linked transitions during segments of the life course, rather than to the *meaning* of transitions over the life course (which is essential to understanding agency).

One recent development suggests that a group of life course researchers can be brought together to provide institutional direction for further improvement in certain areas of demographic research. The MacArthur Foundation Network on Transitions to Adulthood (2002), chaired by Frank Furstenberg, studies, from a developmental perspective, the period of the life course from ages 16 to 24. It examines the multiple transitions of young adulthood—leaving home, entering or leaving school, finding employment, marriage, cohabitation, childbearing—and the variety of combinations and sequences in which they occur. The network explores how development in one area relates to the others, and how societal institutions may facilitate the transition from adolescence to adulthood.

The economic theory of families and fertility linked past and current demographic behaviors by comparing the expected lifetime benefits and costs of demographic behaviors to rational actors, as well as their likely permanent income. More recently, the Fragile Families and Child Wellbeing Study and the Welfare, Children & Families: Three City Study have been especially innovative in their use of ethnographic methods and carefully designed situations of interpersonal interaction to interpret and understand individual lives.

## CONCLUSIONS

We have argued that the life course perspective revolutionized demography. It did so by focusing attention away from the behaviors of aggregate populations to the consideration of the demographic behaviors of individuals. This paradigmatic change has led demography to remarkable improvements in study design, data collection, and methods of analysis.

Demography did not so readily adopt the full panoply of ideas and methodologies envisioned by the life course perspective. This has resulted in missed opportunities, which we believe were incurred at considerable cost to demography as a discipline. In this essay the challenges to demography over the next decade have been identified by returning to some basic tenets of the life course perspective. The challenges for demography are to collect complete and accurate life histories, attend to agency and biography, and improve the measurement of social environments in which individual lives unfold. If this is done, we believe that demography will improve its intellectual rigor, be better able to identify causal relationships, and increase its capacity to make convincing public policy recommendations. Very recent innovations in the demographic study of individual behaviors suggest that demography, as a discipline, will rise to the challenge.

## REFERENCES

Axinn, W., Barber, J., & Ghimire, D. (1997). The neighborhood history calendar: A data collection method designed for dynamic multilevel modeling. *Annual Review of Sociology, 27*, 355–392.

Becker, G. (1991). *A treatise on the family (enlarged ed.)*. Cambridge: Harvard University Press.

Cherlin, Andrew. (2002). http://www.jhu.edu/~welfare/

Cherlin, A., Kiernan, K., & Chase-Lansdale, P. (1995). Parental divorce in childhood and demographic outcomes in young adulthood. *Demography, 32*, 299–318.

Conger, R. D., & Elder, G. H., Jr. (1994). *Families in troubled times: Adapting to change in rural America*. New York: Aldine de Gruyter.

Elder, G. H., Jr. (1974). *Children of the great depression: Social change in life experience*. Chicago: University of Chicago Press.

Elder, G. H., Jr. (1975). Age differentiation and the life course. *Annual Review of Sociology, 1*, 165–190.

Elder, G. H., Jr. (1978). Approaches to social change and the family. *American Journal of Sociology, 84*, S1–S38.

Elder, G. H., Jr., Pavalko, E. K., & Clipp, E. C. (1993). *Working with archival data: Studying lives*. Newbury Park, CA: Sage.

Firebaugh, G. (1978). A Rule for inferring individual-level relationships from aggregate data. *American Sociological Review, 43*, 557–572.

Freedman, D., Thornton, A., Camburn, D., Alwin, D., Young-DeMarco, L. *et al*. (1988). The life history calendar: A technique for collecting retrospective data. *Sociological Methodology, 18*, 37–68.

Furstenburg, F. F., Jr., & Hughes, M. E. (1997). The influences of neighborhoods on children's development: A theoretical perspective and a research agenda. In R. M. Hauser, B. V. Brown, & W. Prosser (Eds.), *Indicators of children's well-being*. (pp. 346–371). New York: Russell Sage Foundation.

Goldscheider, F., & Speare, A., Jr. (1987). Effects of marital status change on residential mobility. *Journal of Marriage and the Family, 49*, 455–464.

Hauser, R. M. (2002). http://dpls.dacc.wisc.edu/WLS/

Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica, 47*, 153–167.

Hogan, D. P. (1985). Parental influences on the timing of early life transitions. In Z. S. Blau (Ed.), *Current perspectives on aging and the life cycle, Volume 1*. (pp. 1–59). Greenwich, CT: JAI Press.

Hogan, D. P., & Astone, N. M. (1986). The transition to adulthood. *Annual Review of Sociology, 12*, 109–130.

Hogan, D. P., & Goldscheider, F. (2001). Men's flight from children in the U.S.: A historical perspective. In S. L. Hofferth & T. J. Owens (Eds.), *Advances in life course research, 6. Children at the millenium: Where have we come from, where are we going*. (pp. 193–229). London: Elsevier Science.

Hogan, D. P., Sandefur, G., & Wells, T. (2002). The transition to adulthood among young persons with special needs. Paper presented at the August 2000 meeting of the American Sociological Association, Washington, DC.

Kertzer, D. I., & Hogan, D. P. (1989). *Family, political economy, and demographic change: The transformation of life in Casalecchio, Italy*, 1861–1921. Madison: University of Wisconsin Press.

The MacArthur Foundation Network on Transitions to Adulthood (2002). http://macfound.org/research/

McLanahan, Sara. (2002). http://crcw.princeton.edu/fragilefamilies

Ruggles, Steven. (2002). http://www.ipums.umn.edu

Ruggles, Steven. (1993). Historical demography from the census: Applications of the American census microdata files. In D. S. Reher & R. Schofield (Eds.), *Old and new methods in historical demography*. (pp. 383–393). New York: Oxford University Press.

Shanahan, M. J. (2000). Pathways to adulthood: Variability and mechanisms in life course perspective. *Annual Review of Sociology, 26*, 667–692.