

CHAPTER 31

Life Course Research

Achievements and Potential

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Recognizable life course research emerged in the social and behavioral sciences in the first half of the 20th century, although it was uncommon (Buhler, 1935; Thomas & Znaniecki, 1927). It is only since the mid-1970s, however, that the term “life course” began to be used frequently and scholars began to describe their studies as life course research (e.g., Elder, 1974; Hogan, 1978). Indeed, it was not until the 1980s, that consensus began to emerge about the differences between life course and related terms, especially life cycle (e.g., O’Rand & Krecker, 1990). Since then, the volume, quality, and sophistication of life course research has increased dramatically.

I have suggested previously that life course sociology is not a core of the discipline like broad areas such as social psychology and social stratification are, nor is it the equivalent of more middle-range theories such as the stress process and political economy (George, 1996,1999). Those, and other core components of sociological inquiry are characterized by bounded foci of interest, well articulated and elaborated theoretical foundations, and extensive research traditions. In contrast, the life course seems to me to be a set of perspectives that focus on time, timing, and long-term patterns of stability and change. There are certainly basic principles that characterize life course perspectives, but there is not an integrated theory of the life course; nor, I would argue, should there be one.

The purpose of this chapter is to convey my view of the future of life course research. It is divided into five sections. The first is a brief review of core life course principles—principles that I will argue are critical to the social and behavioral sciences, yet do not comprise an integrated theory. The second section provides my view of the two major forms of life course

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research in the field to date, as well as my prognostications of their likely futures. In the third and fourth sections, I examine two overarching issues in the social and behavioral sciences—social causation and social selection—and the ways that life course principles have contributed to recent advances in our understanding of these issues and have the potential for further contributions. The final section is intended to combine the issues covered previously into a coherent depiction of the current achievements and probable future of life course research.

KEY LIFE COURSE PRINCIPLES

Elder and colleagues suggest that four major components or axioms underlie life course perspectives (Elder, George, & Shanahan, 1996). The first is a focus on time and timing. A key element of temporality is long-term patterns of stability and change, often conceptualized as trajectories. This life course principle also encompasses issues of duration and duration dependence, sequences of transitions, and timing of transitions. Second, life course perspectives focus on the intersection of social context and personal biography. Social context is appropriately examined at a variety of levels, ranging from the immediate social environment to the broad influences of history and culture. In this sense, life course perspectives are attentive to macro-micro linkages—a core issue in the discipline that is frequently ignored empirically. Third, life course perspectives explicitly involve investigation of linked lives, recognizing the importance of social relationships in all areas of life. Finally, life course perspectives emphasize the importance of human agency. For example, although both are seldom examined in the same study, life course research can focus on either the ways that social and historical contexts shape individual lives or on the ways that human agency modifies the life course and social structures more broadly. Similarly, with regard to linked lives, life course research includes investigations of both the effects of social relationships on individual lives and the effects of human agency on the structure and dynamics of those relationships. These are important principles that, until recently, did not receive the attention they deserve in sociological inquiry. Nonetheless, they do not comprise an integrated, stand-alone theoretical framework.

LIFE COURSE RESEARCH: TWO PRIMARY FORMS

To date life course research has taken two primary forms. Both are legitimate and have yielded useful knowledge. Nonetheless, I predict that only one of these research traditions will flourish in the future. One research tradition—the smaller in terms of the sheer volume of studies—focuses on the life course itself. This fascinating body of research has focused on four primary issues. One emphasis has been describing the contours of the life course, both currently and across time and place (e.g., Hogan, 1981; Modell, 1989). A second focus has been the historical emergence of the life course as a recognizable pattern with accompanying norms, as well as the social conditions that fostered the emergence of the modern life course (Anderson, 1985; Mayer & Schoepflin, 1989). A third theme of research in this tradition has been the multiple ways that historical events or conditions alter the life course (e.g., Clausen, 1995; Mayer, 1988). A corollary issue in this research has been identification of the conditions

under which historical effects persist across the life course or are of bounded duration. A final focus in this research tradition has been examination of heterogeneity in the life course and the social characteristics and conditions that generate that diversity (e.g., gender, race) (e.g., Gee, 1986; Hogan, 1985).

Research on these topics has generated a wealth of knowledge about the life course itself. Many of the studies cited above are now classics in life course research and, in some cases, in the discipline more broadly. As a whole, this research has described the emergence of the modern life course, its basic contours, and the ways that the life course varies across historical time, place, and social location. As important as these contributions are, I do not expect this type of inquiry to play a large role in future life course research. Basic knowledge of the life course was necessary for capturing the attention of a wide range of scholars and stimulating a temporal thought style previously uncommon in the social and behavioral sciences.

But research in this tradition also is limited in a number of ways. It tends to paint a very broad picture of life course contours and diversity, but is not as useful for more fine-grained understanding of specific outcomes of interest. Consequently, for many research questions, this type of investigation is ill-suited to hypothesis testing and causal inference. Generalizability of results is problematic as well. Much of the research in this tradition can be viewed as case studies of specific social contexts (e.g., the Great Depression, World War II), leaving open the question of whether the findings apply to similar historical conditions and to other circumstances (e.g., to what extent are the effects of combat on mental health similar to or different from other kinds of trauma?).

The second body of life course research focuses less on the life course itself as the outcome of interest. Instead, existing theories and substantively focused research are enriched by incorporating one or more of the central life course principles. Thus, studies in a variety of substantive areas—for example, stratification (e.g., Hardy & Hazelrigg, 1999; Mirowsky & Ross, 1999), work and retirement (e.g., Flippen & Tienda, 2000; Mortimer & Johnson, 1998; Mutchler, Burr, Pienta, & Massagli, 1997), and health (e.g., Landerman, George, & Blazer, 1991; Moen, Dempster-McClain, & Williams, 1989)—have explored issues of timing in greater depth and/or over longer periods. Similarly, although relatively few studies explicitly incorporate measures of exposure to historical events, interpretation of findings now often include discussion of the extent to which the results reflect macro-level social and historical conditions. And, a focus on linked lives and the opportunities and constraints posed by social relationships now is frequently found in research topics that previously paid little attention to them—for example, couple-based patterns of retirement (Henretta, O’Rand, & Chan, 1993; O’Rand, Henretta, & Krecker, 1992; Moen, *this volume*), and the influence of significant others on the decision to seek medical care (Bisconti & Bergeman, 1999; Edwardson, Dean, & Brauer, 1995).

This integration of life course principles with other sociological theories and research traditions will be, I believe, the dominant form of life course research in the future. Although we can already observe the impact that life course perspectives have had on a variety of research problems, these represent only the proverbial tip of the iceberg. There are literally hundreds of research topics for which no one has yet considered long-term patterns of change and stability; the effects of macro-level social, cultural, and historical contexts; and/or the significance of linked lives. Thus, I view the future of life course research as an integration of life course principles with the total range of theoretical and substantive themes of social and behavioral research.

SOCIAL CAUSATION AND SOCIAL SELECTION

At a fundamental level, much, arguably most, research in the social and behavioral sciences focuses on issues of social selection and social causation. Traditionally, the terms “social selection” and “social causation” have been used rather narrowly and were typically posed as competing hypotheses about the relationships between social factors and outcomes of interest. This has been a dominant issue in the sociology of health and illness, for example, where scholars have debated and attempted to determine whether low socioeconomic status is a cause or consequence of illness (Johnson, Cohen, Dohrenwend, Link, & Brook, 1999; Reynolds & Ross, 1998), whether employment benefits health or whether healthier people are selected into the labor force (Pugliesi, 1995; Ross and Mirowsky, 1995; Waldron, Herold, Dunn, & Staum, 1982), and whether poor-quality social relationships are a risk factor for depression or, alternatively, whether depressed persons are unable to develop and/or sustain high-quality relationships (Holahan & Moos, 1991; Johnson, 1991). Recently it has been increasingly recognized that these may be competing hypotheses, but they are not mutually exclusive—that is both may operate to varying degrees.

In the research areas in which I work, investigators are theoretically aligned on the side of social causation—that is, there are strong theoretical expectations that social factors are causes of the outcomes of interest. My sense is that this is generally true of other social and behavioral research topics as well. Consequently, social selection is seen as a methodological nuisance (ultimately resulting from our inability to randomly assign individuals to the social characteristics of interest). We know that it is necessary to eliminate if possible or, more likely, adjust for or estimate the effects of selection in order to have confidence in our estimates of social causation. One outcome of this approach to social selection has been an emphasis on handling selection statistically (e.g., using the Heckman procedure [1979] to first estimate selection and then, in a second analytic step, estimate social causation with selection effects statistically controlled).

Serious attention to life course perspectives calls into question this view of social selection and how to appropriately handle it analytically. From a life course perspective, social selection is not a methodological nuisance. Rather, it is the heart of life course research, which is intended to delineate the long-term pathways associated with outcomes of interest. Moreover, life course perspectives call into question the distinction between social selection and social causation. Consider the example of employment and health. From a traditional social causation perspective, Investigator A hypothesizes that employment has positive effects on health, either protecting it or fostering improvements in it. Factors that lead some people to be employed and others to not be employed are the selection concern. The investigator is not concerned with the processes that lead to employment, only that those processes do not account for the association between employment and health. Meanwhile, Investigator B is interested in the determinants of employment among women (there is too little variability in employment among men to support such an investigation). This investigator knows that, among women, marital status is significantly related to employment—but selection effects are a potential problem for this investigator as well. Selection processes operate to increase the likelihood of some women being married and others being unmarried. A confident conclusion that marital status has a causal effect on employment status for women requires that selection effects associated with marital status be estimated and, if possible, ruled out. Thus, the independent variable for Investigator A (employment status) is the dependent variable for Investigator B—and both investigators must worry about selection effects.

From a life course perspective, the distinctions between social selection and social causation are much less important. An investigator can have an outcome of interest (e.g., health, employment status) and wish to identify the social factors associated with that outcome. But the distinction between selection and causation is relatively moot. The focus is on the long-term processes and pathways that result in the outcome of interest, not categorizing those processes and pathways as selection or causation.

Many investigators who address social selection and social causation from the traditional perspective apparently fail to understand that they are attempting to eliminate the life course from their inquiries. Using statistical procedures to estimate a coefficient that represents selection essentially means that the investigator is bundling the study participants' pasts into a neat little package that is ignored substantively and interpretatively. This is one of the ways in which social and behavioral research tends to be a historical—it ignores not only social history, but also personal history.

As life course perspectives are increasingly integrated into the broad spectrum of theories that undergird social and behavioral research, I believe that traditional notions of social selection and social causation will fade, to be replaced with an emphasis on processes and pathways. Important components of such inquiry will be identification of the conditions under which social location earlier in the life course does and does not have long-term effects and the processes that permit some individuals to overcome or compensate for conditions early in life that typically are associated with poorer outcomes (e.g., what permits some, but not most, individuals whose childhoods and adolescences were characterized by persistent poverty to achieve high levels of socioeconomic status in adulthood?).

THE PERSISTING PROBLEM OF HETEROGENEITY

Life course research would certainly be simpler if there was an “expectable life course,” in which a majority, or even a significant minority, of individuals follow a modal pattern of transitions and trajectories. Such is clearly not the case. Evidence regarding the timing of significant life course transitions demonstrates the absence of an empirical timetable that can be used as a template of the expectable life course (Hogan, 1981; Watkins, Menken, & Bongaarts, 1987). Evidence regarding long-term sequences or trajectories of such transitions yields the same picture of extreme heterogeneity and empirical chaos (Hogan, 1981; Marini, 1984). A study by Rindfuss, Swicegood, and Rosenfeld (1987) illustrates this point dramatically. Using data from the National Longitudinal Survey of the High School Class of 1972, the authors coded participants' sequences of five roles—work, education, homemaking, military, and other—for 8 years after high school graduation. They report that 1100 sequences were needed to describe the experiences of the 6700 men in the sample; the corresponding number of sequences for the 7000 women was 1800. Consequently, a key challenge of life course research is to simultaneously do justice to long-term patterns of change and stability and to the heterogeneity of those patterns.

As is obvious from discussion thus far, the concept of trajectory is a staple of life course research. Trajectories are simply long-term patterns of change and stability; a corollary assumption is that trajectories are unlikely to conform to simple monotonic, linear, or even curvilinear forms. Thus, it is important that the statistical techniques used to identify life course trajectories are relatively free of constraints on the forms that trajectories can take. Statistical techniques that meet this requirement are relatively new in the social and behavioral

sciences, but their availability has increased the volume and sophistication of life course research.

Currently, latent growth curve analysis (LGCA, see McArdle & Anderson, 1990; Meredith & Tisak, 1990), also known as hierarchical linear modeling (HLM, see Bryk & Roundenbush, 1992), is the most common technique used to delineate trajectories and to examine the predictors/correlates of trajectories (see Halaby, *this volume*). LGCA is ideally suited for analyzing three or more waves of panel data. LGCA uses a two-stage modeling process that can be used to answer a number of generic research questions. In the first stage, univariate growth curves (or trajectories) are constructed and within-subject error is estimated for each time point. Depending on the research question, univariate growth curves can be generated for time-varying predictors, as well as the outcome of interest. In the second stage, an average intercept (starting point) and slope (rate of change) are generated. With appropriate modeling, both linear and non-linear trajectories can be estimated. Another modeling option allows specification of correlated errors. Finally, both intercepts and slopes can be correlated with other fixed or time-varying variables. LGCA can be performed using standard structural equation modeling programs (e.g., Joreskog & Sorbom, 1993).

Two examples may help to illustrate how LGCA contributes to life course research. Ge and colleagues determined the extent to which trajectories of stressful life events predicted trajectories of depressive symptoms in a sample of adolescents who participated in four annual interviews (Ge, Lorenz, Conger, Elder, & Simons, 1994). Separate analyses were conducted for boys and girls. Univariate growth curves indicated that depressive symptoms typically remain stable or decrease slightly during adolescence. For girls, however, depressive symptoms tend to increase over time. Life events tended to increase over time for both boys and girls. Multivariate analysis indicated that, as expected, growth in stressful life events was associated with growth in depressive symptoms—but only for girls.

Using the same data set, Wickrama, Lorenz, and Conger (1997) used LGCA to examine the effects of parental support on symptoms of physical illness among a sample of adolescents who participated in five annual interviews. Two measures of parental support were available: one based on adolescents' self-reports, the other based on observational ratings of parent-adolescent interaction. In the first stage of analysis, univariate growth curves were estimated for the three major variables of interest. Both measures of parental support showed patterns of decline over time; in contrast, symptoms of physical illness generally increased over time. In the second stage, the two measures of parental support and a set of control variables were used to predict rate of growth in physical symptoms. As expected, trajectories characterized by declines in parental support over time significantly predicted greater growth of physical symptoms. As these studies illustrate, LGCA, unlike other statistical techniques, can be used to predict growth in a dependent variable of interest. It also is possible, given appropriate data, to determine the extent to which growth in an independent variable predicts growth in the dependent variable.

Although LGCA can make important contributions to life course research, it has limitations. First, although LGCA captures the direction and amount of change over time, it is not well suited to analysis of more complex patterns of change, for example discontinuity in rates of change across observational periods. Second, ultimately, LGCA is based on a single aggregate trajectory that best fits the sample as a whole. Certainly multivariate modeling can be used to explain variability around the aggregate trajectory. Nonetheless, it does not permit identification of the prevalence of trajectories taking specific forms, nor of the independent variables that predict distinctive trajectories.

Some scholars argue that a single trajectory cannot do justice to sample heterogeneity and instead recommend a disaggregated approach to trajectory construction (Dannefer & Uhlenberg,

1999; Manusson & Bergman, 1990). Using this approach, a set of mutually exclusive (but not necessarily exhaustive) trajectories are identified. Using data from the Terman men, for example, Clipp and colleagues identified five distinctive trajectories of health across 40 years: stable good health, stable poor health, improving health, declining health, and fluctuating health (Clipp, Pavalko, & Elder, 1992). They also identified specific demographic and social profiles associated with the various trajectories. In this way, they were able to examine multiple distinctive trajectories that varied widely in meaning. In this study, disaggregated trajectories formed the dependent variable. They also can be used as independent variables.

Barrett (2000), for example, examined the effects of marital status and marital history on mental health outcomes. She pointed out that current marital status leaves unmeasured heterogeneity with regard to marital history for everyone but the never married. She studied four trajectories among the currently married (one marriage, marriage-divorce-marriage, marriage-widowhood-marriage, and marriage-divorce-marriage-divorce-marriage); three trajectories among the currently widowed (married-widowed, married-widowed-married-widowed, and married-divorced-married-widowed); and two trajectories among the currently divorced (married-divorced and married-divorced-married-divorced). Results indicated that marital history matters—that there are significant differences in mental health among persons in the same current marital status, but whose marital histories differ. She also demonstrated that duration in a given marital state explained additional variance.

Although the use of disaggregated trajectories yields important information about distinctive patterns of change, it also has limitations. First, it is very time-consuming to develop and apply the decision rules that are used to form the typology of trajectories. Second, this method of trajectory construction increases the risk of arbitrary classifications and/or using trial-and-error to identify a set of trajectories that relate to other variables as hypothesized. Finally, of course, even a typology of trajectories does not completely take heterogeneity into account. Nonetheless, I would argue that it achieves a better balance between modeling temporal patterns and heterogeneity in those patterns than can be achieved with LGCA.

I believe that methods of exploiting longitudinal data measured at multiple times over an extended period of time will be one of the most active areas of life course research in the near future. Through those efforts, we will become better informed about the foundational assumptions and advantages/disadvantages of both aggregated and disaggregated approaches to analysis of trajectories. Hopefully both methods will prove viable, permitting investigators to match their analytic strategies to the research questions that they investigate.

FINAL THOUGHTS

In this chapter, I have briefly described the core principles of life course perspectives, the primary forms life course research has taken to date, and two issues that are challenges not only to life course research, but also the social and behavioral sciences more broadly: (a) social causation and social selection and (b) persisting problems of doing justice to heterogeneity. Although it is appropriate to examine these issues separately for purposes of organization, they are part of a greater whole.

It is unlikely that the emergence of life course principles and research is a random event. Instead, I would argue that life course research emerged when it did in response to the persistence of issues that have been inadequately handled in social and behavioral research and as a method of confronting those issues in conceptually and empirically grounded ways. The time had come when large numbers of scholars agreed that it is unacceptable to

study the present in ever-increasing detail, in the absence of knowledge about the past, both personal and societal. The time had come when many scholars agreed that we must not only pay lip service to macro–micro links, but also identify the nature of those links. The time had come when investigators acknowledged the invalidity of studying isolated domains of experience as if they could be separated from other dimensions of people's lives. The time had come when researchers acknowledged that strict, positivistic determinism is often untenable.

Life course principles emerged as potential answers to those problems: examine time, timing, and their effects; recognize and measure the effects of personal biography and social history on human lives; recognize linked lives and the opportunities and constraints they represent; give human agency its due and reframe research questions in terms of pathways, trajectories, and patterns rather than causal chains. These are not issues relevant only to studies of child and adult development. They are relevant to most, arguably all, areas of social and behavioral research.

And, thus, my prediction is that the future of life course research will consist primarily of an integration of life course principles and analytic strategies into a broad range of theories and substantive topics in the social and behavioral sciences. As this happens, life course research will become increasingly less distinctive. And that will be a marker of its success rather than its failure. Indeed, the most successful outcome that I can imagine for life course scholarship is that it is incorporated into the major paradigms of the social and behavioral sciences—when, in fact, life course principles have become taken-for-granted assumptions of the research enterprise in general.

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