23 The Sociology of the Life Course and Lifespan Psychology: Diverging or Converging Pathways?

Karl Ulrich Mayer

Max Planck Institute for Human Development, Berlin, Germany

Abstract

Lifespan psychology and life-course sociology concern themselves to a considerable extent with separate areas of interest and separate lines of research. Life-course sociology aims to understand the evolution of life courses primarily as the outcome of institutional regulation and social structural forces. Lifespan psychology views development across the life span primarily as changes of genetically and organically based functional capacities and as behavioral adaptation. In life-course sociology and lifespan psychology, however, there is also a considerable overlapping of interests and a need for synthesis and integration.

Introduction

In the last twenty to thirty years, both lifespan psychology and the sociology of the life course have experienced a great and long takeoff with regard to theory building and conceptualization, methodological advances, and empirical studies. Within sociology but also partly in demography, economics, and social policy studies, a cohort and life-course perspective, event history analysis, and microanalytic longitudinal data have become almost predominant (Mayer, 1990, 2000; Riley, Kahn, & Foner, 1994). Baltes, Staudinger, & Lindenberger (1999, p. 473) note, for instance, that lifespan psychology became more prominent due to, among other reasons, "a concern with lifespan development in neighboring social science disciplines, especially sociology. Life course sociology took hold as a powerful intellectual force."

At the beginning of this development, there were great expectations that the disciplines involved in this "life-course turn"—especially life-course sociology and lifespan psychology—would grow together in a parallel trajectory and that there would be coevolution in the direction of a truly interdisciplinary or even transdisciplinary paradigm on human development. Volumes such as the one edited by Kohli (1978), Sørensen,

Weinert, and Sherrod (1986), or the series on *Lifespan Development and Behavior* edited by Baltes, Featherman, and Lerner (1978–1990) bear ample witness to this view. This expectation was also not in any way ill-founded.

On the one hand, there were earlier developmentalist traditions where psychological and sociological orientations were closely tied (Bühler, 1931, 1959). On the other hand, there was a reemergence of a kind of social-psychological study of the life cycle (Clausen, 1986) in which the variation of external conditions and psychological characteristics were connected to their later consequences. Glen Elder's now classic study on the *Children of the Great Depression* (1974) and the consequent research of his group count among the best examples. Many of the actors personally knew each other, frequently interacted, and sometimes cooperated. There were also several attemps to provide something like a common theoretical frame (Featherman, 1983; Elder & Caspi, 1990; Baltes, 1997, in this volume; Baltes et al., 1999; Heckhausen, 1999; Diewald, 1999). Even some identity blurring appears to have taken place, since some labeled as psychologists by sociologists were labeled as sociologists by psychologists.

In retrospect, despite all the strong mutual recognition and reinforcement, surprisingly little convergence and intergration has actually occurred. Lifespan psychology and life-course sociology now seem to stand further apart than in the seventies. The main purpose of this comment is to reconstruct and understand this impasse as seen from the point of view of a sociologist. The major questions to be raised are whether and to what extent these divergences are necessary and legitimate and whether they should be seen as mutual and detrimental shortcomings that should be and can be overcome. I approach these questions not so much as matters of principle and of general theory but more from the point of view of practical empirical research. I proceed in the following steps. First, I describe what life-course sociologists actually do and what goals they pursue. Second, I portray how lifespan psychology appears to a sociologist. Third, on this basis, I discuss how the two disciplinary perspectives tend to be restrictive and shortsighted in some of the areas where they intersect. Fourth, I outline more systematically how psychological developemnt should come into the sociological study of the life course and how life-course sociology could enrich and broaden the psychological study of the life span. I use examples from existing and potential research to illustrate these points.

The Life Course from the Perspective of Sociology

For sociologists, the term *life course* denotes the sequence of activities or states and events in various life domains that span from birth to death. The life course is thus seen as the embedding of individual lives into social structures primarily in the form of their partaking in social positions and roles—that is, with regard to their membership in institutional orders. The sociological study of the life course, therefore, aims at mapping, describing, and explaining the synchronic and diachronic distribution of

individual persons into social positions across the lifetime. One major aspect of life courses is their internal temporal ordering—that is, the relative duration times in given states as well as the age distributions at various events or transitions.

How do order and regularities in life courses come about? Sociologists look primarily for three mechanisms to account for the form and outcomes of life courses. The first mechanism is the degree and manner to which societies are internally differentiated into subsystems or institutional fields (Mayer & Müller, 1986). This is often taken to be the most obvious and important one. The second mechanism is seen in the internal dynamic of individual lives (in group contexts). Here, one searches for conditions of behavioral outcomes in the prior life history or in norm-guided or rationally purposive action. The third mechanism derives from the basic fact that it is not simply society on the one hand and the individual on the other that are related to each other but that aggregates of individuals appear in the form of populations such as birth cohorts or marriage cohorts (Mayer & Huinink, 1990).

Let me illustrate each of these three life-course mechanisms in turn. How do institutions shape life courses? The educational system defines and regulates educational careers by its age-graded and time-scheduled sequences of classes, its school types and streams, and its institutions of vocational and professional training and higher learning with their hierarchical and time-related sequence of courses and certificates. Labor law defines who is gainfully employed and who is unemployed or out of the labor force and thus employment trajectories. The occupational structure defines careers by conventional or institutionalized occupational activities, employment statuses, and qualification groups. The supply of labor determines the opportunity structure and thus the likelihood of gaining entry into an occupational group or of change between occupations and industrial sectors. Firms provide by their internal functional and hierarchical division of labor career ladders and the boundaries for job shifts between firms and enterprises. In a similar manner, the institutions of social insurance and public welfare define the status of being ill, the duration of maternity leave, the age or employment duration until retirement, and so on. Family norms and law constitute the boundaries between being single or in nonmarital unions, married, and divorced. Finally, the spatial structure of societies as well as forms of property define the interaction with family roles and forms of household trajectories of residential mobility, household changes, and migration.

The second mechanism for shaping life courses focuses on life trajectories and their precedents. Research tends, when being descriptive, to concentrate on transition or hazard rates—that is, the instantaneous rates at which a well-defined population at risk makes certain transitions (such as into first employment, first motherhood, or retirement) within a given time interval (such as a month or a year but across larger spans of a lifetime). The explanatory question for life-course research, then, is whether situational, personal, or contextual conditions shape a certain outcome, and also whether outcomes are shaped by experiences and resources that are acquired at earlier stages of the biography, such as incomplete families in childhood (Grundmann, 1992), prior job shifts (Mayer, Diewald, & Solga, 1999), prior episodes of unemployment (Bender,

Konietzka, & Sopp, 2000), educational careers (Henz, 1996), or vocational training and early career patterns (Konietzka, 1999; Hillmert, 2001). There is one important additional point to be made in this context. Looking for "causal" mechanisms on the microlevel of the individual biography does not resolve the issue as to whether the individual is more an active agent or more a passive object in the processes that shape the life course or—to put it in different terms—whether selection or adaptation by choice is of primary importance (Diewald, 1999, ch. 2). Sociologists tend to be split on this issue. Some would emphasize cultural scripts, some would stress social norms, and others would bet on rational choice. But on the whole, sociologists tend to believe more in selection than in choice. First of all, the institutional contexts as described above already narrow down to a large extent which life avenues are open and which are closed. Second, within given institutional contexts, individuals are probably more frequently being selected than doing the selecting themselves. This is related to another sociological axiom: If material resources, power, authority, information, and symbolic goods are distributed very unequally within given societies, then it follows that more people have to accommodate than have the opportunity to exert control.

The third mechanism that one can look for when unraveling patterns in life courses has to do with the fact that it is not single individuals but populations that are allocated to and are streamlined through the institutional fabric of society across the lifetime. One example of this is cohort size (one's own as well as the preceding and succeeding cohorts), which influences individual opportunities way beyond individual or situational conditions (Ryder, 1965, 1980; Macunevic, 1999). Another example is the dynamics of union formation and marriage where one's own chances of finding a partner change over time depending on the behavior of others searching at the same time (Hernes, 1972, 1976).

From the perspective of sociology, then, life courses are considered not as life histories of persons as individuals but as patterned dynamic expressions of social structure. These apply to populations or subsets of populations, are governed intentionally or unintentionally by institutions, and are the intentional or nonintentional outcomes of the behavior of actors. Patterns of life courses are, however, not only products of societies and a part and parcel of social structure; they are at the same time also important mechanisms for generating social structures as the aggregate outcome of individual steps throughout the life course. One example of this that is intuitively easy to grasp is that the age and cohort structures of a population are the highly consequential result of a multitude of fertility behaviors and decisions. Likewise, the employment structure is the outcome of a multitude of individual employment trajectories.

Finally, the relationship to historical time is crucial for the sociological study of life courses. They are embedded in definite strands of historical periods but also in the collective life histories of families and birth cohorts. They are subject to historical circumstances at any time but are also subject to the cumulative or delayed effects of earlier historical times on the individual life history or the collective life history of birth cohorts (or marriage cohorts or employment entry cohorts).

Our heuristics for the study of life courses are thus guided by four sign posts (Mayer & Huinink, 1990; Huinik, 1995, pp. 154–155). First, individual life courses are to be viewed as part and product of a societal and historical multilevel process. They are closely tied to the life courses of other persons (parents, partners, children, work colleagues) and the dynamics of the social groups of which they are a member. They are highly structured by social institutions and organizations and their temporal dynamics. Second, the life course is multidimensional. It develops in different mutually related and mutually influencing life domains such as work and the family. It also unfolds in the context of biological and psychological maturation and decline. Third, the life course is a self-referential process. The person acts or behaves on the basis of, among others, prior experiences and resources. We must, therefore, expect endogenous causation already on the individual level. This then becomes via aggregation also true for the collective life course of birth cohorts or generations. Their past facilitates and constrains their future. This is the meaning of the phrase *die Gleichzeitigkeit des Ungleichzeitigen,* which characterizes the interdependency of generations. The various age groups live together in a common present, but each brings its own particular past to it. Fourth, through the manner in which persons live and construct their own individual lives, they reproduce and change social structures. This can either happen via "simple" aggregation processes or via immediate or intermediate institution formation. An example of the latter would be that a growing proportion of fully employed mothers exerts electoral pressure to change schools into institutions that take care of children for most of the day.

One might also ask in which sources sociologists of the life course expect the greatest share of variance in life-course outcomes to be explained. The largest part of variation will usually be expected to reside in those external structures within society that are closely tied to the division of labor—that is, the occupational structure, the structure of employment in various industrial sectors, and the educational systems. The reason for this is that both the distribution of initial resources (of resulting income rewards) and the distribution of positions that form the basic opportunity structure (and into which people are sorted) are intimately tied to these institutional fields. Thus, life-course patterns are expected to vary greatly across social classes or status groups (Carroll & Mayer, 1986). The second-largest source of variation sociologists would tend to locate would be in the division of labor within households—the way women and men in families and other unions allocate their lifetime for economic and family roles (Sørensen, 1990; Ben-Porath, 1980). The third important source of variation that life-course sociologists would look for relates to the differential intervention of the state in the form of the modern welfare state (Mayer & Müller, 1986; Huinink et al., 1995; Mayer, 2001b). It is, therefore, the so-called welfare mix—the relative importance and manner of the interconnection of economic markets, the family, and the state across historical time and across contemporary societies—that sociologists would see as the major determinant of life-course patterns (Esping-Andersen, 1999).

Now we have come to the stage where we can formulate the major research questions for sociological life-course research. What are the patterns of life courses, and

how do they differ between women and men, social classes and groups, nation states, birth cohorts, and historical periods? What are the determinants of and influences on life courses resulting either from the past individual or collective life history or from socioeconomic contexts and conditions and institutional constraints? What are the consequences of changing life-course patterns for social structure and institutions?

Thus one direction of research is descriptive and exploratory. A second direction runs from the macro level down to the micro level and asks how macro conditions of an institutional or structural kind affect individual lives. A third direction moves horizontally on the individual level and asks how earlier conditions have an impact on later outcomes, and a fourth direction focuses on the way micro outcomes affect macro configurations from the bottom upward.

Lifespan Psychology as Seen from Sociology

At first glance, the psychology of the life span and the sociology of the life course share the same object of scientific inquiry—the lives of women and men from birth to death. If they happen to tell different stories, it may seem as if they are just behaving like the blind men describing an elephant. One touches the snout, one touches the foot, and a third touches an ivory tusk. In contrast to this analogy, I would like to argue in this section how divergent their respective fields of study really are. Lifespan psychology "deals with the study of individual development (ontogenesis) . . . as lifelong adaptive processes of acquisition, maintenance, transformation, and attrition in psychological structures and functions" (Baltes et al., 1999, p. 472). At the center of interest stand changes in highly biologically based functional capacities and personality, such as cognitive abilities, memory, emotion, perception, information processing, attachment, or resilience. Many of these functional capacities and their overall changes across the lifetime can be fruitfully thought of as being the fairly universal results of evolutionary selection. Therefore, lifespan psychology can—at least on a general theoretical level—make a close and productive connection between phylogenesis as the evolution of the species and ontogenesis as individual development (cf. Kirkwood, this volume; Maier & Vaupel, this volume). Accordingly, often a relatively large share of the interindividual variability in functional trajectories and behavioral outcomes is generally attributed to genetically founded constraints. These biological and genetic constraints vary across the lifetime (Kirkwood, this volume; cf. Baltes, 1997, this volume). They are likely to be highest, on the one hand, in infancy and early childhood and, on the other hand, in late age, and (as the testing-the-limits research on cognitive functioning impressively demonstrates) age differences between young adults and old persons can rarely be offset even by intensive learning and intervention (cf. Singer, this volume).

Lifespan psychology views development as based both on biology and culture and therefore as a "nature" as well as as a "nurture" discipline, while from its perspective the sociology of the life course appears as a somewhat narrow "nurture" discipline

that would need to expand its horizon to acknowledge genetic factors to overcome a simple environment-based conception of social forces. Conversely, the sociology of the life course sees itself as an endeavor combining both "nurture" and "institutions" and views lifespan psychology as needing to include the complexities of institutions for more precise accounts of contexts.

Thus, lifespan psychology and life-course sociology do not only diverge with regard to the level of the unit of analysis, the major life dimensions, and dependent variables at stake; they also diverge with regard to the broad causal forces that can be seen at work. Clearly, life-course sociology is much more agnostic in regard to main areas of interest of psychology, since it almost dogmatically abhors thinking beyond the last one or two centuries back to evolution and (equally dogmatically) tends to exclude evolutionary, biological, and genetic factors from its explanatory toolbox (see, in contrast, Runciman, 1998). The same applies to a large extent to concurrent psychological traits and functional capacities. Durkheim's formula—according to which sociology is to explain the social by the social—still reigns in the realm (Lukes, 1972, 2001).

In contrast, lifespan psychology commands within its conceptual apparatus a good number of open doors to the variability brought about by history, society, and culture such as plasticity, malleability, interindividual variation, environment, coevolution, and culture. However, as seen from sociology, if we go beyond the social-psychological level of interpersonal relationships, these categories tend to be something of undifferentiated residuals that display little explanatory power. The same charge very much applies to the distinction within lifespan psychology between age-graded, history graded, and nonnormative changes across life (Baltes, 1987). Whereas *historical* denotes nonsystematic ideographic circumstances and *nonnormative* tends to be residually defined as nonregularities, *age-graded* changes are primarily seen by developmental psychologists as the outcome of either biological changes or the outcome of age norms as rules of convention like the proper age for marriage, motherhood, and fatherhood. The latter view is forcefully argued by Heckhausen (1999, p. 35): "life-course patterns would be expected to have become increasingly regulated by internalized norms about age-appropriate behavior . . . as societal regulation became more lenient. Thus, age-normative conceptions about the life course internalized by individuals may gradually have replaced external regulations based on objectified institutions. . . . Age-normative conceptions may have committing power as internalized, naturalized, and thus unquestionable ways of thinking about human lives." In contrast, sociologists will always search for external, institutional constraints first and will tend to view age norms as epiphenomenal cognitions deriving from them. Thus, instead of, for instance, asking survey respondents about the proper ages for starting gainful work, they would set out to determine how educational, vocational, and professional tracks of various duration allow persons to enter labor markets at varying ages and how these medians add up in a given population. This debate does not play out on an ontological level. The issue, therefore, is not whether age norms exist or do not exist and whether institutional regulation exists or does not exist. The issue is, rather, what ought the importance of

institutional and other kinds of socioeconomic regulation assumed to be relative to the rise, persistence, and change of normative orientations. Marriage behavior may again serve as our example. If we are to believe the lifespan psychologist, changes in the median age at marriage should be primarily the consequence of changes in age norms. In contrast, the sociologist of the life course would look first at changes in the duration of education and training, the relative affluence in given historical periods, the incentives provided by family assistance policies, and so on.

If we review the evidence of the recent German changes in the median age at marriage, there is some consolation for both sides. On the one hand, the lowest median cohort ages at marriage in the last century occurred for the 1945 birth cohort of men and the 1947 cohort of women (Mayer, 2001a). There is little doubt that this outcome was the result of two forces. One force was the relatively high economic affluence and high economic growth rates of the late 1960s and thus the income development and the opportunities on the labor market. The other force was indeed a norm but not an age norm—the still binding norm at that time that sexual unions should take place within marriage. The later rapid increase in the ages at marriages from the early 1970s onward was again not an outcome of changes in age norms but was the outcome of increasing ages of leaving education and employment as well as of the effectiveness and accessibility of birth control and the tolerance of nonmarital unions. Similarly, the dramatic changes of the very low ages at marriage in East Germany after German unification were an effect not of normative changes but of changes in economic circumstances, in housing scarcity, and in family assistance pay (Huinink, 1995). Although there is little doubt that the differential opportunities for early marriage and early fertility in East Germany did in fact give rise to corresponding age norms, the persistence of these norms under the new conditions after unification is doubtful. If age norms are primary and constitutive rather than derivative and epiphenomenal, then one should expect that East German couples will return to and persist in lower ages at marriage and first birth in comparison to couples in West Germany. So far the demographic data do not support this hypothesis (Sackmann, 1999). This is not to deny the importance of social norms in guiding behavior relative to rational action based on the calculation of personal interest. For instance, in a recent study on the differences in the rates of nonmarital fertility in East and West Germany, Huinink (1998) concludes that differential incentives cannot fully account for the fact that East German couples have many more children out of wedlock and therefore that different norms must be assumed. The consequence of norms on nonmarital fertility is not least their impact on age at marriage and age at first birth. The important point in the context of our present discussion, however, is that these are not age norms but rather observed age profiles that are the outcome of both other kinds of behavioral norms and institutional incentives.

Jutta Heckhausen, in her recent book on *Developmental Regulation in Adulthood* (1999; cf. Heckhausen, this volume), has probably gone furthest as a lifespan psychologist to meet life-course sociologists halfway. It is, therefore, useful to take up

where she sees the closest connections. What she terms *sociostructural constraints* falls into three areas—lifetime-related, chronological age-based, and age-sequential. At this point, sociologists would already ask for conceptual clarification, since what is called *sociostructural* here throws together structural and institutional constraints. For a sociologist, structural constraints arise from the distribution of resources, positions, and opportunities, whereas institutional constraints arise from explicit and relatively permanent social rules that are often tied to specific organizational settings.

Lifetime constraints relate to the overall life span and thus the impressive fact that both institutions and individual persons have to achieve their goals and tasks within a finite time. This is reflected in what Kohli (1985) and others have called the *tripartite structure of the life course*—(1) socialization, education, and training, (2) gainful employment and reproductive roles, and (3) retirement and old age. The length of the lifetime puts limits on the amount of time available for achieving life goals. The lengthening of the life span or at least of the years without severe functional impairment therefore makes it plausible, for instance, to see why the duration spent in initial schooling and training is lengthening and why many—especially gerontopsychologists—call for an extended and more flexible age of transition to retirement. It is also plausible that longer lives would lead to a sequence of occupations or a sequence of marital or nonmarital unions. The sociologically more interesting fact is, however, that the institutional partitioning of the life course often runs counter to the lengthening of the lifetime. The concentration of education and training in the years until early adulthood is persisting despite many campaigns of lifelong learning (Mayer, 1996). Likewise, modern society still concentrates the formative years of occupational careers and the crucial years of family formation within a very short (and ever shorter) time span in young adulthood. And in most advanced societies, the median age at retirement drops rather than increases (Kohli, Rein, Guillemard, & van Gunsteren, 1991; but see also Burkhauser & Quinn, 1997). This may reflect what Matilda Riley (Riley et al., 1994) has called a *structural lag* between demographic and institutional development that will be adjusted in the foreseeable future. It is as likely, however, that institutional mechanisms shape the age at retirement quite independently from overall trends in length of the life span and in the opposite direction. While the need to finance pensions individually or collectively will provide a push for later retirement ages, the inclination of employers and employees to look for exits well before the legal retirement age is powerfully influenced by the high rate of occupational and sectoral restructuring. In addition to the lifetime as such, Heckhausen explicitly acknowledges that deadlines are also frequently imposed by institutions formally and informally, such as restrictions in the length of university studies, the length of time it takes to reach the grade of major in the military, or age deadlines until one has to have made it to full professor in the German university system.

The second kind of sociostructural constraint Heckhausen (1999, p. 30) introduces is *chronological-age-based*: "In most human societies, the life course is composed of an age-graded structure, which stratifies the society into age strata and involves age

norms for important life events and role transitions." There is little dissension about the fact that both formally and informally age and age groups form an important basis of differentiation within societies and that age is often used in legal or quasi-legal norms to regulate entry into and exit from social positions. As already argued above, however, lifespan psychology tends to overemphasize, from a sociological point of view, social distinctions based on age—at least if they are taken to be directly explanatory as a consequence of age norms rather than descriptive regularities. Behind many apparent age regularities, they would argue, are regularities brought about by institutional time scheduling. Thus, age at entry into employment varies widely depending on the length of prior schooling. In many countries, age at retirement is contingent on years of service rather than age per se. It is exactly the highly institutionalized and regulated intersection of education, vocational training, and employment in Germany (rather than age per se) that imposes such a demanding developmental task. I would seriously question whether the category of chronological age-based constraints is an effective way of introducing a social-structural dimension into lifespan psychology, since it presumes an unrealistic degree of unmediated institutionalization of age differentiation.

The third type of sociostructural constraints is called *age-sequential*. By this term, Heckhausen (1999, pp. 31–32) refers to the fact that states and events across the lifetime are not randomly distributed but that the choice or experience of a prior transition or state narrows down options and probabilities for consequent steps. It remains unclear, however, how this kind of endogenous causation occurs. Heckhausen speaks of "segregated life-course paths demarcated by social structure" and "commonly shared notions of normal or desirable biographies." In this respect, sociology (and economics) could offer more precise and elaborated concepts. Let us take as the most important example the area of employment and occupational careers. Continuities in occupational trajectories can come about via the individual investment in human capital and the accumulation of human capital in education, training, or work. Initial mismatches between acquired human capital and the job available on the labor market tend to lead to a series of job shifts until the level of skill matches what is taken to be an adequate reward in terms of status or income (Sørensen & Tuma, 1981; Carroll & Mayer, 1986). Career contingency can also occur, however, as a result of restrictions on the demand side. When labor markets are true markets, all market participants have in principle access to vacant positions. Everybody competes with everybody. But very often labor markets are segmented into submarkets defined by skills, sectors, or organizations. Occupationally segmented labor markets require credentials for entry and often additionally impose career ladders like apprentice, journeyman, and master. Firm-segmented labor markets tend to restrict access to positions to workers already in the firm and thus create well-defined internal career ladders. Gender-segregated labor markets restrict women from access to male-dominated jobs and occupations.

The challenge sociology would pose to lifespan psychology would then focus on how adaptive tasks vary between different institutional frameworks and settings and how these select and modify psychological characteristics across the lifetime.

Lifespan Psychology as a Challenge for the Sociology of the Life Course

Lifespan psychology poses a threefold challenge to the sociology of the life course. First, it questions the usefulness of an exclusively or excessively sociostructural and institutional perspective on conceptualizing and explaining life courses. Second, it allows the hidden cognitive, volitional, and emotional mechanisms to be revealed. By so doing, actors can be seen as translating structural and institutional constraints and incentives into their own behavior and can thus offer a more than rhetorical idea of how persons shape their own lives. Third, lifespan psychology can offer concepts, theories, methods, and measurement that can supplement and modify sociological explanatory models. Let me elaborate on these three issues in sequence.

Why would it be shortsighted and indeed misleading to restrict oneself to a view of life courses where these would be seen exclusively as the outcome of social role playing, structural constraints, institutional regulation, and the socioeconomic circumstances of given historical periods? An initial answer is that as much as life courses are the products of culture, society, and history, they are also the product of persons as natural organisms, individual decision makers, and personalities (Diewald, 1999, pp. 18–43). One might well argue, therefore, that the genetic, physical, and personality constraints and the interindividual variations resulting from them—on how people live out their lives—are not only nonnegligible but probably overwhelming in comparison to those determinants resulting from sociocultural differences (Rutter, 1997). In this respect, however, one might at least tender the hypothesis that across evolution, social and cultural construction and elaboration would tend to increase in their relative weight and that other factors would recede in importance. Thus, it is a long way from small segmented societies (where the structure of life courses and the functional division of labor is intimately and immediately tied to aging as a trajectory of physical ability and of a sequence of reproductive roles) (Linton, 1939) to current societies (where nurseries, schools, labor organizations, social security systems, and welfare provisions intervene in this process).

In stark contrast, however, Heckhausen (1999, pp. 33–37) develops a powerful argument as to why psychological modes of regulation of the life course should become more important than structural or institutional constraints. She makes a distinction here between external and internal regulation. External regulation is equated with social conditions that might be legal sanctions, group pressure, or organizational rules. Internal regulation is equated with relatively stable psychological dispositions with regard to modes of adaptation and coping or with regard to substantive preferences. Analogous to the theory of the civilizing process of Norbert Elias (1969), she claims that "external enforcement via societal power has gradually, over centuries, been transformed into internalized rules and norms of conduct and behavior. This process of internalization renders the need for external societal enforcement obsolete. . . . Modern anthropologists argue that social conventions become transformed into institutionalized ways of

thinking. Social constructions of reality provide societal stability and predictability as well as subjective certainty about a mutually habitualized, and thereby institutionalized, foundation of individual action" (Heckhausen, 1999, pp. 34–35). Heckhausen's position appears to be strongly supported by sociologists' claim that life courses become deinstitutionalized, that cognitive biographical scripts about the normal life course become more important (Kohli, 1985), that institutions and traditional collectivities lose their binding power, that therefore individualization increases (Beck, 1986), and that more subtle forms of psychological influence have replaced the crude mechanisms of physical force and material incentives in controlling behavior (Foucault, 1977; Pizzorno, 1991).

Although one can hardly deny the historical thrust of the argument à la Elias and Foucault, I have many doubts as to its applicability to modern life courses as far as the role of normative orientations is concerned. As John Meyer has argued, internalized and strongly religiously based norms in guiding life courses may have been appropriate and widespread in the seventeenth to nineteenth centuries, but they would be highly dysfunctional in present-day societies where very flexible situational adaptation is required (Mayer, 1988; Meyer, 1986). The relative importance that persons and cultures accord to their lives as an overall developmental project is itself highly variable (Brandtstädter, 1990). The debate on this issue is still very much open. On the one hand, we find good arguments in favor of increasing decollectivization and individualization. In particular, increasing material resources should support the rise of individual life projects. On the other hand, however, we also see a decline in cultural expectations according to which persons are expected to be the definer and defendant of meaningful and coherent life designs (Jaspers, 1979; Mayer & Müller, 1986; Riesman, Glazer, & Denney, 1950).

This brings us to the second challenge that lifespan psychology poses for the sociology of the life course—how to fill the black box of the actor. If they do so at all, sociologists tend to rely on action models based on variants of rational-choice theory (Coleman, 1990; Braun, 1998; Voss & Abraham, 2000). The disadvantage of these models is that, on the one hand, they assume "modal" actors (they are more interested in average group behavior than individual behavior) and, on the other hand, they assume that (apart from investment and consumption theories) (Becker, 1976) the life course is nothing but a series of unrelated decision situations. Lifespan developmental psychology offers remedies to both of these deficits. It investigates a set of psychological processes that is of particular interest in the first of these two contexts—control and goal striving (Heckhausen & Schulz, 1995; Brandtstädter, 1990; Brandtstädter & Rothermund, this volume), control beliefs (Bandura, 1977, 1992), and selective optimization with compensation (Baltes & Baltes, 1990; M. Baltes & Carstensen, this volume; cf. Behrman, this volume).[1]

Control theories start with the basic assumption that persons want to be the masters of their own destinies—that they want to pursue their own goals and that they do so by exerting control over their environment. Primary control strategies relate to the active shaping of one's own development and to efforts to bring one's environment into line

with one's own needs and goals. Secondary control strategies help the person accept that certain circumstances are not easily changeable and that it is, therefore, wiser to adapt desires and goals to those that can be realistically obtained (Elster, 1983).[2] Schulz and Heckhausen (1996) assume that with increasing age external restrictions increase and that persons, therefore, employ more secondary control strategies at higher ages in order to protect their sense of self-worth, their belief in their self-efficacy, and thus their motivation for primary control.

The second group of psychological processes relate to the person's beliefs in the efficacy of his own actions and the related degree to which persons invest in goal attainment and persist in their efforts. Numerous studies have shown that high self-efficacy beliefs lead to more intense and persistent efforts in goal pursuit. The relation of such control beliefs to aging is less obvious. On the one hand, beliefs in self-efficacy and tenaciousness are the consequence of prior experiences and should, therefore, accumulate either positively or negatively across the life course. On the other hand, negative experiences will tend to become more frequent in advanced age and will eventually also affect self-efficacy negatively (Brandtstädter, 1990). Finally, the behavioral strategy of selective optimization with compensation presumes a double mechanism of successful adaptation. On the one hand, goals are selected in view of their relatively good returns or remain theoretically undetermined. On the other hand, goals that cannot be obtained are substituted by others more attainable, and resulting losses are covered by partially offsetting compensation. The latter model has been explicitly developed as a powerful explanatory and interpretative tool for adaptive behavior in aging. This model rests on three assumptions about universally shared basic developmental goals—growth, maintenance and resilience, and regulation of losses. Growth relates to behavior that is directed toward achieving higher levels of functioning or adaptive potential. Maintenance and resilience relate to behavior that is directed toward keeping or regaining prior levels of functioning in the context of new adaptive challenges and losses. The regulation of losses relates to behavior that has the aim of safeguarding functional capacity on a lower level, if maintenance is no longer possible. Physical and cognitive aging constitute per se major developmental tasks for persons across the life course. Growth creates potential that can be differentially realized or missed as opportunities in given social contexts. Maintenance can be differentially successful. Decline may be compensated with specialization and increased effort or by changing goals (Baltes & Baltes, 1990; Baltes, this volume; cf. M. Baltes & Carstensen, this volume; Brandtstädter & Rothermund, this volume; Salthouse, this volume).

Bringing this ensemble of psychological processes into the framework of the sociology of the life course would have a number of advantages. First of all, it quite clearly demonstrates that a pure "sociologistic" construction of the life course is untenable, since it would postulate that actors are largely influenced by external factors (or chance) and that they would also generally believe in the low efficacy of their own actions in comparison to external conditions. This would result in pervasive low self-esteem and low life satisfaction and is therefore inconsistent with the empirically well-founded

assumption of psyches as positively equilibrating systems. It becomes rather both an explanandum and an explanatory variable that groups of persons tend to follow using primary or secondary control strategies; where various groups perceive the locus of control, how they differ in beliefs of self-efficacy and tenaciousness, and how good people are at shifting from primary to secondary control strategies and from unrealistic to realistic action goals.

I have defined above the third challenge of lifespan psychology to the sociology of the life course to actually include psychological variables in its models and to test their gross and net influences. I see in this two major goals. One goal is to increase the proportion of variance to be explained in life-course outcomes by the preceding life history by adding psychological variables measured at an earlier point in time. The second goal is to show how psychological characteristics themselves have to be seen as malleable outcomes rather than stable conditions in life-course processes. There are relatively few good examples of either of these research strategies. One example is the studies by Diewald, Huinink and Heckhausen (1996) and Diewald (1999). In the context of a study of life courses during the transformation of East Germany after the fall of the Berlin wall (Mayer et al., 1999), Diewald et al. (1996) examined first how control beliefs, control strategies, and feelings of self-respect varied between groups of different age and different occupational experiences before 1989 and between 1989 and 1993. Second, Diewald (2000) tested whether control beliefs had a net impact on unemployment, downward mobility, upward mobility, and occupational shifts between 1989 and 1993. As in earlier research (Heckhausen, 1999; Mayer, Kraus, & Schmidt, 1992), a number of significant covariations were found between age, other sociostructural variables, and beliefs of control and self-respect. Most important and unexpected was the result that positive attitudes did not simply covary with age in a monotonic fashion but that the oldest cohort groups, which was about 60 in 1989, did best, while those of approximately 50 years of age in 1989 did worst. There are probably two complementary explanations. The first relates to the fact that the oldest group did—for historical reasons—experience superior career opportunities in the GDR before 1989 (Mayer & Solga, 1994). The second explanation is based on the circumstance that practically all of the oldest group lost their employment due to labor-market policies of early retirement, whereas the approximately 50-year-olds experienced the turbulent labor market after unification. The oldest group could externalize the locus of control and keep their sense of prior achievements and self-respect intact, while the group that found itself as the relatively oldest one remaining in the labor market faced the relatively worst employment conditions and reacted accordingly. It is noteworthy, however, that scrutinizing labor-market experiences before 1989, gender and age control cognitions (as measured in 1993 and presumed to be prior and stable) played an important role in preventing unemployment but that they had no significant effects on upward and downward mobility. For the two variables already measured in 1991—internal control and fatalism—only fatalism showed any effect at all and it showed effect on only one of the four dependent variables (unemployment). In general, then, the evidence from

these studies points on balance more to psychological dispositions as outcomes of (in our case dramatic) life-course events rather than a strong selectivity of life-course adaptation due to prior psychological dispositions.

Life-Course Sociology and Lifespan Psychology: An Agenda for Research

Lifespan psychology and life-course sociology concern themselves to a considerable extent with separate areas of interest and separate lines of research. Life-course sociology aims to understand the evolution of life courses primarily as the outcome of institutional regulation and social structural forces. Lifespan psychology views development across the life span primarily as changes of genetically and organically based functional capacities and as behavioral adaptation. In life-course sociology and lifespan psychology, however, there is also a considerable overlapping of interests and a need for synthesis and integration. If my above assessment is correct, then this common ground is mutually both poorly understood and underresearched. I, therefore, want to outline an agenda for joint research.

For lifespan psychology, it would be crucial from my point of view to exploit sociology in order to gain a more refined and a more differentiated repertoire of institutionally regulated developmental tasks and their consequences beyond generalized notions of age norms, developmental goals, and cognitions. In general, this will require cross-national comparative and longitudinal research in order to systematically vary the institutional contexts. One good example is the transition between general education and employment. In Germany and other countries with an important segment of a dual system of vocational training, this transition involves a highly stratified linkage between school achievement and accessible training positions—a two- or sometimes three-step transition between school, training, and early career positions and a highly differentiated system of certification. In Britain, most young people transit from school to work directly within a very narrow age range and receive most of their training on the job. These two transition regimes require and reward different psychological resources and should have different consequences for psychological disposition and personality (Hillmert, 2001; for a similar German-U.S. comparison, see Alfeld-Liro, Schnabel, Baumert, Eccles, & Barber, in press).

For life-course sociology, in contrast, the open agenda should aim to bring back the person. The questions to be addressed are given biographical resources and structural opportunities, how are persons of varying psychological makeup being selected, how do they cope differentially with given developmental tasks, and what are the consequences of specific life-course experiences for psychological dispositions such as developmental goals and control beliefs. This would involve measuring both objective life courses—as routinely is done in sociological life history studies (Brückner & Mayer, 1998)—as well as strategic psychological variables in prospective longitudinal studies.

Notes

1. Brandtstädter (1990, p. 339) makes the distinction between development-related perceptions and beliefs, development-related goals and values, and development-related control beliefs.
2. An important aspect of control theories is attributions about the locus of control—oneself, external factors, or chance.

References

Alfeld-Liro, C., Schnabel, K. U., Baumert, J., Eccles, J. S., & Barber, B. L. (in press). Educational structure and development during the transition to adulthood in the U.S.A. and Germany. *Journal of Vocational Behavior*.

Baltes, P. B. (Ed.). (1978). Life-span development and behavior (Vol. 1). New York: Academic Press.

Baltes, P. B., & Brim, O. G., Jr. (Eds.). (1979, 1980, 1982, 1983, 1984). Life-span development and behavior (Vol. 2–6). New York: Academic Press.

Baltes, P. B., Featherman, D. L., & Lerner, R. M. (Eds.). (1986, 1988, 1990). Life-span development and behavior (Vol. 7–10). Hillsdale, NJ: Erlbaum.

Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology, 23*, 611–626.

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist, 52*, 366–380.

Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1–34). New York: Cambridge University Press.

Baltes, P. B., Staudinger, U. M., & Lindenberger, L. (1999). Lifespan psychology: Theory and application to intellectual functioning. *Annual Review of Psychology, 50*, 471–507.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191–215.

Bandura, A. (1992). Exercise of personal agency through the self-efficacy mechanism. In R. Schwarzer (Ed.), *Self-efficacy: Though control of action* (pp. 3–38). Washington, DC: Hemisphere.

Beck, U. (1986). Risk society. On the road to another modern society. Frankfurt: Suhrkamp.

Becker, G. (1964). *Human capital*. New York: National Bureau of Economic Research, Columbia University Press.

Becker, G. (1976). *The economic approach to human behavior*. Chicago: University of Chicago Press.

Bender, S., Konietzka, D., & Sopp, P. (2000). Transition to flexibility or marginalization? The course of employment 'beyond the normal working relationships' in the job market of the 1990s, *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 3*, 475–499.

Ben-Porath, Y. (1980). Families, friends and firms and the organisation of exchange. *Population and Development Review, 6*, 1–30.

Brandtstädter, J. (1990). Development across the life-span. Life-span developmental psychology and the personal self-regulation of development. *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 31*, 322–350. In K. U. Mayer (Ed.), Life Courses and Social Change (pp. 322–350) Opladen: Westdeutscher Verlag.

Braun, N. (1998). The rational choice attempt in sociology. In I. Pies & M. Leschke (Eds.), Gary Becker's economic imperialism (pp. 147–173). Tübingen: Mohr & Siebeck.

Brückner, E., & Mayer, K. U. (1998). Collecting life history data: Experiences from the German life history study. In J. Z. Giele & G. Elder Jr. (Eds.), *Methods of life course research: Qualitative and quantitative approaches* (pp. 152–181). Thousand Oaks, CA: Sage.

Bühler, C. (1931). Childhood and youth. Genesis of consciousness. Leipzig: Hirzel.

Bühler, C., with Mitarbeit von H. Harvey & E. Kube. (1959). The human life course as a psychological problem. Göttingen: Verlag für Psychologie Dr. C. J. Hogrefe.

Burkhauser, R. V., & Quinn, J. F. (1997). Pro-work policy proposals for older Americans in the twenty-first century. *Policy Brief, 9*. Syracuse, NY: Center for Policy Research, Maxwell School, Syracuse University.

Carroll, G. R., & Mayer, K. U. (1986). Job-shift patterns in the Federal Republic of Germany: The effects of social class, industrial sector, and organisational size. *American Sociological Review, 51*, 323–341.

Clausen, J. A. (1986). *The life course: A sociological perspective*. Englewood Cliffs, NJ: Prentice-Hall.

Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Belknap Press of Harvard University Press.

Diewald, M. (1999). *Devaluation, Revaluation, Enhancement. The course of East German employment between continuity and change*. Habilitation Thesis for Sociology, Faculty of Political and Social Sciences, Free University, Berlin.

Diewald, M. (2000). Continuities and breaks in occupational careers and subjective control: The case of the East German transformation. In J. Bynner & R. K. Silbereisen (Eds.), *Adversity and challenge in life in the New Germany and in England* (pp. 239–267). London: MacMillan Press.

Diewald, M., Huinink, J., & Heckhausen, J. (1996). Radical social change of life courses and personality development: Fates of cohorts and control beliefs in East Germany after 1989. *Kölner Zeitschrift für Soziologie und Sozialpsychologie,* 48, 219–248.

Elder, G. (1974). *Children of the great depression*. Chicago: University of Chicago Press.

Elder, G., & Caspi, A. (1990). Human development and social change: An emerging perspective on the life course. *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 31*, 22–57. (Life courses and social change [K. U. Mayer, Ed.]).

Elder, G., & O'Rand, A. M. (1995). Adult lives in a changing society. In K. S. Cook, G. A. Fine, & J. S. House (Eds.), *Sociological perspectives on social psychology* (pp. 452–475). Needham Heights, MA: Allyn & Bacon.

Elias, N. (1969): *Ueber den Prozess der Zivilisation: Soziogenetische und psychogenetische Untersuchungen* [On the process of civilization: Sociogenetic and psychogenetic investigations]. Bern: Francke.

Elster, J. (1983). *Sour grapes*: *Studies in the subversion of rationality*. Cambridge: Cambridge University Press.

Esping-Andersen, G. (1999). *Social foundations of postindustrial economies*. Oxford: Oxford University Press.

Featherman, D. L. (1983). Life-span perspectives in social science research. In P. B. Baltes & O. G. Brim (Eds.), *Life-span development and behavior* (Vol. 5, pp. 1–57). New York: Academic Press.

Foucault, M. (1977): *Discipline and punish: The birth of the prison*. New York: Pantheon Books.

Grundmann, M. (1992). Family structure and life course. Historical and social conditions of individual development. Frankfurt am Main/New York: Campus Verlag.

Heckhausen, J. (1999). *Developmental regulation in adulthood: Age-normative and sociostructural constraints as adaptive challenges*. New York: Cambridge University Press.

Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. *Psychological Review, 102*, 284–304.

Henz, U. (1996). Intergenerational mobility. Methodological and empirical analyses (Studies and Reports, No. 63). Berlin: Max-Planck-Institut für Bildungsforschung.

Hernes, G. (1972). The process of entry into first marriage. *American Sociological Review, 37*, 513–547.

Hernes, G. (1976). Structural change in social processes. *American Journal of Sociology, 82*, 513–547.

Hernes, H. M. (1984). Women and the welfare state: The transition from private to public dependence. In H. Holter (Ed.), *Patriarchy in a welfare society* (pp. 26–45). Oslo: Universitetsforlaget.

Hillmert, S. (2001). Education, training systems and the job market. A cohort comparison of life courses in Great Britain and Germany. Wiesbaden: Westdeutscher Verlag.

Huinink, J. (1995). Education, work, and family patterns of men: The case of West Germany. In H.-P.

Blossfeld (Ed.), *The new role of women: Family formation in modern societies* (pp. 247–262). Boulder: Westview Press.

Huinink, J. (1998). Single parenthood of young women and men in the East and West. *Leipzig Sociological Studies*, No. 1, 301–320.

Huinink, J., et al. (1995). Life courses in the GDR and after the fall of the Wall. Berlin: Akademie Verlag.

Jaspers, K. (1979). The intellectual challenge of the present. Berlin: de Gruyer.

Kohli, M. (Ed.). (1978). Sociology of the life course. Neuwied: Luchterhand.

Kohli, M. (1985). The institutionalization of the life course. Historical facts and theoretical arguments. *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 37*, 1–29.

Kohli, M., Rein, M., Guillemard, A.-M., & van Gunsteren, H. (Eds.). (1991). *Time for retirement: Comparative studies of early exit from the labour force*. Cambridge: Cambridge University Press.

Konietzka, D. (1999). Education and occupation. The birth years 1919–1961 from school to work. Opladen: Westdeutscher Verlag.

Linton, R. (1939). A neglected aspect of social organization. *American Journal of Sociology, 45*, 870–886.

Lukes, S. (1972). *Emile Durkheim: His life and work*. New York: Harper and Row.

Lukes, S. (2001). Emile Durkheim (1858–1917). In N. J. Smelser & P. B. Baltes (Eds.), *International encyclopedia of the social and behavioral sciences* (Vol. 6, pp. 3897–3903). Oxford: Elsevier Science.

Macunevic, D. J. (1999). The fortunes of one's birth: Relative cohort size and youth labor market in the United States. *Journal of Economics, 12*, 215–272.

Mayer, K. U. (1988). Structure of Society and the Life Course. In K. U. Mayer, U. Schimank, & W. Schumm (Eds.), Biography or life course? On the suitability of two concepts (course unit 1) (pp. 21–40). Hagen: Fernuniversität Hagen.

Mayer, K. U. (Ed.). (1990). Life courses and social change (Special edition of the Kölner Zeitschrift für Soziologie und Sozialpsychologie, volume 31).

Mayer, K. U. (1996). Education and work in an aging population. In A. Burgen (Ed.), *Goals and purposes of higher education in the twenty-first century* (pp. 69–95). London: Kingley.

Mayer, K. U. (2000). Promises fulfilled? A review of twenty years of life course research. *Archives Européennes de Sociologie, 51*, 259–282.

Mayer, K. U. (2001a). Life Course. In B. Schäfers & W. Zapf (Eds.), Concise dictionary on German society, 2nd edition. (pp. 446–460). Opladen: Leske & Budrich.

Mayer, K. U. (2001b). The paradox of global social change and national path dependencies: Life course patterns in advanced societies. In A. E. Woodward & M. Kohli (Eds.), *Inclusions and exclusions in European societies* (pp. 89–110). London: Routledge.

Mayer, K. U., Diewald, M., & Solga, H. (1999). Transitions to post-communism in East Germany: Worklife mobility of women and men between 1989 and 1993. *Acta Sociologica, 42*, 35–53.

Mayer, K. U., & Huinink, J. (1990). Age, period, and cohort in the study of the life course: A comparison of classical A-P-C-analysis with event history analysis or farewell to LEXIS? In D. Magnusson & L. R. Bergman (Eds.), *Data quality in longitudinal research* (pp. 211–232). Cambridge: Cambridge University Press.

Mayer, K. U., Kraus, V., & Schmidt, P. (1992). Opportunity and inequality: Exploratory analyses of the structure of attitudes towards stratification in West Germany. In F. C. Turner (Ed.), *Social mobility and political attitudes* (pp. 51–78). New Brunswick, NJ: Transaction.

Mayer, K. U., & Müller, W. (1986). The state and the structure of the life course. In A. B. Sørensen, F. E. Weinert, & L. R. Sherrod (Eds.), *Human development and the life course: Multidisciplinary perspectives* (pp. 217–245). Hillsdale, NJ: Erlbaum.

Mayer, K. U., & Solga, H. (1994). Mobility and Legitimacy. A comparison of the opportunity structures in the old GDR and the old FRG or: Have mobility chances contributed to the stability and breakdown of the GDR? *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 46*, 193–208.

Meyer, J. (1986). The self and the life course: Institutionalization and its effects. In A. B. Sørensen, F. E. Weinert, & L. R. Sherrod (Eds.), *Human development and the life course: Multidisciplinary perspectives* (pp. 199–217). Hillsdale, NJ: Erlbaum.

Pizzorno, A. (1991). Social control and the organization of the self (a summary of the original paper). In P. Bourdieu & J. S. Coleman (Eds.), *Social theory for a changing society* (pp. 232–234). New York: Sage.

Riesman, D., Glazer, N., & Denney, R. (1950). *The lonely crowd*. New Haven, CT: Yale University Press.

Riley, M. W., Kahn, R. L., & Foner, A. (Eds.). (1994). *Age and structural lag. Society's failure to provide meaningful opportunities in work, family, and leisure*. New York: Wiley.

Runciman, W. G. (1998). The selectionist paradigm and its implications for sociology. *Sociology, 32*, 163–188.

Rutter, M. (1997). Nature-nurture integration: The example of antisocial behavior. *American Psychologist, 52*, 390–398.

Ryder, N. (1965). The cohort in the study of social change. *American Sociological Review, 30*, 843–861.

Ryder, N. (1980). *The cohort approach: Essays in the measurement of temporal variations in demographic behavior*. New York: Arno Press.

Sackmann, R. (1999). Is an end of the fertility crisis in East Germany foreseeable? *Zeitschrift für Bevölkerungswissenschaft, 24*, 187–211.

Schulz, R., & Heckhausen, J. (1996). A life-span model of successful aging. *American Psychologist, 51*, 702–714.

Sørensen, A. (1990). Gender and the life course. Life courses and social change (special edition of the Kölner Zeitschrift für Soziologie und Sozialpsychologie, volume 31). 304–321. (Sonderheft: Lebensverläufe und sozialer Wandel [K. U. Mayer, Ed.]).

Sørensen, A. B., & Tuma, N. B. (1981). Labor market structures and job mobility. In R. Robinson (Ed.), *Research in social stratification and mobility* (Vol. 1, pp. 67–94). Greenwich, CT: JAI Press.

Sørensen, A. B., F. E. Weinert, & L. R. Sherrod (Eds.). (1986). *Human development and the life course: Multidisciplinary perspectives*. Hillsdale, NJ: Erlbaum.

Voss, T., & Abraham, M. (2000). Rational-choice theory in sociology: A survey. In S. Quah & A. Sales (Eds.), *The international handbook of sociology* (pp. 50–83). London: Sage.