3

LIFE-SPAN DEVELOPMENTAL THEORY

Life-span developmental theory concerns the study of individual development, or ontogenesis, from conception to death. A key assumption of this theory is that development does not cease when adulthood is reached (Baltes, Lindenberger, & Staudinger, 1998, p. 1029)[1]. Life-span researchers and theorists assume that each major period of life has its own developmental challenges and accomplishments, and that adaptive processes are at work within all periods of the life span. This theoretical approach is clearly focused on individual development rather than on family development. It is concerned with comparing an individual's development with that of others and with the individual's own status at various points in time. We include it in this volume on family theories for several reasons.

First, since the purview of the theory is "womb to tomb," it of necessity touches upon all of the family-related issues that characterize family life course theory, such as the birth of a child, the development of Alzheimer's disease, the macro-level political and economic slings and arrows that impact both individuals and families—the latter impacted either directly or indirectly through one or more of its members.

Of course, as noted, regardless of its study of development across the human life span, the focus is still on individuals rather than groups, and this makes the theory decidedly distinct from the family life course perspective that focuses on the family as the unit of analysis.

Second, we believe that this approach has much to teach others within subdisciplines of the family and human development sciences. For example, this theoretical approach is exceptionally rigorous in the way it links theory with methodology across the life span (you'll get a taste of this from the two readings we have selected for this chapter) as well as in the breadth of substantive issues that are studied onto-genetically. In addition, it has progressed from a largely descriptive focus on developmental stages (predominant 40–50 years ago) to a more recent focus (beginning in the 1970s) on trying to determine the mechanisms that determine developmental change or consistency. (Family life course theory is undergoing a similar transition as it has evolved from an emphasis on the family life cycle to a more comprehensive commitment to examining the causes of family development and change [cf. Chapter 3; Elder, 1996; White & Klein, 2002].) Overall, for the

reasons mentioned as well as because it passes with flying colors most tests (White & Klein, 2002, p. 232, Table 9.1) of how to evaluate a theory's usefulness, life-span developmental theory can serve as an important model for new students as well as for scholars.

What does it mean to say that the focus of life-span developmental theory and research is the individual? Given the identification of a substantive focus (e.g., personality development or cognitive abilities), this approach aims to study one or more of the following things:

1. Normative developmental change (For example, what is the typical course of personality development, or of cognitive capabilities? What are the mechanisms for this typical course of development or developmental change?)

2. Interindividual differences in developmental change (For example, are there differences between people over time, within age periods or across age periods, in their outgoingness or in their visual acuity? What are the mechanisms that produce such differences between people?)

3. Intraindividual change and consistency in development (For example, what is the course of development for self-esteem or for the tendency to take personal risks? Are these things consistent in individuals over time or are they characterized by "plasticity"? [Developmental plasticity is a general term used in the study of ontogeny to indicate how malleable or changeable something is.] What are the mechanisms producing consistency or change?)

It is important to note that these three emphases apply to individual periods of the life span (e.g., infancy, adolescence, or old age) as well as to the life span as a whole. In asking the above questions, one also begins to get a flavor of the kinds of methodological implications of life-span developmental theory. How does one investigate developmental plasticity or consistency? Does one compare, say, a group of 9-year-olds with a group of 23-year-olds to see if interindividual changes in cognitive functioning

occur? Or, does one follow longitudinally the development of cognitive functioning over a protracted period of time? Further, if one substitutes the word *family* or *families* for *people* or *individuals* in the above questions, it becomes clear that life-span developmental theory and family life course theory are both fundamentally time-related theoretical approaches. (Do note, however, that *time* is really just a shorthand descriptor for all that happens during it. Like age, it doesn't explain anything.) This developmental perspective—what happens and why, over time—is an integral part of both conceptualizations, and it is one thing that distinguishes them from the other theoretical perspectives in this book. Although some of the other theories (e.g., social learning theory or social exchange theory) may imply or make assumptions about change over time, the concept of developmental change is not an integral component of these other perspectives.

THE READINGS

Schoon et al. (2002) use the life-span developmental perspective in combination with concepts from ecological theory (Bronfenbrenner & Ceci, 1994; Chapter 10) and *developmental contextualism* (Ford & Lerner, 1992) to examine the relationships between early and continuing social risk and academic achievement in childhood/adolescence as well as between earlier risk and adult attainments. Developmental contextualism views human development as the dynamic interaction between a changing individual and a changing context. This reading uses fairly complex data analysis procedures (path analysis and multiple regression) to explicate a complex development trajectory over a significant portion of the life span. (You can safely ignore the statistical details since the article's text is very clear in stating what the analyses mean and how they can be interpreted.) Another key feature of the Schoon et al. reading is what we mentioned earlier in this chapter: the link between theoretical perspective and methodological choices. In

this case, data were collected on the same individuals (longitudinal study) across a significant period of the life span to answer the specific research questions that the researchers had formulated. Without longitudinal data, the researchers' questions would not be as adequately addressed.

The other reading in this chapter concerns the longitudinal impact of change or continuity in marital status on the psychological well-being of adults (Marks & Lambert, 1998). The researchers' perspective on this issue is guided by both the life-span developmental and the family life course theories, which (as we have said previously) maintain that it is important to examine the sequelae of discontinuities and continuities throughout life, not just in early childhood. In their study, Marks and Lambert reflect on important life-span developmental concepts including the timing and sequence of life events, the context in which certain developmental outcomes occur (e.g., it is much less atypical in 2004 than it was in 1964 to be a divorced adult), and the developmental readiness of individuals to deal with positive and potentially negative change.

Note that, besides the overall theoretical approach, Marks and Lambert's research shares two features with Schoon et al. First, the use of longitudinal data to answer developmental questions was appropriately employed. Second, the analysis of these longitudinal data was, again, complex. We would urge you to examine the various data presentations, but not to be overwhelmed by them since the text is very clear in explaining things. Also, if you suspect a trend here—that longitudinal data require more complex statistical techniques—you are correct. But, the payoff is much greater when such data and analyses are employed in developmental research. They allow more direct answers to the research questions, which in turn allow more direct tests of theory (i.e., explanation and understanding of results). The nature of the data (same people over time) and the analyses take into account many possibly influential variables and connections among variables in a way that pays specific attention to sequencing and timing. This is simply not possible with nonlongitudinal (i.e., cross-sectional) information. This is another example of the usefulness of life-span developmental theory to guide research.

ISSUES FOR YOUR CONSIDERATION

1. Do you think developmental contextualism might be a useful concept for family life course theory? (Hint: The answer is "yes!") Why? How could it be integrated into the family life course perspective?

2. Discuss an individual developmental issue for a nonadult (any age under 18) that would likely impact the child's family and its functioning in positive or negative ways. Then, from the other direction, consider some discontinuity in family life that would be likely to impact one or more of the family's members. What theories might help you explain these impacts?

3. How do you think of different periods in the life span? Do you see them as preparatory for something later, as self-contained, or as being the result of earlier periods? If you had to make a guess, what are the relative degrees of continuity and discontinuity that might be normative across the life span? What do the readings in this chapter have to say about the last question?

FURTHER READING

Bronfenbrenner and Ceci (1994), Ford and Lerner (1992).

Note

1. This chapter relies extensively on Baltes, Lindenberger, and Staudinger (1998), and Goulet and Baltes (1970).

The Influence of Context, Timing, and Duration of Risk Experiences for the Passage from Childhood to Midadulthood

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Abstract

This study investigated the long-term effects of social disadvantage on academic achievement and on subsequent attainments in adulthood. The study drew on data collected for more than 30,000 individuals born 12 years apart, following their development from birth to adulthood. The pathways that link social disadvantage to individual development across the life course were analyzed in a developmental–contextual systems model. The results showed that the influence of risk factors associated with socioeconomic disadvantage depended on the developmental stage of the individual, the experience of long-term or continuous disadvantage, and the overall sociohistorical context. Early risk had a moderate influence on the formation of individual competences. The greatest risk was associated with persisting and accumulating experiences of socioeconomic disadvantage throughout childhood and adolescence. Material conditions improved for the later-born cohort, yet pervasive social inequalities existed that affected outcomes during childhood and were consequently reflected in adult attainment.

Introduction

Children raised in socioeconomically disadvantaged families are at risk for a variety of adjustment problems, including increased risk for poor academic achievement (Bolger, Patterson, & Thompson, 1995; Campbell & Ramey, 1994; Duncan, Brooks-Gunn, & Klebanov, 1994; Felner et al., 1995; Pungello, Kupersmidt, Burchinal, & Patterson, 1996; Ramey & Ramey, 1990; Walker, Greenwood, Hart, & Carta, 1994) and adjustment problems in later life, as reflected in occupational attainment or social position (Blau & Duncan, 1967; Bynner, Joshi, & Tsatsas, 2000; Caspi, Wright, Moffitt, & Silva, 1998; Rutter & Madge, 1976; Schoon & Parsons, 2002b; Sewell, Hailer, & Ohlendorf, 1970). Socioeconomic background is one of the main predictors of cognitive development, which provides the underpinnings of academic achievement on which much success in later life depends. The experience of socioeconomic disadvantage may severely strain adaptational abilities of children, and is thus a potential risk factor for development. The consequences of growing up in a disadvantaged family environment can continue into adulthood or even into the next generation (Birch & Gussow, 1970;

Garmezy, 1991). Yet, most research on the influence of socioeconomic disadvantage on developmental outcomes has been cross-sectional in nature, and has assessed the impact of episodic rather than persistent economic difficulties. The aim of this study was to examine the long-term effects of socioeconomic disadvantage on academic achievement and consequent adult attainments. Taking a longitudinal perspective stretching from birth to adulthood, this study examined the impact of early and persistent social disadvantage (which was termed "social risk") on academic achievement during childhood and adolescence and on adult outcomes in a developmental-contextual framework.

Fundamental to the idea of risk is the predictability of life changes from earlier circumstances. As expressed through the concept of a "risk trajectory," one risk factor reinforces another, leading to increasingly restricted outcomes in later life (Rutter, 1990). In this study the question of the relation between early life experiences and consequent adjustment patterns was recast in terms of a testable model of continuities in social disadvantage and individual adjustment and their interactions over time. By analyzing data from two cohorts of children born in 1958 and 1970, the investigation also took into account the changing sociohistorical context.

Development and Context

The processes by which the socioeconomic background influences individual development are not yet fully understood. It has been argued that socioeconomic status (SES) at the time of the child's birth is an indicator of the social context, but may also reflect parental genetic characteristics, which are assumed to have some role in determining the level of academic functioning of their children (Plomin & Bergeman, 1991; Plomin & McClearn, 1993; Scarr, 1992). Proponents of behavioral genetics see the course of human development as a function of genetically controlled maturational sequences (Scarr, 1992). However, findings show that in no case is the genetic determination so strong that there is no room for environmental effects (Plomin & Daniels, 1987; Scarr, 1992). There is now increasing skepticism about the usefulness of approaches formulated within behavioral genetics, on scientific as well as social and ethical grounds (Baumrind, 1993; Hoffman, 1994; Jackson, 1993; Lerner & von Eye, 1992). Human development takes place in a social context, and is therefore influenced by a person's interactions within that context. Genetic factors are only one of a much larger series of possible explanations for human behavior. More recent developmental approaches have conceptualized genes and other biological variables as contributors to reciprocal, dynamic processes that can only be fully understood in relation to sociocultural environmental contexts (Bronfenbrenner & Ceci, 1994; Gottlieb, Wahlsten, & Lickliter, 1998; Horowitz, 2000). Human beings differ in their capacity for realizing individual talents, and it is important to understand under what circumstances individual potentials find expression.

This study was not designed to examine the heritability of certain traits, but rather to investigate the long-term effects of social risk on academic attainment and consequent adult outcomes in a changing sociohistorical context. Especially useful for this type of analysis are approaches developed by proponents of an ecological perspective of the life course that conceptualizes human development as the dynamic interaction between a changing individual and a changing context (Baltes, 1987; Bronfenbrenner, 1979; Elder, 1985; Featherman & Lerner, 1985; Lerner, 1984, 1996; Sameroff, 1983). For example, in their bioecological theory of nature-nurture effects, Bronfenbrenner and Ceci (1994) argue that the long-term interactions between children and their environments are a necessary condition for the expression of any trait. They differentiate between the proximal environment, which is directly experienced by the individual (e.g., the family environment), and more distal cultural and social value systems that have an indirect effect on the individual, and are often mediated by the more proximal context. Proximal

processes constitute the basic mechanisms that produce effective developmental functioning. They reflect the immediate day-to-day experiences that most directly shape adaptation in the face of adversity. The form, power, content, and direction of the proximal processes that affect development very systematically as a joint function of the person, the environment (both immediate and more remote) in which the processes are taking place, and the nature of the developmental outcome under consideration.

Ecological explanations of the association between socioeconomic origin, educational achievement, and occupational attainment have emphasized the role of different opportunities and socialization processes that exist across SES levels. Individuals from more privileged homes have more educational opportunities, greater access to financial resources when they are needed (e.g., to pay for higher education), and more role models, occupational knowledge, and informal/kinship networks (Schulenberg, Vondracek, & Crouter, 1984). The same cumulative effect, in the opposite direction, can occur for those who are not born so lucky and who consequently acquire an enhanced likelihood of risk. However, early experiences, whether good or bad, do not determine an invariant life path. For example, in Werner and Smith's (1992) longitudinal study of high-risk children, one third had made satisfactory adjustments in adult life, despite being born into highly disadvantaged circumstances. Some individuals succeed despite the odds and break the vicious cycle (Clarke & Clarke, 2000; Elder, Pavalko, & Hastings, 1991; Pilling, 1990), whereas others from privileged backgrounds fail to succeed. Individual differences in response to adversity can lead to some form of intensification or increased vulnerability, or to the amelioration or protection against risk factors that could lead to maladaptive outcomes (Garmezy, 1985; Rutter, 1990; Werner & Smith, 1992). Thus, individuals are not passively exposed to experiential factors, but can become producers of their own development (Bronfenbrenner, 1979).

There is consistent evidence of three broad sets of variables implicated in the development of positive adjustment in the face of adversity, a phenomenon also referred to as resilience (Luthar, Cicchetti, & Becker, 2000; Masten, Best, & Garmezy, 1990; Rutter, 1990; Werner & Smith, 1992). These protective factors include (1) attributes of the individual (e.g., ability, temperament, and motivation), (2) characteristics of the family (e.g., parental interest and support), and (3) aspects of the wider social context (e.g., neighborhoods and social support system), thus lending support to the proposition that proximal processes are fueled by the joint function of the person and the context (both immediate and more remote), as suggested by Bronfenbrenner and Ceci (1994). Resilience is not a personality attribute, but a dynamic process of positive adaptation despite the experience of significant adversity or risk (Luthar et al., 2000; Masten et al., 1990; Rutter, 1990; Werner & Smith, 1992).

Recent discussions have raised questions regarding the multidimensional nature of positive adaptation or resilience, suggesting that it is necessary to differentiate between constellations of specific risks and specific outcomes (Bronfenbrenner & Ceci, 1994; Luthar et al., 2000). At-risk children can show considerable heterogeneity in functioning across different domains (i.e., academic, emotional, and behavioral adjustment), and successful adaptation in one domain does not imply positive adaptation in another (Cicchetti & Garmezy, 1993). The focus of this study was on academic adjustment, because of its importance as a context for adaptation in Western culture. Success or failure in school can have serious individual and social consequences, and lays the foundation for future careers.

Timing and Duration of Risk Experiences

There is evidence of great diversity in the temporal dimension of disadvantage: much socioeconomic disadvantage is short term, although a great amount lasts for most of the childhood years (Duncan & Rodgers, 1988). The experience of socioeconomic disadvantage does not always have an immediate impact, and vulnerabilities may emerge only later in life

(Clarke & Clarke, 1981). Early adversity may be overcome by improved circumstances, but may, nevertheless, leave the individual potentially more vulnerable to any disadvantage experienced at a later stage (Cicchetti & Tucker, 1994). Recent studies have shown that persistent socioeconomic disadvantage has stronger effects than intermittent adversity on individual outcomes (Ackerman, Schoff, Levinson, Youngstrom, & Izard, 1999; Bolger et al., 1995; Duncan et al., 1994; Pungello et al., 1996) and it has been argued that chronically stressful environments hinder the development of successful adaptation (Hammen, 1992). On the other hand, there is evidence that adversity during early childhood, as opposed to during later developmental periods, has a crucial impact on later adjustment, especially for academic attainment (Axinn, Duncan, & Thornton, 1997; Duncan, Yeung, Brooks-Gunn, & Smith, 1998; Haveman & Wolfe, 1994). There is, however, also evidence that current contextual adversity determines current adjustment (Campbell, Pierce, Moore, Marakovitz, & Newby, 1996; Feiring & Lewis, 1996; Tizard, 1976). Differences in findings can be explained by methodological variations in the studies that involve different developmental periods, different indicators of adversity and adjustment, and different analytical strategies. The relative contribution of early, concurrent, or persistent effects can only be elucidated by drawing on longitudinal studies, which provide detailed information of individuals followed over time.

Assessing Socioeconomic Risk

Socioeconomic disadvantage is associated with a variety of cofactors, such as poor living conditions, overcrowding, or lack of material resources that pose risks for adaptive development (Ackerman et al., 1999; Conger et al., 1993; Duncan & Brooks-Gunn, 1997; Fergusson, Horwood, & Lawton, 1990; Fitzgerald, Lester, & Zuckerman, 1995; Huston, McLoyd, & Coll, 1994).

Individual risk factors do not exert their effect in isolation, but rather in interaction with other influences. It has been suggested that it is the number of these factors and their combined effect that shape development (Sameroff, Seifer, Baldwin, & Baldwin, 1993; Rutter, 1979). The relation between any single risk factor and subsequent outcomes tends to be weak, and usually many variables are involved in determining an outcome (Ackerman et al., 1999; Rutter, 1990; Sameroff et al., 1993; Szatmari, Shannon, & Offord, 1994). Serious risk emanates from the accumulation of risk effects (Robins & Rutter, 1990). In comparison with single-risk models, multiple-risk models have been shown to be good predictors of individual outcomes (Ackerman et al., 1999; Caprara & Rutter, 1995; Fergusson, Horwood, & Lynskey, 1994; Sameroff et al., 1993). Most multiple-risk studies use a single index, summing the number of risk factors present. Summing the number of risk factors in a single index, however, gives equal weight to all risk factors and does not take into consideration the relative contribution or overlap in risk factors (Greenberg, Lengua, Coie, & Pinderhughes, 1999; Szatmari, Shannon, & Offord, 1994). There is now an increasing awareness that the processes that link socioeconomic disadvantage to individual development operate at varying levels of specificity, and that there is a need to distinguish between economic disadvantage per se and other associated aspects of environmental adversity (Ackerman et al., 1999; Duncan et al., 1994; McLoyd, 1990; Szatmari et al., 1994). Furthermore, Ackerman et al. (1999) argue that a single multiple-risk index aggregates a set of variables that may relate differently to child functioning, or that may function differently for advantaged and disadvantaged families, and that it does not distinguish between persistent and transitory experiences. Thus, they recommend the use of discrete groupings of indicators, narrowing the focus of the variables involved, or isolating specific factors that pose risks for individual adjustment. The usefulness of such an approach has been demonstrated in a number of studies (Ackerman et al., 1999; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Szatmari et al., 1994) and was adopted in the present study. Instead of aggregating various cofactors of

socioeconomic disadvantage, only indicators of the socioeconomic family background were included to assess the unique effect of socioeconomic disadvantage on individual development. The study drew on indicators of socioeconomic family status as well as indicators of living conditions and material resources available to the family. This approach thus went beyond studies that used social status or income as sole indicators of socioeconomic risk and more accurately reflected the everyday experiences within the proximal family context.

Effects of the Wider Sociohistorical Context

Another issue to be addressed concerns the impact of the wider sociohistorical context in shaping individual development. For example, Elder (1999) demonstrated the crucial impact of the Great American Depression and the outbreak of World War II on the developmental pathways of individuals born between 1920 and 1921 in Oakland, CA. The present study compared the development of two British birth cohorts born 12 years apart, thereby taking into account contextual effects that might help to explain differences in response to disadvantage. The study drew on data collected for two birth cohorts born in 1958 and 1970, respectively. Changes in social, economic, and education policies between 1960 and 1980 resulted in the cohort members growing up in very different environments. Between 1979 and 1986, and again between 1989 and 1993, the sharpest rise in unemployment since World War II took place in the United Kingdom. The mid-1980s saw the virtual disappearance of the youth labor market in Britain (Banks et al., 1992; Bynner, Elias, McKnight, & Pan, 1999). Many have argued that children born in the 1970s experienced a major shift in life expectations across the generations. This generation "X" grew up at a time when the prospects of achieving employment directly after leaving school and maintaining a continuing career were increasingly in question, especially for those young people without qualifications (Bynner, Ferri, & Shepherd, 1997; Schoon, McCulloch, Joshi, Wiggins, &

Bynner, 2001; Schoon & Parsons, 2002a). In response to the changing nature of labor markets and employment opportunities, young people are under increasing pressure to continue full-time education beyond the age of 16 years, and to acquire formal qualifications. Poor academic achievement, which presented no significant barrier to employment in the past, now predicts real difficulties in finding employment, and ultimately exclusion from the labor market (Bynner, Joshi, & Tsatsas, 2000).

A Developmental-Contextual Model of Cumulative Risk Effects

The aim of this study was to examine the extent of continuity of socioeconomic disadvantage from birth to midadulthood and the maintenance of academic adjustment in the face of that risk. To better understand the long-term effects of social risk, the extent to which risk effects persist and how they interact with individual adjustment was considered. Using Structural Equation Modeling (SEM; Bollen, 1989), the long-term influence of socioeconomic disadvantage on individual development was assessed, taking into consideration the influence of context, timing, and duration of risk experiences. The pathways through which the experience of socioeconomic risk influences the development and maintenance of individual adjustment (i.e., academic attainment) during childhood and adolescence as well as the pathways that link childhood conditions to adult outcomes were investigated. Figure 3.1 gives a diagrammatic representation of the developmental-contextual model for assessing the long-term impact of socioeconomic disadvantage. The model is an explicit developmental model that assesses the timing and the duration of the interactions between individual and context. The variables shown are all latent or unobserved variables.

The model specifies that conditions at birth (parental social class) influence the consequent experience of socioeconomic risk (i.e., low social class of parents and material disadvantage in the family home), as well as the level of individual
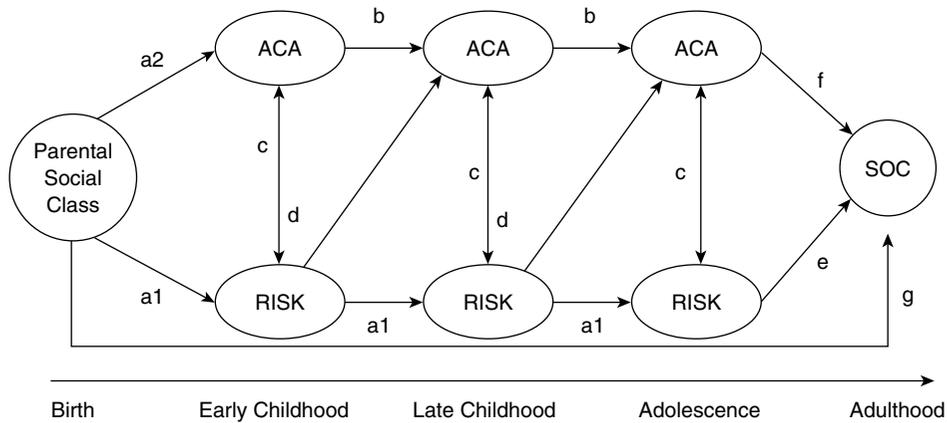
Figure 3.1   Developmental-contextual model of psychosocial adjustment. ACA = academic adjustment; Risk-socioeconomic risk; SOC = social position in adulthood. See text for further details.

adjustment (i.e., academic achievement). The path from parental social class at birth to consequent socioeconomic risk is labeled "a1," and the path from parental social class at birth to academic attainment is labeled "a2." It was hypothesized that socioeconomic disadvantage at one time point would predict the experience of socioeconomic disadvantage at a later time point. The arrows labeled "a1" that link the latent risk variables indicate this continuity of socioeconomic adversity over time. It was furthermore hypothesized that social class at birth would be an important predictor of academic adjustment (path "a2"), and that academic attainment at one time point would influence academic attainment at a later time point (paths "b"). It was also assumed that the experience of concurrent socioeconomic disadvantage would be associated with the development and maintenance of academic adjustment. These concurrent associations during early and late childhood, as well as during adolescence, are indicated as "c." The model thus tested the persistence of socioeconomic risk and the maintenance of academic adjustment in the face of that risk. The model furthermore assessed the cumulating effects of social risk on academic adjustment by estimating

the additional incremental risk effects at subsequent time points (early childhood, late childhood, and adolescence). The paths labeled "d" indicate these time-lagged effects of earlier risk on later academic attainment. The model furthermore examined the independent influence of social risk experienced during adolescence on adult social status (path "e"), as well as the influence of academic adjustment during adolescence on adult social status (path "f"). To establish whether parental social class at birth had an influence on an individual's adult social status, independent of intervening experiences, path "g" was included, which was an indicator of cohort effects not accounted for by the risk and adjustment levels carried forward in time. The model also considered the effects of a changing sociohistorical context, which is not shown in the diagram but was taken into account in the analyses by applying the model to two cohorts of young people growing up 12 years apart. The importance of the life-course developmental perspective for this study lay in its scope to integrate process and structure and to link individual time with historical time. The longitudinal approach had a number of methodological advantages with regard to the research questions:

reports of early life events were not influenced by knowledge of the subsequent personal history; the cohort included appropriate controls; and the conjoint impact of different factors experienced at different time points could be analyzed in a multivariate, multicausal model.

Method

This study used data collected for the National Child Development Study (NCDS) and the British Cohort Study (BCS70), two of Britain's richest research resources for the study of human development. The participants of the NCDS included all persons born in Great Britain between March 3 and March 9, 1958. In five follow-up studies, data were collected on the physical, psychosocial, and educational development of the cohort at ages 7, 11, 16, 23, and 33 years (Shepherd, 1995), and, most recently, at age 42 (Bynner, Ferri, Shepherd, & Smith, 2000). At each sweep between 1958 and 1974, wide-ranging information was collected from parents, teachers, school medical officers, and, at later stages, from the cohort members themselves via personal interviews. Satisfactory response rates have been reported for each sweep, and comparison of data has shown that the achieved samples did not markedly differ from the target samples, or from other survey samples of the British population (Shepherd, 1993, 1995).

The BCS70 has followed children born in the week April 5–11, 1970, from birth through to adulthood. Data sweeps took place when the cohort members were ages 5, 10, 16, and 26 years (Ekinsmyth, Bynner, Montgomery, & Shepherd, 1992), and most recently at age 30 (Bynner, Ferri, Shepherd, & Smith, 2000). In the birth survey, information was collected by means of a questionnaire that was completed by the midwife present at birth, and supplementary information was obtained from clinical records. In 1975 and 1980, parents of the cohort members were interviewed by Health Visitors, the cohort members themselves undertook ability tests, and the school health service gathered medical information on each child. This was supplemented at ages 10 and 16 by information gathered from head and class teachers who completed questionnaires. A low response rate at age 16 occurred because of a teacher strike, which coincided with the fieldwork. All school children were afflicted in the same way, and the demographic characteristics of the sample at age 16 remained representative of the target population (Shepherd, 1997). The follow-up study at age 26 was conducted via a mail survey. At age 30, data were collected by interview with the cohort members (Bynner, Ferri, et al., 2000). An analysis of response bias showed that the achieved samples did not differ from the target samples across a number of key variables (social class, parental education, and gender), despite a slight underrepresentation of the most disadvantaged groups (Butler, Despotidou, & Shepherd, 1997; Davie, Butler, & Goldstein, 1972; Shepherd, 1997).

Sample

The sample consisted of all individuals for whom complete data were collected at birth. The following analyses were based on a total sample of 16,994 cohort members for the NCDS and 14,229 cohort members for the BCS70. In both cohorts, there were 52% men and 48% women. Data collected between birth and age 16 were linked with data collected at age 30 (BCS70) and age 33 (NCDS) when the cohort members reached midadulthood. Potential bias due to missing variable information in both cohorts was addressed in the section on estimating the model.

Measurement of Socioeconomic Risk

Risk factors associated with socioeconomic disadvantage were indicated by parental social class and material conditions in the family household. The indicator variables were measured at ages 7, 11, and 16 for the NCDS, and ages 5, 10, and 16 for the BCS70.

Parental Social Class

In both the NCDS and the BCS70, social class was measured by the Registrar General's measure of social class (RGSC). The RGSC is

defined according to job status and the associated education, prestige (OPCS, 1980), or lifestyle (Marsh, 1986), and is assessed by the current- or last-held job. The RGSC is coded on a 6-point scale: I, professional; II, managerial and technical; IIINM, skilled nonmanual; IIIM, skilled manual; IV, partly skilled; and V, unskilled (Leete & Fox, 1977). The occupational categories used in the U.S. census and other European countries are similarly based on the skills and status of different occupations (Krieger & Williams, 1997). Class I represents the highest level of prestige or skill and Class V represents the lowest. In cases in which the father was absent, the social class (RGSC) of the mother was used in the BCS70. The same applied to the NCDS at ages 7, 11, and 16; however in cases in which there was no father at birth, the mother's father's social class was used.

Material Conditions

Material conditions in the family environment were assessed on the basis of a summative index, in which the presence or absence of four indicator variables (listed below) is summed. The scale gives an overall score of material disadvantage that ranges between 0 and 4.

Overcrowding. This is a dichotomous variable based on the ratio of people living in the household to the number of rooms in the household. One or more persons per room was coded "1," and less than one person per room was coded "0."

Household amenities. This is a dichotomous scale based on the cohort member's family having sole use of a bathroom, toilet, and hot water. The same three questions were asked in both studies. Sole access to all of these amenities was coded "0," and shared use or no access to any of these amenities was coded "1."

Housing tenure. The tenure of the home was defined as owner-occupier (0) or other (1).

Receipt of state benefits. Receipt of state benefits is an indicator of financial hardship within the family environment (Fogelman, 1983). The assessed benefits include payment of unemployment benefit, income support, and housing benefit, but exclude payment of pension or child benefit. Parents were coded as either not in receipt of benefits (0) or in receipt of benefits in the last 12 months (1).

Individual Adjustment

Individual adjustment was measured by the child's academic attainment at each measurement point. To reflect the changing competencies of the growing child, academic attainment was assessed differently during early childhood (age 5 or 7), middle childhood (age 10 or 11), and adolescence (age 16).

Academic Attainment at Age 5 (BCS70) and 7 (NCDS)

The Human Figure Drawing Test used in the present study was a modified version of the Draw-a-Man test originally devised by Goodenough (1926) and developed further by Harris (1963). The Harris-Goodenough Test has good reliability (.94; Osborn, Butler, & Morris, 1984). It has been evaluated as a measure of intelligence and significant correlations, rs averaging between .4 and .5, with conventional IQ tests (Binet, Wechsler) have been reported (Scott, 1981). The scoring of the drawings produced by the children is based on 30 developmental items suggested by Koppitz (1968) and uses the Harris (1963) point system of scoring. One point is scored for each item represented in the drawing, giving a maximum possible score of 30. In both cohorts the children had to draw two figures. In the BCS70, however, only one figure was coded. Thus, the maximum score in the NCDS was 60, and in the BCS70 was 30. The achieved scores ranged from 0 to 53 in the NCDS, and 0 to 23 in the BCS70.

The Copy-a-Design test (Davie et al., 1972) assesses the cohort member's perceptual-motor ability. The ability to copy designs or geometric shapes is included as one element of assessment in many standard intelligence tests. The test used

in the cohort studies assumed that children had reached a certain level of conceptual development to be able to recognize the principles governing different geometric forms and to reproduce them (Osborn et al., 1984). The test has satisfactory reliability (.70; Osborn et al., 1984). In the NCDS, test scores ranged from 0 to 12; in the BCS70, the range was 0 to 8.

The Southgate Reading Test (Southgate, 1962), a test of word recognition and comprehension particularly suited to identifying problems with reading in young children, was used in the NCDS. The test has good reliability (.94; Southgate, 1962). The range of scores in the NCDS was 0 to 30.

The English Picture Vocabulary Test, an adaptation of the American Peabody Picture Vocabulary Test (Brimer & Dunn, 1962), was used for the BCS70 cohort. The test has good reliability (.96; Osborn et al., 1984). It consists of 56 sets of four different pictures with a particular word associated with each set of four pictures. The child is asked to indicate the one picture that corresponds to the given word, and the test proceeds with words of increasing difficulty, until the child makes five mistakes in a run of eight consecutive items.

The Problem Arithmetic Test was used in the NCDS cohort only, because cohort members in the BCS70 were too young to have started formal training in arithmetic. This test has a satisfactory reliability of .85 (Pringle et al., 1966).

Academic Attainment at Age 10 (BCS70) and 11 (NCDS)

The National Foundation for Educational Research in England and Wales (NFER) constructed a reading comprehension test specifically for use in the NCDS (Fogelman, 1983). Good test reliability has been reported (.82; Goldstein, 1979), and scores range from 0 to 35. In the BCS70, a shortened version of the Edinburgh Reading Test, a test of word recognition, was used after consultation with the test's authors (Godfrey Thompson Unit, 1978). The

shortened test version contained 54 items that examined vocabulary, syntax, sequencing, comprehension, and retention. The test has good reliability (.87) and the items discriminate well between good and poor readers (Butler et al., 1997).

The NFER developed an arithmetic-mathematics test specifically for use in the NCDS (Fogelman, 1983). The scores range from 0 to 40. The test has good reliability (.94; Goldstein, 1979). The lack of a fully acceptable mathematics test appropriate for 10-year-olds also led to the development of a special test for the BCS70 cohort. It consisted of a total of 72 multiple choice questions and covered in essence the rules of arithmetic, number skills, fractions, measures in a variety of forms, algebra, geometry, and statistics. The test has good reliability (.92) and the items have adequate discrimination (Butler et al., 1997).

Academic Attainment at Age 16 (Both Cohorts)

Two measures of academic achievement in secondary school were considered: the highest level of secondary school examinations passed by the students at age 16, and the exam scores that students obtained when they were 16 years old (16 was the minimum legal age at which a child could leave school).

There are essentially two types of secondary school examinations that a student can pass at age 16: the Certificate of Secondary Education (CSE) examination and the ordinary (0 level) examinations within the General Certificate of Education (GCE) examinations. The GCE is the accepted examination for children of above average intelligence and caters to approximately 20% of the total age group, whereas the CSE examination is designed to cover a wider range of ability than does the GCE—an additional 40%—so that the two exams combined are intended for some three fifths of the population (Rutter, Maughan, Mortimore, & Ouston, 1979). Both the GCE and the CSE are subject based, and grades are awarded on the basis of performance

with a range from 1 to 5 (or A to E). Generally, GCE grades of D and E are classified as failures. There is an accepted equivalence between the two examination systems with a grade 1 on the CSE examination being seen as equal to at least a grade C pass on the GCE examination. For both cohorts, the highest level of qualifications obtained at age 16 was recorded, ranging from none (0), CSE grade 2–5 (1), and CSE grade 1 or 0 level (2).

An overall "exam score" could also be calculated from the examination performance at age 16. The actual examination results of the NCDS cohort were collected from schools in 1978, whereas the BCS70 cohort members self-reported their examination results in a follow-up study in 1986. The examination system was the same for both cohorts, with the BCS70 being one of the last cohorts to sit the two-tiered examination structure of 0 levels and CSEs. A simple scoring technique was applied to the results, in which a score of 7 was given to a grade 10 level and a score of 1 was given to a grade 5 CSE. Scores ranged from 0 to 106 in the NCDS and from 0 to 97 in the BCS70.

Attainments in Adulthood

Adult attainment was indicated by two measures of social position: the RGSC and the Cambridge Scale (CS) assessed at age 30 for the BCS70 cohort members and at age 33 for the NCDS cohort members. The 6-point RGSC scale, developed by the Office of Population and Census Surveys (OPCS; 1990), was described above. For ease of interpretation the coding was reversed, so that a high score indicated a high social position. The CS was conceptualized as an indicator of general social advantage and lifestyle (Prandy, 1990). It is based on the analysis of friendship choices, judged to be the most accurate indication of perceived and experienced social distance between members of different occupations. The scale is measured on a 100-point continuum, whereby high scores indicate a higher level of social advantage.

Statistical Analysis: Modeling Cumulative Risk Effects

Structural equation modeling (Bollen, 1989) was used to formulate theoretically derived hypotheses about variable relations and to test postulated pathways between the variables and the assumed mediating processes involving latent variables with multiple indicators. Latent variables represent hypothetical concepts that cannot be observed or measured directly. Instead, a set of observed variables are hypothesized to be imperfect indicators of the latent variable. Because the study involved a cross-cohort comparison of data that had been collected for different surveys, some of the data were similar but not necessarily identical for the two cohorts. Great care was taken to define the latent constructs in as similar a way as possible in the two cohorts. Table 3.1 summarizes the selection of comparable indicator variables in both cohorts.

All analyses were carried out using the SEM program AMOS 4.01 (Arbuckle, 1999). The AMOS program uses maximum likelihood estimation that can be based on incomplete data, known as the full information maximum likelihood (FIML) approach. This approach is preferable to estimation based on complete data (the listwise deletion [LD] approach) because FIML estimates tend to show less bias and be more reliable than LD estimates, even when the data deviate from missing at random and are nonignorable (Arbuckle, 1996). In the LD approach, the complete data covariance matrix is the data source for the latent variable analysis. In the FIML approach, estimation is based on the many covariance matrices between observed variables for all patterns of missing data in the other observed variables. Thus, it is not possible to present a single correlation matrix for the observed variables. Instead, Appendices A and B give the FIML estimates of the correlations between the observed variables, the means and SDs for the observed variables, and the FIML estimates of means and *SDs.*

In line with current practice, several criteria were used to assess the fit of the model to the

Table 3.1   Variables and Observed Indicators in Both Cohorts

Variables	*Observed Indicators*
Socioeconomic risk (RISK)	
Parental social class	Father's social class
	Mother's social class
Material conditions	No housing tenure, overcrowding (>1 person per room), household amenities (shared use of bathroom), receipt of state benefits
Academic adjustment (ACA)	
Academic attainment	Ages 5 and 7: Human Figure Drawing, Copy-a-Design, Reading and vocabulary (NCDS and BCS70), and Arithmetic (NCDS only) tests
	Ages 10 and 11: Reading and mathematics tests (NCDS and BCS70)
	Age 16: Exam scores (NCDS and BCS70)
Social position in adulthood (SOC)	
Social position at age 30 (BCS70)	Registrar General's measure of social class (RGSC)
and age 33 (NCDS)	Cambridge Scale (CS)

NOTE: NCDS = National Child Development Study; BCS70 = British Cohort Study.

data. The x^2 statistic is overly sensitive to model misspecification when sample sizes are large or the observed variables are non-normally distributed. The root mean square error of approximation (RMSEA) gives a measure of the discrepancy in fit per degrees of freedom (Steiger, 1990). It is bounded below by 0, only taking this value if the model fits exactly. The RMSEA is useful because it encompasses the idea that a model is only expected to provide an approximation to the data rather than an exact fit. If the RMSEA is <.05, the model is considered a close fit to the data. Another advantage of the RMSEA is that confidence intervals may be calculated, which give further information on the reliability of the goodness of fit. The Consistent Akaike Information Criterion (CAIC) is a measure of parsimonious fit recommended for large samples (Bollen & Long, 1993). The CAIC considers both the fit of the model and the number of estimated parameters whereby smaller values indicate a more parsimonious fit (Bollen & Long, 1993; Bozdogan, 1987). The final index of choice was the comparative fit index (CFI) whose values are restricted to lie on a 0 to 1

continuum, with higher values indicating a better fit (Bentler, 1990). The CFI is a population-based index that compares the model to a "null model." The null model is a model in which there are no relations between any of the observed variables, but their variances are not constrained and are free to be estimated by the fitting procedure. The CFI of a model is normally tested against a minimum criterion value of .95.

Modeling Strategy

Four separate models were run for each cohort. Model 1 was the Full Developmental–Contextual Model, which included all paths indicated in Figure 3.1. In addition to Model 1 three other models were fitted to the data, to test the increase of fit depending on the pathways included, and to identify the most parsimonious model for describing the long-term influences of socioeconomic adversity on academic adjustment. Model 2 was the Developmental–Contextual Model without path "g" (which assessed the direct effect of parental social class on an individual's adult social status independent of

the intervening variables). Model 3 was the Developmental–Contextual Model without paths "d" (which indicated the time-lagged effects from social risk to academic attainment). Model 4 was the Developmental–Contextual Model without the correlations "c" (which described the concurrent associations between social risk and academic attainment).

Results

The distribution of the risk indicator variables is shown in Table 3.2. Generally, material conditions improved for the later-born BCS70 cohort. In comparison with cohort members born in 1958, more families owned their home, there was less overcrowding, and fewer households had to share amenities. The percentage of families who were receiving state benefits had remained stable. Also noted was upward mobility among the parents of cohort members born in1970, whereas

the social position of parents of the earlier born NCDS cohort remained stable over the years. If one compares the risk prevalence in the 1958 NCDS cohort at age 16 to the one in the 1970 BCS70 of the younger cohort at age 5, which were assessed at roughly the same time (i.e., 1974 and 1975, respectively), Table 3.2 shows that the distribution of social status of the parents was comparable in the two samples, as were housing tenure and shared use of amenities. Differences in the rate of overcrowding might be explained by different stages of family formation in the two cohorts.

In the next step, a set of nested alternative SEM models were run to test the increase in fit depending on the pathways included in the analysis, and to identify the most parsimonious model for describing the long-term influences of socioeconomic adversity on academic adjustment. The goodness-of-fit indicators for the different models are shown in Table 3.3.

Table 3.2   Distribution of the Risk Variables in the 1958 National Child Development Study (NCDS) and the 1970 British Cohort Study (BCS70)

	Cohort (%)	
Risk Variable	*NCDS*	*BCS70*
Birth (1958/1970)		
Social class at birth (% in RGSC IV and V)	22	24
Age 7/5 (1964/1975)		
Social class (% in RGSC IV and V)	23	19
No housing tenure	55	44
Overcrowding (1+ person per room)	66	40
Shared use of amenities	19	7
Age 11/10 (1969/1980)		
Social class (% in RGSC IV and V)	23	18
No housing tenure	54	39
Overcrowding (1+ person per room)	51	30
Shared use of amenities	7	3
Family receives benefits	27	22
Age 16 (1974/1986)		
Social class (% in RGSC IV and V)	22	13
No housing tenure	50	28
Overcrowding (1+ person per room)	60	17
Shared use of amenities	7	1
Family receiving benefits	23	27

NOTE: RGSC = parental social position.

Table 3.3   Comparative Goodness of Fit of Structural Equation Models Run for the 1958 National Child Development Cohort (NCDS) and the 1970 British Cohort Study (BCS70)

	Goodness of Fit				Test of Close Fit		Step-Down Goodness of Fit		
	df	x^2	CFI	CAIC	RMSEA	90% CI	Δdf	Δx^2	p
NCDS									
Model 1: The full model	93	1,221.47	.998	1,866	.027	.025–.028			
Model 2: Excluding path "g"	94	1,229.10	.998	1,863	.027	.025–.028	1 (M2-M1)	7.63	< .01
Model 3: Excluding paths "d"	95	1,886.91	.996	2,510	.033	.032–.035	2 (M3-M1)	665.44	< .001
Model 4: Excluding correlations "c"	96	1,716.93	.997	2,329	.032	.030–.033	3 (M4-M1)	495.46	< .001
BCS70									
Model 1: The full model	77	723.73	.998	1,347	.024	.023–.026			
Model 2: Excluding path "g"	78	730.92	.998	1,344	.024	.023–.026	1 (M2-M1)	7.19	< .01
Model 3: Excluding paths "d"	79	848.12	.998	1,450	.026	.024–.028	2 (M3-M1)	124.39	< .001
Model 4: Excluding correlations "c"	80	1,022.88	.997	1,614	.029	.027–.030	3 (M4-M1)	299.15	< .001

NOTE: df = degrees of freedom; CFI = comparative fit index; CAIC = Consistent Akaike Information Criterion; RMSEA = root mean square error of approximation; CI = confidence interval.

In both cohorts Model 2 was judged to be the best model for describing the relations in the data. Because the x^2 statistic is overly sensitive to model misspecification when sample sizes are large, the x^2 statistic in conjunction with the CAIC were used to identify the best-fitting model for the data. Model 2 was run without path "g" suggesting that there were no cohort effects independent of intervening variables. Given that Model 2 was the most parsimonious in both cohorts, it is described in detail below.

Table 3.4 gives the standardized parameter estimates of the measurement model for both cohorts. The standardized regression weights of the indicator variables on their latent variable differed slightly for the two cohorts. Social class had a similar weighting in both cohorts, and was the most important indicator of socioeconomic disadvantage. Material deprivation gained more importance as the NCDS cohort members grew older, whereas for the BCS70 cohort there was a peak at age 10. The most important indicators of a child's adjustment in the NCDS were generally reading and math test scores, and at age 5 also the Human Figure Drawing and Copy-a-Design tests. The BCS70 cohort had slightly different indicators: at age 5 the Copy-a-Design test and the reading test were the principal indicators, whereas at age 10, the reading and math tests were the principal indicators. For both cohorts, test performance at age 10/11 was more crucial than earlier performance as a determinant of a child's adjustment. At age 16, the exam score was the key indicator of a child's adjustment in both cohorts, particularly so in the later-born cohort. Social status for the 33-year-old NCDS cohort members was slightly better identified by the CS than by the RGSC, whereas in the BCS70 at age 30 years, the RGSC was a better indicator than the CS.

Figures 3.2 and 3.3 show the pathways between the latent or unobserved variables, which represent continuities and interactions of social risk and academic adjustment, and give the standardized coefficients for the structural model, fitted separately for both cohorts. Several covariances between the error terms for the observed variables were included a priori to account for the autocorrelations over time. Parental social class and material deprivation were hypothesized to covary for the measurement points at consequent ages, as were the academic attainment scores. The variables shown were all latent or unobserved variables.

The hypothesized pathways were supported by the data, with the parameter estimates all being significantly different from 0, $p < .005$, and in the predicted direction. The effect sizes of the parameter estimates are described as small, $r = .10$, medium, $r = .30$, and large, $r = .50$, following Cohen's 1992 power primer. In both cohorts a stark chaining, or continuity of risk factors, was found: parental social class at birth predicted the experience of risk at subsequent ages, and the experience of risk at one time point increased the probability that risk would also be encountered at a later time point. Parental social class also had a moderate influence on academic adjustment. The experience of social risk at birth influenced the level of later academic attainment. Also observed were continuities in academic adjustment level over time. Academic attainment at one time point was a significant predictor of academic attainment at a later time point. Continuities occurred because current adjustment encompassed previous adjustment as well as earlier structural and functional change. The detrimental effect of experiencing disadvantage at one measurement point was carried forward into the future via decreased individual adjustment levels.

The model also shows concurrent associations between social risk and academic attainment. In the NCDS, these current associations (coefficients "c") were of moderate size at age 7 and 16, and were only of small size at age 11. In the BCS70, the concurrent association between social risk and academic attainment at age 5 was of moderate size, whereas at age 10 and 16 the associations were only small.

In addition, there were small time-lagged risk effects (paths "d") which indicated the added negative influence of social risk on subsequent attainment not accounted for by the risk carried

Table 3.4   The Measurement Model. Estimated Standardized Regression Weights for the National Child Development Study (NCDS) and the 1970 British Cohort Study (BCS70)

	NCDS, age 7	BCS70, age 5	NCDS, age 11	BCS70, age 10	NCDS, age 16	BCS70, age 16	NCDS, age 33	BCS70, at 30
Risk								
Risk→Parental social class	.80	.80	.78	.76	.74	.76	—	—
Risk→Material deprivation	.41	.41	.53	.50	.53	.45	—	—
Academic adjustment (ACA)								
ACA→Copy-a-Design	.48	.62	—	—	—	—	—	—
ACA→Human Figure Drawing	.50	.34	—	—	—	—	—	—
ACA→Reading	.80	.55	.85	.83	—	—	—	—
ACA→Math	.66	—	.88	.83	—	—	—	—
ACA→Exam score	—	—	—	—	.69	.87	—	—
ACA→Highest Qualification at age 16	—	—	—	—	.61	.63	—	—
Social status in adulthood								
Social status→Registrar General's measure of social class	—	—	—	—	—	—	-.88	-.74
Social status→Cambridge Score	—	—	—	—	—	—	.95	.65

56
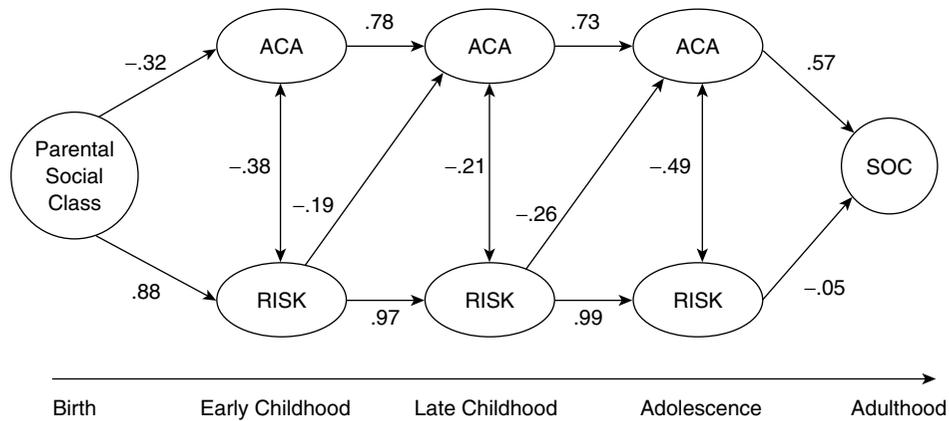
Figure 3.2   The National Child Development Study: Developmental-contextual model of accumulating risk effects from birth to adulthood. ACA = academic adjustment; Risk = socioeconomic risk; SOC = social position in adulthood. See text for further details.
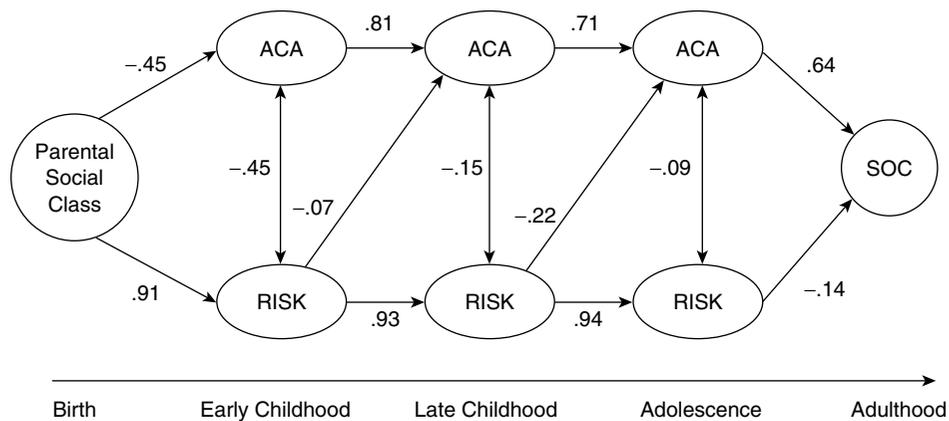
Figure 3.3   The British Cohort Study: Developmental-contextual model of accumulating risk effects from birth to adulthood. ACA = academic adjustment; Risk = socioeconomic risk; SOC = social position in adulthood. See text for further details.

forward in time. In both cohorts these time-lagged risk effects were greatest at the transition from late childhood to adolescence.

The best predictor of attained social status in early adulthood was academic attainment at age 16, which confirmed the crucial role of education in determining adult outcomes. In both cohorts, the direct influence of social risk experienced at

age 16 on adult social status was only small, yet in comparison with the NCDS the effect size had nearly trebled in the BCS70. It is important to remember that the experience of social risk does have additional indirect effects on social status operating through the child's academic adjustment. For the NCDS cohort, the combined effect of the variables in the model explained 37% of

the variation in adult social status; and for the BCS70 cohort, the model explained 54% of the variation.

Discussion

In the study of human development, laboratories are rare. The closest one can get to them is when the opportunity arises to compare and contrast experiences in different societies or in different sociohistorical contexts. The present study used data collected for two national birth cohort studies born 12 years apart. On comparison of the prevalence of risk indicators that were assessed at roughly the same time (e.g., parental social class or housing tenure experienced by 16-year-olds born in 1958 and 5-year-olds born in 1970, assessed in 1974 and 1975, respectively), it appears that the samples represented well the state of affairs over the historical period covered.

The data suggest that there was a real-time secular shift in material resources. For cohort members born in 1970, the indicator variables point to improved material circumstances for the cohort as a whole. Furthermore, the parents of cohort members born in 1970 experienced upward social mobility while bringing up their children. Those cohort members born in 1970 who suffered deprivation, however, appear to have been more disadvantaged relative to other children in the same cohort than similarly affected children born earlier, in 1958. A strong continuity of social risk effects was observed, which was of similar strength for both cohorts. The strength of the association can be explained by the fact that in addition to indicators of material disadvantage, indicators of SES, which denote relative position in society, were also used. However, despite improved material conditions, and the experience of upward social mobility among parents of the BCS70 cohort, the relative social position remained remarkably stable. Furthermore, the influence of parental social class at birth on academic adjustment was greater for cohort members born in 1970 than for those born in 1958, and the direct influence of social risk experienced in adolescence on adult attainment was only small, but nearly trebled for the later-born BCS70 cohort. These findings suggest that for cohort members born in 1970, contextual factors, to some extent, became more important than for cohort members born in 1958 in shaping the development of academic adjustment, and in influencing attainments in adulthood. Material conditions improved, yet socioeconomic disadvantage continued to be a barrier for individual achievements.

It has been argued that SES at the time of a child's birth is an indicator of the social context, but also reflects hereditary influences, which are assumed to have some role in determining the level of academic functioning (Plomin & Bergeman, 1991; Plomin & McClearn, 1993; Scarr, 1992). The present study's data show that the influence of social class at birth on academic adjustment was of moderate size, and differed slightly for the two cohorts. Socioeconomic disadvantage experienced consequently during childhood had an additional detrimental influence on the level of academic adjustment, suggesting that contextual factors have a role in shaping the level and maintenance of academic adjustment throughout childhood and adolescence. Furthermore, there were smalltime-lagged effects of earlier risk on later academic achievement, indicating that social risk does not always have an immediate impact, and that vulnerabilities may emerge only later in life. On the other hand a considerable stability of individual adjustment was also seen. These results suggest that adaptation is a product of both developmental history and current circumstances (Clarke & Clarke, 1981, 2000; Sroufe, Egeland, & Kreuzer, 1990), shaped by the interactions between individual and context (Bronfenbrenner & Ceci, 1994).

Generally, the findings of this study concur with a large body of previous research, which has reported consistent correlations between measures of social disadvantage and measures of individual academic achievement and occupational attainment (Blau & Duncan, 1967; Bolger et al., 1995; Bynner, Joshi, & Tsatsas, 2000; Campbell & Ramey, 1994; Duncan et al., 1994;

Felner et al., 1995; Pungello et al., 1996; Ramey & Ramey, 1990; Rutter & Madge, 1976; Sewell et al., 1970; Walker et al., 1994). The approach adopted in the present study begins to provide an understanding of the ways in which constellations of social risk and individual adjustment emerge early in the life course, and how they interrelate over time. The findings suggest that pervasive social inequalities exist that influence academic attainment during childhood, and which are consequently reflected in adult achievements. Risk experiences are not randomly distributed in a population, and being born into a relatively disadvantaged family increases the probability of accumulating risks associated with that disadvantage, setting a child onto a risk trajectory (Rutter, 1990). On the other hand, great stability in individual adjustment is also seen, and academic attainment at one time point is a strong predictor of academic attainment at a later time point.

The best predictor of adult social status was academic attainment, which confirmed the crucial role of educational achievement in determining adult outcomes. This is not to deny the influence of social risk on individual development. Experience of early social risk influences the level of academic adjustment, which in turn influences adult attainment. Despite the importance of early childhood, the data did not conclusively support the assumption that parental social class at birth has a strong influence on an individual's adult social status independent of intervening experiences. The early family environment is important in shaping subsequent development, yet intervening processes also have to be considered to obtain a better understanding of adult outcomes. The whole life course is important, not just the early years. The findings of this study lend support to the proposition made by Bronfenbrenner and Ceci (1994) that individual adaptation across the life span is a joint function of the characteristics of the developing person and the context—both proximal and more remote—in which development takes place. The experience of early disadvantage weakens individual adjustment, and this detrimental effect is then carried forward into the future. Subsequent experiences of adversity add to the deterioration of already reduced adjustment. A general premise of life-course studies postulates that adaptations to change are influenced by what people bring to the new situation. If individual adjustment is already weakened at a very early age, it becomes increasingly difficult to fully develop one's potential. This negative chain effect undermines the academic adjustment of the young person, and ultimately the individual attainments in adulthood. Generally the results imply that cumulative adversity has effects beyond those associated with current or early adversity (Ackerman et al., 1999; Bolger et al., 1995; Duncan et al., 1994; Pungello et al., 1996). As suggested by Sroufe et al. (1990), adjustment problems possibly do not lie with the individual per se but in the persistent adjustment of the individual to adverse conditions over time. Children growing up in households in which they have no room of their own, or possibly even a desk or table at which to complete their homework, are less likely than their more privileged peers to do well in school.

The data further suggest differences in the timing of risk effects. Among cohort members born in 1958 (NCDS), the influence of concurrent social risk was greatest during early childhood, at age 7, and during adolescence, at age 16, when important decisions about future careers are made. Among cohort members born in 1970 (BCS70), the greatest effect of concurrent risk on individual adjustment was found at age 5, whereas at later ages the cohort members appeared to be comparatively unaffected by current socioeconomic family circumstances over and above those already accounted for by previous experiences of socioeconomic adversity. These differences in timing of risk effects might be explained by changes in the sociohistorical context. Cohort members turned 16 in 1974 and 1986, respectively. In consequence to the virtual disappearance of the youth labor market that occurred between 1979 and 1986, the later-born cohort encountered more complex and varied education, training, and employment

choices. Although in the 1970s the predominant pattern was to leave school at the minimum age and move directly into a job, by the 1990s most young people continued in full-time education after the age of 16 (Bynner et al., 1999; Bynner, Joshi, & Tsatsas, 2000). Cohort members born in 1970 were under increasing pressure to acquire formal qualifications, whereas most young people born in 1958 could expect to obtain employment regardless of their educational attainment (Bynner et al., 2000). Thus, parents of cohort members born in 1958, especially less privileged parents, might not have pushed their children to obtain good grades, and rather might have encouraged their children to leave school early to earn a wage. Parents in the later-born BCS70 cohort, in contrast, might have generally put more emphasis on achieving good examination results, whatever their socioeconomic circumstances. It could also be that in the later-born BCS70 cohort, other factors—such as support from the school environment or contact with peers—which were not captured in the model, might have played a more important role in influencing academic achievement than in the earlier-born NCDS cohort.

In interpreting the findings, some limitations of the study should be noted. This work involved a cross-cohort comparison of the constellations between adversities and adjustment of individuals growing up 12 years apart. A latent-variable modeling approach was used to convey our theoretical framework for assessing the impact of contextual risk on individual development from birth to early adulthood. The emphasis was on investigating relations between latent variables in the two cohorts, rather than on the relations between observed variables. Great care was taken to measure the latent variables in as similar a way as possible in the two cohorts. As with all research using cohort studies, this work was constrained by data collected up to 40 years ago in light of research practice prevalent at that time. There are always limitations placed on comparative analysis across cohort studies that were not designed to measure the same variables, and stronger associations might have been obtained by using different indicator variables. It may also be that missing data at the individual level and at the variable level affected the validity of the results. Response bias at the individual level would tend to underestimate the magnitude of the effects of social disadvantage on individual adjustment, because sample attrition is greatest among individuals in more deprived circumstances. The results may thus provide a conservative estimate of social inequalities experienced in childhood. Missing data at the variable level may also be nonrandom. The FIML approach has been adopted as a "best effort" technique for dealing with these problems, but bias in the model estimates may still be present. Nonetheless, the data offers a unique opportunity to investigate the processes that link the experience of early socioeconomic disadvantage, academic achievement, and adult occupational attainment in two cohorts growing up in a changing sociohistorical context. Comparisons with other studies on the long-term effects of socioeconomic risk are compromised by the lack of consistency in the measures of social risk and individual adjustment across the life course. This study was designed to measure the extent to which ill effects of social disadvantage persist over time, and the way in which the constellations of social risk and academic adjustment emerge in a changing sociohistorical context. Future research should explore in more detail the factors and processes that modify the constellations between risk and adjustment (e.g., individual temperament or personality characteristics, parenting styles, or characteristics of the school environment) that can act as protective factors by impeding or halting the negative chain process, and enabling the child to move into positive directions (Masten et al., 1990; Rutter, 1990; Schoon & Parsons, 2002b; Werner & Smith, 1992). The present study has shown that the constellations of social risk and academic adjustment vary by age, context, and duration of the experiences, suggesting that different factors and processes might be important at different developmental stages, indifferent contexts, and for different developmental outcomes.

It can be concluded that the contextual perspective within life-course research offers a useful framework that contributes to a fuller understanding of the processes that link social disadvantage to individual development. The impact of risk factors depends on characteristics of the individual, but also on the context, including the proximal family environment as well as the wider sociohistorical context that dictates opportunities and possibilities. The effects of socioeconomic disadvantage are cumulative. Both the timing and duration of risk experiences play a role in shaping individual adjustment, and for a better understanding of successful adaptation it is necessary to consider the dynamic interaction between a changing individual and a changing context. The whole life path is important in shaping individual development, not just the early years. This study has confirmed the vital role of contextual experiences on individual adjustment, and thus underlines the importance of an ecological approach within developmental psychology.

Acknowledgments

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APPENDIX A

Bivariate Correlations, Means, SDs, and Sample Sizes for the Variables in the 1958 National Child Development Dataset, Including the Full Information Maximum Likelihood (FIML) Estimates from the AMOS Modeling

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Parental RGSC birth																	
2. Own RGSC at age 33	-.21																
3. Own CS at age 33	-.23	.81															
4. Exam score at age 16	-.26	.26	.28														
5. Highest qualifications at age 16	-.22	.22	.24	.77													
6. Parental RGSC at age 16	.49	-.21	-.23	-.26	-.23												
7. Material conditions at age 16	.35	-.15	-.16	-.18	-.16	.32											
8. Math test at age 11	-.30	.32	.35	.44	.37	-.30	-.21										
9. Reading test at age 11	-.29	.31	.34	.41	.35	-.29	-.20	.72									
10. Parental RGSC at age 11	.56	-.23	-.25	-.28	-.24	.63	.35	-.34	-.33								
11. Material conditions at age 11	.37	-.15	-.16	-.18	-.16	.32	.62	-.23	-.22	.37							
12. Arithmetic test at age 7	-.18	.21	.23	.27	.23	-.18	-.13	.53	.45	-.21	-.14						
13. Reading test at age 7	-.21	.25	.27	.33	.28	-.22	-.16	.56	.58	-.25	-.17	.51					
14. Drawing test at age 7	-.13	.15	.17	.20	.17	-.19	-.10	.35	.33	-.15	-.10	.31	.34				
15. Copy test at age 7	-.13	.15	.16	.19	.17	-.13	-.10	.33	.32	-.15	-.10	.30	.32	.36			
16. Parental RGSC at age 7	.59	-.23	-.25	-.28	-.24	.58	.34	-.34	-.33	.69	.37	-.22	-.27	-.16	-.16		
17. Material conditions at age 7	.30	-.12	-.13	-.14	-.12	.25	.39	-.18	-.17	.28	.48	-.11	-.14	-.08	-.08	.30	
Observed variables																	
M		3.24	34.98	17.78	1.17	3.62	.86	16.74	16.06	3.68	.84	5.13	23.40	23.83	7.02	3.77	.81
SD		1.31	19.11	18.14	.83	1.27	.96	10.29	6.21	1.27	.89	2.48	7.10	7.07	2.07	1.24	.72
N		10,693	10,838	9,114	9,114	10,320	10,665	13,125	13,129	12,605	12,790	14,065	14,098	13,839	14,056	13,749	13,756
FIML estimates																	
M	3.83	3.34	33.86	16.74	1.13	3.62	.87	16.65	16.00	3.69	.85	5.13	23.38	23.81	7.02	3.77	.82
SD	1.23	1.33	19.26	18.22	.84	1.28	.97	10.35	6.25	1.28	.89	2.48	7.11	7.07	2.01	1.24	.72
N	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994	16,994

NOTE: RGSC = Registrar General Social Class; CS = Cambridge Score.

APPENDIX B

Bivariate Correlations, Means, SDs, and Sample Sizes for the Variables in the 1970 British Birth Cohort Dataset, Including the Full Information Maximum Likelihood (FIML) Estimates from the AMOS Modeling

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Parental RGSC birth																
2. Own RGSC at age 30	-.22															
3. Own CS at age 30	-.13	.30														
4. Exam score at age 16	-.28	.20	.18													
5. Highest qualifications at age 16	-.20	.21	.13	.53												
6. Parental RGSC at age 16	.44	-.19	-.11	-.25	-.18											
7. Material conditions at age 16	.27	-.11	-.07	-.15	-.10	.24										
8. Math test at age 10	-.28	.27	.16	.41	.29	-.24	-.15									
9. Reading test at age 10	-.29	.27	.16	.41	.30	-.24	-.15	.73								
10. Parental RGSC at age 10	.55	-.22	-.13	-.28	-.20	.56	.27	-.30	-.30							
11. Material conditions at age 10	.33	-.13	-.08	-.17	-.12	.26	.44	-.18	-.18	.33						
12. Reading test at age 5	-.19	.15	.09	.20	.16	-.15	-.10	.31	.33	-.19	-.11					
13. Drawing test at age 5	-.23	.18	.11	.27	.19	-.19	-.11	.39	.38	-.23	-.14	.30				
14. Copy test at age 5	-.12	.10	.06	.15	.10	-.10	-.06	.20	.24	-.13	-.08	.21	.36			
15. Parental RGSC at age 5	.60	-.23	-.14	-.29	-.20	.52	.26	-.31	-.31	.66	.32	-.21	-.26	-.14		
16. Material conditions at age 5	.30	-.11	-.07	-.14	-.10	.21	.32	-.15	-.16	.26	.42	-.11	-.13	-.07	.30	
Observed variables																
M	3.78	2.97	49.44	21.94	1.40	3.25	.76	43.98	40.25	3.48	.86	32.78	11.34	4.73	3.55	.65
SD	1.20	1.20	16.12	16.65	.69	1.26	1.06	12.33	12.64	1.26	1.05	9.76	3.28	1.97	1.27	.92
N	14.229	8,002	5,183	5,603	6,457	6,590	9,032	11,251	11,258	12,730	10,051	9,805	12,177	12,355	11,929	12,056
FIML estimates																
M	3.77	2.98	48.41	18.00	1.32	3.48	.79	43.91	40.17	3.50	.87	33.18	11.29	4.70	3.58	.66
SD	1.20	1.25	17.13	16.28	.70	1.26	1.08	12.40	12.71	1.27	1.05	9.83	3.29	1.98	1.28	.92
N	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229	14.229

NOTE: RGSC = Registrar General Social Class; CS = Cambridge Score.

Marital Status Continuity and Change Among Young and Midlife Adults: Longitudinal Effects on Psychological Well-Being

Nadine F. Marks and James David Lambert

Abstract

Using a life course theoretical framework, this study examined longitudinal effects of continuity and transitions in marital status on multiple dimensions of psychological well-being. Data came from National Survey of Families and Households 1987–1993 respondents ages 19 to 65 (N = 6,948). Differences between men and women as well as between young and midlife adults were investigated. Multivariate analyses revealed a complex pattern of effects depending on the contrast and the outcome examined. Although marriage continued to promote well-being for both men and women, in some cases—for example, autonomy, personal growth—the single fared better than the married. The effects of continuity in single status were not very different for women in contrast to men. The transition to divorce or widowhood was associated with somewhat more negative effects for women. Midlife adults evidenced more psychological resilience than young adults did in facing the challenges of a marital transition or remaining single over time.

The social institution of marriage and its influence on adult well-being remains an enduring interest of family researchers. Historically, marriage has been quite consistently associated with better psychological well-being than being single, particularly among men (e.g., Gove, Hughes, & Style, 1983; Gove & Shin, 1989; Gove, Style, & Hughes, 1990; Lee, Seccombe, & Shehan, 1991; Ross, Mirowsky, & Goldsteen, 1990). However, there continues to be an ongoing reassessment of the role marriage plays in determining well-being as dramatic changes in the norms, meaning, and dynamics of marriage and marital stability have swept across America during the past several decades. Now that about one in every two new marriages ends in divorce (Castro-Martin & Bumpass, 1989)—sexuality and even parenthood are increasingly less tied to marriage (Bumpass, 1990); gendered aspects of marital, parenting, and employment roles have come under increased scrutiny and influence in marital choice and satisfaction (Goldscheider & Waite, 1991); and the prevalence of single adults and the proportion of the adult lifetime spent single has increased to make it a statistically less deviant adult social status (Schoen & Weinick, 1993; Schoen, Urton, Woodrow, & Baj, 1985)—it might be hypothesized that the importance of marriage for contemporary adults' psychological well-being is changing (Glenn & Weaver, 1988).

The life course and life span developmental perspectives (Baltes, 1987; Elder, 1992; Featherman,

1983) suggest that human development is lifelong and that it is important to examine the sequelae of continuities and changes in adulthood as well as childhood. Child developmentalists track the importance of continuity and change (e.g., loss) in the primary attachment tie with a parent (usually the mother) for a child's well-being (Bowlby, 1969, 1973, 1980; Bretherton, 1992). During adulthood, continuity and change in the primary attachment with a marital partner might also be expected to have important consequences for adult well-being.

Although marriage has been generally associated with better mental health, most of the evidence for the positive effects of marriage on psychological well-being is based on cross-sectional evidence, samples with limited generalizability, or both. A few longitudinal studies of marriage have been used to confirm that the transition to divorced status has negative effects on well-being (e.g., Booth & Amato, 1991; Doherty, Su, & Needle, 1989; Mastekaasa, 1995; Menaghan & Lieberman, 1986). Similarly, the psychological distress accompanying the adjustment to widowhood has been confirmed longitudinally (Stroebe & Stroebe, 1987; Wortman, Silver, & Kessler, 1993; see Kitson, Babri, Roach, & Placidi, 1989, for a review). However, no large-scale national longitudinal analysis has simultaneously examined the effects of continuity in varying marital statuses and varying types of marital status change on well-being. Specifically, longitudinal population analyses comparing the well-being effects of the transition from being never married to first married, formerly married to remarried, and married to widowed with being continuously married do not exist. A systematic examination of gender differences in the effects of these different marital statuses and transitions has never been undertaken. In addition, multiple well-being contrasts among persons remaining continuously in a marital status or making a marital transition in young adulthood, in contrast to middle adulthood, have never been carefully examined, even though a considerable number of marital transitions occur during both periods (Uhlenberg, Cooney, & Boyd, 1990). Taking a life course or life span

developmental perspective, we might expect that differential timing of a transition would make a difference in its effect on well-being (Hagestad, 1990; Hagestad & Smyer, 1982; Neugarten, 1979).

Limited outcome measures of psychological well-being plague most studies of gender, marital status, and psychological well-being. Depression, life satisfaction, and global happiness are the most common outcomes examined. However, the multiple dimensions of psychological well-being are becoming increasingly well mapped and well measured (Bryant & Veroff, 1982; Ryff, 1989, 1995; Ryff & Essex, 1991; Ryff & Keyes, 1995). For a more differentiated and comprehensive understanding of the contemporary effects of the marital role on well-being, it is desirable to consider several dimensions of psychological well-being, because marriage may be associated with well-being constraints as well as well-being enhancement.

The focus of this research was to use recent longitudinal national survey data, which included measurement across a wide range of positive and negative psychological well-being dimensions, to examine the effects of marital status continuity and marital status transitions (change) on psychological well-being, and to examine gender differences and age (young adult vs. midlife adult) differences in these effects.

Theoretical and Empirical Background

Continuity and Change in Life Course and Life Span Development

The life course and life span developmental perspectives suggest that adult development is characterized by a complex interplay of continuity and change no less than child development (Baltes, 1987; Elder, 1992; Featherman, 1983). Family life transitions as well as family life continuity are important components of the process that helps constitute adult development and adult well-being (Bengtson & Allen, 1993; Elder, 1991). Social context and how it changes

over time (Riley, Foner, & Waring, 1988) also help determine the social meanings, rewards, and sanctions for family life continuities and changes, which are critical for determining the developmental impact of continuity and transitions in family roles.

In addition, the life course and life span perspectives suggest that social clocks help determine an expectable normative sequencing of events for the life course (Bengtson & Allen, 1993). Transitions that are socially normative and "on time" are expected to be more easily incorporated into one's identity and more supported by social institutions, therefore yielding more beneficial effects on well-being than transitions that are non-normative or "off time" (Hagestad, 1990; Hagestad & Smyer, 1982; Neugarten, 1979). The social script for young adulthood in most societies, including 20th-century America, has included entry into marriage. Becoming married as a young adult would be expected to have beneficial effects due to its fulfillment of normative expectations and its societal support.

Continuity, too, can have significant developmental effects. For example, in a social context where remaining never married is considered deviant, remaining a never-married person beyond the socially normative and statistically normative age of first marriage (early to mid-20s in the contemporary United States) (Schoen & Weinick, 1993) might be expected to cause a decline in well-being and development. However, as a larger proportion of young adults are remaining single longer (Schoen & Weinick, 1993) and the modern social order provides them with more opportunities and encouragement to live autonomously (Goldscheider, Thornton, & Young-DeMarco, 1993), remaining never married may no longer carry such social stigma and negative effects.

Dissolution of marriage by divorce has, at least until recently, been viewed as an unanticipated and non-normative transition in the adult life course. The economic and social strains associated with divorce (McLanahan & Sandefur, 1994; Pearlin & Johnson, 1977), coupled with its being viewed as non-normative, might well lead

to the expectation that both the transition to divorce and continuity over time in this status would lead to poorer well-being and development. Yet again, as the texture of social life changes and as more adults have become divorced and have remained divorced longer (Schoen & Weinick, 1993), the social stigma once associated with divorce that helped lead to a decline in well-being among previous divorce cohorts may have diminished for contemporary divorce cohorts.

Widowhood can be anticipated in older age, but given current life expectancy and cumulative survival rates (Schoen & Weinick, 1993), contemporary adults view widowhood in young or middle age to be a non-normative transition and a non-normative status, and therefore we would expect continuity in this marital status or a transition to this marital status to be deleterious to well-being. However, given the relative absence of stigma and generally better social welfare (e.g., Social Security) associated with being a widow in contrast to being divorced, we might expect that widows would do less poorly than divorcées.

Entry into first marriage for an American adult might be expected to lead to an increase in well-being, because it fulfills one social expectation for the adult life course and tends to be associated with economic and social support advantages (Ross et al., 1990). Entry into remarriage, although now relatively common, remains "incompletely institutionalized" (Cherlin, 1978) and may therefore be less beneficial for well-being than entry into first marriage. The life course of the person entering remarriage has included a history of loss or disappointment to some extent, and remarriage often includes a complex reordering of relationships with children and other kin (Pasley & Ihinger-Tallman, 1987).

Another way in which timing of continuity or a transition might be considered important from a life course or life span perspective concerns the developmental readiness and resources a person has to deal with a transition or time spent in a status. For example, the transition to fatherhood

after age 30 in contrast to earlier in adulthood has been found to be associated with greater confidence in the paternal role (Nydegger, 1986), more positive paternal affect (Cooney, Pederson, Indelicato, & Palkovitz, 1993), more paternal involvement (Cooney et al., 1993; Daniels & Weingarten, 1982; Heath, 1994), and a more effective balancing of work and family demands (Coltrane, 1990; Frankel & Wise, 1982). These differences have been hypothesized to be the result of greater psychological maturity, self-knowledge, and life-management skills possessed by midlife fathers in contrast to young adult fathers.

Differences in the effects of marital status continuity and transitions at different developmental periods during adulthood have not been carefully studied previously. Age is most often included as a control variable but is not considered a potential moderator of effects. Although a prototypical version of "normative" family development (e.g., Duvall, 1957) might lead us to expect that transitions into marriage occur in young adulthood, transitions out of marriage (through death) occur in later adulthood, and middle adulthood is characterized by marital continuity for the vast majority of persons, the complexity of the modem marital career for a sizable number of contemporary adults now includes transitions both into and out of marriage in middle adulthood (Bumpass, 1990; Bumpass, Sweet, & Martin, 1989; Uhlenberg et al., 1990).

Marital status continuity or change might have a different impact in middle adulthood in contrast to younger adulthood for a variety of reasons. One reason is the relative age normativeness of the transition or marital status as noted above. Another reason is the relative resources each age period provides for adaptation. Young adults might have a well-being advantage in the face of marital loss due to their better prospects of remarriage (Bumpass et al., 1989). On the other hand, differences in psychological maturity and pragmatic life expertise accrued over time (Baltes, 1987; Baltes & Staudinger, 1993; Brim, 1992) might make it easier for midlife adults than for younger adults

to handle the changes associated with, for example, the loss of a spouse due to divorce or death.

The Multiple Dimensions of Psychological Health

Bradburn's (1969) analyses of positive and negative affect provided some of the first empirical evidence that positive and negative well-being were related, yet distinct, components of psychological well-being. Empirical evidence for the legitimacy of differentiating positive aspects of psychological well-being and psychological distress was further supported by factor analytic work done pooling national survey items by Bryant and Veroff (1982). The results of their analysis led them to conclude that psychological well-being, as measured in the national surveys of previous decades, included three distinct components: positive affect, psychological distress, and self-evaluation.

Ryff (1989, 1995), a life span developmentalist, questioned the adequacy of traditional positive measures of psychological well-being (e.g., one-item assessments of happiness and life satisfaction), which have little developmental or theoretical basis, to cover the range of positive mental health and wellness. Drawing from several human development theories, Ryff (1989) generated and provided evidence of discriminant validity (in relation to each other as well as in comparison to prior measures of well-being) of six new measures of distinct dimensions of psychological wellness: positive evaluation of oneself and one's past life (self-acceptance), a sense of continued growth and development as a person (personal growth), the belief that one's life is purposeful and meaningful (purpose in life), the possession of quality relations with others (positive relations with others), the capacity to manage effectively one's life and surrounding world (environmental mastery), and a sense of self-determination (autonomy). Further confirmatory factor analyses undertaken by Ryff and Keyes (1995), using national data, provided additional evidence that these six components

of well-being are more appropriately considered different dimensions of wellness than sub-scales of a single wellness factor; they found that a model positing six separate factors fit better than a model positing one global latent factor.

Examining more complete measurements of psychological wellness, as well as psychological distress, offers the potential to reveal a more comprehensive understanding of the complex psychological effects stemming from involvement in significant and often conflictual social roles, including marriage and parenting (see Umberson & Gove, 1989, for an illustration of this point in relation to parenthood status). Therefore, Ryff's (1989) six dimensions of psychological well-being were examined in this analysis along with the more familiar dimensions of positive affect (global happiness), self-adequacy (self-esteem [distinct from self-acceptance, see Ryff, 1989]), personal mastery (distinct from environmental mastery, see Ryff, 1989), and psychological distress (depression, hostility).

Marital Status Continuity and Psychological Well-Being

Most studies examining marital status and psychological distress have concluded that married men and women have a mental health advantage in contrast to their unmarried peers (Gore & Mangione, 1983; Gove et al., 1983, 1990; Mirowsky & Ross, 1989; Pearlin & Johnson, 1977). Single, formerly married persons—divorced and widowed—typically report poorer well-being and give evidence of more distress than never-married persons (Gove & Shin, 1989; Pearlin & Johnson, 1977).

Research examining whether the psychological benefits of marriage are greater for men or women has yielded mixed results. Gove and Tudor (1973) found that marriage protected the mental health of men more than women. Yet Fox (1980), using data from three national surveys from 1960, 1970, and 1973, did not find strong support for a gender by marital status interaction effect. A recent analysis by Ross (1995) found no gender differences.

However, all of these investigations examined psychological distress or other psychological dysfunction as outcomes. There is less evidence about potential gender differences in positive psychological well-being associated with marriage.

The one positive psychological well-being outcome that has been extensively studied in relation to the marital role and across both men and women is global happiness. Being married has been consistently associated with more global happiness (Glenn, 1975; Glenn & Weaver, 1979, 1988; Lee et al., 1991). However, national trend data from the General Social Survey (GSS) spanning the 1970s and the 1980s examined by Glenn and Weaver (1988) revealed a "narrowing of the happiness gap" between the married and the never-married during these years. This trend was noted particularly for men and for younger adults (ages 25 to 39). The proportion of never-married men indicating they were "very happy" increased between 1972 and 1982, whereas the proportion of younger married women indicating such high levels of positive well-being decreased (Glenn & Weaver, 1988). Lee et al. (1991) extended the analysis of the GSS to 1989 and found that the gap increased somewhat during 1987 and 1988 but then diminished again in 1989. As before, the changes found in happiness by marital status were most pronounced among young adults; specifically, younger never-married men and women reported more happiness in the 1980s than in the 1970s, and younger married women reported less happiness in the 1980s than in the 1970s. Anderson and Stewart (1994) and Gordon (1994) have also reported evidence from their recent qualitative studies that single women report advantages to single status over marriage in terms of personal autonomy and growth.

In their meta-analysis of studies of marital status and well-being, Harding-Hidore, Stock, Okun, and Witter (1985) found evidence of only a small positive association between marriage and subjective well-being. The effects of marriage were smaller for older persons, and they were also smaller for younger cohorts. The results of this meta-analysis suggest that it is

important to examine age differences in the importance of marriage and marital transitions and to continue to periodically evaluate associations between marital status and well-being at different points in time.

Marital Status Transitions and Well-Being

A few longitudinal population-based studies on the mental health effects of the transition from marriage to divorce have been conducted. Menaghan and Lieberman (1986) used a probability sample of more than 1,000 adults from the Chicago area followed over 4 years (1972 to 1976) to examine the impact of divorce on change in depressive affect. These researchers found that, in fact, divorce led to an increase in depressive affect; greater economic problems, unavailability of confidants, and a reduction in living standards accounted for a substantial amount of the decline in well-being. No difference in change was found for men in contrast to women. A major strength of this study was its prospective design. However, it was limited to an examination of one measure of psychological well-being (depressive affect), it investigated only one type of marital transition, and it is now a story two decades old.

Doherty et al. (1989) conducted a 5-year (1982 to 1987) longitudinal study of 402 predominantly White, middle-class, middle-aged couples with teenage children randomly selected from the enrollment of a Minnesota health maintenance organization in 1982. They found that women who were separated or divorced during the study period experienced a decline in psychological mood and an increase in substance abuse. The transition to dissolution did not result in declines in well-being for men (although men who separated or divorced rated lower than continuously married men on psychological mood, self-esteem, mastery, and substance abuse both before and after dissolution).

Booth and Amato (1991) analyzed data from a U.S. national sample of more than 2,000 married people ages 55 and younger in 1980 who were followed up longitudinally in 1983 and 1988.

Their analysis of patterns from three time periods led them to conclude that divorce was associated with a short-term (i.e., less than 2 years postevent), but not long-term (i.e., more than 2 years postevent), increase in psychological distress and unhappiness (each outcome measured with a single-item indicator) and that these patterns were similar for men and women.

Mastekaasa (1995) recently examined national Norwegian data for 930 persons married in 1980 or 1983 who were also reinterviewed at least twice subsequent to their initial interview. He found that persons who separated or divorced over the longitudinal follow-up period experienced a significant increase in psychological distress (measured with two items), both short-term (less than 4 years postevent) and long-term (4 to 8 years postevent).

The transition to remarriage has received less attention. Cross-sectional evidence suggests that remarried men may be somewhat happier than once-married men, but remarried women are less happy than once-married women (White, 1979). Spanier and Furstenberg (1982) examined the transition to remarriage longitudinally (1977 to 1979) for their sample of 180 Pennsylvania respondents. They found that remarriage alone did not account for well-being differences between the group that remarried in contrast to the group that remained divorced during the period they studied.

The first few months after the death of a spouse have been consistently associated with higher levels of depressive symptomology (Harlow, Goldberg, & Comstock, 1991; Stroebe & Stroebe, 1987; Wortman, Silver, & Kessler, 1993). Although not totally consistent, current evidence suggests that widowhood may be more psychologically problematic for men than for women (e.g., Gove, 1972; Siegel & Kuykendall, 1990; Stroebe & Stroebe, 1987, 1993) and for younger widows in contrast to older widows (e.g., Ball, 1977; Sanders, 1981). Longitudinal evidence indicates that postbereavement depression effects may be short-lived (1 to 2 years) and that long-term differences in depression between widows and married persons may be minimal

(Harlow et al., 1991; McCrae & Costa, 1993; Sanders, 1981).

However, most research on widowhood has been limited by the use of convenience samples or longitudinal studies begun after the transition to widowhood, by the use of limited measures of well-being (e.g., depression only), by a limited age range (e.g., only the elderly), or by limitation only to women—making gender comparisons impossible (Kitson et al., 1989). This research project sought to add to the literature on the effects of widowhood by (a) using a national sample, (b) investigating the transition to widowhood prospectively, (c) analyzing the effects of widowhood on multiple dimensions of well-being, (d) exploring gender differences in the effects of widowhood, and (e) considering a young adult versus midlife adult contrast for women (in much of the existing literature, "young" widows are actually midlife women).

Research Hypotheses and Questions

In sum, based on life course and life span developmental theory and previous research, this study was designed to examine two hypotheses.

Because marriage is a socially normative life course role for young and midlife adults: (a) Young and midlife men and women continuously unmarried (separated/divorced, widowed, or never married) over a 5-year period will evidence a decline in well-being in contrast to men and women continuously married; and (b) transitions out of marriage will lead to a decline in well-being in contrast to remaining continuously married.

Because research evidence is limited regarding the well-being effects of the transition into first marriage and remarriage (in contrast to remaining continuously married), inconsistent regarding gender by marital status interaction effects, and scant regarding age by marital status interaction effects, we also explored three research questions: (a) Is the transition into first marriage and remarriage associated with increased well-being in contrast to remaining continuously married? (b) Are there gender differences in the psychological well-being

effects of marital status continuity or change? and (c) Are there adult age (i.e., young adult vs. midlife adult) differences in the psychological well-being effects of marital status continuity or change?

Methods

Data

The data for these analyses came from the first and second waves of the National Survey of Families and Households (NSFH), which includes information from personal interviews conducted in 1987–1988 (Time 1) and in 1992–1993 (Time 2; 5 years later), with a nationally representative sample of 13,008 noninstitutionalized American adults, 19 years old and older. This survey included a main sample of 9,643 respondents, with an additional over sample of 3,374 African Americans, Mexican Americans, Puerto Ricans, single parents, stepparents, cohabitors, and recently married persons. The response rate at Time 1 (1987–1988) was about 75%. The response rate at Time 2 was about 82% of first wave respondents. This yielded national population coverage at a rate of about 62% for data from both waves. Sampling weights correcting for selection probabilities and nonresponse allow this sample to match the composition of the U.S. population on age, sex, and race (see Sweet, Bumpass, & Call, 1988, for more design details). The analytic sample for this study consisted of NSFH primary respondents ages 19 to 34 or 40 to 60 in 1987–1988, who also responded in 1992–1993, and who had complete and consistent marital status information for the period between the two waves of the survey ($N = 6,948$; 138 cases—2% of Time 2 respondents were excluded due to incomplete information). Respondents ages 35 to 39 in 1987–1988 were excluded from these longitudinal analyses so that we could make a clear differentiation in the age group contrast analyses between persons experiencing marital status continuity and change prior to age 40 and after age 40. (The group ages 35 to 39 between 1987–1988 and 1992–1993

would overlap into their 40s during the 5-year period investigated; thus, we felt including them in the analyses would make this distinction less clear.)

Measures

Outcome measures included a 12-item modi-fied version of the Center for Epidemiological Studies-Depression (CES-D) index (Radloff, 1977) (alpha = .93), a 3-item measure of hostility/irritability (alpha = .85), a standard 1-item measure of global happiness, a 3-item version of Rosenberg's (1965) self-esteem index (alpha = .65), a 5-item personal mastery index consisting of 4 items from the Pearlin Mastery Scale (Pearlin, Lieberman, Menaghan, & Mullan, 1981) along with a single item of control-mastery also used in Wave 1 of the NSFH (alpha = .66), and 3-item versions of Ryff's (1989; Ryff & Keyes, 1995) six psychological well-being scales: Autonomy (alpha = .45), Personal Growth (alpha = .54), Positive Relations With Others (alpha = .53), Purpose in Life (alpha = .37), Self-Acceptance (alpha = .54), and Environmental Mastery (alpha = .56). The relatively lower inter-nal consistency of items used for these scales reflects an a priori decision by Ryff to create short scales that represent the multi-factorial structure of the original scales (which consisted of 20 items) rather than to maximize internal consistency. These dramatically shortened scales have been found to correlate from .70 to .89 with the original highly reliable scales (Ryff & Keyes, 1995).

For three measures—the CES-D, global hap-piness, and self-esteem—Time 1 assessment of the measures were available and were controlled in the respective analyses. For the Personal Mastery Scale, responses to one item measuring personal mastery that was included at Time 1 of the NSFH was included as a Time 1 control (the correlation of this one item at Time 2 with the other four items of the scale at Time 2 is .57). The hostility index and the six Ryff measures were not included at Time 1, so the CES-D assessment from Time 1 was entered as a control for group selection on well-being in all analyses

of these measures to better estimate the likely longitudinal change in well-being over time due to marital status continuity or transition. (See Appendix A at the end of this reading for descriptives for all variables used in the analysis; see Appendix B at the end of this reading for a list of scale items.)

Marital status contrasts were classified into 10 mutually exclusive and exhaustive categories depending on respondent reports of their marital history over the 5-year period between Time 1 and Time 2 of the NSFH (see Table 3.5). Respondents who were continuously married during this period were classified as married and used as the contrast category in all analyses; respondents who were continuously separated, divorced, or both, were classified as separated-divorced; respondents who were continuously widowed were classified as widowed; respon-dents who were continuously never married were classified as never married; respondents who were married at Time 1 and separated or divorced at Time 2 were classified as mar-ried→separated-divorced; respondents who were married at Time 1 and widowed at Time 2 were classified as married→widowed; respondents who were separated, divorced, or widowed at Time 1 and married at Time 2 were classified as remarried; respondents who were never married at Time 1 and married at Time 2 were classified as first married; respondents who were married at Time 1 and who experienced both a dissolu-tion of that marriage and a remarriage by Time 2 were classified as married→unmarried→remar-ried; and respondents who were never married, separated, divorced, or widowed at Time 1 and who experienced both a marriage and a dissolu-tion by Time 2 were classified as unmarried→married→unmarried.

Respondents were also classified into two age status categories: young adults—respondents who were ages 19–34 at Time 1, and midlife adults—respondents ages 40–60 at Time 1. Several additional demographic statuses—race or ethnicity, education, household income, parental status, and employment status—were controlled in all analyses because they are

Table 3.5   Weighted Percentage Distribution (unweighted *n*) of 5-Year Marital Status Continuity and Change, National Survey of Families and Households 1987–1993, Primary Respondents, Ages 19–64 (N = 6,948)

Marital Status	Total Sample		Women		Men	
	Unweighted n	*Weighted Percentage*	*Unweighted* n	*Weighted Percentage*	*Unweighted* n	*Weighted Percentage*
Continuity						
Married	3,219	51.0	1,822	50.4	1,397	51.6
Separated/Divorced	867	7.2	647	9.5	220	4.8
Widowed	184	1.8	166	3.1	18	0.4
Widowed	1,019	17.0	552	14.3	467	19.9
Change						
Married→Separated/ Divorced	430	5.8	240	5.9	190	5.6
Married→Widowed	92	1.6	82	2.7	10	0.4
Never married→ First married	515	9.2	264	7.6	251	10.9
Separated/Divorced/ Widowed→Remarried	386	3.3	242	3.3	144	3.4
Married→Separated/ Divorced/Widowed →Remarried	121	1.7	74	1.9	47	1.5
Unmarried→Married→ Separated/Divorced/ Widowed	115	1.3	77	1.3	38	1.3
Valid cases	6,948	100.0	4,166	100.0	2,782	100.0

NOTE: Percentage columns do not always total 100.0 due to rounding errors.

associated with both marital status and psychological well-being and might have confounded our results (Menaghan & Parcel, 1990; Ross et al., 1990; Voydanoff, 1990). The following variable coding was used: race-ethnicity (dichotomously coded 1 = African American vs. 0 = all others), education (in years), household income (continuous measure totaled across all types of earned and unearned income for all household members at Time 1), missing on household income at Time 1 (dichotomous flag variable to include all respondents missing on income in the regression analyses), having a child age 18 or younger in the household at Time 2 (dichotomous, 1 = has child vs. 0 = no child), and employment status at Time 2 (dichotomous, 1 = employed vs. 0 = not employed). Ordinary least squares regression models were estimated throughout using SPSS.

Results

Table 3.6 reports the results of models that estimated the effects of multiple marital status contrasts and Gender x Marital Status interactions on well-being. Because there was at least one significant Gender x Marital Status interaction effect in each of the combined gender models estimated (at least at the trend level), it was deemed appropriate to examine separate models for men and women to confirm the gender differences in marital status effects. In addition, for these models, to answer the third research question—Does age status (that is young adult vs. midlife adult) make a difference in the effects of marital status continuity and change on well-being?—we included Age 40+ x Marital Status interaction variables for each marital status contrast where there were enough cases to examine contrasts across age groups. Tables 3.7 and 3.8 provide estimates for models that examined both genders separately for each well-being outcome and also added Age x Marital Status interactions.

We did not create age interactions (a) for continuity in widowhood status, because there were so few continuously widowed men and women under age 40; (b) for the transition from never

married to first married for men or women, because so few cases of this transition were reported for persons aged 40 and older; (c) for the transition from married to widowed for men, because so few cases of this transition were reported by persons under age 40; and (d) for the multiple marriage transitions—unmarried→ married→unmarried and married→unmarried→ married, because so few of these cases occurred at older ages.

Effects of Marital
Status Continuity on Well-Being

The results reported in Table 3.6 suggest that there are several significant well-being differences between adults who experienced 5-year continuity as singles in contrast to adults who experienced continuity as marrieds. The continuously separated or divorced evidenced a decline in well-being in comparison to continuously married adults in terms of depression (at a trend level), global happiness, personal mastery, positive relations with others, purpose in life, self-acceptance, and environmental mastery. These patterns did not appear to be significantly different for women in contrast to men.

Being continuously widowed over a 5-year period (almost all respondents in this category were ages 40 to 59) was associated with an increase in depression over time in comparison to being married, but there were no other well-being differences for this group. No gender differences in the effect of being continuously widowed were found for women in contrast to men.

The never married became more depressed and less happy over time; however, a significant gender interaction effect (confirmed by subsequent results provided in Table 3.7) indicated that never-married status led to less unhappiness for women than for men. Never-married respondents also reported more hostility, less positive relations with others, and less self-acceptance than their continuously married counterparts. A significant gender interaction effect indicated that never-married women reported even less self-acceptance than never-married men.

Table 3.6 Unstandardized Regression Coefficients for the Effects of Marital Status Continuity and Change on Psychological Well-Being

Predictors	Depression	Hostility	Global Happiness	Self-Esteem	Personal Mastery	Autonomy	Personal Growth	Positive Relations	Purpose in Life	Self-Acceptance	Environmental Mastery
Female	.14***	−.05	−.06	−.08***	−.39***	−.12	.44***	1.04***	.27***	.38***	−.04
Age ≥ 40	−.08*	−.35***	.00	−.04*	−.46***	.29**	−.58***	.03	−.51***	−.19*	.07
Marital Status											
Continuity											
Married	—	—	—	—	—	—	—	—	—	—	—
Separated/Divorced	.15†	.48	−.50***	−.01	−1.00***	.30	−.08	−1.12***	−.96***	−.97***	−.47*
Widowed	.62*	.83	−.24	−.20	−.27	.79	−.39	−.92	−.95	−.19	−.37
Never Married	.19***	.55*	−.40***	.03	−.25	.47***	.57***	−.69***	−.22	−.32*	−.08
Female × Separated/ Divorced	.13	.29	.19	−.02	.47	−.01	−.02	−.16	.31	−.29	.27
Female × Widowed	−.53	−1.06	.02	.25	−.38	−.88	−.04	−.02	−.02	−.56	.42
Female × Never married	−.06	.08	.26**	−.00	.33	−.27	−.27†	−.00	.24	−3.6*	.17
Change											
Married→Separated/ Divorced	.29***	.23	−0.51***	−.01	−.76**	−.17	.25	−1.04***	−3.9†	−.91***	−.18
Married→Widowed	.21	−2.38*	−.54	.22	−2.108	−.81	−.18	.16	−2.49***	−.04	−.38
Never married→ First married	−.25***	−.03	.21*	.11**	.06	.51**	.69***	.52**	.80***	.56***	.63***
Separated/Divorced/ Widowed→ Remarried	−.16	.59	.21	.11**	.06	.51**	.69***	.52**	.80***	.56***	.64***
Married→Separated/ Divorced/Widowed→ Remarried	−.28†	−.23	−.01	−.13	−.23	−.30	.31	−.16	.31	−.918	−.07
Unmarried→Married→ Separated/Divorced/ Widowed	.43*	2.23***	−.49*	−.27**	−1.73**	−.43	−.62	−1.98***	−1.87***	−1.91***	−1.01*
Female × Married→ Separated/Divorced	.25*	1.58***	−.01	−.16**	−.37	−.45	−.46†	−.28	−.21	−.83*8	−.72**

Predictors	Depression	Hostility	Global Happiness	Self-Esteem	Personal Mastery	Autonomy	Personal Growth	Positive Relations	Purpose in Life	Self-Acceptance	Environmental Mastery
Female × Married→Widowed	.48†	2.91**	-.19	-.42*	1.33	1.10	.48	-.61	2.49***	-.44	.16
Female × Never married→First married	.13	-.23	.11	.05	.77**	-.00	-.18	.05	-.40†	.07	.34
Female × Separated/ Divorced/Widowed→ Remarried	.24†	-.72	-.03	-.05	.53	-.06	.25	-.25	-.28	-.05	.02
Female × Married→ Separated/Divorced/ Widowed→Remarried	.51**	.38	.30	.19†	.32	.80†	.24	.24	-.10	.57	.50
Female × Unmarried→ Married→Separated/ Divorced/Widowed	-.20	-.55	.34	.44***	1.76**	.84	.84	1.22†	1.92**	1.00†	1.58**
Time 1 Well-Being											
Depression	.35***	.91***				-.27***	-.22***	-.41***	-.23***	-.52***	-.50***
Global happiness			.23***								
Self-esteem				.37***							
Personal mastery					.83***						
Constant	1.47***	2.04***	4.30***	2.26***	12.74***	14.46***	12.86***	12.76***	10.92***	13.37***	13.57***
R^2	.20	.10	.09	.18	.14	.03	.10	.09	.13	.12	.09

SOURCE: National Survey of Families and Households (1987–1993), primary respondents (N = 6,948).

NOTE: All models also included controls for race/ethnicity, employment status, years of education, household income, and presence of a child ≤ age 18 in household.

$^{\dagger}p$ ≤ .10. *p ≤ .05. **p ≤ .01. ***p ≤ .001 (two-tailed test).

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Table 3.7 Unstandardized Regression Coefficients for the Effects of Marital Status Continuity and Change on Psychological Well-Being by Gender

Predictors	Depression		Hostility		Global Happiness		Self-Esteem		Personal Mastery	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Age ≥ 40 (Time 1)	–.03	–.08	–.14	–.29	–.06	.06	–.01	–.06†	–.95***	–.14
Marital Status										
Continuity										
Married (omitted)	—	—	—	—	—	—	—	—	—	—
Separated/Divorced	.21*	.57***	1.08**	1.59**	–.29*	–.56*	.04	–.09	–.69*	–1.48**
Widowed	.03	.62†	–.39	.76	–.18	–.25	.05	–.20	–.46	–.35
Never married	.12†	.28***	.51†	1.02***	–.14	–.44***	.07†	–.02	–.15	–.25
Age ≥ 40 × Separated/Divorced	.04	–.55**	–.72	–1.41†	.02	.03	–.07	.10	.40	.63
Age ≥ 40 × Never married	–.24	.10	–.05	–1.05	.26	–.04	–.01	–.00	1.16**	–.57
Change										
Married→Separated/Divorced†	.63***	.26*	2.19***	–.04	–.54***	–.45**	–.16***	–.05	–1.52***	–.63†
Married→Widowed	.71*	.21	.29	–2.40*	.23	–.62	–.19	.22	–2.73**	–2.24*
Never married→First married	–.14*	–.16†	–.35	.37	.32**	.18†	.19***	.07	.69***	–.01
Separated/Divorced/Widowed→Remarried	.20†	–.01	.03	.98	.05	.16	.03	.09	.50	.19
Married→Separated/Divorced/Widowed→Remarried	.22†	–.24	.12	–.08	.27†	–.01	.07	–.15	.02	–.21
Never married→Married→Separated/Divorced/Widowed	.20	.54**	1.52**	2.68***	–.12	–.55	.20*	–.32**	–.02	.81**
Age ≥ 40 × Married→Separated/Divorced	–.42*	.16	–1.75**	2.68***	–.12	–.55*	.20*	–.32**	–.02	–.81**
Age ≥ 40 × Married→Widowed	–.07	—	.14	—	–1.04*	—	–.00	—	2.39*	—

Predictors	Depression		Hostility		Global Happiness		Self-Esteem		Personal Mastery	
	Women	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*
Age ≥ 40 × Separated/Divorced/ Widowed→Remarried	−.44*	−.18	−.77	−.36	.37	.03	.14	.00	.32	−.28
Time 1 Well-Being										
Depression	.39***	.31***	1.05***	.76***						
Global happiness					.24***	.21***				
Self-esteem							.39***	.34***		
Personal mastery									.83***	83***
Constant	1.51***	1.59***	1.40***	2.56***	4.30***	4.18***	2.03***	2.39***	12.35***	12.69***
R^2	.20	.17	.11	.10	.10	.10	.18	.17	.15	.13

SOURCE: National Survey of Families and Households (1987–1993), primary respondents (N = 6,948).

NOTE: All models also include controls for race/ethnicity, employment status, years of education, household income, and presence of a child ≤ 18 in household.

$†p ≤ .10.$ $*p ≤ .05.$ $**p ≤ .01$ $***p ≤ .001$ (two-tailed test).

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Although these results support, overall, our first hypothesis regarding the well-being benefits of marriage, an examination of additional seldom-included other well-being outcomes suggests that the story is more complex. The continuously never-married men and women concurrently rated themselves as more autonomous and as experiencing more personal growth than their married peers.

Overall, we found few gender differences in the effects of continuity in marital status (in partial answer to Research Question 2). A trend level gender interaction effect (also confirmed by subsequent analyses reported in Table 3.7) indicated that never-married women rate themselves lower on personal growth than never-married men (but still not significantly lower on personal growth than the continuously married). These contrasting results confirm that taking a multidimensional approach to well-being is important inaccurately understanding the determinants of psychological well-being, and as life span developmental theory (Baltes, 1987) and structural analyses of well-being have suggested (Bradbum, 1969; Bryant & Veroff, 1982; Ryff & Keyes, 1995), that multidirectional effects for different well-being dimensions can occur simultaneously (Baltes, 1987).

Age Differences in Marital Status Continuity Effects

A number of interesting age differences in the effects of marital status continuity emerged from these analyses (see Tables 3.7 and 3.8). Midlife men evidenced significantly less of an increase in depression and less hostility (at a trend level) over a 5-year period of remaining separated or divorced than did younger men. Continuously separated or divorced midlife men also reported significantly more self-acceptance than younger men in this marital category. However, these same separated or divorced midlife men also reported significantly less personal growth than did younger separated or divorced men.

Continuously separated or divorced as well as continuously never-married midlife women reported significantly more positive relations with others, and continuously separated or divorced midlife women reported more autonomy than did younger women of the same marital status. Never-married midlife women also rated their personal mastery higher than younger never-married women. Continuously never-married midlife men, however, reported significantly less self-acceptance than never-married younger men. This latter case was the only one where age differences in the effects of remaining single favored young adults; in general, where age differences occurred, they suggested that single midlife adults fare better than single young adults (in response to Research Question 3).

Effects of Marital Status Change on Well-Being

Several significant well-being differences between the continuously married and those undergoing marital status transitions were also evident (see Table 3.6). The transition from marriage to separation or divorce was associated with an increase in depression and a decline in reported happiness in comparison to remaining married. Those who separated or divorced also reported less personal mastery, less positive relations with others, less purpose in life (at a trend level of significance), and less self-acceptance. Women who experienced marital dissolution reported significantly more of an increase in depression, more hostility, more of a decline in self-esteem, less personal growth (at a trend level), less self-acceptance, and less environmental mastery than men experiencing marital dissolution (all but the personal growth trend were further confirmed in subsequent analyses shown in Table 3.7).

The transition to widowhood in this sample was associated with lower ratings of hostility, personal mastery, and purpose in life. Gender interactions indicated that becoming widowed was associated with significantly more depression (trend level effect), more hostility, less self-esteem, and more purpose in life for women than for men. Subsequent analyses reported in Table 3.7 confirm that women, but not men, who were

Table 3.8 Unstandardized Regression Coefficients for the Effects of Marital Status Continuity and Change on Psychological Well-Being (Ryff scales) by Gender

Predictors	Positive Relations Women	Positive Relations Men	Purpose in Life Women	Purpose in Life Men	Self-Acceptance Women	Self-Acceptance Men	Environmental Mastery Women	Environmental Mastery Men	Autonomy Women	Autonomy Men	Personal Growth Women	Personal Growth Men
Age ≥ 40 (Time 1)	-.09	-.20	-.57***	-.53***	-.15	-.28†	.09	.08	.28*	.16	-.56***	-.55***
Marital Status												
Continuity												
Married (omitted)	—	—	—	—	—	—	—	—	—	—	—	—
Separated/Divorced	-1.86***	-1.73***	-.62*	-.61*	-1.15***	-1.86***	-.15	-.84†	-.09	-.33	.08	.74†
Widowed	-.68*	-1.08	-.85***	-1.02	-.61*	-.30	.12	-.43	-.07	.84	-.43†	-.41
Never married	-.74***	-.87***	-.01	-.31	-.53**	-.53**	.14	-.18	.19	.33†	.25	.65***
Age ≥ 40 × Separated/Divorced	1.12***	.71	.10	-.60	-.03	1.06*	.01	.46	.62*	-.05	-.25	-1.15*
Age ≥ 40 × Never married	1.06*	-.82	.72†	-.02	.32	-1.07*	.40	-.33	.22	-.17	.56†	-.51
Change												
Married→Separated/Divorced	-1.74***	-1.40***	-.49*	-.75*	-1.77***	-1.45***	-.86***	-.03	-.59**	-.42	-.13	.11
Married→Widowed	-1.87*	.02	-1.90	-2.58***	-.97	-.10	-.01	-.42	-.30	-.73	-.75	-.25
Never married→First married	.54**	.34	.39*	.75***	.73***	.35†	1.07***	.51**	.55**	.33†	.53***	.69***
Separated/Divorced/Widowed→Remarried	-.27	-.03	.30	.30	-.06	-.20	.52†	.55	.49†	.52	.65*	.58
Married→Separated/Divorced/Widowed→Remarried	.07	-.23	.41	.29	-.34	-.98*	.46	-.08	.53†	.36	.57*	.32
Unmarried→Married→Separated/Divorced/Widowed	-.71	-2.22***	-.11	-1.97***	-.79	-2.19***	.63	-1.12*	.42	-.58	.25	-.60
Age ≥ 40 × Married→Separated/Divorced	1.62***	.56	-.43	.80	.16	1.13*	-.18	-.42	-.14	.53	-.17	.46
Age ≥ 40 × Married→Widowed	1.80†	—	2.23**	—	.66	—	-.21	—	.70	—	1.18	—
Age ≥ 40 × Separated/Divorced/Widowed→Remarried	.77	.35	-.01	.41	03	.15	.26	-.07	.48	.18	.39	-.12
Time 1 Well-Being												
Depression	-.36***	-.46***	-.22***	-.23***	-.51***	-.52***	-.47***	-.54***	-.30***	-.24***	-.21***	-.24***
Constant	12.77***	13.87***	10.90***	11.11***	13.39***	13.67***	13.09***	13.90***	14.41***	14.47***	12.78***	13.25***
R^2	.11	.07	.14	.13	.14	.11	.09	.09	.04	.03	.12	.10

SOURCE: National Survey of Families and Households (1987–1993), primary respondents (N = 6,948).

NOTE: All models also include controls for race or ethnicity, employment status, years of education, household income, and presence of a child ≤ 18 in household.

†p ≤ .10. *p ≤ .05. **p ≤ .01. ***p ≤ .001 (two-tailed test).

widowed within the last 5 years report more depression. Men, but not women, who were recently widowed report significantly less hostility than continuously married men (see Table 3.7). Self-esteem differences between the recently widowed and the continuously married do not reach significance for men or women in separate analyses by gender. Lower reports of purpose in life are in evidence for both men and women in comparison to the continuously married, but for midlife women purpose in life does not appear to be as compromised as it is for younger women or men. These results provide partial support for our second hypothesis regarding the decline in well-being associated with transitions out of marriage.

Results reported in Table 3.5 indicate that becoming married for the first time within the last 5 years led to more of an increase in well-being than remaining continuously married on all outcomes except hostility and personal mastery for men (a significant gender interaction confirmed by subsequent results shown in Table 3.7 indicates that personal mastery was also increased by first marriage for women). These consistent beneficial effects among the newly first married suggest that the answer to the first part of Research Question 1—Is the transition into first marriage associated with increased well-being in contrast to remaining continuously married?—is an emphatic yes.

Becoming remarried, however, led to fewer positive effects (similar to the pattern reported by Spanier & Furstenberg, 1982), yet remarriage was also associated with higher reports of autonomy, personal growth, and purpose in life than those reported by the continuously married (a more limited affirmative answer to the second part of Research Question 1). This transition did not appear to have different effects for men in contrast to women.

Respondents who experienced both a dissolution or loss of spouse and a remarriage during this 5-year period were not ultimately very different in well-being from the continuously married, except they did report lower self-acceptance. Respondents who went from single to married and back to single again across this 5-year period showed clear evidence of poorer well-being in all dimensions other than autonomy and personal growth when contrasted with the continuously married. Several significant gender interaction effects for this group, however, suggest that women actually experienced less negative impact from making these multiple transitions than did men.

Age Differences in the Effects of Marital Transitions

Tables 3.7 and 3.8 provide evidence that age does have a moderating influence on the well-being effects of marital status transitions. Midlife women report less increase in depression and lower levels of hostility after a marital separation or divorce than younger women do. Women ages 40 and over who experienced marital separation or divorce also reported significantly better relations with others and more personal mastery than younger women. Midlife men experiencing a separation or divorce reported significantly more self-acceptance than younger men did.

A trend level effect indicates that midlife women who experience a transition to widowhood may experience more of a decline in global happiness than younger women. However, midlife women who were widowed, as noted previously, reported significantly more purpose in life, more personal mastery, and more positive relations with others (at a trend level of significance) than younger recent widows. In addition, the transition to remarriage was associated with significantly less depression for midlife women than younger women. Overall, in response to Research Question 3, we found that a transition out of marriage had less negative impact on the psychological well-being of midlife adults in contrast to young adults.

Discussion and Conclusions

These results from longitudinal data provide considerable support for the continuing importance of marital status for well-being. In support of our first hypothesis regarding the beneficial

effects of marriage, we found numerous cases where a significant negative change in psychological well-being occurred as a result of remaining in a particular single status over a period of 5 years in contrast to remaining married over the same period. We note also that across-sectional analysis of marital status differences would have clustered the newly married together with the continuously married. Our results revealing the considerable well-being boost that comes with becoming married for the first time suggest that the newly married are making a significant contribution to inflating the mean for psychological well-being among the married category in most cross-sectional studies. By distinguishing between the newly married and the continuously married, this study actually yields an even more conservative examination of marital status differences than is typical (e.g., using the GSS), because only veterans of marriage (with somewhat lower psychological well-being) were included in the continuously married comparison group.

The evidence from contrasts between those who experienced a marital transition out of marriage and those who remained continuously married also provides considerable support for our second hypothesis. We found the transition to separation, divorce, or widowhood to be associated with negative effects across several components of psychological well-being.

However, if marriage was always a positive robust influence on all dimensions of well-being, we would not expect to find any instance where the well-being of the married and the unmarried was the same, or where the unmarried evidenced better well-being than the married. Yet, our analysis of multiple dimensions of well-being in many cases does provide evidence of no difference between the continuously married and those who are unmarried or transitioning out of marriage. Indeed, in a few cases, contrary to our first and second hypotheses, the unmarried report better well-being than the married, for example, in their ratings of autonomy and personal growth. These inconsistencies in patterns across outcomes suggest that marriage is not a universal beneficial determinant of all dimensions of psychological well-being. It appears wise, therefore, to continue evaluating the effects of marriage on well-being with a multidimensional lens whenever possible, so that we can obtain a more precise understanding of how and when marriage is important for mental health.

Likewise, this complex analysis does not yield a clear and simple answer to our second research question regarding gender differences in the effects of marriage on psychological well-being. The effects of continuity in single status are not very different for women in contrast to men. Yet, in evaluating the effects of recent marital transitions to single status (i.e., married to separated, divorced, or widowed) we found that women are somewhat more negatively affected by such transitions than men (except in the infrequent case of unmarried to married to unmarried in 5 years). It may be that women experience the transition to single status with more difficulty due to a greater decline in income, a greater share of responsibility for child rearing, and poorer prospects for remarriage.

Regarding Research Question 3, our analyses reveal a number of interesting differences in the effects of marriage on well-being for midlife adults in contrast to younger adults. In most cases (the two robust exceptions being personal growth for separated-divorced men and self-acceptance for never-married men), age group differences suggest greater adaptability (evidenced by higher psychological well-being) among mid-lifers facing singleness or transitions to single status—that is, separation, divorce, or widowhood. This is a noteworthy developmental finding, because marital transitions after age 40 are less statistically normative (Uhlenberg et al., 1990), and usually non-normativeness is hypothesized to be associated with greater stress (Neugarten, 1979). In the case of marital status, however, it may be that a certain degree of expertise in handling life problems and self-management (i.e., wisdom?; see Baltes & Staudinger, 1993; Brim, 1992) has developed by midlife, allowing for significantly greater maintenance of psychological well-being while remaining single or adapting to a transition to single status.

We acknowledge several limitations to this analysis. We have examined a large array of psychological well-being outcomes here, yet we have still omitted other outcomes that might have been additionally informative in terms of psychological maladjustment or distress for men, for example, drinking, drug use, social isolation, and aggressive behavior (Aneshensel, Rutter, & Lachenbruch, 1991). Thus, the gender differences that we found due to transitions out of marriage (e.g., to divorce or widowhood) may have underestimated the impact of these changes on men due to our particular selection of psychological well-being outcomes.

Although we have described more marital status contrasts than any previous study, we still have been forced to omit additional contrasts that might have been further enlightening, for example, cohabitor status and additional duration in status measures. These differentiations are surely important (e.g., Mastekaasa, 1994) and would better describe the continuum of attachment that we agree characterizes contemporary marriage in the United States (Ross, 1995). To add these contrasts to our already lengthy list, we believed would overtax the analysis. A finer-tuned examination of select differences, looking more closely at duration and other potential mediating and moderating factors using the richness of the NSFH data is certainly now in order. For example, there is always heterogeneity in marital quality among the married; we might expect that for some persons in our analysis, ending a marriage may have led to less decline in well-being than remaining in a problematic marriage (Wheaton, 1990). Marital quality distinctions, therefore, might be usefully explored in future work.

This unique prospective study of the transition into first marriage, with its unusual and informative contrast to the continuously married, provided us with an opportunity to address the question (Research Question 1) of well-being differences between those continuously married and those transitioning into marriage. Our analyses yielded interestingly strong evidence that getting married for the first time leads to a considerable elevation in well-being. By comparison, remarriage did not provide nearly so much psychological benefit. What is tempering the "rush" here? These intriguing results also deserve further investigation by subsequent study.

We found it valuable to make distinctions between the life course transition to first marriage and transition to remarriage, as well as among the separated or divorced, widowed, and never-married adults, and we encourage the retention of similar distinctions to future researchers in this area. We also recommend continued attention to examining life span developmental (age) differences and both positive and negative dimensions of psychological well-being, to further a more complete understanding of the ways in which marital status continuity and change influences adult development and mental health.

Note

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90 • **READINGS IN FAMILY THEORY**

APPENDIX A

Descriptive Statistics for Analysis Variables

	Total Sample Mean (SD) N = 6,948	Women Mean (SD) n = 4,166	Men Mean (SD) n = 2,782
Demographic Characteristics			
Female	.52		
Age ≥ 40 (Time l)	.43	.44	.42
Black	.11	.12	.10
Employed	.73	.64	.82
Years of education	13.03 (2.78)	12.81 (2.64)	13.27 (2.90)
Household income (in thousands)	33.37 (41.52)	32.39 (39.58)	39.17 (44.52)
Missing on income data	.32	.30	.33
Child ≥ 18 in household	.42	.45	.39
Psychological Well-Being			
Depression	2.18 (1.16)	2.32 (1.11)	2.04 (1.19)
Depression (Time 2)	2.12 (1.13)	2.28 (1.11)	1.95 (1.12)
Global happiness	5.41 (1.32)	5.39 (1.36)	5.44 (1.28)
Global happiness (Time 2)	5.36 (1.31)	5.33 (1.35)	5.39 (1.26)
Self-esteem	4.12 (.59)	4.12 (.60)	4.12 (.58)
Self-esteem (Time 2)	4.10 (.63)	4.04 (.67)	4.16 (.59)
Personal mastery (1 item)	3.60 (.96)	3.56 (.98)	3.65 (.94)
Personal mastery (Time 2)	18.16 (3.4)	17.87 (3.48)	18.46 (3.28)
Hostility	3.22 (4.21)	3.42 (4.41)	3.01 (3.97)
Autonomy	14.48 (2.50)	14.36 (2.56)	14.61 (2.43)
Environmental mastery	13.79 (2.74)	13.64 (2.81)	13.94 (2.65)
Personal growth	15.13 (2.45)	15.16 (2.48)	15.10 (2.42)
Positive relations	13.70 (3.11)	14.02 (3.11)	13.35 (3.07)
Purpose in life	13.74 (2.87)	13.68 (2.89)	13.82 (2.84)
Self-acceptance	13.84 (2.74)	13.78 (2.78)	13.90 (2.70)
Marital Status			
Continuity			
Separated/Divorced	.07	.10	.05
Widowed	.02	.03	.004
Never married	.17	.14	.20
Age ≥ 40 × Separated/Divorced	.05	.06	.03
Age ≥ 40 × Never married	.02	.02	.02
Female × Separated/Divorced	.05		
Female × Widowed	.02		
Female × Never married	.07		

	Total Sample *Mean (SD)* *N = 6,948*	*Women* *Mean (SD)* *n = 4,166*	*Men* *Mean (SD)* *n = 2,782*
Change			
Married→Separated/Divorced	.06	.06	.06
Married→Widowed	.02	.03	.004
Never married→First married	.09	.08	.11
Separated/Divorced/ Widowed→Remarried	.03	.03	.03
Married→Separated/Divorced/ Widowed→Remarried	.02	.02	.02
Never married→Married→Separated/ Divorced/Widowed	.01	.01	.01
Age ≥ 40 × Married→Separated/Divorced	.02	.02	.02
Age ≥ 40 × Married→Widowed	.01	.02	—
Age ≥ 40 × Separated/Divorced/ Widowed→Remarried	.01	.01	.02
Female × Married→Separated/Divorced	.03		
Female × Married→Widowed	.01		
Female × Never married→First married	.04		
Female × Separated/Divorced/ Widowed→Remarried	.02		
Female × Married→Separated/ Divorced/Widowed→Remarried	.01		
Female × Unmarried→Married→ Separated/Divorced/Widowed	.01		

SOURCE: National Survey of Families and Households (1987–1993).

NOTE: Descriptive statistics calculated using weighted data. Dichotomous variable means are proportions.

APPENDIX B

Index Items

I. Ryff Psychological Well-Being Scales (rated on a 6-point scale: strongly disagree to strongly agree)

Autonomy
I tend to be influenced by people with strong opinions.[a]
I have confidence in my opinions, even if they are different from the way most other people think.
I judge myself by what I think is important, not by the values of what others think is important.

Positive Relations With Others
Maintaining close relationships has been difficult and frustrating for me.[a]
I have not experienced many warm and trusting relationships with others.[a]
People would describe me as a giving person, willing to share my time with others.

Purpose in Life
I live life one day at a time and don't really think about the future.[a]
Some people wander aimlessly through life, but I am not one of them.
I sometimes feel as if I've done all there is to do in life.[a]

Self-Acceptance
I like most parts of my personality.
When I look at the story of my life, I am pleased how things have turned out.
In many ways, I feel disappointed about my achievements in life.[a]

Environmental Mastery
The demands of everyday life often get me down.[a]
In general, I feel I am in charge of the situation in which I live.
I am quite good at managing the many responsibilities of my daily life.

Personal Growth
I gave up trying to make big improvements or changes in my life a long time ago.[a]
I think it is important to have new experiences that challenge how you think about yourself and the world.
For me, life has been a continuous process of learning, changing, and growth.

II. Self-Esteem Scale
Please indicate how much you agree or disagree with the following statements:
On the whole I am satisfied with myself.
I am able to do things as well as other people.
I feel that I'm a person of worth, at least on an equal plane with others.

III. Personal Mastery Scale
Please indicate how much you agree or disagree with the following statements:
I can do just about anything I really set my mind to.
Sometimes I feel that I'm being pushed around in life.[a]
There is really no way I can solve some of the problems I have.[a]
I have little control over things that happen to me.[a]
I have always felt pretty sure my life would work out the way I wanted it to.

a. Item reverse coded.

IV. Center for Epidemiological Studies Depression Scale (CES-D)
On how many days during the past week did you . . .
   Feel you could not shake off the blues even with help from your family and friends?
   Feel bothered by things that usually don't bother you?
   Feel lonely?
   Feel sad?
   Feel depressed?
   Have trouble keeping your mind on what you were doing?
   Not feel like eating, your appetite was poor?
   Feel everything you did was an effort?
   Feel fearful?
   Sleep restlessly?
   Talk less than usual?
   Feel you could not "get going"?

V. Hostility Scale
On how many days during the past week did you . . .
   Feel irritable, or likely to fight or argue?
   Feel like telling someone off?
   Feel angry or hostile for several hours at a time?