CHAPTER 1

# A View on Midlife Development from Life-Span Theory

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## HAS DEVELOPMENTAL RESEARCH SO FAR NEGLECTED MIDLIFE?

HISTORICALLY, DEVELOPMENTAL PSYCHOLOGISTS have concentrated largely on childhood and adolescence, detailing the challenges of and progression through these life phases. That trend has changed over the past 40 to 50 years as adult development has increasingly become a topic for research. So far, however, this research has focused primarily on later life. The existence of the whole field of gerontology provides evidence of the importance that psychology and other disciplines have attached to understanding late adulthood. When one looks across the life span, the gap in research on midlife development is apparent. Several books, however, have provided a useful foundation to begin filling this gap (e.g., Lachman & James, 1997; Rossi, 1994; Ryff & Seltzer, 1996; Shweder, 1998; Willis & Reid, 1999). To start our discussion of midlife from a life-span developmental perspective, we examine the reasons for the relative scarcity of theory and research concerning midlife.

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*Note:* The adjective "life-span" is used for consistency with other chapters, although the authors use "lifespan" in other publications.



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### IS MIDLIFE A DISTINCT PHASE OF LIFE?

One reason for the scarcity of research on midlife may be that there is no clear demarcation of midlife, at least not as clear as the ones for childhood as the beginning and for old age as the end of life. Thus, the first intriguing question to answer is whether midlife indeed exists as a life phase, and if so, when it begins and ends.

Although age 30 is a cultural marker of adulthood, it is an ambiguous signal of the beginning of middle age. While media messages tell individuals that they are leaving youth behind at age 30, people do not really experience the largely negative, cultural press of being "over the hill" until age 40 (Brooks-Gunn & Kirsh, 1984; Whitbourne & Connolly, 1999). Several researchers have noted that chronological age is a much more useful predictor of children's abilities than it is of adults' development (e.g., Baltes, Reese, & Lipsitt, 1980; B. Neugarten & Datan, 1996; Whitbourne & Weinstock, 1979). In general, midlife is an uncharted period in which chronological age does not seem to be a salient marker. Despite this, the studies reviewed next suggest that some agreement exists in lay theories of when midlife begins and ends.

What can be learned from individuals' subjective conceptions of when midlife begins and ends? In a sample of middle-aged respondents (B. Neugarten, Moore, & Lowe, 1965), the most frequent conception of a middle-aged man or woman was of someone who was 40 to 50 years old. Interestingly, in the same sample, to be labeled "young," individuals had to be between 18 and 24, and to be "old" was reserved for those 60 to 75 years of age. Thus while people may have a central conception of who is middle-aged, it leaves gaps in the life span. Age 40 is middle-aged, but what about the period between 24 and 40 years, and that between age 50 and 60? This border area on either side of the central period of middle age leaves room to interpret one's own, and others' middle-aged status. This notion is supported by a large, life-span study of subjective age that found that individuals in the 30-to-40 age range exhibit the greatest variability in reporting their subjective age (Goldsmith & Heiens, 1992).

Similar research has identified a more differentiated profile of midlife and where it fits into the life span (Shanan & Kedar, 1980). Participants from adolescence through 78 years, were asked to divide the life span into as many periods as they saw fit. The periods describing the central part of the life span included adulthood (30–50 yrs.), and middle adulthood (50–60 yrs.). This points to the same conclusion as previously discussed, though with a somewhat different age range. Individuals may see middle age as a fairly defined period, while viewing the transition into that period as largely undefined so that the transition period might or might not also be considered part of middle age. The period that is simply called

"adulthood" by these respondents may provide a wide boundary for an individual's progression into the midlife period. Another way to look at the period called "adulthood" by this group is that middle age is the part of life that needs no qualifier. One is neither young, nor old. Thus, this finding suggests that middle age may be the period in which one simply is an adult, and that means being in the middle of the two other more defined categories, early and late adulthood.

In two other studies, corresponding normative conceptions of the age at which midlife begins and ends have been identified (Cameron, 1969; Drevenstedt, 1976). These two studies suggest that middle age is the period between 40 and 55 years, thereby encompassing parts of both periods identified in the studies reviewed earlier. Generally, one might conclude that midlife begins somewhere around 40 and ends by 60 (see also MIDMAC, 1999), but that at both edges of midlife there is a flexible, vague boundary. One factor affecting how people define midlife is their own current age. Thus, in two of the reported studies, the respondents—who were themselves middle-aged—suggested a later ending for midlife (55 or 60 instead of 50 years), and also used a higher age boundary to describe when individuals enter old age (65 instead of 60 years; Cameron, 1969; Drevenstedt, 1976).

Another factor affecting how society, and individuals, define midlife is the cohort to which they belong. In fact, it is demographic changes (especially declining birth rate and increased life expectancy) that are seen as responsible for the current societal view of midlife as a discrete period (in Western cultures; Gullette, 1998). Thus, given the changes in the societal and life-course structures, a definition of midlife linked to chronological age most likely will differ between cohorts (see also Schaie & Willis, 1986). Taking a life-span perspective encourages a definition of midlife that abstracts from chronological age. It considers the multiple contexts of midlife and their related opportunities and challenges, as well as the resources available and their distribution.

Midlife may be the most central period of life, that which is referred to generally when aiming at adulthood without qualifying it as either "early" or "late." Its exact age boundaries are unclear, and while the time from age 40 to 60 seems to comprise middle age, the boundaries are open to interpretation. Interpretation may be affected by one's own current age, as well as the historical period. This lack of a precise definition and the sense that it may not be well described by reference to chronological age but instead involve subjective perceptions of multiple paths through various domains, may have restricted the development of a clear agenda for research. The limited value of chronological age with regard to defining midlife shifts our attention to the developmental tasks of midlife. Again, however, not just a single task but several challenges can be identified.



Thus, as elaborated later it may be useful to define midlife using metacharacteristics.

### Does Midlife Present Life Problems Worth Psychological Study?

A second reason midlife may have been understudied is a seeming lack of societal and psychological reasons to do so. In the past 50 years, psychologists have focused on the study of areas in which individuals have problems negotiating life (Seligman & Csikszentmihalyi, 2000). Thus, one reason midlife was not studied was that it was not considered a particularly problem-stricken phase of life. From a societal perspective, by midlife investment in socialization on average should have paid off. By this point, individuals should have been socialized into roles and are usually contributing to society. Consequently, they neither need more socialization investment (as children do) nor do they normatively require external help and care due to health or frailty issues (as old and very old adults may). They provide no problems that psychologists, and more generally society, must respond to; they are, instead, one of the pillars that maintain societal functioning. In contrast, the identification of old age as a societal problem because of the growing number of older people in Western industrial nations has contributed to increased gerontological research. Further, the perception that midlife does not present particular problems to individuals may help explain why psychological research has not yet made midlife a focus of attention. When our perspective, however, focuses on understanding basic developmental processes as well as the ways to support successful development, midlife is rich in aspects to be explored.

Midlife may be better defined by a pattern of characteristics than simply by chronological age. As such, the relation of chronological age to social, psychological, and biological age may offer a way to study midlife in context. There is no consensus that any single biological or social event constitutes the lower boundary of middle age, and retirement can be seen as an upper boundary, in some cohorts, only for men (B. Neugarten & Datan, 1996). Some have suggested that middle age is the time between when the youngest child leaves home and when the spouse dies (Treas & Bengtson, 1982). Although specific events such as these play critical roles, individuals measure their age and life phase using a combination of social, psychological, and biological markers that are only sometimes tied to particular events (see also Moen & Wethington, 1999).

Although no consensus exists concerning the entry and exit points of midlife, there is more agreement concerning the sequence of developmental tasks that normatively occur in this period. By midlife, individuals are expected to have established a family, found a clear career direction in

which they will peak during midlife, and have taken on responsibility with respect to their children, their own aging parents, and sometimes their community. These multiple roles influence the ecology of midlife for each individual (Reid & Willis, 1999), as well as provide individuals with the chance to customize their own experience (Moen & Wethington, 1999).

While midlife itself has been relatively understudied, research pertinent to midlife appears in the domains and events that are central to its definition. When considering the social, psychological, and biological experience of midlife, relevant research is available in several areas: the social domain (e.g., family and parenting, friendship across the life span), the psychological realm (e.g., change and continuity in self, personality, and well-being), and the biological arena (e.g., changes in sexual function and bodily functions—menopause, incidence of disease). Researchers have explored such topics as the "midlife crisis" (Jacques, 1965), menopause (Voda, Dinnerstein, & O'Donnell, 1982), the effects of caring for both children and aging parents ("the sandwiched generation"; Davis, 1981); the "empty nest" (e.g., Rubin, 1979); and the transition to retirement and leisure (Atchley, 1982).

Taking this task- or event-specific perspective, the oft-made claim that little research exists on midlife may be overstated. In fact, many research areas provide useful information for understanding the multiple challenges and problems of midlife development. However, midlife has only recently been identified as a developmental period worth studying as a whole. One of the current challenges to the field is to integrate findings from various areas to develop a view of the important events and transitions of midlife, whether these be drawn from work that is largely psychological, social, or biological. Life-span theory offers the opportunity to view these multiple contexts of aging as interrelated. From there, research designed with a focus on midlife may examine events and transitions in terms of both problems and achievements (see also Heckhausen, Chapter 11 this volume, for a discussion of midlife as a time of both vulnerability and resilience).

## MIDLIFE: IS IT MORE THAN ONE PHASE?

A final reason that midlife may have received relatively little specific research attention is that it may be too heterogeneous a phase. Not only do individuals take different pathways through midlife (interindividual variability; Moen & Wethington, 1999), but it is a life phase in which one is both leaving youth and entering old age. The beginning of midlife and the latter part of midlife have similarities, but also have quite different demands (Goldhaber, 1986). Previous research on midlife has sometimes



painted it as a time of crisis, sometimes as the prime of life, and sometimes as a period of stability and routine (Farrell & Rosenberg, 1981), thus making it difficult to form an integrated view from which to generate research.

Consideration of the possibility of a young-midlife and a late-midlife may add precision to our research endeavors. It may also make it possible to reconcile seemingly contradictory findings. The first part of midlife may involve more growth and building of resources than losses, and that relation may start turning around toward the end of midlife (Bühler, 1953). While young-midlife involves consolidating family and career, issues of late midlife may revolve around such things as health concerns, preparing for retirement, and becoming a grandparent. When entering midlife, one still feels young, and the sense that one is reaching the midpoint of life is something that must be weighed, considered, and accepted. By the time one is leaving midlife, this transition is complete and the issue is no longer one of realization but of finding ways to lead a fulfilling life despite inevitable losses (e.g., B. Neugarten & Datan, 1996).

Although other reasons may also exist for the historical paucity of research interest in midlife, we have identified three major reasons: Midlife is not easily defined in terms of chronological age; from a societal and probably also individual perspective, it does not present problematic events and transitions; and it may be better conceptualized as two distinct phases. As discussed later in this chapter, these barriers to the productive study of midlife are effectively eliminated when one views midlife through life-span developmental theory.

## A SELECTIVE REVIEW OF THEORETICAL PERSPECTIVES ON MIDLIFE

In this section, we provide a selective review of some theorists who have either directly discussed midlife or made salient observations concerning midlife as part of a larger theoretical framework. The review is not exhaustive but considers the way the middle period of life has been conceptualized, especially the convergence between viewpoints. This convergence serves as a guideline to the critical themes that must be included to provide an overarching theoretical approach to middle age. The section is organized around three of these themes: time orientation, the balance between work and relationships, and opportunities for growth and generativity.

### SOCIAL, BIOLOGICAL, AND PSYCHOLOGICAL TIME: BÜHLER'S AND NEUGARTEN'S CONTRIBUTIONS

The first salient theme that has guided previous theories of midlife is the extent to which development in this period is biologically versus socially

structured. As opposed to early development, in which biological unfolding plays a key role in the individual's progress, adulthood is governed more by social, cultural, and environmental constraints and opportunities (Baltes, Lindenberger, & Staudinger, 1998) though certain biological events may also be important (e.g., menopause; Parlee, 1984). While early childhood may be characterized as running on a biological clock, much of adulthood is governed more, or at least conjointly, by a social clock (B. Neugarten et al., 1965). This notion of the clock of life, whether biological or social, brings our attention to the *temporal aspect* of life-span development, and particularly what it means to be "in the middle."

Neugarten's work (for a compilation, see D. Neugarten, 1996) challenges researchers to critically examine the role of time in development by asking whether the way in which developmental psychology has studied children is also appropriate for the study of adults. While she supports research approaches that examine continuity as well as those that examine discontinuity, the most interesting contributions of her thinking about midlife come from examining discontinuities. Primarily, she argues that adults' sense of time and timing plays a role that is not seen earlier in life. One no longer measures life as time since birth, but as time left to live. For adults, the blending of past, present, and future becomes a psychological reality (e.g., Ryff, 1991). This changing view of time allows adults not only a sense of self, but a sense of self across time, that is, a sense of their own life cycle. Middle-aged individuals evaluate themselves as having shown personal growth since their younger years, and look to the future with the expectation of further personal growth (Ryff, 1991). In late midlife, one may begin to contemplate the end of the life cycle. This sense of impending endings has been linked to increased socioemotional selectivity (e.g., Carstensen & Turk-Charles, 1998).

B. Neugarten points out that awareness of one's own life cycle has consequences for the individual's goal choices and priorities, and it also allows for comparison with others. The individual compares his or her own progress through the life cycle with a view of the expected, or normative, societal timing of major events and transitions. When studying midlife, researchers are alerted to examine not only what events are important for adaptation, but also how the on-time or off-time sequencing of major life events changes how they are experienced, or what they mean to the individual. She suggests that this "normal, expectable life cycle" that individuals carry in their heads allows them to compare themselves to their peers in terms of how they are facing both occupational and family challenges in midlife. Research has shown that individuals do indeed carry stereotypes about what one should have accomplished by midlife and use them to make judgments about others (e.g., Krueger, Heckhausen, & Hundertmark, 1995).



Midlife has been seen as a plateau, as a peak, and as a crisis (e.g., menopause, men's declining sexual prowess, midlife depression, retirement, the empty nest). The importance of timing may be helpful when it comes to deciding between the three. Although a minority of individuals may react to the normative transitions of midlife with nonadaptive styles, this is true of any life stage (B. Neugarten & Datan, 1996). As such, midlife is seen by Neugarten as a potential period of crisis only to the extent that the normative events of midlife are experienced off-time, or to the extent that normative progress through this life phase is interrupted by unexpected events. In addition, while midlife events sometimes require major coping efforts, people often view them in retrospect as being meaningful turning points through which they gained new insights (Wethington, Cooper, & Holmes, 1997).

Besides the timing of major events (e.g., marriage, childbearing, widowhood), B. Neugarten also outlines such transitions as the increasing responsibility for aging parents, the awareness of the self as the bridge between generations, the need to establish relationships with adult children's marriage partners, and grandparenthood, as important for midlife development. In facing these relationship challenges, as well as the occupational challenges of midlife, the emerging theme in midlife is the view of self as the socializer, no longer the socialized. Thus, Neugarten's view of midlife emphasizes the maturity of the individual at midlife, with the capacity for taking on important roles and purposively acting to create benefits for oneself and others. In this way, she addresses generativity through her discussion of adulthood as a time when one creates not only biological but social heirs.

Through the choice and pursuit of life goals, and through the ability to selectively assess and reassess one's path through adulthood, the individual is the creator of his or her own environment in midlife. The extent to which one effectively interacts with, and changes his or her environment, or even sees the need to make his or her own choices, depends on that person's own life history, including social factors such as class and culture (Baltes et al., 1998; for a review of culture and midlife, see Shweder, 1998).

If midlife is a time of challenge and potential stress (e.g., the conflict between caregiving and career; see Marks, 1998), it is also a time of achievement. This emphasis on the creative activities and products of the middle-aged, and how they are related to time perspective, is fundamental to the view of the life course outlined by Charlotte Bühler (1968). Her humanistic view of life-course development emphasizes the pursuit of goals to establish meaning and reach fulfillment in life. Thus, she views the individual as attempting to harmonize the duality between seeking comfort and accomplishing selected goals. The extent to which one tends toward accomplishment over comfort depends, among other things, on

one's temporal perspective. Bühler contends that though we live in the present, we have goals that reach into the future, and we are always affected by our past. Those who mostly focus on the present (e.g., children) seek largely comfort. The period of midlife brings the consideration of past and future into balance; the individual tries to use what has been learned in the past to promote future goal achievement and fulfillment. In this view, while midlife is a biological midpoint or a time when physical growth is complete and decline has not yet really begun, midlife also offers as yet unknown possibilities for self-fulfillment and accomplishment through balancing the past and the future. This potential is also reflected in Maslow's (1962) claim that self-actualization is not possible at least until one leaves the period of youth.

As individuals progress through the life cycle, with both the biological and social clocks ticking away, the accumulation of experience and the varying ways in which individuals have organized that experience, lead them to very different places. The experience of the diachronicity of life (i.e., extending into the past and the future) taking center stage in adolescence plays a central role in midlife (see Staudinger, 1999).

As described in the section on life-span developmental theory, the view of life as having a temporal flow in which midlife is both the result of one's previous developmental history, and a staging ground for later life, is taken up in one of the propositions of life-span psychology. While life trajectories become more varied as we move across the life span, two domains—family and career, or love and work—are important for most individuals at middle age. Several researchers have focused on the normative stages that may be expected as people attempt to achieve a balance in these two domains, and others, across midlife.

### Finding a Balance: Jung's and Levinson's Theories

A second theme seen in previous theorizing is the idea of midlife as a time when individuals are attempting to find balance in various ways. Part of Jung's view (1971) is that midlife is a time when a more whole and balanced gender identity begins to emerge that allows individuals greater autonomy over choices and roles than is offered by the unitary, society-driven, sex-role orientation of the young. More recent empirical work has suggested that when individuals move toward a more androgynous identity in midlife, this may be a source of pleasure, but sometimes also causes embarrassment (Huyck, 1999).

In combination with this move toward androgyny, Jung postulated that midlife is a time when one's level of extraversion and introversion also come into greater balance. He argued that young adulthood demands a largely extraverted orientation to meet the challenges of establishing



work and family, and the middle years allow for a balancing in which individuals also begin to turn inward and explore their own subjective experience to a greater extent. In general, Jung viewed midlife as a turning point at which one gradually comes to realize that the values and ideals developed earlier in life are not sufficient for moving meaningfully through the second half of life. He states, "We cannot live the afternoon of life according to the program of life's morning; for what was great in the morning will be little at evening, and what in the morning was true will at evening have become a lie" (Jung, 1971, p. 17). Other theorists pick up this theme by examining the types of challenges that are specific to midlife.

Levinson's (1978) stage theory of adult male development is based on his research on the similarities in the patterns of men's lives across the adult years. Here again, we see a consideration of the extent to which interaction of biological and social influences affect the structure of midlife. A purely biological view might frame midlife as a plateau between the growth of youth and the decline of later life. While that may be the approximate biological architecture of midlife, Levinson set out to determine if there are also social patterns of development within adulthood. Thus, his theory is similar to Neugarten's, in that it is based on the idea that while biological changes may result in stages of development in childhood, social and cultural changes are just as likely to structure the life course in predictable ways in adulthood. According to Levinson, early adulthood (about age 18–45) is conceived as a time in which men establish an adult identity and take up the challenges of settling themselves in the workforce, develop an intimate partnership, and start a family. Middle adulthood (about age 45–65) is a time when men have often achieved these earlier goals, but are striving to find meaning in life more generally. He posited the midlife crisis as an attempt for men to review their lives and reorder their priorities. Here the temporal theme reviewed in the preceding section emerges again. The crisis is a result of looking at one's achievements thus far and questioning their meaningfulness in terms of the life lived and life left to live. In Levinson's sample, the resultant changes in priorities often involved more emphasis on relationships and less on career than was seen in earlier adulthood. Though the notion of a midlife crisis as normative has been debated (for a review, see Rosenberg, Rosenberg, & Farrell, 1999), this change in priorities reflects another basic tenet of much thinking about midlife, that a major task is to find an adaptive and meaningful balance between love and work, or communion and agency in one's life.

Because of the often different nature of women's roles and responsibilities in midlife, Levinson's theory does not describe women's experience particularly well. Although with women's increasing involvement in the labor force, some of his ideas surely are applicable. Frieze (1978) has

described the complicated scenario that greets women in midlife (at least current midlife cohorts): Since women are usually primary caregivers to children, and sometimes also to aging parents (both their own and their husband's), their ability to balance agency and communion is further challenged. Often, women must step out of their career path, or reduce their involvement in career, to have and raise children. In such cases, women must begin to establish a career, and then reenter the workforce once their children enter school. The ways that women make choices concerning tradeoffs between work and family may be affected by the extent to which they are socialized to place value on independence and affiliation (Gilligan, 1982). More generally, gender may be as important as life stage in understanding individuals' attitudes and feelings concerning marriage, parenting, and friendships (e.g., Huyck, 1999; Lowenthal, Turner, & Chiriboga, 1975).

The reviewed theories converge on the notion that midlife is an important time for finding balance. It has been suggested that underlying the balancing and reprioritizing the importance of agency and communion in midlife is a more fundamental change in individuals' gender identity. Jung (1971) introduced the idea that individuals move from sex-role stereotyped behavior in young adulthood to a more balanced gender profile across midlife. While both men and women must balance the dual challenges of work and relationships across midlife, their trajectories through midlife are affected by the value they place on these two domains and on societal gender-stereotyped expectations concerning their commitment to each domain. Life-span developmental theory puts these particular ways in which individuals strive for balance in midlife in a larger perspective. As discussed in the section on life-span theory, the ability to achieve balance may be based on a successful matching of investment of resources and life demands in midlife.

### Havighurst and Erikson: Generativity in Midlife

While much research focuses on the challenges of midlife and the conflicting demands of work and family, or caregiving for both children and elders (not necessarily simultaneously), concepts such as "life as learning" and "generativity" put the challenges of midlife in a positive light. Havighurst (1972) viewed not only midlife but each life phase as a time for attempting and achieving various developmental tasks. Each life phase presents the individual with a new set of life conditions to be met with, and so "the human individual learns his way through life" (p. 1). The emphasis on learning and mastering tasks reflects the underpinnings of the theory: The course of adult development is prescribed to some extent by societal institutions (e.g., family, church, government,



media, economy) and individual development occurs within that larger framework. Thus, the individual is challenged to contribute not only to the well-being of self and family but also to the larger community.

Havighurst also sees two of the general tasks of middle age as reaching and maintaining a satisfactory career level, and maintaining positive relationships: relating to one's spouse as a person, helping teenage children prepare for the adult world, and adjusting to and assisting aging parents. These goals mirror the concerns with agency and communion seen in other theories, but additional developmental tasks are also seen as particularly important in midlife. These include accepting the physiological changes of midlife, achieving adult social and civil responsibility, and developing satisfying leisure-time activities. As such, Havighurst's view of midlife extends beyond the psychosocial life (career and relationships) to also include both higher (societal responsibilities) and lower (biological concerns) levels of analysis. All these developmental tasks are both structured by society and chosen by the individual, and offer opportunities for the middle-aged individual to learn more about life and about the world while making a contribution to others' well-being.

Erikson's (e.g., 1980) view of development also puts midlife in a larger context by adopting a life-span perspective in which life tasks (psychosocial crises) are generally age-graded, but also cumulative across life, and open to reemergence depending on life circumstances. His stages of industry, intimacy, and generativity are respectively expressed in the challenges of career, marriage, and parenting. While all three remain important across adulthood, the challenge of generativity versus stagnation is specific to midlife. Erikson argues that it is in this period that the mature individual has the skills and resources to give to others. He defines generativity as any activity that is motivated by concern for the next generation. Thoughtful and caring parenting involves generativity, though having children in itself does not resolve this psychosocial task. Through giving, or concern for the next generation, adults not only assist others or develop society, but are able to step outside their own concerns to expand their view of life beyond themselves and their own time. Erikson claimed that this new perspective wards off feelings of self-centered stagnation and offers new insights into one's own life. Thus, midlife brings with it, at least for some segments of the population, an opportunity for assuming responsibility and authority, and a greater sense of self-direction and self-understanding (Goldhaber, 1986). The middle years are ones in which individuals act as leaders of families, organizations, and communities (Schaie & Willis, 1986). Their engagement in these multiple roles, and through it their generativity, has been linked to later well-being (e.g., Vandewater, Ostrove, & Stewart, 1997). While generativity involves giving of

oneself to others, particularly the next generation, individuals may also benefit in terms of well-being by feeling that they have made a meaningful contribution to society as they enter their later years (Keyes & Ryff, 1998).

McAdams and de St. Aubin (1992) have elaborated Erikson's view of generativity in a psychosocial model (see also McAdams, Chapter 12, this volume). Inner desires and cultural demands are seen as working in tandem to influence one's concern for the next generation and belief that the human enterprise is meaningful or worthwhile. These beliefs, desires and demands lead to generative activities such as creating or maintaining things that benefit the community. One of the reasons midlife is a prime time for generative acts is that this is when the demands of work and family challenge individuals to make agentic and communal offerings of themselves to their offspring and to the larger community. These generative achievements often become part of the individual's life story or conception of self (McAdams, Hart, & Maruna, 1998) and are often remembered when older adults look back at midlife (Conway & Holmes, 1999).

Individuals may, however, enter midlife with different capacities for achieving generativity. Social structure affects individuals' health and educational opportunities and thus may indirectly affect their opportunities for generativity and well-being (Baltes et al., 1998; Ryff & Singer, 1998). What types of factors affect the extent to which people are generative in midlife? Havighurst's (1972) notion that the tasks of midlife are set by societal expectations and constraints, and Erikson's (1980) view of the individual placing him- or herself in a wider temporal and historical context through generativity, are concepts that are further elaborated in contextualistic views of development, such as Bronfenbrenner's (1979) human ecology model of development. While stage theories that describe how people normatively progress through adulthood have merit, the individual life circumstances of each adult also influence development, resulting in individual trajectories through midlife. The human ecology model delineates influences in the immediate environment (e.g., workplace, home), the interrelation of various integrated and conflicting environments (e.g., having a part-time job while raising a child), as well as the larger external environment (e.g., living in a city versus a rural home). Finally, the overarching values of one's culture and society influence life choices and development. While midlife may present all individuals with the same fundamental tasks, the exact nature of those tasks and the opportunity for mastery, and therefore for generativity, also differ somewhat from one individual to the next. Life-span theory has made such a contextualistic view of development a cornerstone (cf. Baltes et al., 1980).

A person who is in the middle years, realizing that time passed and time left to live may be equal, and facing the need to balance career and



family, is also in a prime period for achievement; for giving to others; and for learning about oneself by what he or she gives to others. According to Erikson, resolution of this midlife developmental task sets the stage for the development of integrity in later life.

In this section, we have reviewed several prominent and partially contradictory theories of midlife with special focus on three themes: time perspective, balancing life demands, and generativity. Research on midlife has not always, or maybe even often, been guided by theory. While sometimes based within a theoretical framework, much research on midlife has focused on specific life events or situations that normatively occur in midlife. The life-event framework for studying adult development examines the critical events and transitions that individuals face, how they cope with those transitions, and how this results in functional and dysfunctional outcomes for different individuals (Hultsch & Plemons, 1979). Besides an analysis of specific events, the timing, sequencing, and accumulation of life events and transitions are also important to the trajectory that individuals face, and how they adapt to midlife and aging (Lerner & Hultsch, 1983). In the following section, we present the life-span perspective on midlife development. It demonstrates how life-span theory not only incorporates many important features of past theoretical work on midlife but also provides a sophisticated framework for future theory development and empirical research that may further our understanding.

## A View on Midlife Development from Life-Span Theory

What is life-span developmental theory? Why would we expect to learn something new about midlife by taking this perspective? In the following pages, we present six central propositions of life-span theory (see also Baltes et al., 1998; Staudinger, Marsiske, & Baltes, 1995), show how these relate to the central themes in extant midlife research and theory, and develop the consequences that these propositions may have for the study of midlife. Table 1.1 summarizes the propositions as well as the implications for the study of midlife development.

For many people, life after young adulthood is still connected with negative stereotypic expectations, such as the belief that middle-aged people are either crisis-stricken or bored, and that old age is largely a period of decline and despair. The life-span view presented here argues against such simplistic views of development. Conceptualizing development across the life span as multidimensional, multidirectional, and modifiable challenges models of midlife development and aging that are oriented exclusively toward decrements (Baltes, 1993; Riley & Riley, 1989; Rowe & Kahn, 1987).

**Table 1.1**
Summary of Life-Span Propositions and Their Implications for the Study of Midlife Development

| Concept | Proposition | Implications for the Study of Midlife Development |
|---|---|---|
| Life-Span Development | Ontogenetic development is the lifelong change in adaptive capacity influenced by biology and culture. No age period holds supremacy in regulating the nature of development. | What are the particular characteristics of development in midlife? It isn't useful to study midlife in isolation. It is crucial to consider precursors and outcomes of midlife. |
| Development as Gain-Loss Dynamic | Development implies not only growth (gains) but also decrements (losses). With increasing age, losses outweigh gains. A multidimensional, multidirectional, and multifunctional conception of development results from this perspective. | Midlife is characterized by a "tie" in the relation of gains to losses. Some domains of functioning are still increasing, many maintain functioning, while others have already begun to decline. |
| Life-Span Changes in the Dynamic between Biology and Culture | Biological influences on development become more and more detrimental with increasing age. Cultural support of development continues and is needed more with increasing age. | Midlife and midlife are not the same. Given the changing ratio of gains and losses, there may be a need to distinguish between early and late midlife. |
| Life-Span Changes in the Allocation of Resources | In conjunction with the culture-biology dynamic, an age-related reduction in overall resources is assumed. Resources are used to serve three major functions: growth, maintenance and recovery, and regulation of loss. As losses increase with increasing age, maintenance, recovery, and regulation of loss become more and more prominent. | Midlife is characterized by many challenges and threats as well as resources. Thus, midlife implies a major effort in managing resources and needs. Though maintenance and recovery may be most prominent in midlife, both growth and loss management are also invested. |

*(continued)*



**Table 1.1 Continued**

| Concept | Proposition | Implications for the Study of Midlife Development |
|---|---|---|
| Life-Span Development Is Modifiable | Throughout life, development demonstrates plasticity. The range and limits of developmental plasticity are central to life-span research. | Even though the range of selection is reduced by midlife, there still is possibility for change. Examining the range and limits of plasticity in midlife puts an emphasis on optimization instead of repair. |
| Ontogenetic and Historical Contextualism | The influences of biology and culture follow three logics: age-graded, history-graded, and nonnormative. | The characteristics of midlife are cohort-specific and may depend on the cultural-historical context. |

*Source:* Modified and extended from Baltes, Lindenberger, and Staudinger, 1998.

## Defining Life-Span Development

The first proposition of life-span theory is that ontogenetic development is the lifelong *selective change in adaptive capacity* as it is influenced by the interaction between biology and culture. No age period holds supremacy in regulating development. The central feature of the developmental process is "transactional adaptation" (e.g., Lerner, 1984, 1986) or "person-environment interaction" (e.g., Magnusson, 1990). Development is not simply the passive unfolding of prewired maturational programs, or the mechanistic reaction of organisms to environmental stimuli. Development is the outcome of a constant and active process of the individual's transaction with changing contextual influences, including age-graded changes of the genome and historical transformations of society. The individual is actively selecting developmental contexts, can change contexts, and is simultaneously changed by contexts. Such ideas have been perfectly captured by the concept of developmental tasks introduced by Erikson and Havighurst.

This notion implies that biological models that view development as being limited to the first half of life, and as being followed by aging in the second half are inadequate to describe human development from a psychological perspective. At all ages, development implies concurrent and successive gains and losses, which can be either dependent on or independent of each other (see also Uttal & Perlmutter, 1989).

The notion of lifelong development thus implies that when studying midlife, a first task is to investigate what development in midlife is like. It is no longer self-evident that midlife development is either only growth or only decline. Instead, its own unique characteristics must be identified. Second, when considering development as extending from conception until death, we are not interested in looking at one life phase by itself and in isolation. The particulars of any given life phase need some points of comparison to be identified. Thus, it does not seem useful to exclusively study middle-aged adults; young and old comparison groups should be included as well.

Young and old comparison groups are essential when determining the precursors and the consequences of midlife. Examining young and older comparison groups, however, is still rarely done as can be seen when reviewing the literature on midlife development (for an exception, see, e.g., Lachman & Weaver, 1998). Most studies that focus on midlife in terms of their theoretical interest also focus exclusively on midlife in terms of samples (e.g., Klohnen, Vandewater, & Young, 1996). When comparison age groups are included, most often younger ages leading up to midlife are studied, and rarely old age following midlife (e.g., Helson & Klohnen, 1998; Vandewater et al., 1997). Including young, middle-aged, and old adults in a study without having a theoretical focus on midlife, however, does not make it a sufficient study. A life-span approach to the study of midlife development calls for both a theoretical framework that focuses on midlife as well as the inclusion of young and old comparison samples.



The notion of development as transactional adaptation further implies that it is not only psychological functioning that changes with age but also the contexts (and their associated risks and resources), and the functional consequences (evaluative criteria) of development. Considering the example of language and cognitive development, it is not only proficiency that changes or develops with age, but also the contexts of acquisition and application in everyday life. Furthermore, the criteria according to which language and cognitive proficiency are evaluated undergo age-related change. Whenever development is considered from a life-span perspective, these three interlocking parameters of development (level of functioning, sources or contexts, functional consequences) are the focus of analysis.

In relation to midlife, this implies that from a life-span perspective, researchers should not stop at investigating the level of intellectual functioning in middle-aged adults but also ask what the contexts are for intellectual functioning in midlife and how these contexts influence intellectual functioning. Further, life-span researchers also ask how intellectual performance is evaluated: What is expected of middle-aged adults, what are the functional consequences of intellectual development in midlife? Willis and Schaie (1999) interpret their findings of midlife peak performance in reasoning as well as verbal abilities by describing how midlife offers contexts of career development and familial responsibilities (e.g., financial management) that may support such increases. A further interpretation is that in contrast to old age when society starts to excuse poor intellectual performance, adults in midlife are expected to be highly efficient and knowledgeable.

Life-span development can be a continuous (cumulative) or discontinuous (innovative) process. Continuity is provided by the intimate relationship, family, and friendship context and for males most likely by the work context as well. But as we develop or age, we are also constantly confronted with new internal and external developmental contexts that may give raise to discontinuity. This phenomenon is captured, by the theoretical concept of "developmental tasks" (both in the practical and intrapsychic sense) that change over the life course (e.g., Erikson, Erikson, & Kivnick, 1986; Havighurst, 1972; Levinson, 1978). When middle-aged women reenter the workforce after their children have grown up, they are confronted with new developmental contexts. These contextual challenges are reflected in marked increases (more strongly for women than for men) in some intellectual domains (e.g., Willis & Schaie, 1999). Early retirement (e.g., Atchley, 1982), unemployment (Moen & Wethington, 1999), or widowhood (e.g.,

Wortman & Silver, 1990) in midlife are other life-span contexts where issues of discontinuity take center stage. Furthermore, health and functional changes that arise as a consequence of biological aging, such as decreases in sensory functioning, can serve as sources for developmental innovation and/or disruption in midlife (Merrill & Verbrugge, 1999). As such, midlife can be characterized as both continuous and discontinuous depending on the domain of functioning being considered and the particular life events faced by individuals.

## Development as a Gain-Loss Dynamic

Development not only implies growth (gains) but also implies decrements (losses). Life-span development includes the full range of directional possibilities: gain, stability, and loss. The process of development should not solely be described as a continued progression to higher levels of functioning, nor as a constant decline.

Contrary to widely held beliefs about childhood as a period of universal progression, losses occur even early in life. Piaget (1965), for example, described some visual illusions that increase with age and others that decrease with age. He ascribed this loss in visual accuracy to advancement in cognitive stage, in this case the development of conceptual schemata. Similarly, in contrast to equally widely held beliefs about the pervasiveness of decline with aging, there continue to be gains in later life. In language development, individuals may continue to modify and expand their verbal knowledge through middle adulthood and even into old age (e.g., Horn & Hofer, 1992). In a similar vein, there is evidence that middle-aged adults demonstrate peak or high performances (compared with young and old adults) in such areas as everyday problem solving, life-problem solving, and work-related expertise (e.g., Denney, 1989; Ericsson & Smith, 1991; Staudinger & Baltes, 1994). Even in the field of memory, which is notorious for its age-related declines, there are facets such as implicit memory (i.e., unintentional memory; Graf, 1990; Howard, 1991) or autobiographical memory (e.g., Bluck, Levine, & Laultere, 1999; Cohen, 1998), which evince stability and some increase across the life span. In terms of self- and emotion-regulation, research has demonstrated that midlife seems to bring advances (e.g., Labouvie-Vief, DeVoe, & Bulka, 1989; Labouvie-Vief, Hakim-Larson, & Hobart, 1987). Certainly, to define what constitutes a loss and what constitutes a gain is highly complex and dependent on age-graded, history-graded, and idiosyncratic influences (for a more extended discussion of this topic, see Baltes et al., 1998).

The life-span perspective conceives development as a system of changes that encompasses positive and negative directions and consequences (Baltes, 1987; Weinert, 1994). When considering the overall



balance between gains and losses across domains, a generally positive or negative picture may emerge, but with increasing age, the balance between gains and losses becomes increasingly negative.

When reviewing research on midlife development, it seems that midlife is characterized by a tie in the relation of gains and losses. Some domains still show progress or stability, while others have already begun to show decline. In some respects, "midlifers" look like young adults and in other respects they look like older adults. This tie between gains and losses can

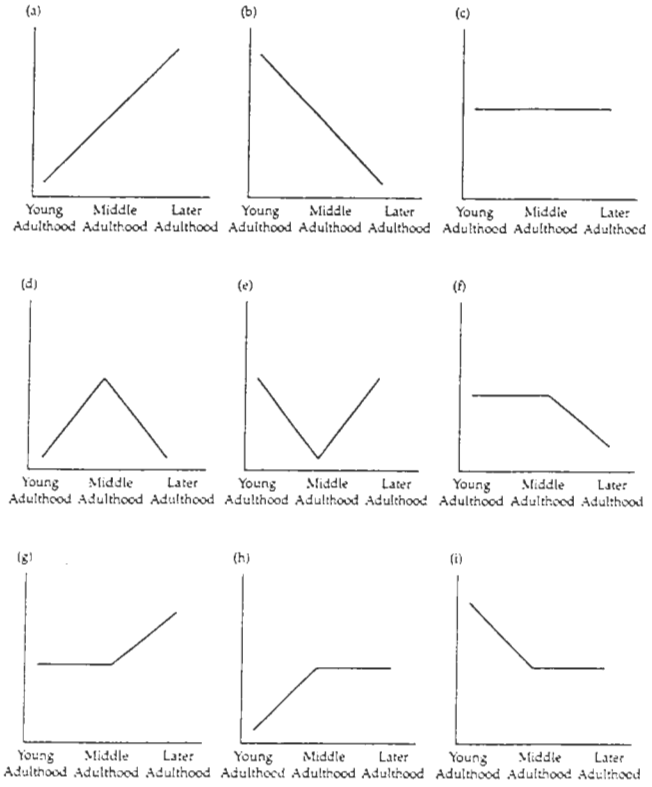


**Figure 1.1** Theoretically derived schematic developmental life-span trajectories. Each of the nine trajectories depicts a certain characteristic of midlife. The trajectories apply equally to subjective experience and developmental processes.

be related to some quite different life-span trajectories. Figure 1.1 shows theoretically derived developmental trajectories illustrating the many different ways that midlife can be situated in the middle of the life span.

Middle age can be indistinguishable from youth and old age (trajectory c). Middle age can also be unique—either better or worse than both youth and old age (trajectories d and e). The "true" middle position is illustrated by trajectories (a) and (b). Middle age can be better than youth and worse than old age (trajectory a). Or the other way around, middle age can be worse than youth but still better than old age (trajectory b). Middle-aged adults may be found to be like young adults (trajectories f and g), but they may also be found to be like old adults (trajectories h and i) depending on the domain under study.

Given these multiple trajectories, a useful contribution to the literature would be completion of a meta-analytic study that systematically reviews available evidence on midlife development by sorting results into these categories to gain a better understanding of overall midlife development. Empirical examples can be found for all these trajectories. However, the relative frequency of each trajectory across available studies still is unclear. Knowing the frequency distribution of these trajectories may help researchers to form a picture of what it feels like from the inside to be in the middle. Do individuals in midlife primarily experience themselves as operating at lower levels than before, including the prospect of stability for the years to come (trajectory i)? Or do they more commonly experience increased levels of functioning and an expected continuation of this increase in the future (trajectory a)? These trajectories are not only interesting in terms of subjective experiences of midlife development, but also important in understanding the developmental processes of midlife such as stability, growth, and decline.

Based on a cross-sectional comparison, it was found that growth aspects of personality (e.g., self-acceptance, environmental mastery) follow as many as five different trajectories (b, c, f, h, g; Figure 1.1; Ryff & Singer, 1998). In the case of internal control beliefs in central life domains, such as marriage, work, finances, or health, four trajectories were identified (a), (c), (g), and (i) (Lachman & Weaver, 1998). So far, the curvilinear trajectories (d) and (e) seem to be underrepresented, though some evidence is also available for them in a study on the life-span development of attitude change. In this study, it was demonstrated that susceptibility to attitude change is lowest in midlife (trajectory e) fitting very well with Neugarten's characterization of midlife as moving from being socialized to being a socializer. The finding of attitude stability is complemented by evidence showing that at the same time attitude importance and certainty are at their highest in midlife (trajectory d; Visser & Krosnick, 1998). When moving to the domain of cognitive development, the Seattle longitudinal study



provides evidence for almost all the depicted trajectories. Perceptual speed follows trajectory (b), development of verbal ability and verbal memory reflects trajectory (h), logical and spatial reasoning follow trajectory (d), and finally the development of numerical reasoning follows trajectory (f).

Within the same individual, at the same moment in time, some functions may be increasing while others are decreasing or remaining stable. Normal development in adolescence, for example, includes increases in physical competence that are concurrent with decreases in the ability to acquire additional languages. Normal midlife development includes normative biological losses (e.g., Finch, 1990), and some losses in some areas of intellectual functioning, while other domains of intellectual functioning and personality functioning may show stability and even increase (e.g., Baltes, Staudinger, & Lindenberger, 1999).

According to the life-span perspective, development across midlife (as development in other life phases) is characterized by the simultaneous as well as successive occurrence of increases (gains), decreases (losses), and maintenance (stability) in transactional-adaptive capacity. Thus development is multidirectional, it encompasses the increase, maintenance, and decrease of functioning across different domains. This implies that development is multidimensional rather than unidimensional (e.g., intellectual functioning involves distinct categories such as fluid versus crystallized intelligence; or personality is composed of five different dimensions). Thus, when midlife development is approached from a life-span perspective, it is important to distinguish between the overall balance of developmental gains and losses across domains as well as the domain-specific trajectories for particular functions. Such a point of view is consistent with a multilevel or systemic approach to development (Ford, 1987).

Development unfolds in many different domains of functioning. There is no unitary developmental process that affects all dimensions of an individual in the same way. Although changes in some domains of functioning in an individual will tend to be correlated, it is possible for individuals to experience changes in some areas that are independent of changes in others. In the psychological sphere, personality functioning in adulthood seems to develop rather independently of physical functioning (e.g., Baltes, 1993; Smith & Baltes, 1993). When studying development, then, it may often be more meaningful to speak of domain-specific trajectories for particular functions (e.g., Karmiloff-Smith, 1992). The "overall development" of a person would represent some complex admixture of development along specific dimensions. From a life-span perspective, therefore, midlife is neither synonymous with stability, nor with growth, nor with decline. With increasing age, however, the overall balance of gains to losses in level of functioning and available reserves across the different domains of development becomes less positive. Midlife may mark the break-even point in the overall relation of gains to losses.

### Life-Span Changes in the Dynamic between Biology and Culture

What may be underlying this change in the gain-loss ratio as individuals move through life? Baltes (e.g., 1997) has argued that it is both age-related decline in levels of biological functioning, and age-related increase in the need for a complex infrastructure of cultural support. Culture here refers to the entirety of psychological, social, material, and symbolic (knowledge-based) resources that humans have developed over millennia and that are transmitted across generations (e.g., Cole, 1991; Shweder, 1991). After biological maturity, the expressions and mechanisms of the genome decline in functional quality with age. Our body is biologically well equipped until the end of the reproductive and parenting phase. Thereafter, evolution has not had much of a chance to optimize our biology (yet) because evolutionary selection primarily works through the mechanisms of reproduction and parenting (for a more extended discussion of these issues, see Baltes et al., 1999). At the same time, humankind has successfully developed culture in such a way that it is more and more capable of compensating for biological decline, at least to a certain degree. Without doubt, humans are in need of culture from the very start of their existence, but with increasing age the complexity and sophistication of cultural structures supporting human development increases.

The two main influences on human development, biology and culture, follow a certain life-span path. For midlife development, this implies that the tie between gains and losses could be grounded in a biological decline that is only at its beginning and a cultural "infrastructure" that challenges as well as supports development during midlife. Pursuing this line of argument a bit further, however, may make it necessary—as mentioned—to distinguish two phases of midlife: early (40–50 yrs.) and late (51–60 yrs.) midlife. Some of the theories of midlife development described earlier, such as Levinson's, also suggest that such a subdivision should be meaningful.

Early midlife (on average) may still be dominated by the assets culture provides. We reap the harvest from our efforts in education, career, relationship, parenthood, and biology is predominantly still on our side. Whereas toward the later phase of midlife, it may (on average) be the case that the biological declines and the societal challenges start to outweigh assets. Examples of social-cultural challenges are the empty-nest situation (when children leave home); in the career realm, the first indicators of approaching retirement may become noticeable; and intimate relationships may be tested for their endurance. With regard to biological declines, the literature supports the view that after age 50 biological declines become more prominent. Biological losses are described that only come to the foreground around age 50 (e.g., decrease in muscle strength, decreases in sensory functioning, increase in cardiovascular diseases). Such bodily changes reach a noticeable level around age 50 (Merrill & Verbrugge, 1999).



According to our knowledge of the literature on midlife development, studies including such a differentiation between early and late midlife are not yet broadly available (e.g., Hooker & Kaus, 1994; Lachman & Weaver, 1998). Some studies do exclusively focus on the early phases of midlife, between age 40 and 50 (e.g., Bromberger & Matthews, 1996; Helson & Klohnen, 1998; Vandewater et al., 1997). Should such a cut-point find empirical support after further investigations of the multiple domains of midlife development, it would seem useful to subdivide samples into groups of early midlifers ranging from 40 to 50 years and late midlifers ranging from 51 to 60 years of age.

### Life-Span Changes in the Allocation of Resources

Related to the notion of the gain/loss ratio, and the forces underlying the changes in this ratio is the observation that organisms have limited resources and that these resources change in their range and fixedness across the life span (Baltes & Baltes, 1990). The gain/loss argument goes beyond the simple observation of multidirectionality in one or more developmental domains. Developmental domains are not independent of each other. A dynamic interplay ensues between gains and losses. Thus, a first limitation on resources results from investment into a specific path of development. No individual can do all things; there must be a selection of courses of action from the broader universe of possible plans. This idea has a long history in developmental science, and is similar to Waddington's idea of canalization (Edelman, 1987; Waddington, 1975). Under the assumption of limited adaptive resources, every selection of a developmental path necessarily implies that other possibilities have not been chosen; the selection of one developmental alternative (even if it has been "preselected"; e.g., by the genome) necessarily implies the loss of potential to engage in many other developmental courses. In this sense, all development, including alternatives we would traditionally classify as exemplifying progressive growth, are complemented by an element of loss. One example is the negative side effects of professional specialization. With increasing proficiency in a particular career during midlife, one loses some potential to invest in proficiency in other careers. Similarly, by choosing a mate, one gains security and attachment, but at the same time loses the freedom and variation related to changing partners.

A second limitation on resources and their development ensues from age-related changes in the overall level and variability of resources. Across the life span, the totality of resources available for development decreases. Midlife stage presents the individual with many competing developmental task domains such as those involving career, children, and aging parents.

Although an individual in midlife usually has a high level of internal and external resources, the sheer number of demands can present a risk situation by exceeding those available resources (e.g., Brim, 1992). This suggests that the gain-loss dynamic shows configurations specific to age and life period. These should be considered when evaluating life-span scenarios for developmental optimization, protection against losses (maintenance of functioning), and recovery from dysfunction in midlife.

Three adaptive tasks differ in prevalence across the life span and require differing resource allocations: growth, maintenance and/or recovery (resilience), and regulation of loss. The adaptive task of growth refers to behaviors that aim at reaching higher levels of functioning or adaptive capacity. Under the heading of maintenance and/or recovery are behaviors that refer to the stability of functioning in the face of challenge or the return to previous levels after a loss. The task of regulation of loss indexes behaviors that organize adequate functioning at lower levels when maintenance or recovery is no longer possible.

In previous work, we have suggested that there is a systematic pattern to these life-span changes in the relative allocation of resources (Staudinger et al., 1995). In childhood, and up until young adulthood, the primary allocation of resources is oriented toward growth, and in old age resources are increasingly needed to regulate losses. Figure 1.2 illustrates that midlife, according to this logic, should be characterized by a predominance of maintenance and recovery. Yet, considerable resources are still allocated to growth (especially in early midlife), while some resources are already needed for investment in the regulation of loss (more so in late midlife).

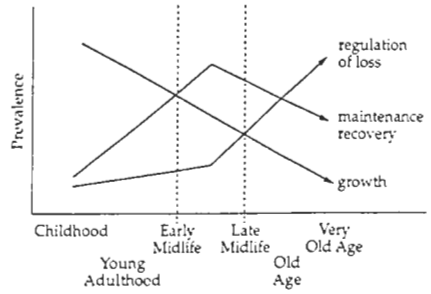


**Figure 1.2** The allocation of reserve capacity to the three functions, growth, maintenance/recovery, regulation of loss, follows a life-span script. In midlife, resources are primarily invested in maintenance and recovery, but also growth (especially in early midlife) and regulation of loss (especially in late midlife) play a role. The management of resource investment emerges as an important developmental task.



When it comes to the allocation of resources, midlifers again take a middle position between the young and the old. In some domains of life, they are using their resources for growth as do young adults and in others they invest in maintenance, repair, and also probably some management of loss. This is reflected in findings such as that women in midlife begin investment in a career after having raised children: They invest in their professional growth (e.g., Moen & Wethington, 1999). It is also reported, however, that a number of challenges to normal functioning arise during midlife, such as change in the intimate relationship, changes in bodily functions and body image that require resources to achieve maintenance, and sometimes also recovery, of normal functioning (e.g., Klohnen et al., 1996).

One of the resource issues of midlife often cited in the recent literature is the notion of the sandwiched generation (e.g., Davis, 1981). This term refers to middle-aged persons who have to care for aging parents as well as for their adolescent children. The empirical "truth," however, is that the sandwich position is not very prevalent among 40- to 60-year-olds. It certainly is not a mass phenomenon in midlife. Once the aging parents become in need of care, the (average) midlifer's children are already out of the house and leading independent lives. However, the sandwich position is not a myth when it comes to managing the responsibilities at work, at home, and toward aged parents (e.g., Halpern, 1994; Marks, 1998). This sandwich position primarily concerns women, who still are most commonly the primary caretakers of old parents. Data concerning this management of conflicting responsibilities also demonstrate how one domain of life, such as work, can provide for the replenishing of resources as well as its exhaustion. Social interactions at work or even the need to think about other things than the family can be a resource for dealing with the caregiving task toward aging parents (e.g., Halpern, 1994; Marks, 1998).

The changing pattern of resource investment across midlife offers a metalevel for viewing developmental tasks in this phase. The extent to which resources are expended on growth, maintenance/recovery, and loss may change even from early to late midlife. At a general level, being able to match resources and life demands may be predictive of developmental success in midlife.

### LIFE-SPAN DEVELOPMENT IS MODIFIABLE

Another central feature of life-span theory, related to the notion of resources, is a strong concern with the plasticity of development. Plasticity of development refers to the fact that any given developmental outcome is but one of numerous possible outcomes. The search for the range and limits of human plasticity, including its age-related changes, is fundamental and unique to the study of life-span development (cf. Baltes et al., 1998;

Lerner, 1984; Magnusson, 1996). Plasticity denotes the range of latent reserves of functioning. It encompasses both the reserves currently available and those that may become available in the future. Not only will an individual differ in developmental status across different domains, but the same individual may also differ within one domain at different assessments across a day, a week, or a month (Nesselroade, 1991). For example, a one-time assessment of intellectual functioning ignores that an individual's scores on intelligence tests can change depending on factors such as anxiety, fatigue, perceived relevance of the test, and level of baseline performance (Cornelius, 1986; G.V. Labouvie, Hoyer, Baltes, & Baltes, 1974). Individuals can also improve their performance substantially as a simple function of practice ("warming up")—the degree to which currently available reserve capacity is activated. This applies across adulthood; in old age, however, the range of reserve capacity is increasingly limited (e.g., Baltes et al., 1999).

Assuming that development is characterized by plasticity provides an interactive and dynamic view of the gene-environment interaction. The focus on plasticity brings to the foreground that "humans have a capacity for change across the life span from birth to death . . . (and that) the consequences of the events of early childhood are continually transformed by later experiences, making the course of human development more open than many have believed" (Brim & Kagan, 1980, p. 1). The notion of plasticity also opens vistas on intervention-oriented research that explores the possibilities of optimizing midlife development.

The implication of the notion of plasticity for the understanding and study of midlife development is that any finding so far reported about what midlife is like does not have the character of a natural law but is open to modification given the provision of appropriate circumstances. Bodily changes can be influenced to a certain degree by lifestyle features and health behavior (Merrill & Verbrugge, 1999). Levels of intellectual functioning are open to improvement given the right training intervention. So far, however, midlife has not been the focus of such intervention efforts as cognitive decline during midlife is limited (Willis, 1990). Range and limits of plasticity in midlife are still open to systematic investigation. The sandwich position (work, care of older parents) that many women are facing in midlife would be an ideal circumstance for exploring the plasticity of functioning in midlife. Questions such as "When, and for which individuals, does this situation result in stress?" or "How is this stress experienced and how can it be reduced?" could guide such explorations. Thus, the life-span developmental view of plasticity in behaviors and trajectories through midlife directs our focus not only to develop interventions for those who have problems in midlife, but also to take a salutogenic approach, with a focus on optimizing the midlife experience (Staudinger et al., 1995).



## Ontogenetic and Historical Contextualism Characterizes Life-Span Development

When development is described as the outcome of ongoing processes of transactional adaptation in selected domains, analytic attention must shift to the question: What intra- and extrapersonal conditions are transacting to produce a developmental outcome? Ontogenetic and historical contextualism (Baltes et al., 1980; Lerner & Kauffman, 1985; Riegel, 1976) posits—in contrast to organismic and mechanistic views of development (e.g., Overton & Reese, 1973)—that development is always the simultaneous and complex outcome of forces of nature and nurture, of genes and environment, of intra- and extrapersonal influences. To better understand the fabric of developmental contexts, three logics organizing environmental and biological influences as well as their interaction must be considered: the normative age-graded, the normative history-graded, and the nonnormative logic (Baltes et al., 1980). This three-pronged system of biological and contextual influence serves important functions in understanding interpersonal and intercultural similarities as well as differences in developmental trajectories (e.g., Baltes & Nesselroade, 1984; Dannefer, 1984). Age-graded, history-graded, and nonnormative influences combine to produce similarities and differences in developmental challenges and opportunities. The age-graded logic refers to developmental conditions of a biological or societal nature that are normative linked to chronological age, such as menopause or retirement. The nonnormative logic refers to developmental circumstances that are closely linked to the life circumstances of a particular individual. In the following, however, we pay particular attention to the role of historical influences on development.

Cultural and historical influences represent, in effect, one area or one level of the broader set of contextual influences that affect development (e.g., Lerner & von Eye, 1992). In the development of life-span theory and research, they have always obtained special attention. Historical periods and cultural changes condition and shape the opportunity structures to which individuals have access. Social structures are constantly evolving, and vary across cultures and socioeconomic groups. Major historical events (e.g., war, economic depression, migrations) and historical changes in technology (e.g., introduction of antibiotics, increasing availability of food, the growing role of the computer in society) affect the level and direction of psychological development (e.g., Baltes, 1968; Caspi, 1987; Elder, 1998; Riegel, 1972; Riley, 1986; Schaie, 1965). Elder showed that the Great Depression had long-term effects on the psychosocial adjustment of American men. That effect, however, was moderated by age during the Depression, and prior family socialization practices. It was found that during times of economic hardship people marry earlier, try to enter the workforce

earlier, and deemphasize higher education. These events that occur in early adulthood certainly carry their influence into midlife. Such individuals then may find themselves in a marriage that they would have not chosen at a later age or locked into a profession because they did not invest in higher education.

One major demonstration of the important role of history has been suggested by life-span developmental research on cohort differences (e.g., Baltes, Cornelius, & Nesselroade, 1979; E.W. Labouvie & Nesselroade, 1985; Schaie, 1965). Using longitudinal and cross-sectional sequential research methodologies, multiple birth cohorts of individuals (i.e., individuals born at the same period in historical time) can be followed over time. Such designs permit the examination of whether individuals born in different sociocultural conditions evince differences in developmental trajectories. That is, when comparing the developmental trajectories from different birth cohorts (here, taken as an *index* of the broad body of contextual differences in such variables as education, medicine, economic conditions), are there differences in level, direction, and dispersion of functioning?

In the intellectual domain and for adulthood, cohort differences in intellectual functioning can be sizable: Over historical time, comparing adults in the range from early adulthood to old age born from 1889 until 1966, some intellectual abilities studied have shown increase (e.g., verbal, spatial, and reasoning ability), while others have shown stability (numerical ability) or even decrease (word fluency) over generational birth cohorts (e.g., Willis & Schaie, 1999). Moreover, the identification of historical effects may not require a very broad sampling of birth cohorts. Even when birth cohorts separated by an average of 15 years are studied over only a 3-year longitudinal interval, a substantial influence of birth cohort on cognitive functioning has been detected (Hultsch, Hertzog, Small, McDonald-Miszczak, & Dixon, 1992). If we define midlife as extending from age 40 to age 60, a period of 20 years, early and late midlifers may show cohort differences in their cognitive development.

In a similar way, a study of psychosocial development in adulthood, also employing a cohort-sequential design, identified cohort effects (Whitbourne, Zuschlag, Elliot, & Waterman, 1992). Researchers using an inventory based on Erik Erikson's model of psychosocial development, and comparing young and middle-aged adults, found that the late-life developmental task of reaching integrity versus falling into despair was less favorably resolved by the later-born cohorts. The authors suggested that this may be due to a historical erosion in philosophical values in the society (Whitbourne et al., 1992). Or, it was reported that some personality changes observed in currently middle-aged women, such as feelings of liberation and even elation (Stewart & Ostrove, 1998), may reflect—at least to a certain degree—that these women did not have many life choices in young adulthood because of gender stereotypes and socioeconomic conditions at that time. Consequently, it will be interesting to see whether coming generations of women who indeed have had more freedom to make life choices as young adults will feel the same amount of elation when they reach midlife.



The very notion of midlife as a life phase has been claimed to be subject to historical relativity (e.g., Moen & Wethington, 1999). We would not go as far as arguing that midlife is only an invention of modern times, but it makes intuitive sense that prolonged life expectancy as well as advances in medical treatment, nutrition, and lifestyle, have set the delimiters of midlife at higher ages. In earlier times, a 30-year-old may have been thought of as middle-aged and a 50-year-old as being old. Nowadays, we observe a prolongation of younger adulthood as well as of middle adulthood. What was called old age, is more and more likely to be counted as middle age now. It is open to discussion whether the age inflationary trend (due at least partly to negative aging stereotypes—people do not want to be considered old) should be mirrored in the scientific study of midlife and old age as well. Regardless of how we label them, it may be more fruitful to link life phases, particularly midlife, to a certain constellation of developmental resources and challenges rather than to chronological age per se.

In closing, the propositions of life-span development offer a useful set of lenses through which to view midlife development. The six propositions lead to insights that encompass past theoretical work and help to guide future research. First, seeing midlife as part of the ongoing flow of life-span development suggests that midlife development is best studied by including both a young and an old comparison group. Next, midlife may best be defined as the period in life where the overall ratio of gains and losses is at a break-even point, where challenges and resources are still in balance. Here, we are also signaled to look beyond overall gains and losses to consider how these gains and losses play out in particular life domains. Further, given the changing ratio of gains and losses, there may be a need to distinguish between early and later midlife as these may be characterized by different events and different resource investment profiles. The view of midlife as characterized by plasticity also highlights the potentials of midlife that are still waiting to be systematically discovered. Finally, as time passes, researchers will need to pay attention to the historical and societal changes that may affect midlife in the years to come.

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Life-span developmental theory provides a framework for understanding human aging. The main purpose of theory in the study of aging is to provide a context for describing and explaining the regular transformations that occur with time to representative organisms living under representative conditions. Theories in general aid the process of articulating meaningful patterns from observations that would otherwise be disconnected pieces of a puzzle and less meaningful. In the study of aging, theories serve as frameworks for organizing research findings as well as general observations or intuitions THE DEFINITIVE RESOURCE ON MIDLIFE DEVELOPMENT Edited by Margie Lachman, a leader in the field, Handbook of Midlife Development provides an up-to-date portrayal of human development during the middle years of the life span. Featuring contributions from well-established, highly regarded experts, this exhaustive reference fills the gap for a compilation of research on this increasingly important topic. Divided into four comprehensive sections, the book addresses the theoretical, biomedical, psychological, and social aspects of midlife development.Â  Handbook of Midlife Development is an indispensable resource for professionals and practitioners who work with adults and for researchers and students who study adult development and related topics. Current midlife developmental research using longitudinal approaches is entering a new phase because for the first time true lifespan developmental data spanning midlife and old age are available on key resources for lifelong development such as brain plasticity, cognition, personality, health and subjective representations, and self-related evaluations (Widaman 2008). Modern statistical software and analytical tools exist to model intraindividual development nested within populations and to relate midlife developmental changes and stability to late life developmental changes and stability.Â  Staudinger UM, Bluck S (2001) A view of midlife development from life-span theory. In: Lachman ME (ed) Handbook of midlife development.