CHAPTER 1

A View on Midlife Development from Life-Span Theory

URSULA M. STAUDINGER and SUSAN BLUCK

HAS DEVELOPMENTAL RESEARCH SO FAR NEGLECTED MIDLIFE?

Historically, developmental psychologists have often neglected the period of midlife, possibly due to a lack of research in this area. However, recent studies have highlighted the importance of midlife as a critical stage in life. The focus on midlife has increased in recent years, leading to a greater understanding of the psychological and social changes that occur during this period. The study of midlife has become an important area of research, and there is growing interest in understanding the unique challenges and opportunities faced by individuals during this phase of life.

What can be learned from individuals’ subjective conceptions of midlife? In a study of middle-aged respondents, it was found that individuals tend to view midlife as a time of change and growth, where they are more likely to reflect on their past experiences and consider their future goals. This perspective highlights the importance of understanding how individuals perceive and experience midlife development.


In M. E. Lachman (Ed.), Handbook on midlife development (pp. 3-39). New York, NY: Wiley

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"adolescent" by these respondents may provide a wide boundary for an individual's progression into the middle period. Another way to look at the period called "adolescent" 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 middle begins and ends have been identified (Camero, 1969; Deaton, 1970). 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 middle begins somewhere around 40 and ends by 60 (see also Miedema, 1991), but that at both edges of middle there is a flexible, vague boundary. One factor affecting how people define middle is their own current age. Thus, in two of the reported studies, the respondents—who were themselves middle-aged—suggested a later entering for middle (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; Camero, 1969; Deaton, 1970).

Another factor affecting how society, and individuals, define middle 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 middle as a discrete period (in Western cultures; Guittine, 1994). Thus, given the changes in the societal and life-course structures, a definition of middle linked to chronological age most likely will differ between cohorts (see also Schuster & Villam, 1986). Taking a life-span perspective encourages a definition of middle that abstracts from chronological age. It considers the multiple contexts of middle and their related opportunities and challenges, as well as the resources available and their formation. Middle may be the most central period of life, which it referred to generally when aiming at adulthood without qualifying it at either "early" or "late". For exact age and period, 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 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 middle shifts our attention to the developmental tasks of middle. Again, however, not just a single task but several challenges can be identified.

3 \underline{A View on Middle Development from Life-Span Theory}

4 \underline{Handbook of Middle Development}

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

3 \underline{Do Middle Present Life Problems Versus Psychological Study?}

A second reason middle may have been understudied is a seeming lack of societal and psychological reasons to do so. In the past 30 years, psychologists have focused on the study of areas in which individuals have problems negotiating life (Seligman & Csikzentmihalyi, 2000). Thus, one reason middle was not studied was that it was not considered a particularly problem-stricken phase of life. From a societal perspective, by middle 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 demographical and research. Further, the perception that middle does not present particular problems to individuals may help explain why psychological research has not yet made middle a focus of attention. When our perspective, however, focuses on understanding basic developmental process as well as the ways to support successful development, middle is rich in aspects to be explored.

Middle 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 middle in general. 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. Nisgarten & Ditton, 1996). Some have suggested that middle age is the time between when the youngest child leaves home and when the spouse dies (Trex & Bergmann, 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 Blois & Wethington, 1999).

Although no consensus exists concerning the entry and exit points of middle, there is more agreement concerning the sequence of developmental tasks that normatively occur in this period. By middle, individuals are expected to have established a family, found a clear career direction in
A view in middle development from life-spa theory

which they will peak during middlelife, and have taken on a responsibility with respect to their children, their own aging parents, and sometimes their community. These multiple roles influence the ecology of middlelife for each individual (Shed & Willig, 1983), as well as provide individuals with the chance to customize their own experience (Shore & Washington, 1999).

While middlelife has been relatively understudied, research pertinent to middlelife agrees in its overall events that are central to its definition. When considering the social, psychological, and biological experience of middlelife, relevant research is available in several areas: the social domain (e.g., family and parenting, gender differences 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 “middlelife crisis” (Jacquet, 1969), menopause (Yolot, Dinerstein, & O’Donnell, 1972), the effects of caring for both children and aging parents (“the sandwiched generation”; Divix, 1981), the “empty nest” (e.g., Ruben, 1979), and the transition to retirement and leisure (Atchley, 1982).

Taking this task-oriented specific perspective, the oft-made claim that little research exists on middlelife may be overstated. In fact, many research areas provide useful insights into understanding the multiple challenges and problems of middlelife development. However, middlelife 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 middlelife, whether these be drawn from work that is largely psychological, social, or biological. Life-span theory offers the opportunity to cover these multiple approaches as aging is conceptualized. From there, research designed with a focus on middlelife may examine events and transitions in terms of both problems and achievements (see also Hoehn-BASE, Chapter 1) for a discussion of middlelife as a time of both vulnerability and resilience.

MIDDLE LIFE: IS IT MORE THAN ONE PHASE? A final reason that middlelife may require relatively little specific research attention is that it may be too heterogeneous a phase. Not only do individuals take different pathways through middlelife (interindividual variability, Shore & Washington, 1999), but it is a life phase in which one leaves youth and enters old age. The beginning of middlelife and the latter part of middlelife have similarities, but also have quite different demands (Goldhabber, 1986). Previous research on middlelife has sometimes

8 HANDBOOK OF MIDDLE DEVELOPMENT

pointed at a time of crisis, sometimes as the prime of life, and sometimes as a period of stability and routine (Furcal & Rock and Jorgensen, 1981), thus making it difficult to form an integrated view from which to generate research. Consideration of the possibility of a young-middle and a late-middle may add precision to our research endeavors. It may also make it possible to avoid some seemingly contradictory findings. The first part of middlelife may involve more growth and building of resources than later, and that relationship may start turning around toward the end of middlelife (Bubler, 1981). While young-middle involves consolidating family and career, that of late-middle may revolve around such things as health concerns, preparing for retirement, and becoming a grandparent. When entering middlelife, one still feels young, and the sense that one is reaching the midpoint of life is something that most be weighted, considered, and accepted. By the time one is leaving middlelife, the transition is complete and the issue is no longer of real importance but how for stepping into a fully fulfilling life despite inevitable losses (e.g., Kegan & Lahey, 1996). Although other authors may view this theoretical issue of research interest in middlelife, we have identified three major reasons: Middlelife is not easily defined in terms of chronologic age, from a social and probably individual perspective, it does not present problematic events and transitions and may be better conceptualized as two distinct phases. As discussed later in this chapter, these barriers to the progressive study of middlelife are effectively eliminated when we view middlelife through life-span development theory.

A SELECTIVE REVIEW OF THEORETICAL PERSPECTIVES ON MIDDLE LIFE In this section, we provide a selective review of some theories that have either directly discussed middlelife or made salient observations concerning middlelife as part of a larger theoretical framework. The review is not exhaustive but focuses on the way the middle period of life has become conceptualized, and particularly the convergence between perspectives. 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 these three themes: time orientation, the balance between work and relationships, and opportunities for growth and generativity.

SOCIAL, BIOLOGICAL, AND PSYCHOLOGICAL TIME BOUNDARIES AND NAVIGATIONAL CONSEQUENCES The first salient theme that has guided previous theories of middlelife 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 (Bates, Linder, & Staudinger, 1999). Although certain biological events may also be important (e.g., menopause, Parke, 1984), early childhood may be characterized as running on a biological clock, much of adulthood is governed more, or at least primarily, 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 lifespan development, and particularly what it means to be "in the middle." Neugarten's work (for a companion, see G. 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 middle life come from examining discontinuities. Primarily, she asserts that adults' sense of time and timing plays a role in the life that is not seen earlier in life. One no longer measures time 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, 1992). 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, 1992). In late middle, one may begin to contemplate the end of the life cycle. This sense of impending endings has been linked to increased sociocultural selectivity (e.g., Conner & Turk-Charles, 1990).

B. Neugarten points out that awareness of one's own life cycle has consequences for the individual's goal choice 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 these events and transitions. When studying middle age, 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 the "normal, acceptable 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 middle life. Research has shown that individuals do indeed carry stereotypes about what one should have accomplished by middle age and use them to make judgments about others (e.g., Krueger, Heckhausen, & Hunsberger, 1995).

10 HANDBOOK OF MIDDLE DEVELOPMENT

Middle has been seen as a plateau, as a peak, and as a crisis (e.g., menopause, men's declining sexual powers, middle 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 middle with nonadaptive styles, this is true of any life stage (B. Neugarten & Danz, 1986). As such, middle is seen by Neugarten as a potential period of crisis only to the ex- tent that the normative events of middle life are experienced as failures, or to the extent that normative progress through this life phase is interrupted by unexpected events. In addition, while middle life 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, childbirth, wid- owhood), B. Neugarten also addresses 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 romantic partners, and grandparenthood, as important for middle development. Facing these relationship challenges, as well as the occupational challenges of middle, the emerging theme in middle is the view of self as the socializer, no longer the socialized. Thus, Neugarten's view of middle emphasizes the flexibility of the individual at middle, 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 middle. The extent to which one effectively interacts with, and changes his or her environment, in turn affects the need to make his or her own choices, dependent on that person's own life history, including social factors such as class and culture (Bates et al., 1996; for a review of culture and middle, see Showers, 1990).

If middle is a time of challenge and potential stress (e.g., the conflict between caregiving and career; see Marcia, 1996), 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 fundamen- tal to the view of the life course outlined by Charlotte Bühler (1986). 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. Buhler 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 overly focus on the present (e.g., children) seek largely comfort. The period of middle life brings the consideration of past and future into focus, but the individual must use what has been learned in the past to promote future goal achievement and fulfillment. In this view, while middle life is a biological period in time when physiological growth in complexity and decline has not yet really begun, middle aged other in yet unknown possibilities for self-fulfillment and accomplishment through balancing the past and the future. This potential is also reflected in Blaxter's (1985) claim that self-actualization is not possible at least until one leaves the period of youth.

An individual's progress through the life cycle, with both the biological and social clock 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 disconnection of life (i.e., extending into the past and the future) taking center stage in adolescence plays a central role in middle age (Schaie, 1999).

As described in the section on life-span developmental theory, the view of life as having a temporal flow in which middle life is both the result of one's previous development and the jumping ground for later life, is taken up in part 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 middle life.

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

A second theme was in previous chapters is the idea of middle age as a time when individuals are attempting to find a balance in various ways. Part of Jung's view (1983) is that middle life is a time when a watered and balanced gender identity begins to emerge, that allows individuals greater autonomy over their lives. This is initiated by the unity, society-driven, sterile orientation of the young. More recent empirical work has suggested that when individuals move toward a more androgynous identity in middle, this may be a source of pleasure, but sometimes also causes embarrassment (Hays, 1999).

In combination with this, there is a long period of androgyny, long postulated that middle age is a time when one's level of extraversion and introversion also moves into greater balance. It is argued that young adulthood demands a largely extroverted orientation to meet the challenges of establishing work and family, and the middle years allow for a balance in which individuals also begin to turn inward and explore their own subjective experience to a greater extent. In general, Jung viewed middle age 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 attunement of life according to the program of life's moiety; for what was great in the morning will be little at evening, and what in the morning was trust and faith in evening has become a lie." (Jung, 1971, p. 17).

Lewinsohn's (1985) 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 restriction of biological and social influence affects the structure of middle. A purely biological view might impose middle age as a plateau between the growth of youth and the decline of later life. While this may be the approximate biological architecture of middle, Lewinsohn 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 Lewinsohn, early adulthood (about age 18–25) is concerned with a time in which an individual may 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 middle crisis as a time that allows men to review their lives and reorient their priorities. Here the temporal theme reviewed in the preceding section emerges again. The crisis is a need of finding out one's achievements thus far and questioning their meaningfulness in terms of the life lived and life that may lie. In Lewinsohn's terms, 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 middle crisis as normative has been debated (e.g., for a review see Rosenberg, Rosenberg, & Farrell, 1991), this change in priorities reflects another basic trait of much thinking about middle, that is, a major task is to find an adaptive and meaningful balance between love and work, or a combination and agent in one's life.

Because of the often different nature of women's roles and responsibilities to men, 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 are finding application (Frieze, 1978)
A View on Midlife Development from Life-Span Theory

described the complicated scenario that greets women in middle age (at least current middle age 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. Older, 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 trade-offs between work and family may extend to the extent to which they are socialized to place value on independence and affiliation (Gilligan, 1982). More generally, gender may be an important dimension in understanding individuals' attitudes and feelings concerning marriage, parenting, and friendships (e.g., Hays, 1999; Lorenz, Turner, & Chirnside, 1973).

The reviewed theories converge on the notion that the middle is an important time for finding balance. It has been suggested that underlying the balancing and reevaluating there is an increased importance of personal satisfaction, enrichment, and self-actualization of individuals (gender identity, age, and role). Jung (1912) introduced the idea that individuals move more from personal stereotypical behavior in young adulthood to a more balanced gender profile across middle age. While both men and women must balance the dual challenges of work and relationships across middle age, their trajectories through middle age are affected by gender roles on these two domains and to a great extent in which individuals strive for balance in middle age in a longer perspective. As discussed in the section on life-span theory, the ability to achieve balance may be based on a successful matching of resources and life demands in middle age.

Havighurst and Erikson: Generativity in Midlife

While much research focuses on the challenges of middle age and the conflicting demands of work and family, or caring for both children and elderly (not necessarily simultaneously), concepts such as "life as learning" and "generativity" put the challenges of middle age in a positive light. Havighurst (1977) viewed not only middle but each life phase as a time for attempting and achieving developmental tasks. Each life phase presents the individual with different 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 saw the general tasks of middle age at reaching, and maintaining a satisfactory career level, and maintaining positive relationships with one or more persons, 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 middle age. These include accepting the physiological changes of middle age, achieving adequate social and civic responsibility, and developing a satisfying leisure-time activity. 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 concern) 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 middle in a larger context by adopting a life-span perspective in which life tasks (psychosocial crises) are generally age-related, 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 these remain important across adulthood, the challenge of generativity versus stagnation is specific to middle age. Erikson argues that it is in this period that the natural 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. "Youngness" 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 to develop society, but are able to step outside their own concerns to expand their view of beyond themselves and their own time. Erikson claimed that this new perspective not only feels of self-centered stagnation and offers new insights into one's own life. Thus, middle brings with it at least for some segments of the population, an opportunity for initiating responsi-

bility and authority; and a greater sense of self-direction and self-understanding (Goldhaber, 1949). The middle years are ones in which individuals act as leaders of families, organizations, and communities (Schuck & Trill, 1967). Their engagement in these multiple roles, and through it their generativity, has been linked to later well-being (e.g., Van- dewever, Ostriker, & Stewart, 1997). While generativity involves giving of
A View on Midlife Development from Life-Span Theory

15

onself 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 (Kyes & Ryff, 1996).

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 have been working in tandem to influence one’s concern for the next generation and belief that the human enterprise is meaningful. These beliefs, desires, and demands lead to generative activities such as creating or maintaining things that benefit the community. One of the reasons middle age is a prime time for generative acts is that this is when the reward of work and family challenge individuals to make aptic and communal intentions of themselves in their evolving and to the larger community. These generative achievements often become part of the individual’s life story or conception of self (McAdams, Hart, & Maruna, 1990). One are often remembered when older adults look back at middle (Conway & Holmes, 1999).

Individuals may, however, enter middle age 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 (Erikson, 1968; Ryff & Singer, 1998). What types of factors affect the extent to which people are generative in middle age? Havighurst’s (1972) notion that the tasks of middle age are set by societal expectations and constraints, and Erikson’s (1968) view of the individual placing him/ 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 middle. The human ecology model delineates influences in the immediate environment (e.g., workplace, home), the interaction of various antecedent 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 middle age is a time of many individuals with the same fundamental tasks, the exact nature of these 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., 1990).

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 in a prime period for achievement, for giving to others, and for learning about oneself by what one 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 middle age has not always, or maybe ever, been guided by theory. While sometimes based within a theoretical framework, much research on middle age has focused on specific life events or situations that normatively occur in middle life. The life-span framework for studying adult development examines the critical events and transitions that individuals face, how they cope with these transitions, and how this results in functional and dysfunctional outcomes for different individuals (Hultsch & Plomin, 1979). Besides an analysis of specific events, the timing, sequencing, and accumulation of life events and transitions are important to the trajectory that individuals face, and how they adapt to middle age 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 aspects of past theoretical work on middle age 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 middle by taking this perspective? In the following pages, we present six central propositions of life-span theory (see also Baltes et al., 1996; Staudinger, Markides, & Baltes, 1995), show how these relate to the central themes in existing middle research and theory, and develop the consequences that these propositions may have for our study of middle life. 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 stereotypes—such as the belief that middle aged people are either criticize or bored, and that old age is largely avoided of decline and despair. The life-span view presented here argues against such simplistic views of development. Conceptualizing development across the adult span as multidimensional, multifunctional, and multiform challenges models of middle development and aging that are oriented exclusively toward decrements (Baltes, 1993; Riley & Riley, 1987; Rose & Kohn, 1987).
### Table 1.1

**Summary of Life-Span Propositions and Their Implications for the Study of Middle Development**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Proposition</th>
<th>Implications for the Study of Middle Development</th>
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<tbody>
<tr>
<td>Life-Span Development</td>
<td>Ontogenetic development is the historical change in adaptive capacity influenced by biology and culture. Life-size periods have supervenience in regressing the nature of development.</td>
<td>What are the particular characteristics of development in middle age useful to study middle in isolation? It is crucial to consider propositions and architectures of middle life.</td>
</tr>
<tr>
<td>Development as Gain-Loss Dynamics</td>
<td>Development implies net life-gain (gains) but also elements losses. With increasing age, losses outweigh gains. A multidisciplinary, multilevel, and multifunctional conception of development results from this perspective.</td>
<td>Middle is characterized by a &quot;flip&quot; in the relation of gains to losses. Some domains of functioning are polychronized, many maintain functioning, while others have already begun to decline.</td>
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<tr>
<td>Life-Span Changes in the Dynamic between Biology and Culture</td>
<td>Biological influences on development have become more and more detrimental with increasing age. Cultural support of development continues and is needed more with increasing age.</td>
<td>Middle and later life are not the same. Given the changing ratio of gains and losses, there may be a need to distinguish between early and late middle.</td>
</tr>
<tr>
<td>Life-Span Changes in the Allocation of Resources</td>
<td>In conjunction with the culture-biology dynamic, an age-related reduction in overall resources is apparent. Resources are used to serve three major functions: growth, maintenance and recovery, and regulation of life. As losses increase with increasing age, maintenance, recovery, and regulation of loss become more and more prominent.</td>
<td>Middle is characterized by many challenges and threats as well as resources. Thus, middle life is a major effort in managing resources and skills. Though maintenance and recovery are key, most prominent is middle, both growth and loss management are also important.</td>
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**Table 1.1 Continued**

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<th>Concept</th>
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<td>Life-Span Development to Middle</td>
<td>Throughout life, development demonstrates plasticity. The range and limits of developmentality are crucial to life-span research.</td>
<td>Even though the range of plasticity is reduced by middle, there still is possibility for change. Examining the range and limits of plasticity in middle with an emphasis on optimization instead of repair.</td>
</tr>
<tr>
<td>Diogenetic and Historical Consistency</td>
<td>The influences of youth and culture follow three major age-related, history-related, and nonnongenetic.</td>
<td>The characteristics of middle are coherent and stable in the cultural-historical context.</td>
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*Source: Modified and expanded with references, Lindenberger, and Staudinger, 1995.*
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" (Magnusson, 1984, 1988) or "person-environment interaction" (e.g., Magnusson, 1984). Development is not simply the passive unfolding of preprogrammed tendencies, 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 aggregated 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 (Erikson and Erikson, 1955).

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. As such, this notion implies concurrent and successive gains and losses, which can be either dependent on or independent of each other (see also Ulrich & Peters, 1985).

The notion of lifelong development thus implies that when studying middle age, a first task is to investigate what development in middle age is. It is no longer either that middle development is either only growth or only decline. Indeed, 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 particularity of any given life phase need some points of comparison to be identified. Thus, it does not seen 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 processes and the consequences of middle. Examining young and older comparison groups, however, is still rarely done as can be seen when reviewing the literature on middle age (see for example, e.g., Lachman & Weaver, 1988). Most studies that focus on middle in terms of their theoretical interest also focus exclusively on middle in terms of sample (e.g., Kulmala, Vandewater, & Young, 1994). When comparison age groups are included, most often younger ages leading up to middle are studied, and never old ages following middle (e.g., Kulmala & Kulmala, 1990; Vandewater et al., 1995). Including young, middle-aged, and old adults in a study without having a theoretical focus on middle, however, does not make it a sufficient study. A life-span approach to the study of middle development calls for both a theoretical framework that focuses on middle 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 examples of language and cognitive development, is it not only proficiency transactional progress, but 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. Whereas 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 middle age, 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 middle 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 middle? Willis and Schae 1999 interpret their findings of middle peak performance in reasoning as well as verbal abilities by describing how middle 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 stresses to excuse poor intellectual performance, adults in middle are expected to be highly efficient and knowledgeable.

Life-span development can be a continuous (formative) or discontinuous (innovative) process. Continuity is provided by the intimate relationship family and friendship contexts and the social world as most likely is by the work context as well. But as we develop, we are also constantly confronted with new internal and external developmental contexts that may give rise to discontinuity. This phenomenon is captured by the theoretical concept of "developmental tasks" (both in the practical and metaphorical 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 stress) for women that for men in some intellectual domains (e.g., Willis & Schae, 1999). Early retirement (e.g., Arch- ley, 1982), unemployment (Klons & Kivnick, 1999), or widowhood (e.g.,
Development as a Gain-Loss Dynamic

Development not only implies growth (gains) but also implies decreases (losses). Life-span development includes the full range of directional possibilities: gain, stability, and loss. The process of development should no longer 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 progress, losses occur even early in life. Piaget (1985), 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 schemas. Similarly, in contrast to widely held beliefs about the progressive 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., Hunt & Hofer, 1992). In a similar vein, there is evidence that middle-aged adults demonstrate peak or high performance (compared with young and old adults) in such areas as everyday problem solving, literature solving, and work-related expertise (e.g., Denney, 1989; Erickson & Smith, 1991; Stadler & Baltes, 1994). Even in the field of memory, which is continuous for its age-related decline, there are facets such as implicit memory (i.e., unintentional memory: Graf, 1980; Howard, 1991) or autobiographical memory (e.g., Black, Levin, & Lashere, 1999; Cohen, 1998), which show stability and some increase across the life span. In terms of self-esteem and emotion-regulation, research has demonstrated that middle-aged individuals are more able to control their emotions more effectively (e.g., Labouvie-Vief, DeLoe, & Bulla, 1989; Labouvie-Vief, Hofkin-Larem, & Hubert, 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 (re)inforcements. For a more extended discussion of this topic, see Baltes et al. (1989).

The life-span perspective conceives development as a system of changes that encompasses positive and negative directions and consequences (Baltes, 1987; Heintz, 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 middle development, it seems that middle life characteristics are not 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, "middlelife" look like young adults and in other respects they look like older adults. This tie between gains and losses can be visualized as follows:

![Diagram of life-span development showing gains and losses across different domains.](image-url)
be related to some quite different life-span trajectories. Figure 1.1 shows theoretically derived developmental trajectories illustrating the many different ways that middle can be situated in the middle of the life span.

Middle age can be indistinguishable from youth and old age (trajectory A). 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 C). Or the other way around, middle age can be worse than youth but still better than old age (trajectory B). Mid-aged adults may be found to be like young adults (trajectories C and D), but they may also be found to be like old adults (trajectories B and D) depending on the domains 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 middle development by sorting results into these categories to gain a better understanding of overall middle development. Ecological 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 middle primarily experience themselves as operating at lower levels than before, including the prospect of stability for the years to come (trajectory C)? 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 middle development, but also important in understanding the developmental processes of middle 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 four to five different trajectories (K. L. G., p. Figure 1.1: Rolf & Singer, 1999). In the case of internal control beliefs in central life domains, such as marriage, work, finances, or health, four trajectories were identified (A), (B), (C), and (D). (Loehlin & Weiner, 1989). So far, the curvilinear trajectories (D) and (C) seem to be underestimated, 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 in middle (trajectory B) is strikingly well with Neugarten's characterization of maturity as moving from being involved to being a socializer. The finding of attitude stability is complemented by evidence showing that at the same time attitude shift-tance and certainty are at their height in middle (trajectory D: Visser & Krouwel, 1988). When moving to the domain of cognitive development, the Seattle longitudinal study provides evidence for almost all the depicted trajectories. Perceptual speed follows trajectory (A); development of verbal ability and verbal memory reflects trajectory (B); logical and spatial reasoning follow trajectory (C); and (finally) the development of numerical reasoning follows trajectory (D).

Within the same individual, at the same moment in time, some functions may be increasing while others are decreasing or remaining stable. Normal development to adulthood, for example, includes increases in physical competence that are concurrent with decreases in the ability to acquire additional languages. Normal middle 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., Reinauer, Staehiger, & Lindenberg, 1999).

According to the life-span perspective, development across middle (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 multirelational, 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 middle development is approached from a life-span perspective, it is important to distinguish between the overall balance of development gain 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, 1995; Smith & Baltes, 1993). When studying development, then, it may often be more meaningful to speak of domain-specific trajectories for particular functions (e.g., Kremenich-Smith, 1992). The "overall development" of a person would represent some complex admixture of development along specific dimensions. From a life-span perspective, therefore, middle 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 availability across the different domains of development becomes less positive. Middle may mark the break-even point in the overall relation of gains to losses.
LONG-TERM CHANGES IN THE DYNAMICS BETWEEN BIOLOGY AND CULTURE

What may be underlying this change in the gain-loss ratio as individuals move through life? Böhm (ed.) 1996 has argued that it is both age-related decline in levels of biological functioning, and age-related increase in the need for a simplified infrastructure of social 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, 1995; Shweder, 1995). 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 (i.e., a more extended discussion of these issues, see Böhm et al., 1999). At the same time, humans have gradually 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 need for 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 middle adulthood, this implies that the ties between gains and losses could be grounded in a biological decline that is only at its beginning, but a cultural "infrastructural" that challenges as well as supports development during middle age. Pursuing this line of argument a bit further, however, may make it necessary—an in distinguishing two phases of middle age at least (40-50 years) and later (55-60 years) middle. Some of the features of middle development described earlier, such as Levinson’s, also suggest that such a subdivision should be meaningful.

Early middle age is still very much dominated by the asset culture provides. We reap the harvest of our efforts in education, career, kinship, parenthood, and biology is predominantly still on our side. Whereas toward the later phase, the opposite may be the case that the biological declines and the societal challenges start to outstrip 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 need to be redefined. With regard to biological declines, the literature supports the view that after age 50 biological declines become more prominent. Biocultural issues are described that only come to the fore-ground 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 & Brekke, 1999).

According to our knowledge of the literature on middle development, studies including such a differentiation between early and late middle are not yet broadly available (e.g., Hooker & Karru, 1994; Leinwand & Weaver, 1998). Some studies do exclusively focus on the early phase of middle, between age 40 and 50 (e.g., Steinerberget & Målbürown, 1994; Holon & Klihren, 1990; Vondesveiter et al., 1997). Should such a cut-point find empirical support after further investigations of the multiple domains of middle development, it would seem useful to subdivide samples into groups of early middle ranging from 40 to 50 years and late middle ranging from 55 to 69 years of age.

LONG-TERM CHANGES IN THE ALLOCATION OF RESOURCES

Related to the notion of the gain-loss ratio, and the factors underlying this change is the observation that organisms have limited resources, and that these resources change in their range and免费ness across the life-span (Böhm & Böhm, 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 resource 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 Kohn’s idea of canalization (Feldman, 1987; Kohn, 1979). Under the assumption of limited adaptive resources, every selection at a developmental path necessarily implies that other possibilities have not been chosen: the selection of one developmental alternative (a niche) has been "prescribed," 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 in the negative side effects of professional specialization. With increasing proficiency in a particular career during middle, one loses some potential to invest in proficiency in other careers. Similarly, by choosing a (one gains security and attachment, but as the time goes, loses the freedom and variation, linked 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 total amount of resources available for development decreases. Middle age presents the individual with many competing developmental tasks domains such as those involving career, children, and aging parents.
Although an individual in middle age 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., Bron, 1912). 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 middle age.

Three adaptive tasks differ in prevalence across the life span and require differential resource allocation: growth, maintenance, and/or recovery (stabilization), and regulation of losses. 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 involves 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 (Steindli 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 middle age, 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 middle), while some resources are already needed for investment in the regulation of loss (more so in late middle).

<table>
<thead>
<tr>
<th>Life Span Periods</th>
<th>Resource Allocation</th>
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<tbody>
<tr>
<td>Childhood</td>
<td>Growth</td>
</tr>
<tr>
<td>Young Adulthood</td>
<td>Growth, Maintenance</td>
</tr>
<tr>
<td>Early Middle</td>
<td>Maintenance, Recovery</td>
</tr>
<tr>
<td>Late Middle</td>
<td>Maintenance, Recovery</td>
</tr>
<tr>
<td>Old Age</td>
<td>Maintenance, Recovery</td>
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**Figure 1.2** The allocation of resource capacity to the three functions: growth, maintenance, and recovery in middle age. Resources that are necessary in middle age are probably invested in maintenance and recovery but also growth (especially in early middle) and reduction of loss (especially in late middle) play a role. The management of resource investment emerges as an important developmental task.

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28 HANDBOOK OF MIDDLE DEVELOPMENT

When it comes to the allocation of resources, midlife again takes a middle-ground 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., Allen & Nethington, 1999). It is also reported, however, that a number of challenges to normal functioning arise during middle age, 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., Kishinev et al., 1996).

One of the most crucial losses of middle age cited in the recent literature is the notion of the sandwich generation (e.g., Davis, 1981). This item 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 middle age. Once the aging parents become in need of care, the (average) middle-aged 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 towards aged parents (e.g., Palomino, 1994; Marks, 1998). This sandwich position primarily concerns women, who still are more 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., Palomino, 1994; Marks, 1998).

The changing pattern of resource investment across middle age offers a model for understanding 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 middle age. At a general level, being able to match resources and life demands may be predictive of developmental success in middle age.

LIFE-Span DEVELOPMENT IS MULTIPLE

Another central feature of lifespan 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 anticipated changes, is fundamental and unique to the study of life-span development (e.g. Baltes et al., 1990).
Lerner, 1984; Magnusson, 1991). Plasticity denotes the range of latent aspects of function. 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 assessment points across a day, a week, or a month (Nesselroade, 1981). 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, perusal rate, state of health, and level of baseline performance (Cornelius, 1988; G.V. Labovitz, Hayer, Baltes, & Baltes, 1971). Individuals can also improve their performance substantially in 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, 1999).

Assuming that development is characterized by plasticity, provides an interactive and dynamic view of the environment/interaction. The focus on plasticity brings to the foreground that "human need 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 opportunity for development even more than many have believed" (Brim & Kiger, 1986, p. 1). The notion of plasticity also opens vistas on intervention-oriented research that explores the possibilities of optimizing middle-life development.

The implication of the notion of plasticity is that the understanding and study of middle-life development is that any finding so far reported about what middle is like does not have the character of a natural law but is open to modification given the provision of appropriate circumstances. Early changes can be influenced to a certain degree by lifestyle features and health behaviors (Mellor & Verbrugge, 1991). Levels of intellectual functioning are open to improvement given the right training intervention. So far, however, middle age has not been the focus of such intervention efforts as cognitive decline during middle age (Parkin, 1990). Range and limits of plasticity in middle are still open to systematic investigation. The social-set with position (work, social, older parents) that many women are facing in middle-life would be an ideal circumstance for exploiting the plasticity of functioning in middle. Questions such as "What, 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 development approach of plasticity is in key alterations and trajectories through middle directs our focus not only to develop interventions for those who have problems in middle-life, but also to take a systematic approach, with a focus on optimizing the middle life experience (Staudinger et al., 1995).


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A Year in Multifaceted Development from Life-Span Theory

earlier, and disadvantaged higher education. These events occur in early adulthood and can carry a significant amount of stress. Individuals may then find themselves in a marriage that they would have rather not been in at a later age or look into a profession because they didn’t invest in higher education.

One major demonstration of the importance of role training in history has been the role of life-span developmental research on cohort differences (e.g., McCall, 1971; M. L. S. & Nisselrad, 1979; E. P. F. & Nisselrad, 1980; Rieutord, 1979). Longitudinal and cross-sectional research have shown that children born at the same period in the life-span cohort can be differentiated over time. Such designs permit the examination of whether individuals born in different historical periods or at different socioeconomic conditions exhibit different intellectual functions. That is, when comparing different birth cohorts (those taken as an index of the period of the cohort age or gender differences in such variables as education, medication, economic conditions, and so on), there are differences in level, direction, and dispersion of functioning.

In the intellectual domain and the physiological, cohort differences in intellectual and emotional functioning can be observed. Generally, over historical time, comparing adults in the same cohort, some intellectual abilities (e.g., verbal, spatial, and reasoning abilities) have shown significant changes. However, the identification of historical effects on intellectual functioning has been limited. Some research has examined the effects of birth cohort on intellectual functioning, but the evidence is not conclusive. For example, some studies have shown that birth cohort effects have been detected (Hartup). However, small sample sizes have been reported. Therefore, more research is needed.

REFERENCES

A View on Midlife Development from Lifespan Theory


34 Handbook of Midlife Development


