

DEVELOPMENT IN MIDLIFE

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■ **Abstract** The midlife period in the lifespan is characterized by a complex interplay of multiple roles. The goal of this chapter is to summarize research findings on the central themes and salient issues of midlife such as balancing work and family responsibilities in the midst of the physical and psychological changes associated with aging. The field of midlife development is emerging in the context of large demographic shifts in the population. A section on the phenomenology of midlife development presents images and expectations including the seemingly disparate views of midlife as a time of peak functioning and a period of crisis. Conceptual frameworks useful for studying the multiple patterns of change in midlife are presented. Findings demonstrating patterns of gains and losses are reviewed for multiple domains: cognitive functioning, personality and the self, emotions, social relationships, work, and physical health. The need for future research to illuminate and integrate the diverse aspects of midlife is highlighted.

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“Thoroughly unprepared we take the step into the afternoon of life; worse still, we take this step with the false presupposition that our truths and ideals will serve us as hitherto. But, 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 1933, p. 108).

Midlife, the afternoon of life, as Jung (1933) called it in his essay on “The Stages of Life,” has become a period of great interest to scholars of the lifespan. To some extent the research findings support Jung’s notion that the salient issues and demands of midlife differ from earlier age periods and require adjustments to negotiate the new challenges. Moreover, midlife serves an important preparatory role in the transition to old age, the evening of life. There is, however, much evidence for continuity throughout adulthood in many realms of life, and the consistent self serves as an important resource and foundation for what comes later. What is perhaps most striking is the wide variability in the nature and course of the midlife period. As scholars begin to focus attention more directly on the middle years, it is apparent that to portray midlife is a challenging and complex task because the experiences of middle-aged adults are so diverse and variable. Nevertheless, it is possible to characterize midlife in broad strokes given that a key set of issues and challenges emerges during the middle years. There are some commonalities in the experiences of middle-aged adults even if the specific content and ways of dealing with them are quite diverse. The nature of midlife varies as a function of such factors as gender, cohort, socioeconomic status (SES), race, ethnicity, culture, region of the country, personality, marital status, parental status, employment status, and health status. The goal of this chapter is to present (a) a summary of the salient issues and experiences associated with midlife, (b) a guide to useful conceptual frameworks for studying development in the middle years, (c) an overview of the key research findings about change and stability during midlife in multiple domains of life, and (d) possible directions for future research. As we shed more light on midlife and begin to understand some of the regularities and unique challenges, the opportunities to prepare for and enhance the afternoon of life will continue to exceed those available in Jung’s time.

The experiences of midlife have some common themes involving both gains and losses (Baltes 1987, Baltes et al. 1999). In describing the middle years, a central task is to identify the alternative pathways to health and well-being (Brim et al. 2004). This requires a focus on multiple trajectories of development and their interplay across major areas of life (Lachman & James 1997, Moen & Wethington 1999). The central issues center around generativity, caring, and concern for others in the work and family spheres (McAdams 2001, McAdams & de St. Aubin 1998), in the context of changes associated with aging in physical and psychological resources. Middle-aged adults are linked to the welfare of others—including children, parents, coworkers, other family members, and friends—and have much to offer society. At the same time, they are addressing their own needs for

meaningful work (paid or unpaid), health, and well-being. Midlife is often the time when chronic illness or disease starts to surface, and physical problems such as high blood pressure, high cholesterol, or arthritis pain often take adults by surprise. These physical ailments, although largely treatable with medications or diet, can trigger distress because they signal aging, which is neither desirable nor valued in our culture. On the other hand, the psychological and social changes experienced in midlife are usually associated with positive changes. These may include better emotional regulation (Magai & Halpern 2001), increased wisdom and practical intelligence (Baltes et al. 1999), or a strong sense of mastery (Lachman & Bertrand 2001). The story of midlife is one of complexity, with the juxtaposition of peaks and valleys across the social, psychological, and physical domains. The need to balance multiple roles and manage the conflicts that arise is a reality that is characteristic of middle age, regardless of one's specific lifestyle or circumstances.

THE EMERGING FIELD OF MIDLIFE DEVELOPMENT

Much of the research on midlife has been conducted in the context of other age periods or specialized problems related to work or family. For example, we know a great deal about middle-aged parents from the literature on child development. From this perspective, the focus is on the children and the types of parental styles or interactions that would be most beneficial for the children's optimal development. Studies from the aging literature have focused on middle-aged adults as caregivers for their aging parents. The primary focus is typically on the older adults' welfare, with some recognition of the stresses and overload for the middle-aged adult children as a consequence of the caregiving role.

The population explosion of middle-aged adults and the increased knowledge about this age period have led to the identification of midlife as a segment of the lifespan worthy of study in its own right. The effort to differentiate midlife from other periods of human development also reflects a growing interest in the optimization of aging. If we can identify the roots of aging earlier in adulthood, it may be possible to delay, minimize, or prevent some of the changes in biological, psychological, and social functioning that occur in later life.

We have made progress over the past decade since Brim (1992, p. 171) referred to the middle years as the "last uncharted territory in human development." Despite the increase in research activity on midlife (e.g., Baruch & Brooks-Gunn 1984, Brim et al. 2004, Eichorn et al. 1981, Giele 1982, Helson & Wink 1992, Lachman 2001, Lachman & James 1997, Rossi 1994, Ryff & Seltzer 1996, Willis & Reid 1999), still less is known about this period than about other age periods such as infancy, childhood, adolescence, or old age. It is important to study the middle years, not only because of the large numbers of adults currently in this stage, but also because this period covers a large portion of an individual's lifespan. This period may have been understudied for so long because of assumptions that

it is a quiet period with little change, that there is too much diversity and too little regularity to capture the midlife experience, or that middle-aged subjects are difficult to obtain for research because of their busy work and family schedules (Lachman & James 1997). Over the past 10 years there has been a growing effort to collate what we know and to go forward with a systematic examination of this period, usually considered to last between 20 and 40 years (Lachman 2001). It is also important to determine whether the knowledge we have and are gaining about midlife is tied to specific cohorts such as the baby boomers. Longitudinal and panel designs are needed to examine whether the patterns identified are robust and whether they generalize to other cohorts in middle age.

DEMOGRAPHIC TRENDS

The U.S. Census Bureau (2000) report shows there are 73.6 million middle-aged adults, between the ages of 40 and 59, comprising about 26% of the population. Over the past decade, the fastest-growing age segment of the population was the 50- to 54-year age group, with an increase of 55%, and the second-fastest growth was in the 45- to 49-year-old group, which increased 45% (U.S. Census Bureau 2000). This large increase represents the movement of the baby boom cohort into middle age. It is not surprising, given this large bulge in the middle-aged population, that interest in research on the middle years of the lifespan has also increased dramatically during this same decade.

At the same time, those over age 90 are also increasing in vast numbers, as the third-fastest growing group over the past decade (U.S. Census Bureau 2000). These demographic changes have a profound impact on the lives of those in midlife. On the one hand, because of the large cohort size, large numbers of adults are reaching retirement age, which strains health care and social security. Increasingly large numbers of those in midlife have parents who are living longer and entering very old age. The demands and rewards of caregiving and multigenerational living are important aspects of middle-aged adults' lives. While they are raising or launching their own children and negotiating the demands of the workplace, concerns about parents' safety and health permeate many middle-aged lives (Putney & Bengtson 2001). In some cases the parents live nearby or with their children and daily attention may be required. In other cases, when parents live a long distance away, the daily concerns are different but not necessarily less stressful. Many of these demographic changes also have benefits and advantages. For example, many older, retired adults can help to care for the children of middle-aged workers. The large baby boom cohort also wields power and has a good deal of influence over sociopolitical issues.

The Baby Boom Generation

The baby boom generation, those born between 1946 and 1964, is moving through midlife in record numbers. In the year 2000, there were more than 80 million baby

boomers ages 35 to 54 in the United States (U.S. Census Bureau 2000). This cohort represents about 30% of the U.S. population.

It is important to place the baby boomers in a sociodemographic context and to consider the implications for their midlife development. A number of factors stemming from the confluence of demographic, historical, and societal changes have created a unique set of circumstances. The most pronounced distinction is that the baby boomers represent an extremely large cohort (Easterlin 1980). Thus, there is more competition for resources and jobs. The effects of history also are important, as was clearly demonstrated by the timing of the Great Depression for cohorts born in the 1920s (Elder 1979). Major historical events such as the Korean and Vietnam wars and the assassinations of John F. Kennedy and Martin Luther King are part of the collective baby boomer experience. The timing and sequencing of individual life events also may have an impact. The baby boom cohort had fewer children at later ages than their parents. Other lifestyle factors such as the increase in number of mothers of young children in the workforce has led to conflict between work and family needs for dual-career couples. More research is needed to investigate the psychosocial implications of these sociodemographic factors.

Some researchers are investigating the extent to which the baby boom generation is different from other cohorts who have already moved or will move through middle age. Carr (2004) compared the experiences of the baby boom with cohorts born earlier (the pre-World War II, silent generation, born 1931–1943) and later (the baby bust generation, born 1965–1970), and examined the implications of macrosocial patterns for microlevel outcomes. She identified cohort differences in occupational and educational attainment, values, and expectations, and examined the impact of historical shifts in access to opportunities, roles, and resources on psychological well-being. Baby bust women had the greatest access to resources that enhance self-esteem, such as higher education, higher-status occupations, and fewer family obstacles to work, which resulted in higher levels of self-acceptance compared to the older cohorts. Yet the women in both the baby bust and baby boom cohorts had lower levels of environmental mastery than women from the silent generation, perhaps because of the increased pressures of balancing work opportunities and family obligations.

The cultural emphasis on youthful appearance and avoiding or minimizing the physical changes associated with aging is characteristic of the baby boom generation. For example, there has been a widespread interest in procedures to maintain a youthful appearance such as plastic surgery and Botox, as well as many types of physical exercise. In part, this emphasis may reflect the baby boomers' strong desire to take control of the aging process (Clark-Plaskie & Lachman 1999, Lachman & Firth 2004). Nevertheless, it is important to acknowledge that the baby boomers are a diverse group culturally and ethnically. Not all baby boomers are physically fit, concerned about their appearance, or feel a strong sense of control over life. Moreover, the cohort spans 18 years, and large differences may exist between the midlife experiences of younger (late) and older (early) groups of baby boomers.

PHENOMENOLOGY OF MIDLIFE

Being in the middle of life may be akin to being in the middle of the term or semester at school, in the middle of the summer, in the middle of a trip or vacation, or in the middle of a book (Lachman & James 1997). When in the middle, it is natural to look back to see what has come before or to evaluate what has been accomplished and to look ahead to determine what comes next or remains to be done. The common experience in the middle is that one has already invested a lot in the enterprise, so one is likely to carefully consider what comes next as the threshold away from the beginning and toward the end is crossed. Not everyone is planful or reflective, so there are likely to be some who do not pause to consider the past and future in midlife. For those who are goal-oriented, midlife is often seen as a time for reflection, but not in the same way as the life review that occurs in later life (Erikson 1963), when time left is presumably shorter and emotional goals are more salient than informational ones (Carstensen et al. 1999, Fredrickson & Carstensen 1990). In later life, achieving ego integrity involves accepting life for what it has been (Erikson 1963). The emphasis in midlife may be on what remains to be done. Although those who have reached midlife are aware that time is advancing, most assume there is still a substantial, but not an infinite, amount of time left. Presumably, there is still just as much time left as has gone by. Of course with life one doesn't know the endpoint, so the timing of the middle is an estimate. Whether one thinks midlife signifies that life is half over or half is still remaining could lead to different outcomes, as optimism research suggests (Isaacowitz et al. 2000). This predicament of being in the middle of life may be an impetus for change but not necessarily a crisis.

In midlife, as in other life periods, one must make choices, and select what to do, how to invest time and resources, and what areas to change (Baltes & Baltes 1990). To the extent that one has some control over outcomes, one also may take responsibility or blame when things do not go well (Lachman & Firth 2004). A serious accident, loss, or illness in midlife often leads to a major restructuring of time and a reassessment of priorities in life (Aldwin & Levenson 2001). Sometimes changes are precipitated by "wake-up calls." Many people know of someone who became sick, developed a chronic illness, or died in middle age, and this can trigger a new appreciation for life. Leisure time typically takes a backseat in midlife, while an increasing amount of time is spent juggling multiple roles and achieving a balance of work and family with personal interests and health needs.

Subjective Age

According to the online Oxford English Dictionary (2000), the word "midlife" first appeared in Funk and Wagnall's Standard Dictionary in 1895. Midlife is defined as "the part of life between youth and old age." The boundaries for midlife are fuzzy, with no clear demarcation. Subjective views of the midlife period show a wide age range (American Board of Family Practice 1990). The most common conception is that midlife begins at 40 and ends at 60 or 65, when old age begins

(Lachman et al. 1994, Lachman & James 1997). Although most surveys report that 40 is the modal entry year and 60 is the modal exit year, there is tremendous variability in the expected timing of midlife (Lachman et al. 1995). Those between ages 40 and 60 are typically considered middle-aged, but there is at least a 10-year range on either end, so that it is not uncommon for some to consider middle age to begin at 30 and end at 75 (Lachman 2001). In a study conducted by the National Council on Aging (2000), nearly half of the respondents ages 65 to 69 considered themselves middle-aged. In fact, one third of Americans in their seventies think of themselves as middle-aged (National Council on Aging 2000). This pattern is similar to findings from a study of Boston-area adults. Half of the men and women between the ages of 60 and 75 considered themselves to be in middle age (ME Lachman, H Maier, R Budner, unpublished manuscript, *Portraits of Middle Age: When and What is Midlife?*).

As Americans live longer and remain healthier for a greater proportion of the lifespan, the upper end of midlife may be stretched further. Middle age does not necessarily signal the middle of the lifespan. It is not realistic to expect a 60-year-old to live to 120. Rather, the upper end of the middle-age period is defined more as a demarcation of when old age sets in. Many people associate the beginning of old age with a decline in physical health (Lutsky 1980). Thus, those who are still relatively well functioning and healthy in their seventies may still consider themselves middle aged. Research shows that the subjective boundaries of midlife vary positively with age (Lachman et al. 1994). The older one is, the later the reported entry and exit years for the midlife period (Lachman & Bertrand 2001). This is tied to the notion of subjective age in which middle-aged adults typically report feeling about ten years younger than they are (Montepare & Lachman 1989). In fact, feeling younger than one's age is associated with greater well-being and health.

Although midlife is a relatively long period, lasting from 20 to 40 years, it has not yet been divided into subperiods akin to the young-old, old-old distinction used to describe later life (Neugarten & Hagestad 1976). Given the expanding period of midlife, it may be useful to think about early and late midlife, as the experiences, roles, and health are likely to be vastly different for those who are 30 to 40 and those who are 50 to 60 and beyond.

Life events such as teenage children leaving home (the empty nest), becoming a grandparent, reaching career goals, or experiencing menopause are typically associated with becoming middle-aged. The timing of entry and exit into midlife may also be tied to social class. Those who are in lower socioeconomic status groups typically report earlier entry and exit years for midlife (Kuper & Marmot 2003). This could be related to social class differences in health (Marmot et al. 1997) or to earlier transitions into life roles such as grandparent (Putney & Bengtson 2001) or retirement (Kim & Moen 2001). In a longitudinal study, those who said that middle age ends earlier than 60 years of age had higher risk for heart disease and other illnesses than those who expected middle age to end after age 70 (Kuper & Marmot 2003).

The use of chronological age as a determinant of midlife may not be ideal because age norms are less stringent for midlife than for periods that occur earlier

(e.g., school entry or graduation) and later (e.g., retirement). Many people of the same chronological age are in different life phases with regard to social, family, or work events and responsibilities. For example, at age 40 some adults may have become a parent for the first time, while other 40-year-olds may have grown children and grandchildren, and some may have decided not to have children. Thus, social/family events place people of the same age in very different contexts. If one is either early or late for an event or life transition, or is approaching a developmental deadline (e.g., biological clock), this may have a major impact on one's self-conception and experiences during midlife (Heckhausen 2001, Neugarten 1968).

Images and Expectations

If you ask people of all ages to free-associate to the word "midlife," usually a large percentage will quickly offer the word "crisis." This likely reflects a widespread, cultural stereotype about this period, but not an accurate portrayal, as only a small percentage seems to experience a midlife crisis (Wethington et al. 2004). Middle age, however, is also associated with positive descriptors such as competent, responsible, knowledgeable, and powerful (Lachman et al. 1994). Thus, although midlife is often used as a modifier for crisis, it is also described as an age period with desirable characteristics. There is some empirical support for both of these views, as those in midlife may experience turbulence as well as success (Eichorn et al. 1981).

At one extreme, the notion of midlife as a period of turmoil or crisis (Levinson et al. 1978, Sheehy 1976) is in stark contrast to the view that midlife is the period of peak functioning and responsibility (Neugarten 1968). More than 25 years ago, Neugarten & Datan (1974) commented that opposing views of researchers and clinicians "led to a somewhat unbalanced view of middle age as either plateau or crisis." On the one hand, many researchers believed that midlife is a period of stability and that nothing of great significance occurs until senescence. In contrast, clinicians espoused the view that there are problems and crises in mental health brought on by physical changes and social upheavals during the middle years.

Some well-known conceptualizations of midlife have emerged from clinicians' accounts of their middle-class, middle-aged clients' problems (see Hunter & Sundel 1989). As a result, midlife is often portrayed as a time of crisis and unrest (Farrell & Rosenberg 1981, Jacques 1965, Oldham & Liebert 1989). Subsequent research with more diverse samples has uncovered a more balanced perspective (Baruch & Brooks-Gunn 1984, Brim et al. 2004, Eichorn et al. 1981, Giele 1982, Lachman & James 1997, Rossi 1994, Ryff & Seltzer 1996, Willis & Reid 1999). In contrast to the view from clinical populations, survey-based findings have characterized those in middle age as being on top of their game, "no longer driven, but now the drivers" (Neugarten & Datan 1974). These disparate views can be reconciled if the experiences of midlife are considered from a multidisciplinary, contextual lifespan perspective (Baltes et al. 1999), recognizing the vast range of possibilities for gains and losses and variations by historical period, timing of events in the life course, gender, culture, race, ethnicity, and social class.

RECONCILING THE DISPARATE VIEWS How can those in midlife be characterized simultaneously as on top of the world and as full of turmoil and crisis? This may be a false dichotomy, as these seemingly disparate views are not incompatible and can be reconciled. The following four perspectives provide useful alternatives for examining the so-called paradox of midlife. By using multivariate methods and longitudinal designs, research can be conducted to verify or investigate these possibilities. One possible view notes that these positions represent two extremes along a continuum, and few people function at either of these endpoints. Rather, most people fall somewhere in the middle, doing fine with neither a peak nor a crisis. A second way to characterize the different portrayals of midlife is that they may not describe the same people but represent individual differences. Midlife is a time of crisis for some people, but for others it may be the peak of their lives. Individual differences in midlife show there are some people who are doing well and others who are not. A third possibility is that there is a sequential relationship between crisis and peak. As Erikson (1963) postulated, it may be necessary or adaptive to experience a crisis or turmoil for growth and development to occur (Avis 1999). The experience of a crisis may allow for subsequent positive development and a peak in performance and status. This would be akin to the changes noted by Marcia (1980) during the transition to adolescence. Those who experienced a crisis prior to resolution of ego identity showed better long-term adjustment than those who formed their identity without a challenge. A fourth possibility is that people may show differential outcomes in various domains of life. Thus, things may be in a state of flux and turmoil in one area of life (e.g., work) while things in another domain (e.g., family) may be going quite smoothly, with a great deal of competence and success. If multiple domains of life are considered, both peaks and valleys, or gains and losses, will be apparent (Baltes et al. 1999). By considering these four alternative conceptions, the portrayal of midlife as both a time of upheaval and a time of mastery is plausible and explicable. To capture these multiple conceptions, research must incorporate multivariate and longitudinal designs to take into account the wide individual variability in the midlife experience. Examination of patterns of change is needed as mean levels may mask the individual variability. Techniques such as cluster analysis allow classification into different typologies, and modeling can be used to illustrate the diverse trajectories of development. Thus, some people in midlife may show a pattern of crisis, whereas others may best be classified as successful, and still others may have a combination of crisis and competence. To examine intraindividual changes and the upward and downward trajectories, or the sequential changes in status, will help further our understanding of midlife development.

Salient Issues in Midlife

Given the increased focus on midlife by researchers, clinicians, other professionals, and laypersons, it is interesting to consider the most prevalent issues faced by those in midlife. Adults typically rate problems for others as more serious than their own problems (Heckhausen & Brim 1997). The use of social downgrading is an effective secondary control strategy and is used especially for areas of life that are expected

to be problematic for one's own age group (Heckhausen & Brim 1997). In 12 key life domains rated by a national sample, there were no age differences except in the domain of health, where problems were expected to get worse with age. In the areas of stress, job, and leisure time, problems were expected to decrease after the middle years. In a representative sample of adults in the greater Boston area, participants were asked how frequently they experienced problems in each of 26 different areas of life. The most frequent problems reported by middle-aged adults were related to getting everything done, their memory, energy level, job, and sleep (ME Lachman, H Maier, R Budner, unpublished manuscript).

A national survey conducted by the American Board of Family Practice (1990) found that changes in physical conditions, health, and mental functioning, as well as getting older, were considered the worst aspects of midlife. Respondents expressed concerns especially about increases in chronic illness and being overweight. The desirable aspects reported about midlife reflected feelings of more personal control and freedom. Being settled and having life experience were considered the best things, having financial security, and the freedom and independence that come with grown children were also frequently cited. Improving relationships with family and friends, caring for a frail parent or helping children, and saving for retirement were noted as important goals during midlife (American Board of Family Practice 1990). Thus, there is evidence that the midlife experience includes both gains and losses (Baltes 1987, Neugarten & Danan 1974). The loss of fertility at menopause is sometimes experienced as a gain in sexual freedom (Rossi 1994). Or, the loss of the active parent role when children move out of the home is often accompanied by newfound gains in marital satisfaction and opportunities for exploring new interests, growth, and fulfillment (Ryff & Seltzer 1996).

The Baby Boomers at Midlife, a national survey by the American Association of Retired Persons (AARP) (2002), tracks baby boomers annually and compares them to those who are younger and older. Baby boomers were generally optimistic about the future and expected things to keep getting better. Sixty-four percent of the baby boomers said they were hopeful about the next five years and 80% were satisfied with the way their life is going. The AARP (2002) study found that the optimism levels of the baby boomers resembled those in young adulthood more than those who are in later life. The two areas in which baby boomers felt they were not doing as well as they would like were finances and leisure time. They had expectations that things would get better in both of these areas, but they were less optimistic than other cohorts that they would reach all of their goals. This may be because their goal aspirations are higher than those of older cohorts. Or, perhaps due to the large size of the cohort, baby boomers are more guarded because they know there is more competition for resources and opportunities than in smaller cohorts. Nevertheless, baby boomers were likely to take the blame for their failures to meet their goals, demonstrating a sense of responsibility for the outcomes in their life. Baby boomers said they were worse off than they expected for their health, but that they have a good deal of control over health outcomes. Indeed, many baby boomers do engage in health-promoting behaviors such as exercise (AARP 2002).

Things are reportedly going well in other areas, such as relationships with family and friends, religious or spiritual life, work, and mental health. Friends and family were the areas in which the baby boomers reported the most satisfaction (AARP 2002). They felt squeezed, but not stressed, and were comfortable and confident with their ability to manage family roles (AARP 2001).

The Midlife Crisis

One of the most common expectations of midlife is that there is an inevitable crisis, but the research does not support this (Eichorn et al. 1981). Approximately 26% of the participants over age 40 report having a midlife crisis (ME Lachman, H Maier, R Budner, unpublished manuscript; Wethington et al. 2004), although most of the reported crises occurred before age 40 or after age 50. This raises the question of whether a crisis is unique to midlife (Wethington et al. 2004) or whether it may be cohort specific (Rosenberg et al. 1999).

Jacques (1965) thought the midlife crisis was driven by a fear of impending death. More recent research shows the usual sources of the crises are major life events such as illness or divorce, which are not necessarily only associated with the midlife period (Lachman et al. 1994, Wethington et al. 2004). One third of the time what is described as a midlife crisis is triggered by events such as job loss, financial problems, or illness, which can occur at any time in adulthood (Lachman & Bertrand 2001, Wethington et al. 2004). Personality has been identified as a key factor predisposing some to experience crises at transition points throughout the life course. For example, those who are more neurotic are more likely to have a midlife crisis (Costa & McCrae 1980, Lachman & Bertrand 2001, Whitbourne & Connolly 1999).

Turning points are significant changes in the trajectory of life or an experience or realization that causes someone to reinterpret the past, similar to a midlife crisis (Clausen 1998, Rosenberg et al. 1999). Wethington et al. (2004) examined in what areas of life turning points occurred and whether they clustered in midlife. The most common turning points involved the work domain, usually a change in job or career. They were most likely to occur at midlife for men but earlier for women (Clausen 1990, Moen & Wethington 1999). Entering the thirties may be more disruptive than turning 40 (Wethington et al. 2004), as suggested by Levinson et al.'s (1978) view on the age-30 transition. This is also consistent with the notion of a "quarter-life crisis," occurring for those in their mid twenties and early thirties as they struggle to find satisfaction in work and meaningful relationships (Robbins & Wilner 2001).

CONCEPTUAL FRAMEWORKS

The classic models of midlife are based on Jung's and Erikson's theories (Lachman & James 1997). A major goal of midlife according to Jung (1971) is reflected in the individuation process. Individuation involves the integration or balancing of

all aspects of the psyche. Jung's (1971) work set the stage for some of the more recent formulations of midlife. For example, he wrote that the transition to midlife is difficult and must be encountered with a different set of goals than earlier adulthood. Moreover, failure to deal with the psychological and physical changes in middle age could lead to difficulties, akin to a midlife crisis. He also discussed the integration of the feminine (*anima*) and masculine (*animus*) aspects of the psyche as part of the individuation process. This integration of sex role characteristics has been investigated extensively (Eichorn et al. 1981, James & Lewkowicz 1997, James et al. 1995, Helson et al. 1995, Neugarten 1968, Parker & Aldwin 1997). To date there is no conclusive evidence as to whether men become more feminine or women become more masculine in midlife. However, there is some indication that agentic qualities emerge for women and communal qualities become more salient for men in the middle years (James et al. 1995). Rather than a replacement of traditional sex roles, they are more likely supplemented with the opposite sex role characteristics.

Stage models of midlife have been popular, beginning with Erikson's (1963) discussion of midlife in the context of the eight stages of the lifespan. Nevertheless, given the irregularity and variability in midlife, it is unlikely that the regular sequences and patterns associated with stages can be useful for depicting the full midlife experience (Brim 1992). According to Erikson, the tasks of middle age rest upon successful resolution of earlier tasks, as portrayed in the epigenetic theory. At each stage there is a crisis, in the sense of a transition or turning point. In midlife, the central theme is generativity versus stagnation. The associated tasks involve concern with producing, nurturing, and guiding the next generation. This includes not only raising offspring but also can apply to transmitting values, mentoring younger workers, or contributing to the world through art or literature. The multifaceted and multidimensional view of generativity in the domains of parenting and societal involvement reflects the critical role that commitment to others plays in the development of well-being in midlife (McAdams 2001, McAdams & de St. Aubin 1998).

Erikson's theories have been applied and extended by other theorists. McAdams (2001) developed a more extensive conception of generativity. Levinson et al. (1978) created a stage theory that includes multiple transitions and stable periods throughout adulthood. Based on studies of the Harvard graduates in the Grant Study and inner city youth, Vaillant (1977, Vaillant & Milofsky 1980) found support for Erikson's stage theory. He also formulated two additional substages for the long midlife period. After intimacy and before the generativity stage, Vaillant suggested, was a time for career consolidation. As a sequel to the generativity stage and before achieving ego integrity, Vaillant (1977) included a substage called "keepers of the meaning," representing the focus on transmission of values to society.

Other work on midlife has been guided by theories of lifespan development and aging (Staudinger & Bluck 2001). It is useful to view midlife in the context of the life course rather than as a disconnected entity. From a lifespan perspective, the dynamic nature of changes in the middle years can be represented as both gains

and losses (Baltes 1987, Eichorn et al. 1981). The midlife experience is determined by both biological and cultural/environmental influences. In fact, midlife does not exist as a concept in all cultures (Shweder 1998).

The Selective Optimization with Compensation model (Baltes & Baltes 1990), although developed initially to understand aging, can be applied to the period of midlife. Middle-aged adults are involved in multiple domains of work and social relationships, and often may have conflicting demands. Thus, successful development must entail making choices as well as adapting strategies for optimizing outcomes. Compensation may not come into play as often in midlife as in later life, if there are fewer decrements and unrealized goals. When physical limitations and chronic illness are experienced, however, midlife adults are faced with finding ways to cope or compensate for the losses.

In midlife, there may be some domains in which selection is difficult or not possible. Whereas in later life it may be possible to select positive relationships that offer emotional support (Carstensen et al. 1999, Fredrickson & Carstensen 1990), in midlife there are many required or obligatory roles. It may be necessary for the middle-aged adult to deal with the unpleasant boss, the demanding coworkers, the annoying in-laws, or the ailing parents, whereas it may be more feasible for older adults to reduce or avoid the negative ties. Thus the middle-aged adult may be frequently forced to balance the negative and positive aspects of relationships and other aspects of life. Although this may lead to increased stress, it may also serve as a training ground for emotion regulation in later life (Magai & Halpern 2001).

SELECTED STUDIES OF MIDLIFE

A number of important studies have focused directly on the middle years of the lifespan. One of the earliest studies to focus on midlife was the Kansas City Study of Adult Life, conducted from 1954 to 1964 (Neugarten 1968). This cross-sectional study was notable for integrating the psychological and social aspects of middle age and aging. The results showed personality and situational changes in adulthood and suggested that midlife was a time of peak functioning in psychosocial competence (Neugarten & Datan 1974).

The Bay Area Studies included the Oakland Growth Study and the Berkeley Guidance Study samples (Eichorn et al. 1981). These two cohorts have been studied since their birth in the 1920s, and results provided evidence for both continuity and change in personality and social competence during midlife. The Terman Study followed gifted children from the 1910 birth cohort into middle and old age, and the findings shed light on the personality and behavioral antecedents of adaptive functioning in midlife and longevity (Friedman et al. 1995). A number of other longitudinal studies that began with a focus on child and adolescent development have continued to follow participants into middle age (see Phelps et al. 2002). These long-term studies provide exceptionally rich opportunities to explore the antecedents of successful aging.

A series of relatively small longitudinal studies conducted with college alumni have been helpful in tracing the antecedents of midlife development in several cohorts of well-educated women (Mills College Classes of 1958 and 1969, Radcliffe College class of 1964, Helson & Wink 1992, Helson et al. 1995) and men (Grant Study of Harvard sophomores 1939–42, Vaillant 1977).

The Midlife in the United States (MIDUS) survey was conducted from 1995 to 1996 by the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development (see Brim et al. 2004). The survey was administered by telephone and mail to a national probability sample of more than 7000 noninstitutionalized adults ranging from 25 to 75 years of age. The major findings from the MIDUS survey are summarized in the volume edited by Brim et al. (2004). This interdisciplinary study allows for integration of psychological, social, and physical aspects of well-being and health, and comparison of middle-aged adults with young and older adults. A major focus of the study was on the factors that influence psychological well-being, physical health, and social responsibility and productivity in the course of midlife development, and the ways in which adults negotiate the challenges of midlife (Brim et al. 2004). A longitudinal follow-up of the MIDUS sample funded by the National Institute on Aging is currently under way. This will provide useful insights into how individuals navigate the middle years and negotiate the transition to old age.

MULTIPLE PATTERNS OF CHANGE

To provide descriptive information about the nature of development in midlife, Lachman et al. (1994) asked adults to rate three age groups (young, middle, and old adults) on multiple dimensions. Across the dimensions there was evidence for the nine possible patterns of change or stability using the three age points (Lachman et al. 1994): (a) linear increase, (b) linear decrease, (c) peak or high point at midlife, (d) valley or low point at midlife, (e) stability from young to middle age and decline in later life, (f) stability from young to middle age and increment in later life, (g) decline from young to middle age followed by stability, (h) increase from young to middle age followed by stability to old age. A final pattern is characterized by (i) no change (stability). These various patterns were representative of the perceptions of change in adulthood across the multiple domains. They illustrate the wide variability and multidirectionality in possible developmental patterns (Staudinger & Bluck 2001). The following discussion of research findings from different life domains further illustrates the variability in patterns and trajectories involving midlife, with evidence for both gains and losses.

Cognitive Functioning

There are mixed patterns of growth and decline in intelligence (Dixon et al. 2001, Miller & Lachman 2000, Sternberg et al. 2001, Willis & Schaie 1999). Most of the work on cognitive aging has compared older adults to young adults, with an

assumption that midlife performance falls somewhere in between that of the young and old. If one takes a multidimensional view, it is clear that on some dimensions, the middle aged perform similarly to the young, whereas on other dimensions they resemble those who are older. Results from key longitudinal studies have shown that some aspects of cognitive functioning are maintained or even improved in midlife (Eichorn et al. 1981, Hultsch et al. 1998, Schaie 1996). These include the pragmatic aspects of functioning, such as tacit knowledge (Baltes et al. 1999, Sternberg et al. 2001), that depend on experience. In contrast, aspects of the mechanics of cognition, including speed of processing and working memory, begin to show significant declines in midlife (Baltes et al. 1999). Nevertheless, cognitive changes in midlife occur gradually and do not lead necessarily to disability or functional impairment (Willis & Schaie 1999). Although some aspects of cognitive functioning may show declines, the middle-aged adult typically has the resources and experiences to compensate for them (Miller & Lachman 2000). For example, adults can use higher order skills to compensate for loss of speed in responding. There also are positive generational trends so declines may be less significant in younger cohorts, perhaps due to their higher levels of education (Willis & Schaie 1999).

Those in midlife commonly complain about cognitive declines, especially in memory (Lachman 1991). However, the research on objective change does not support widespread significant declines in memory until later in life. In fact, verbal memory seems to peak in midlife, as does vocabulary, inductive reasoning, and spatial orientation (Willis & Schaie 1999). Characteristics of wisdom often are identified in middle-aged adults, although they seem to be tied more to personality characteristics than to cognitive abilities (Staudinger et al. 1998). The midlife period provides many good opportunities for making intellectual contributions, given the position of the middle aged in the family, in the workplace, and in society.

Personality and the Self

Research on personality in midlife tells two different tales. On the one hand we see strong evidence that personality is set in young adulthood and remains relatively stable throughout the rest of life (Costa & McCrae 1980). This view is based largely on studies of temperamental personality traits, from the Big Five framework: The findings indicate that individual differences in extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness remain stable during the adult years. There is also evidence, however, for changes in personality, especially in dimensions of the self (Markus & Nurius 1986).

Work by Caspi (1987) showed that temperamental qualities are stable with age, and that there is consistency in their effects across multiple domains of life. Thus, midlife behaviors and outcomes in the work and family domain are related to behavioral patterns in childhood and adolescence. For example, shy children delayed key events in adulthood such as marriage and higher education and attained less occupational achievement and stability (Caspi et al. 1989). Gender and SES differences were also apparent. Ill-tempered boys from middle-class backgrounds

demonstrated a decline in social status. For women, those who were ill-tempered in childhood were more likely to marry men with low-status jobs in young adulthood and were more likely to be divorced by midlife and rated as poor mothers than their even-tempered counterparts.

Even though longitudinal trait studies show a good deal of consistency, there is some evidence that personality changes during adulthood. Using meta-analysis, Roberts & DelVecchio (2000) found that trait consistency increased in a linear, stepwise manner, until it peaked during midlife, sometime during the fifth decade (ages 50–59). Cross-sectional analyses also show some evidence that personality traits are not completely constant (McCrae & Costa 2003). Based on cross-sectional findings from the MIDUS survey, trait ratings of conscientiousness showed a peak in midlife. Agreeableness showed an upward trajectory with age, and openness and neuroticism showed downward age patterns (Lachman & Bertrand 2001).

Neugarten (1968) reported that the decade of the fifties is an important turning point in personality, with increased introspection and reflection. Sex differences in personality are accentuated during the parenting years in young adulthood and midlife, but the differences are tempered with increasing age (Eichorn et al. 1981, Helson et al. 1995). The self plays an important role in midlife, serving as a resource for negotiating the physical changes and social stresses that may be encountered. No one is immune to the complexities of midlife, yet those who feel a sense of mastery and control are better able to meet the challenges head on and find effective strategies for reducing or dealing with stress (Lachman & Firth 2004). With a well-developed identity and sense of self, most middle-aged adults function well psychologically (Lachman & Bertrand 2001), and are effective at regulating emotions (Magai & Halpern 2001) and coping with changes in many realms (Aldwin & Levenson 2001, Heckhausen 2001).

There is converging evidence that midlife is a time of increased well-being, although the sources of happiness and well-being vary by social class (Markus et al. 2004) and race (Ryff et al. 2004). At the same time, middle-aged adults do experience stress. Almeida & Horn (2004) used daily diaries over a one-week period to examine whether midlife is more stressful than other age periods, and found that both the young and midlife groups had more stressor days and more days with multiple stresses than the older adults. These findings are consistent with other work showing that stress is highest in young adulthood and midlife, and tapers off in later life (Chiriboga 1997). Compared to older adults, younger and midlife adults experienced more frequent overload stressors, especially involving children and financial risk. Younger adults had more work-related events and older adults had more spouse-related events. Midlife adults reported fewer stressors over which they felt no control. In midlife, the sense of control is an important component of health and well-being (Clark-Plaskie & Lachman 1999, Lachman & Weaver 1998b). Some aspects of control show increases with age, whereas in other areas control diminishes. For example, middle-aged adults feel a greater sense of control over their finances than younger adults (Lachman & Weaver 1998a). However, the middle aged reported less control than younger adults over their children.

Aldwin & Levenson (2001) showed a connection between stress and health and highlighted the need for good coping skills in midlife. Midlife adults may encounter stresses in multiple areas of life, such as death of parents or compromised health, yet most middle-aged adults are able to achieve growth and wisdom in the face of these stressors. Indeed, middle-aged adults are able to cope by assimilation (primary control) and accommodation (secondary control; Brandstadter & Renner 1990, Heckhausen 2001, Whitbourne & Connolly 1999). In circumstances in which adults can meet their goals, they are likely to use assimilative strategies, making desired changes to the situation or environment. When there are insurmountable obstacles to their goals, they are able to use accommodative skills, adjusting aspects of the self to resolve discrepancies. Those in midlife also show adaptive coping skills by drawing on their previous life experiences (Aldwin & Levenson 2001). Whether or not midlife is a time in which challenges are more likely to arise compared to other periods, middle-aged adults seem to be better equipped than other age groups to deal with them, as they have developed the skills to moderate the difficulties (Aldwin & Levenson 2001, Chiriboga 1997).

Emotional Development

Research is under way to chart and understand the ways adults negotiate the emotional terrain of the middle years, including parenting growing children and dealing with the aging and death of one's parents. Mroczek (2004) showed with the MIDUS sample that the affect of middle-aged adults is more like that of the young than of the older adults. In fact, older adults report more adaptive emotions, consistent with theories of emotional regulation (Carstensen et al. 1999, Isaacowitz et al. 2000). For positive affect, the middle-aged and young have lower mean levels than older adults. For negative affect, older adults show lower mean levels than middle-aged and younger adults. Variability in affect also showed those in midlife to be more like the young, with greater variability than the old. The relationships between affect and key explanatory variables differed by age period. Marital status and education played an important role in midlife affect. Relationship stress was also salient for middle-aged adults, whereas stress from work was more critical for the young. Physical health was an important factor involved in distress at all ages.

Kessler et al. (2004) showed that the incidence of major depression decreases with age. Differential exposure to stress rather than differential stress reactivity seems to explain the negative relationship between age and major depression. They examined the incidence of depression in relation to status in multiple domains. Marital separation or divorce elevated the risk of depression, although these effects were greater for men. The unemployed had higher depression than the employed and homemakers, but there were no effects of retirement or parental status on depression. There were gender differences in that for men, work and finances had the most important associations with depression, whereas for the women, health and family relationships along with work and finances all contributed to depression.

The psychosocial resources, such as use of downward comparisons and secondary control strategies, at the disposal of the midlife adult may serve as protective factors and help in the adaptation to the losses, impending developmental deadlines (e.g., biological clock), multiple roles, and other challenges associated with midlife (Heckhausen 2001). There is evidence that regulation of emotions is associated with adaptive functioning among middle-aged adults (Lang 2001, Magai & Halpern 2001).

Social Relationships

There is consensus among Americans at midlife that one major component of well-being is positive relations with others, especially parents, spouse, and offspring (Markus et al. 2004). This is consistent with the conclusions from the AARP (2002) study of baby boomers in which family was reported as the most important and satisfying area in their lives. Adults of the so-called sandwich generation, who have young children and older living parents, are not necessarily taking primary responsibility for the care of their parents (Putney & Bengtson 2001). Nevertheless, those who were caring for parents said they were mostly able to cope with the dual responsibilities and felt a "squeeze" but not stress. (AARP 2001).

In addition to psychological and physical changes, middle age often involves a restructuring of social roles (Bumpass & Aquilino 1995), especially in the realms of work (Sterns & Huyck 2001, Kim & Moen 2001) and family (Antonucci et al. 2001, Putney & Bengtson 2001). Midlife adults have a wide range of circumstances involving their children, determined in part by their social class, children's ages, and geographical propinquity (Ryff & Seltzer 1996). Some have young children still in the home, and others have grown children who live on their own or perhaps return to the home after divorce or graduating college. Those who had children in their twenties or early thirties will often become grandparents during the early part of their middle years. Midlife adults also must confront changes in their relationships with their own parents, especially changes due to declining health or death.

One of the harsh realities of middle age is captured in the statistics about the number of living parents. According to the National Survey of Families and Households, as adults enter midlife, 41% have both parents alive, while 77% leave midlife with no parents alive (Bumpass & Aquilino 1995). Behind these figures are the emotional anguish and turmoil associated with parental loss. The experiences of midlife adults are complicated by the mobility of our society, in which adult children are often faced with the long-distance monitoring of parents with failing health and decreased ability to live independently, while dealing with the multiple responsibilities at home and in the workplace (Putney & Bengtson 2001).

Midlife adults may have many interlocking roles (Moen & Wethington 1999). In both the family and work domains, middle-aged adults play an important role in sharing their experience and transmitting their values to the younger generation (McAdams 2001). The middle-aged are involved with the lives of the young and the old. They may be launching children and experiencing the empty nest, adjusting

to having grown children return home (boomerang kids), becoming grandparents, giving or receiving financial assistance, taking care of a widowed or sick parent, or getting used to being the oldest generation in the extended family after both parents have passed away (Putney & Bengtson 2001).

Marks et al. (2003) examined how the multiple roles of marital partner, parent, and adult child and varied lifestyles such as cohabitation or remarriage are associated with physical, mental, and social well-being and whether these associations vary by gender and age. They found roles could have different well-being consequences, depending for example on whether or not a parent is in poor health or depending on the age of one's children. Those who were parents had more psychological distress than the child free, but also had greater psychological wellness and generativity, illustrating both gains and losses. In midlife, when one's children become adults, we get a sense of how they have turned out (Keyes & Ryff 1999). Children's outcomes affect parents' evaluations of their own lives and their well-being.

The midlife adult is a major provider of support, but also reaps the benefits of support from others (Antonucci et al. 2001). Social relations with family, friends, and coworkers can provide a major source of satisfaction and contribute to well-being and health in midlife, but also can be a source of stress (Rook 2003, Walen & Lachman 2000). The absence of support or the experience of strain can wreak havoc on middle-aged adults, leading to stress and illness. The most frequent type of daily stressors found in a daily diary study was interpersonal tensions, occurring on almost 24% of the days sampled (Almeida & Horn 2004). There were also gender differences in that women had more stressors from other people and men had more self-focused stressors.

Work

The role of work, whether one works in a full-time career, a part-time job, as a volunteer, or a homemaker, is central during the middle years (Sterns & Huyck 2001). One's identity is in large part defined by one's work. The nature of work can affect one's cognitive capacity and intellectual flexibility (Kohn & Schooler 1978). In the work domain, middle-aged adults may reach their peak in position and earnings. They also may be faced with multiple financial burdens from rent or mortgage, child care, medical bills, home repairs, college tuition, loans to family members, or bills from nursing homes.

The progression of career trajectories during midlife is diverse (Barnett 1997). Some individuals have stable careers, with little mobility, while others move in and out of the labor force, experiencing layoffs and unemployment. The impact of job instability depends on the age of the person or whether or not it occurs in the context of a good job market and economy. Middle-aged adults may experience age discrimination in some job situations, and finding a job in midlife may be difficult because pay demands of older workers are higher than those of younger workers, or technological advances may render the midlife worker's skills outdated or obsolete.

Another phase of the work cycle that often occurs in midlife is the transition to retirement (Kim & Moen 2001). The preretirement phase occurs at different time points, and may be affected by historical variations, timing, planning, adjustment, and resources that are brought to bear on retirement decisions. For some, retirement is a welcome event, and planning can facilitate a better transition. Some may need to postpone retirement when economic conditions change or unexpected circumstances arise (Avolio & Sosik 1999). Middle-aged adults often report they have little time for leisure (AARP 2002). Thus, retirement may be a welcome change, enabling them to have more time to explore interests and to spend with family and friends (Eichorn et al. 1981).

Health and Physical Changes

For middle-aged adults, health is generally good, and most physical changes do not cause disability or alter lifestyles, even if they do raise concerns and lamentations about the woes of getting older (Whitbourne 2001). Some less fortunate are faced with chronic illnesses, disease, or health problems that limit their activities (Spiro 2001). Only 7% of those in their early forties report having a disability (Bumpass & Aquilino 1995). The number of men and women with some form of disability more than doubles by the early fifties (16%), and by the early sixties, 30% have a disability. Thus, for many adults, midlife is characterized by increasing health problems, and this is particularly true for those with low socioeconomic status (Bumpass & Aquilino 1995, Ryff et al. 2004).

Individual differences in the rate of aging are vast and are influenced by such factors as heredity, health habits, and lifestyle. Lifestyle and behaviors in youth and young adulthood can affect health in midlife, and midlife habits affect outcomes in old age. Thus, as many adults recognize, the opportunity to control one's health is enormous (Lachman & Weaver 1998a) because many of the risk factors for chronic illnesses are modifiable, including cigarette smoking, alcohol use, poor diet, excess weight, and physical inactivity (Merrill & Verbrugge 1999). The reported effort devoted to health increases with age and is higher among women than men (Cleary et al. 2004). However, reports of health-related behaviors such as exercise or vitamin use decline with age in general. Thus, with increasing age adults may spend time dealing with chronic conditions, not just on health preventative measures.

Variations in health by socioeconomic status are consistent across age (Marmot et al. 1997), with those lower on the social gradient showing poorer health. Inequality, not lack of material wealth, appears to contribute to ill health. The effects of the gradient are moderated or mediated by factors such as parents' education, work environment, health behavior, social relationships, and sense of control (Marmot et al. 1997). Social support (Ryff et al. 2004) and a strong sense of mastery and control (Lachman & Weaver 1998b) are protective factors for those in lower social classes. Those at the low end of the SES spectrum who have better quality relationships and a greater sense of control are more resilient and show health and well-being comparable to those with higher SES.

Biologically based changes are typically not as dramatic in midlife as in other periods of the lifespan. Some individuals begin to show health declines during the middle years and others pass through midlife with a clean bill of health. Some of the common changes that may emerge in the middle years include back and joint pain, tooth and gum problems, changes in eyesight and other aspects of sensory functioning, and weight gain with related problems such as cardiovascular disease and diabetes (Whitbourne 2001).

One of the major shifts in the middle years occurs in the area of reproduction, especially menopause for women. The median age of the last menstrual period is typically 50–52 years, although there is wide variation in the menopause experience (Avis 1999, Rossi 2004). There is no evidence for a universal experience of distress associated with menopause (Avis 1999). Hot flashes and sweats are related to physiological changes in hormone levels, but their severity varies. Those who have hot flashes and night sweats are more likely to experience depression. Symptoms such as depression, irritability, weight gain, insomnia, and memory loss do not seem to be directly related to menopause. For example, it is possible that the association noted between depression and menopause is based on clinic/patient populations who self-select into treatment (Avis 1999). Attitudes toward menopause and stress can affect symptoms during menopause (Rossi 2004). Cultural differences in the experience of menopause suggest that estrogen is not directly responsible for depression and symptoms. More research is needed to understand to what extent changes in hormones for both men and women do impact musculoskeletal, cardiovascular, and urogenital systems, leading to increases in heart disease, diabetes, hypertension, osteoporosis, urinary incontinence, and autoimmune diseases.

In the 1980s menopause was implicated as a risk factor for osteoporosis and cardiovascular disease (Avis 1999). This led to the medicalization of menopause and the introduction of hormone replacement therapy (HRT). Menopause was seen as a treatable condition that warranted medical intervention (Avis 1999, Rossi 1994). Recently, the benefits of HRT have been questioned, and research evidence suggests that HRT may not only be ineffective for treating heart disease but also may be harmful in increasing the rate of cancer (Petitti 2002).

DIRECTIONS FOR THE FUTURE

Although we have progressed in integrating the various streams of literature that bear on midlife and in incorporating new findings from recent studies, the picture of midlife is still unfolding. Studies using longitudinal and multivariate methods are needed to enable separation of age and cohort effects and to capture the complexity of the period. This will help the field to go beyond what we know for isolated cohorts and for specific domains, to more completely characterize the middle years. Midlife is a period of peak functioning in many domains, including some aspects of cognitive functioning and in the ability to deal with multiple roles and stress. Midlife adults are at the height of assuming responsibility for others and midlife is

typically the time of greatest influence and most frequent intergenerational contact. It is a period when rich experiences from multiple domains come into play and the deficits of aging usually have not begun to have a major impact on functioning. Opportunities still exist to make a difference in the quality of one's life and that of others, or to change direction and to reap the benefits of investments in time and effort. Midlife is a period when implementing health-promoting behaviors can help to maintain health and possibly prevent physical problems in later life. It is a time when a sense of control can provide motivation to tackle impending declines in many domains, including health or cognitive functioning (Lachman & Firth 2004, Miller & Lachman 2000). Middle-aged adults often show high levels of mastery gained from successful coping and accumulated experiences of juggling different roles.

Many questions about midlife are unanswered. To make further progress, researchers must recognize the multidisciplinary nature of midlife, and focus on the interplay of biomedical, psychological, and social factors during the middle years. Midlife can provide a window for a glimpse of later life while there is still time to engage in prevention and to influence some aspects of the course of aging. Further studies are needed to supplement the accumulating evidence for ways to take control and compensate for or even postpone aging-related losses that begin during midlife (Lachman & Firth 2004). For example, weight-bearing exercise can prevent or remediate aging-related muscle loss (Whitbourne 2001). Also, engaging in challenging physical and mental activity seems to minimize aging-related cognitive declines (Hultsch et al. 1998). Psychological resources can come into play in adapting to the physical and social losses that occur during midlife. When desired outcomes are not attainable, it is possible to utilize secondary control or accommodative processes for adjustment (Brandstadter & Renner 1990, Heckhausen 2001, Whitbourne & Connolly 1999). Selective optimization processes (Baltes & Baltes 1990, Baltes et al. 1999) can enable the resilient adult to draw on social and psychological resources to compensate for biological decline (Staudinger & Bluck 2001). More research is needed to support the growing knowledge base on midlife development. The well-being of middle-aged adults affects the many others with whom they interact, give care, advise, or influence. Thus, a better understanding of middle age can have far-reaching consequences. These can extend not only to those who are in midlife, but also to those who are younger or older in the family, in the workplace, and in society as a whole.

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LITERATURE CITED

- Aldwin CM, Levenson MR. 2001. Stress, coping, and health at midlife: a developmental perspective. See Lachman 2001, pp. 188–214
- Almeida D, Horn M. 2004. Is daily life more stressful during middle adulthood? See Brim et al. 2004, pp. 425–51.
- Am. Assoc. Retired Persons. 2001. *In The Middle: A Report on Multicultural Boomers Coping with Family and Aging Issues*. Washington, DC: AARP
- Am. Assoc. Retired Persons. 2002. *Tracking Study of the Baby Boomers in Midlife*. Washington, DC: AARP
- Am. Board Family Practice. 1990. *Perspectives on Middle Age: The Vintage Years*. Princeton, NJ: New World Decisions
- Antonucci TC, Akiyama H, Merline A. 2001. Dynamics of social relationships in midlife. See Lachman 2001, pp. 571–98
- Avis NE. 1999. Women's health at midlife. See Willis & Reid 1999, pp. 105–47
- Avolio BJ, Sosik JJ. 1999. A life-span framework for assessing the impact of work on white-collar workers. See Willis & Reid 1999, pp. 249–74
- Baltes PB. 1987. Theoretical propositions of life-span developmental psychology: on the dynamics between growth and decline. *Dev. Psychol.* 23:611–26
- Baltes PB, Baltes MM. 1990. Psychological perspectives on successful aging: the model of selective optimization with compensation. In *Successful Aging: Perspectives from the Behavioral Sciences*, ed. PB Baltes, MM Baltes, pp. 1–34. New York: Cambridge Univ. Press
- Baltes PB, Staudinger UM, Lindenberger U. 1999. Lifespan psychology: theory and application to intellectual functioning. *Annu. Rev. Psychol.* 50:471–507
- Barnett RC. 1997. Gender, employment, and psychological well-being: historical and life course perspectives. See Lachman & James 1997, pp. 325–43
- Baruch G, Brooks-Gunn J, eds. 1984. *Women in Midlife*. New York: Plenum
- Brandstadter J, Renner G. 1990. Tenacious goal pursuit and flexible goal adjustment. Explanation and age-related analysis of assimilative and accommodative strategies of coping. *Psychol. Aging* 5:58–67
- Brim OG, ed. 1992. *Ambition: How We Manage Success and Failure Throughout Our Lives*. New York: Basic Books
- Brim OG, Ryff CD, Kessler R, eds. 2004. *How Healthy Are We: A National Study of Well-being in Midlife*. Chicago: Univ. Chicago Press.
- Bumpass LL, Aquilino WS, eds. 1995. *A Social Map of Midlife: Family and Work Over the Middle Life Course*. Vero Beach, FL: MacArthur Found. Res. Netw. Successful Midlife Dev.
- Carr D. 2004. Psychological well-being across three cohorts: a response to shifting work-family opportunities and expectations. See Brim et al. 2004, pp. 452–84.
- Carstensen LL, Isaacowitz D, Charles ST. 1999. Taking time seriously: a theory of socioemotional selectivity. *Am. Psychol.* 54:165–81
- Caspi A. 1987. Personality in the life course. *J. Personal. Soc. Psychol.* 53:1203–13
- Caspi A, Bem DJ, Elder GH. 1989. Continuities and consequences of interactional styles across the life course. *J. Personal.* 57:375–406
- Chiriboga D. 1997. Crisis, challenge, and stability in the middle years. See Lachman & James 1997, pp. h293–322
- Clark-Plaskie M, Lachman ME. 1999. The sense of control in midlife. See Willis & Reid 1999, pp. 181–208
- Clausen J. 1998. Life reviews and life stories. In *Methods of Life Course Research: Qualitative and Quantitative Approaches*, ed. JZ Giele, GH Elder, pp. 189–212. Thousand Oaks, CA: Sage
- Clausen J. 1990. *Turning Point as a Life Course*

- Concept*. Presented at Annu. Meet. Am. Sociol. Assoc., Washington, DC
- Cleary PD, Zaborski LB, Ayanian MD. 2004. Sex differences in health over the course of midlife. See Brim et al. 2004, pp. 37–63.
- Costa PT, McCrae RR. 1980. Still stable after all these years: personality as a key to some issues in adulthood and old age. In *Life-span Development and Behavior*, ed. PB Baltes, OG Brim, pp. 65–102. New York: Academic
- Dixon RA, de Frias CM, Maitland SB. 2001. Memory in midlife. See Lachman 2001, pp. 248–78
- Easterlin R. 1980. *Birth and Fortune: The Impact of Numbers on Personal Welfare*. New York: Basic Books
- Eichorn DH, Clausen JA, Haan N, Honzik MP, Mussen PH, eds. 1981. *Present and Past in Midlife*. New York: Academic
- Elder GH. 1979. Historical change in life patterns and personality. In *Life-span Development and Behavior*, ed. PB Baltes, OG Brim, 2:118–59. New York: Academic
- Erikson E, ed. 1963. *Childhood and Society*. New York: Norton. 2nd ed.
- Farrell MP, Rosenberg SD, eds. 1981. *Men at Midlife*. Boston, MA: Auburn House
- Fredrickson BL, Carstensen LL. 1990. Choosing social partners: how old age and anticipated endings make us more selective. *Psychol. Aging* 5:335–47
- Friedman HS, Tucker JS, Schwartz JE, Tomlinson-Keasey C, Martin LR, et al. 1995. Psychosocial and behavioral predictors of longevity: the aging and death of the “Termites.” *Am. Psychol.* 50:69–78
- Giele JZ, ed. 1982. *Women in the Middle Years: Current Knowledge and Directions for Research and Policy*. New York: Wiley
- Heckhausen J. 2001. Adaptation and resilience in midlife. See Lachman 2001, pp. 345–91
- Heckhausen J, Brim OG. 1997. Perceived problems for self and others: self-protection by social downgrading throughout adulthood. *Psychol. Aging* 12:610–19
- Helson R, Stewart AJ, Ostrove J. 1995. Identity in three cohorts of midlife women. *J. Personal. Soc. Psychol.* 69:544–57
- Helson R, Wink P. 1992. Personality change in women from the early 40s to the early 50s. *Psychol. Aging* 7:46–55
- Hultsch DF, Hertzog C, Dixon RA, eds. 1998. *Memory Change in the Aged*. New York: Cambridge Univ. Press
- Hunter S, Sundel M, eds. 1989. *Midlife Myths: Issues, Findings, and Practice Implications*. Newbury Park, CA: Sage
- Isaacowitz DM, Charles ST, Carstensen LL. 2000. Emotion and cognition. In *The Handbook of Aging and Cognition*, ed. F Craik, TA Salthouse, pp. 593–631. NJ: Erlbaum
- Jacques E. 1965. Death and the mid-life crisis. *Int. J. Psychoanal.* 46:502–14
- James JB, Lewkowicz CJ. 1997. Themes of power and affiliation across time. See Lachman & James 1997, pp. 109–43
- James JB, Lewkowicz CJ, Libhaber J, Lachman ME. 1995. Rethinking the gender identity crossover hypothesis: a test of a new model. *Sex Roles* 32:185–207
- Jung CG, ed. 1933. *Modern Man in Search of a Soul*. New York: Harcourt, Brace & World. 244 pp.
- Jung CG, ed. 1971. *The Portable Jung*. New York: Viking
- Kessler RC, Gilman SE, Thornton LM, Kendler KS. 2004. Health, well being, and social responsibility in the MIDUS twin and sibling subsamples. See Brim et al. 2004, pp. 124–52.
- Keyes CL, Ryff CD. 1999. Psychological well-being in midlife. See Willis & Reid 1999, pp. 161–80
- Kim JE, Moen P. 2001. Moving into retirement: preparation and transitions in late midlife. See Lachman 2001, pp. 487–527
- Kohn ML, Schooler C. 1978. The reciprocal effects of the substantive complexity of work and intellectual flexibility: a longitudinal assessment. *Am. J. Sociol.* 84:24–52
- Kuper H, Marmot M. 2003. Intimations of mortality: perceived age of leaving middle age as a predictor of future health outcomes within

- the Whitehall II study. *Age Ageing* 32:178–84
- Lachman ME. 1991. Perceived control over memory aging: developmental and intervention perspectives. *J. Soc. Issues* 47:159–75
- Lachman ME, ed. 2001. *Handbook of Midlife Development*. New York: Wiley
- Lachman ME, Bandura M, Weaver SL. 1995. Assessing memory control beliefs: the Memory Controllability Inventory. *Aging Cogn.* 2:67–84
- Lachman ME, Bertrand RM. 2001. Personality and the self in midlife. See Lachman 2001, pp. 279–309
- Lachman ME, Firth K. 2004. The adaptive value of feeling in control during midlife. See Brim et al. 2004, pp. 320–49.
- Lachman ME, James JB, eds. 1997. *Multiple Paths of Midlife Development*. Chicago: Univ. Chicago Press
- Lachman ME, Lewkowicz C, Marcus A, Peng Y. 1994. Images of midlife development among young, middle-aged, and older adults. *J. Adult Dev.* 1:201–11
- Lachman ME, Weaver SL. 1998a. Sociodemographic variations in the sense of control by domain: findings from the MacArthur study of midlife. *Psychol. Aging* 13:553–62
- Lachman ME, Weaver SL. 1998b. The sense of control as a moderator of social class differences in health and well-being. *J. Personal. Soc. Psychol.* 74:763–73
- Lang FR. 2001. Regulation of social relationships in later adulthood. *J. Gerontol. B* 56:P321–26
- Levinson DJ, Darrow CN, Klein EB, Levinson MH, McKee B, eds. 1978. *The Seasons of a Man's Life*. New York: Knopf
- Lutsky NS. 1980. Attitudes toward old age and elderly persons. *Annu. Rev. Gerontol. Geriatr.* 1:287–311
- Magai C, Halpern B. 2001. Emotional development during the middle years. See Lachman 2001, pp. 310–44
- Marcia JE. 1980. Identity in adolescence. In *Handbook of Adolescent Psychology*, ed. J Adelson, pp. 159–87. New York: Wiley
- Marks NF, Bumpass LL, Jun H. 2003. Family roles and well-being during the middle life course. See Brim et al. 2003, pp. 514–49. In press
- Markus HR, Nurius P. 1986. Possible selves. *Am. Psychol.* 41:954–69
- Markus HR, Ryff CD, Curhan K, Palmersheim K. 2004. In their own words: well-being at midlife among high school and college-educated adults. See Brim et al. 2004, pp. 273–319.
- Marmot M, Ryff CD, Bumpass LL, Shipley M. 1997. Social inequalities in health: next questions and converging evidence. *Soc. Sci. Med.* 44:901–10
- McAdams DP. 2001. Generativity in midlife. See Lachman 2001, pp. 395–443
- McAdams DP, de St. Aubin E, eds. 1998. *Generativity and Adult Development: How and Why We Care for the Next Generation*. Washington, DC: Am. Psychol. Assoc.
- McCrae R, Costa PT, eds. 2003. *Personality in Adulthood: A Five Factor Theory Perspective*. New York: Guilford Press. 2nd ed.
- Merrill SS, Verbrugge LM. 1999. Health and disease in midlife. See Willis & Reid 1999, pp. 77–103
- Miller LS, Lachman ME. 2000. Cognitive performance and the role of health and control beliefs in midlife. *Aging Neuropsychol. Cogn.* 7:69–85
- Moen P, Wethington E. 1999. Midlife development in a course context. See Willis & Reid 1999, pp. 3–23
- Montepare J, Lachman ME. 1989. “You’re only as old as you feel.” Self-perceptions of age, fears of aging, and life satisfaction from adolescence to old age. *Psychol. Aging* 4:73–78
- Mroczek DK. 2004. Positive and negative affect at midlife. See Brim et al. 2004, pp. 205–26
- Natl. Council Aging. (March) 2000. *Myths and Realities 2000 Survey Results*. Washington, DC: NOCA
- Neugarten BL, ed. 1968. *Middle Age and Aging: A Reader in Social Psychology*. Chicago: Univ. Chicago Press
- Neugarten BL, Datan N. 1974. The middle years. In *The Foundations of Psychiatry*, ed.

- S Arieti, pp. 592–608. New York: Basic Books
- Neugarten BL, Hagestad G. 1976. Age and the life course. In *Handbook of Aging and the Social Sciences*, ed. R Binstock, E Shanas, pp. 35–55. New York: Van Nostrand-Reinhold
- Oldham JM, Liebert RS, eds. 1989. *The Middle Years: New Psychoanalytic Perspectives*. New Haven, CT: Yale Univ. Press
- Oxford English Dictionary Online. 2000. London: Oxford Univ. Press
- Parker RA, Aldwin CM. 1997. Do aspects of gender identity change from early to middle adulthood? Disentangling age, cohort and period effects. See Lachman & James 1997, pp. 67–107
- Petitti DB. 2002. Hormone replacement therapy for prevention: more evidence, more pessimism. *JAMA* 288:99–101
- Phelps E, Furstenberg FF Jr, Colby A, eds. 2002. *Looking at Lives: American Longitudinal Studies of the Twentieth Century*. New York: Sage Found.
- Putney NM, Bengtson VL. 2001. Families, intergenerational relationships, and kinkeeping in midlife. See Lachman 2001, pp. 528–70
- Robbins A, Wilner A, eds. 2001. *Quarterlife Crisis: The Unique Challenges of Life in Your Twenties*. New York: Putnam
- Roberts BW, DelVecchio WF. 2000. The rank-order consistency of personality traits from childhood to old age: a quantitative review of longitudinal studies. *Psychol. Bull.* 126:3–25
- Rook KS. 2003. Exposure and reactivity to negative social exchanges: a preliminary investigation using daily diary data. *J. Gerontol. B* 58:P100–11
- Rosenberg SD, Rosenberg HJ, Farrell MP. 1999. The midlife crisis revisited. See Willis & Reid 1999, pp. 47–73
- Rossi AS. 2004. The menopausal transition and aging processes. See Brim et al. 2004, pp. 550–75.
- Rossi AS, ed. 1994. *Sexuality Across the Life Course*. Chicago: Univ. Chicago Press
- Ryff CD, Keyes C, Hughes D. 2004. Psychological well-being in MIDUS: profiles of ethnic, racial diversity, and life course uniformity. See Brim et al. 2004, pp. 398–424
- Ryff CD, Seltzer MG, eds. 1996. *The Parental Experience in Midlife*. Chicago: Univ. Chicago Press
- Ryff CD, Singer BH, Palmersheim KA. 2004. Social inequalities in health and well-being: the role of relational and religious protective factors. See Brim et al. 2004, pp. 90–123.
- Schaie KW, ed. 1996. *Intellectual Development in Adulthood*. New York: Cambridge Univ. Press
- Sheehy G, ed. 1976. *Passages*. New York: Dutton
- Shweder R, ed. 1998. *Welcome to Middle Age! And Other Cultural Fictions*. Chicago: Univ. Chicago Press
- Spiro A III. 2001. Health in midlife: toward a life-span view. See Lachman 2001, pp. 156–87
- Staudinger UM, Bluck S. 2001. A view on midlife development from life-span theory. See Lachman 2001, pp. 3–39
- Staudinger UM, Maciel AG, Smith J, Baltes PB. 1998. What predicts wisdom-related performance? A first look at personality, intelligence, and facilitative experiential contexts. *Eur. J. Personal.* 12:1–17
- Sternberg RJ, Grigorenko EL, Oh S. 2001. See Lachman 2001, pp. 217–47
- Sterns HL, Huyck MH. 2001. The role of work in midlife. See Lachman 2001, pp. 447–86
- US Census Bureau. (Nov.) 2000. Resident population estimates of the United States by age and sex. Washington, DC: US Census Bur.
- Vaillant GE, ed. 1977. *Adaptation to Life*. Boston, MA: Little Brown
- Vaillant GE, Milofsky E. 1980. Natural history of male psychological health: IX. Empirical evidence for Erikson's model of the life cycle. *Am. J. Psychiatry* 137:1348–59
- Walen HR, Lachman ME. 2000. Social support and strain from partner, family, and friends: costs and benefits for men and women in adulthood. *J. Soc. Personal Relat.* 17:5–30

-
- Wethington E, Kessler R, Pixley J. 2004. Turning points in adulthood. See Brim et al. 2004, pp. 586–613.
- Whitbourne SK. 2001. The physical aging process in midlife: interactions with psychological and sociocultural factors. See Lachman 2001, pp. 109–55
- Whitbourne SK, Connolly LA. 1999. The developing self in midlife. See Willis & Reid 1999, pp. 25–46
- Willis SL, Reid JD, eds. 1999. *Life in the Middle: Psychological and Social Development in Middle Age*. San Diego: Academic
- Willis SL, Schaie KW. 1999. Intellectual functioning in midlife. See Willis & Reid 1999, pp. 233–47

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