

The Impact of Life Events on the Oldest Old

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ABSTRACT

Very old adults have experienced many events in their lives, some many years ago, some more recently. This chapter highlights events perceived as the most important ones in the lives of centenarians. Domain-specific events are also considered in this chapter, including health events, family events, and work events. Finally, the impact of life events on the overall well-being of the oldest-old adults is considered. The evidence suggests that positive cumulative ("lifetime") events reduce levels of negative affect, whereas cumulative ("lifetime") negative events promote negative affect. When proximal events (i.e., those experienced in the past 20 years) and distal events (i.e., those experienced more than 20 years ago) are considered, proximal events are more likely to reduce levels of positive affect and enhance levels of negative affect. Distal events, on the other hand, are more likely to enhance overall feelings of positive affect.

INTRODUCTION

Individuals who have lived for a long time can look back on a life filled with many experiences. Formative life events can go back as far as early childhood, spread over the adolescent and adult years, and continue to occur very late in life. The effect of these events on physical and mental health, as well as on ways of coping and adaptation has been demonstrated in many studies. For example, a meta-analysis of 25 studies (Kraaij, Arensman, & Spinhoven, 2002) suggested that older adults in general may be at greater risk of depression because they have experienced an accumulation of many stressful events and daily hassles. This study concluded that life events and the total number of daily hassles strongly related to depression in older

adults. Cumulative life events affect not only depressive symptom levels but also changes in depressive symptoms (Glass, Kasl, & Berkman, 1997).

The assessment of life events is particularly important when considering the oldest-old population. Centenarians and nonagenarians most likely have lost their spouses, they may have lost children and most of their contemporaries, they may have moved to long-term-care facilities, and they perhaps see their economic resources dwindle. By all accounts, these can be considered stressful experiences. In contrast, these oldest-old adults can also look back on many event-related accomplishments and achievements: work success and family formation; residential moves that brought more comfort; and historical changes, such as purchasing the first automobile, traveling, and accumulating personal wealth. All these events are part of the biography of older adults and reflect gains and losses experienced over the life span (Baltes & Baltes, 1993).

In this chapter, we outline the importance of life events in the lives of oldest-old adults. In addition, we assess what types of life events are commonly experienced, and we assess the impact of life events on the well-being of older adults. Throughout the chapter, we incorporate some words of wisdom from expert survivors, Mrs. Mary Sims Elliott (aged 105 at death) and Mrs. Ann Cooper (aged 107 at death).

PROXIMAL AND DISTAL LIFE EVENTS IN VERY OLD LIFE

As indicated in Martin et al. (Chapter 5), proximal and distal (lifetime) events are important for optimal well-being in later life. What type of life events have oldest-old adults experienced? Commonly, life-event research summarizes family events, work-related events, financial events, residence events, social events, and health-related experiences. Johnson and Troll (1996) discussed three major transitions for people in very late life: the end of marriage, living alone, and the loss of independence or the need for help.

Most of the major transitions or events in very late life appear to be negative in nature and refer to loss events. This suggests that the last years and decades of life pose some of the most stressful challenges any individual could experience. One might wonder whether centenarians and other late-life survivors continue to feel "happy in a hostile world," as Shmotkin (see Chapter 3) suggests for adults who have survived trauma. The hostile-world scenario, referred to as an "image of actual or potential threats to one's life or, more broadly, to one's physical and mental integrity" (see Chapter 3), broadly applies to older adults who survive into very old age: the older one becomes, the more likely one is challenged by stressful events, and changes

in physical and mental well-being could be upsetting. Cohen-Mansfield's theory of shifting baseline (Chapter 4) can also help to understand why many very old individuals adapt seemingly well even if they have encountered increasing losses. Oldest-old adults have learned over many years that after grieving loss events they will return to a baseline level of well-being. The two proverbs "After rain comes sunshine" and "Dawn follows every night" reflect this form of adaptation. Mrs. Ann Cooper, an African American centenarian born in 1902, just one generation past slavery, has outlived her husband and three of her four children. When asked about her secret to longevity, she replied: "I don't know how it happened, but being cheerful had a lot to do with it. I've always been a happy person, a giggling person – a wide-mouthed person!"

In contrast, we also wonder whether life events lists typically used in the stress and coping literature (see Holmes & Rahe, 1967), disregard positive experiences occurring in very late life. Certainly, the hundredth birthday in itself is often considered a positive event. Very old people continue to make new friends and enjoy gaining members in their families through the birth of great-grandchildren and marriages of their grandchildren. At the end of life, older adults may still take special trips or be recognized in the community. Some write their own family biography or poetry (Poon, Clayton, & Martin, 1991). Mrs. Mary Sims Elliott, an accomplished artist, musician, and writer throughout her lifetime, published her autobiography, *My First One Hundred Years*, at the age of 105. Rarely are those events the focus of life event analyses.

Cappeliez, Beaupré, and Robitaille (2008) investigated the characteristics and impact of changes in trajectories among older adults (60–87 years) and concluded that health (of the adults and of their significant others) and family domains are considered main turning points by women. Work and family experiences were more common life transitions reported by men. Hardy, Concato, and Gill (2002) investigated life events that older adults identified as the most stressful experience and their perceptions of the consequences of them. Among those who reported a stressful life event, 42% identified the death of a family member or a friend; 23%, the illness of a family member or a friend; 18%, a personal illness; and 17%, a nonmedical event.

In our most recent centenarian study, we asked participants about "the most important event" in their lives. One hundred thirty-seven centenarians, participants of the Georgia Centenarian Study (Poon et al., 2007), were asked about these events. The specific question we posed was, "Could you tell me what the most important experience was that you had in your life?" The

TABLE 7.1. *Most important events*

Event	Frequency
Marriage	105
Children/birth of child	78
Work and retirement	24
Religion/relationship with God	22
Death of a family member	22
Education	20
Residential events	16
Family	15
Travel	14
Social events/activities	11
Health events	8
Surviving accidents	6
Hobbies	6
Historical events	4
Miscellaneous	14

participants were then probed for two additional important experiences. We collapsed these three questions and noted a total of 365 life experiences. Table 7.1 summarizes the results.

Most of the events listed in Table 7.1 can be considered expectable, normative life events. Marriage was listed most often as the most important life event for centenarians followed by events related to their children. Events related to work and retirement were the third most important events in the lives of centenarians, followed by religious or spiritual events.

Some centenarians, however, also mentioned unique events. Among them were survival of an automobile accident, falling in water and almost drowning, getting shot, singing in church, a husband's alcohol problem, playing music, and "washing walls of the tallest building." Mrs. Elliott's lifelong passion for music inspired her to serve as organist for her grandson's wedding at the age of 86. Only a few centenarians mentioned historical events. Among them were the Great Depression ("surviving the Hoover years") and a hurricane.

In the following section, we report our findings concerning the number of domain-specific experiences, beginning with health events. These events were part of our overall assessment of centenarians. Participants were asked whether they had experienced 23 specific events, how often these events had occurred, whether they were negative or positive experiences, and how old centenarians were at the time of the occurrence. Events included death of

father, death of mother, parents' divorce or separation, marriage, divorce, death of spouse, death of siblings, death of a close friend, birth of children, loss of children, birth of grandchildren, loss of grandchildren, first job, change of employment, retirement, serious financial problems, residential change, institutionalization, major decrease of activities, hospitalization, injury or illness, worsening relationship to child, being burglarized, and institutionalization of spouse.

HEALTH EVENTS

Among the most important events experienced by oldest-old adults are health-related events. Aldwin, Sutton, Chiara, and Spiro (1996) reported that adults 75 years and older were more likely to report health problems than were their younger counterparts. Likewise, Moos, Schütte, Brennan, and Moos (2005) noted that health-related stressors had increased in a 10-year follow-up of older adults. Smith, Borchelt, Maier, and Jopp (2002) reported that chronic illness and functional impairments (e.g., vision, hearing, mobility, strength) limited the well-being of oldest-old adults compared to young-old adults.

A number of studies have indicated that centenarians almost always live with health-related impairments. A Japanese study, for example, reported that 95% of study participants had chronic diseases, including hypertension, heart disease, stroke, fractures, and cataracts (Takayama et al., 2007).

Much discussion in centenarian research has been conducted around the fact that some centenarians appear to "escape" health problems for their entire life. Evert, Lawler, Bogan, and Perls (2003), for example, reported that 32% of all male centenarians and 15% of all female centenarians had escaped a major health event. In contrast, 24% of all male centenarians and 43% of female centenarians had survived a health-related event. The remaining centenarians (i.e., 44% of male and 42% of female centenarians) had delayed the experience of a health event until at least age 80. For supercentenarians (those 110 years and older), D. C. Willcox et al. (2008) reported that none of their Okinawa supercentenarians had a history of cancer or diabetes, and other clinical diseases, if at all prevalent, did not occur until late in life. It seems as though not experiencing health events can facilitate survivorship.

Functional impairment can be considered a life stressor as well. The rate of impairment for common activities of daily living increases dramatically as individuals reach the 9th, 10th, and 11th decade of their lives (Martin, Poon, Kim, & Johnson, 1996). Among centenarians, one study estimated that only 20% of women and 44% of men were able to perform all

TABLE 7.2. *Family events in the lives of centenarians*

Family event	Frequency	Percentage	Mean age	Range
Marriage	126	93.3	27.59	16–84
Death of siblings	123	90.4	65.22	0–100
Death of spouse	117	87.3	70.71	25–100
Birth of children	102	74.5	27.57	18–49
Loss of children	44	32.1	71.51	21–100
Loss of grandchildren	24	17.8	84.24	45–99
Divorce	15	10.9	43.36	19–69
Parents' divorce	11	8.1	9.60	0–20
Institutionalization of spouse	11	8.1	78.80	33–96
Worsening relationship	8	5.9	68.50	16–98

activities of daily living independently (Andersen-Ranberg et al., 1999). These numbers correspond to a Japanese study reporting that about 24% of centenarians showed independence in activities of daily living (ADLs; Gondo et al., 2006). A recent study by Engberg, Christensen, Andersen-Ranberg, Vaupel, and Jeune (2008), however, noted that more recent cohorts of centenarians showed better self-reported ADLs compared to a previous cohort, even though the effect was found only for women and not for men. Mrs. Ann Cooper describes functional issues that prevent her from taking full advantage of her longevity: “I realize that I am older than I ever expected to be and I realize now why I can’t do a lot of the things that I thought if I ever got back into my health I would do them. Now I can’t do anything because I’ve got to hold onto something with both hands.”

Regardless of study and prevalence, many very old people face challenging health events that compromise their daily living. Does this translate into an overall lower quality of life? Not necessarily, because centenarians (as any other age group) may have multiple levels of well-being (see Chapter 4) and draw a sense of quality of life from their distal and proximal experiences concerning family and work. When Mrs. Elliott’s sight became limited, she said, “It was a catastrophe. . . . I didn’t let it really get me down. I don’t let things upset me. . . . I have the Lord with me, and if he wants to do something different, that’s his way.”

FAMILY AND WORK EVENTS

Family events are among the most predominant experiences in the lives of individuals. Table 7.2 summarizes the frequency of the most often occurring

family events in our centenarian study. Table 7.2 suggests that marriage is the most often occurring family event in the lives of centenarians, followed by death of siblings and spouse. Birth of children is the fourth event most commonly experienced by centenarians. Mean age at marriage was about 28 years, and the birth of children on average occurred at 28 years. A few centenarians had seen their parents' divorce during their childhood, but for those who were divorced themselves (17 centenarians), the divorce did not occur on average until age 43. Events occurring relatively late in life included the death of a spouse (on average at age 73), the loss of children (on average at 72), and even the loss of grandchildren (on average at age 84). Finally, several centenarians experienced the institutionalization of a spouse (on average at age 79) and the temporary or permanent worsening of a relationship to a family member (on average at age 69). These events remind us that there are large individual differences for when these events occurred.

It is a bit disheartening that the death of children becomes more likely with advanced age (Johnson & Troll, 1996). One third of centenarians had lost a child and more than 16% a grandchild. These numbers correspond to the ones mentioned by Johnson and Troll (1996).

Longevity does not only make it likely that certain family events will occur; family events may also predict longevity. For example, the literature supports a direct relation between childbirth and longevity (McArdle et al., 2006). Müller, Chiou, Carey, and Wang (2002), for example, reported enhanced longevity for highly fertile women and women with late births. The relationship between late age at birth and longevity for women and increased longevity associated with a larger number of children was also reported by McArdle et al. (2006).

Divorce and widowhood are also related to longevity. For example, children of divorced parents face a one third greater mortality risk than individuals whose parents remained married at least until they reached age 21 (Friedman et al., 1995), and there is substantial evidence that marriage is correlated with longer life, whereas inconsistently married people are at higher risk for premature mortality (Friedman et al., 1995). Perhaps marriage provides opportunities that directly relate to longer life, but it is also possible that factors related to getting married and staying married contribute to the survivorship effect. In our study, a small but noticeable number of centenarians had experienced the divorce of parents early in life. Some participants had experienced their own divorce.

Work-related events are summarized in Table 7.3, which suggests that most centenarians had a first job at some point in their lives and that three fourths had changed employment at least once in their lifetime. More

TABLE 7.3. *Work, retirement, and financial events*

Work event	Frequency	Percent	Mean age	Range
First job	128	94.8	18.75	4-62
Change of employment	99	74.4	25.93	8-89
Retirement	83	62.9	67.10	32-96
Serious financial problems	25	18.8	31.00	7-74

than 60% had retired from a job, and almost 20% had a serious financial problem at some point in their lives. The average age at which centenarians had a first job was at 19, and a major change of employment occurred on average at age 26. Average retirement age was at 67, and for those reporting a serious financial problem, an average age of 31 was reported. It is noteworthy that no centenarian reported a serious financial problem later than age 74. As noted previously, there is tremendous variability among centenarians. Mrs. Cooper became a socialite after her husband established himself as a prominent dentist in Atlanta. Although Mrs. Cooper was not formally employed, she occupied her time with public work, serving for more than 50 years on the board of the Gate City Nursery Association and helping found the Girls Club for African-American Youth in Atlanta.

MISCELLANEOUS EVENTS

Additional miscellaneous events mentioned by centenarians are summarized in Table 7.4. This list of events indicates that some experiences are very common, such as residential change and decrease of activities, whereas others occurred to only a few centenarians. The mean age of when centenarians experienced a residential change was around 19 years, and 89% of centenarians experienced a decrease in activity around the age 90. Only 27% of centenarians experienced institutionalization, and the mean age for that

TABLE 7.4. *Miscellaneous events*

Events	Frequency	Percent	Mean age	Range
Residential change	131	99.2	19.20	0-99
Personal injury	120	89.6	84.10	0-105
Decrease in activity	116	89.9	90.13	55-101
Being burglarized	65	47.8	74.57	23-103
Hospitalization	133	97.8	76.11	10-105
Institutionalization	39	28.7	95.19	69-101

event was around the age of 96 years. These results are based on self-reports by centenarians who were not cognitively impaired. When including centenarians with cognitive impairments, the results for any of the events might be different.

LIFE EVENTS AND WELL-BEING

A number of studies show substantial evidence that there is a relationship between life stressors and the vulnerability to physical and psychological problems. A study by Cairney and Krause (2008) investigated the effects of life events exposure on age-related decline of mastery. This study concluded that exposure to life events was associated with lower levels of perceived control at any age. But the impact of stress was found to be greater among older adults. Loss of personal and social resources could be the reason older adults were more susceptible to the negative effects of stress (Cairney & Krause, 2008). There is evidence, however, of great individual differences, which suggests that a significant proportion of very old adults continue to maintain diverse social ties and actively engage in these relations (Chapter 12).

The relationship between life stressors and depression appears to be reciprocal. Moos et al. (2005) reported that more life stressors were associated with subsequent increases in depressive symptoms, in support of the social causation hypothesis. At the same time, more depressive symptoms were associated with subsequent increases in stressors, in support of the social selection or stress-generating hypothesis. Mrs. Elliott still speaks vividly about when her mother died. But now she is missing her daughter Josephine especially. Almost stubbornly, however, Mrs. Elliott doesn't let the pain intrude on her daily life. She copes with loss, the researchers believe, by talking about it with those who will listen. "I'm beginning to thaw," she says. "I was so stunned by her death. I'm just beginning to melt enough to let the natural tears come." And slowly, one tear spills from her eye and rolls down her cheek.

Recently experienced life events may not be as important in predicting well-being as is the inclusion of lifetime trauma. Krause (2004) provided evidence that greater lifetime trauma defined as sexual or physical abuse or premature loss of parents and participation in combat was associated with lower levels of life satisfaction. Emotional support, however, can offset the effects of trauma among oldest-old adults.

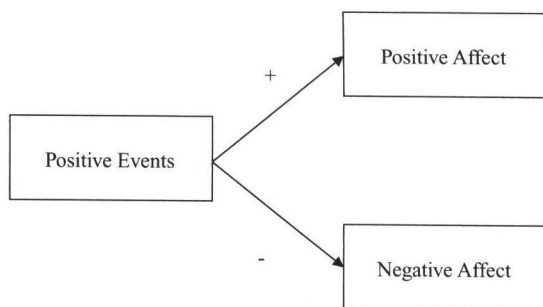
In our own studies of oldest-old adults, we reported that cumulative life stress was negatively associated with morale and mental health (Martin et al., 1992). In the same study, we reported that life stress also promoted active

coping with health-related events in late life. Hensley, Martin, MacDonald, and Poon (2010) found that health events in childhood had a lasting impact on centenarians' loneliness.

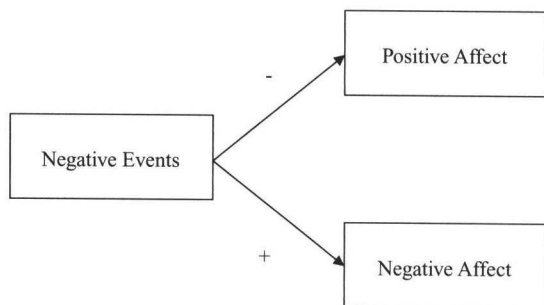
To what extent do positive and negative experiences over one's lifetime affect overall well-being among centenarians? On the basis of our earlier work with centenarians, we reported that adverse lifetime events reduced both social and economic resources, and that those cumulative events also had a direct negative effect on mental health (Martin, 2002). MacDonald and Cho (see Chapter 9) found no effects of distal life events influencing perceived economic resources.

We analyzed data from the 137 participants of the Georgia Centenarian Study who provided information about the life events mentioned earlier in the chapter. On the basis of a conceptualization introduced by Ingersoll-Dayton, Morgan, and Antonucci (1997), we then tested alternative models of life events and positive and negative affect as measured by Bradburn's (1969) Affect Balance Scale. The models first suggest that positive events are positively associated with positive affect and negatively associated with negative affect (positivity hypothesis). The second alternative hypothesis suggests that negative events are negatively associated with positive affect and positively associated with negative affect (negativity hypothesis). The third hypothesis states that positive events affect only positive affect and negative events affect only negative affect (domain-specific hypothesis). Finally, the last hypothesis suggests that positive events both influence negative and positive affect and that negative events both influence positive and negative affect (combined-effect hypothesis). The model variations are summarized in Figure 7.1.

In our study, centenarians rated each event as a positive or negative event. Figure 7.2 summarizes the results. We found partial support for the positivity and negativity hypotheses. Positive events reduced the level of negative affect but were only marginally related to positive affect. Negative events were associated only with negative affect but not with positive affect. The stronger effects of negative events support the assumption that bad is stronger than good (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), as discussed by Shrira and Shmotkin (Chapter 6). Even though our participants did not survive a traumatic event such as the Holocaust or other posttraumatic stress disorders (see Chapter 11), negative cumulative events appear to affect the subjective well-being among our survivors. An alternative explanation for the direct relationship between events and well-being may be a third variable, such as neuroticism, that is the cause of negative events and negative affect.



Positivity Hypothesis



Negativity Hypothesis

FIGURE 7.1. Four Models of Life Events and Well-Being.

Because positive events were not significantly associated with positive affect (although there was a statistical trend, $\beta = .16$, $p = .07$), the third hypothesis received only weak support. The final hypothesis of a combined effect received the strongest support. Positive and negative events were

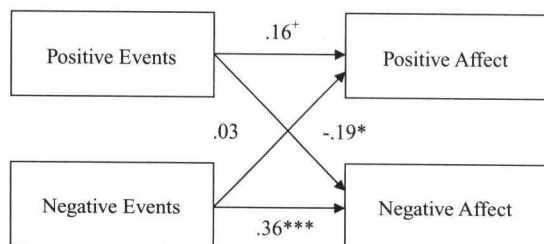


FIGURE 7.2. The Effect of Positive and Negative Events on Positive and Negative Affect (* $p < 0.05$; *** $p < 0.001$).

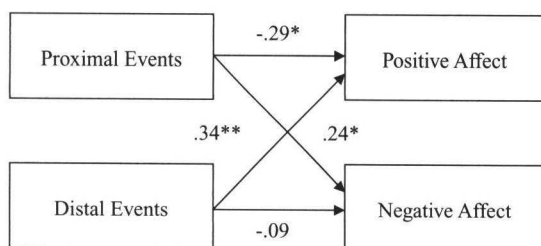


FIGURE 7.3. The Effect of Proximal and Distal Events on Positive and Negative Affect (* $p < 0.05$; ** $p < 0.01$).

associated with negative affect, but less support was found for negative or positive events predicting positive affect. The results suggest that cumulative negative life events promote negative affect and that cumulative positive experiences reduce the level of negative affect in very late life.

Our final analysis step assessed the relationship between proximal and distal events and well-being. Distal events were defined as those experiences that had occurred at least 20 years before testing. Proximal events were defined as those events that had occurred during the past 20 years (i.e., during the old-old years). The combined model is depicted in Figure 7.3. The results suggest that proximal events (perhaps more often negative in nature) reduce the level of positive affect and enhance the level of negative affect, whereas distal events, regardless of whether they are positive or negative, enhance the level of positive affect. Taken together, these results suggest that more recent stressors are responsible for negative affect, whereas distal experiences enhance feelings of positive affect. The results provide evidence for the importance of proximal and distal events as outlined in the developmental adaptation model (Chapter 5).

IMPLICATIONS

What are the lives of older adults like and what experiences have shaped these individuals? When considering the well-being of older adults, it would be a mistake to look only at the current level of life satisfaction or subjective well-being. Much of the general outlook in late life may be determined by a long series of events, starting with lasting influences that date back to childhood experiences and finishing with recent events that affect old and very old adults. Events shaping one's life story may be traumatic, as noted by Shmotkin (see Chapter 3), thus leaving older adults in a hostile world with little additional time perspective, or events may be ordinary and pleasant to

reminisce about, thus leading oldest-old adults to the conclusion that they have lived a full and meaningful life.

Centenarians are a special group of older adults who at first sight may be most vulnerable to stressful events. They typically have lost a spouse, perhaps even children. Their functional health has often declined. Financial resources may be running low, and a residential change to a long-term-care facility may be imminent. By all stress measures, these experiences would make centenarians most vulnerable to mental and physical health changes. In spite of these major life changes, many survivors do not seem to be depressed as a result of these traumatic events.

How can this be? A number of explanations may help understand the paradox that very old adults experience many losses, yet seem quite content and satisfied. First, perhaps it is simply the will to live that carries survivors on to the next challenge in life. Carmel (Chapter 16) pointed out that the will to live is a strong predictor of long-term survival. Second, perhaps long-lived individuals relish their special status as long-lived survivors. Third, positive family events may compensate for the loss of function and ability. Fourth, religious faith may keep many centenarians in relatively good spirits (see Chapter 13). Finally, continued support from family, friends, and the community may buffer the effect of stress on well-being (see Chapter 12). The strength taken from one's own past, from the will to live, and from ample social support may explain why so often survivors into very old age are seen as robust. This late-in-life robustness or resilience may be real rather than a false comparison of later life to midlife (Chapter 2).

Not all events have the same effect on well-being. Our analyses suggest that cumulative (lifetime) negative events have a direct impact on negative affect. Positive events, however, can reduce levels of negative affect. Furthermore, proximal and distal variables appear to have differential effects on well-being. Proximal stressors are more likely to increase levels of negative affect and reduce levels of positive affect. Distal events, in contrast, appear to enhance the level of positive affect.

Life events play an important role for the well-being of older adults. They cause concern, redirect development, and move adults at any age out of their regular comfort zone. As illustrated in Chapter 5, early experiences may increase individual and socioeconomic resources and they may also influence levels of affect. Events arguably play the most important role in causing developmental change, and though change is not always positive, change can serve as a new developmental challenge, even in very old age. Survivors into very late life celebrate age, in spite of physical decline. In that sense, oldest-old adults appear to overcome a false dichotomy of physical

and mental state (Chapter 2). Perhaps moving toward the second century of life means overcoming the temptations of the ageless self to take pride in the aged self. Mrs. Elliott insists, "No matter how awful things get sometimes, there's a good side. I have a life filled with love because I have always tried to love others. It's been a wonderful saga, a wonderful life. Just marvelous!"

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