Social and Emotional Aging

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Abstract

The past several decades have witnessed unidimensional decline models of aging give way to life-span developmental models that consider how specific processes and strategies facilitate adaptive aging. In part, this shift was provoked by the stark contrast between findings that clearly demonstrate decreased biological, physiological, and cognitive capacity and those suggesting that people are generally satisfied in old age and experience relatively high levels of emotional well-being. In recent years, this supposed "paradox" of aging has been reconciled through careful theoretical analysis and empirical investigation. Viewing aging as adaptation sheds light on resilience, well-being, and emotional distress across adulthood.

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INTRODUCTION

In the most fundamental ways, social and emotional functioning changes little with age. At no point in life does the need to feel embedded in a larger social group lessen (Baumeister & Leary 1995, Charles & Mavandadi 2003, Maslow 1943, Snowden 2001), nor do the devastating consequences of isolation diminish (Berkman et al. 2000, Mellor et al. 2008). Intense, strong emotions remain, and the integrity of the constellation of physiological, facial, and subjective feelings associated with specific emotions is in old age what it was in youth (Levenson et al. 1991, Tsai et al. 2000). Though modest changes have been documented, personality traits also remain largely stable into old age. And in late life, as at earlier times, the experience of negative emotions affects physiological functioning and ultimately physical health.

Yet social and emotional life does change with age. Social networks narrow. Experienced emotions are more predictable and less labile. Negative emotions become more infrequent (until very old age) and social roles change quantitatively and qualitatively. Investments in meaningful relationships increase. Compromised physical functioning renders effortful some social activities that once were completed with ease. Sensory losses strain conversations. And physiological functioning is regulated less efficiently. Understanding stability and change with age demands consideration of interactions between improved self-regulation on the one hand and decreased physical reserves on the other. The current review examines social and emotional aspects of aging—presenting what we have learned and pointing to areas that demand additional investigation.

Below we first discuss the importance of social and emotional processes for physical and cognitive well-being across the adult life span. We then present theories describing mechanisms responsible for these changes and discuss how such mechanisms may have far-reaching influences on social functioning and cognitive processing. Rather than a paradox—namely, the stark contrast between physical declines and psychological improvements—a coherent picture of aging is emerging. Improved self-regulation and changes in priorities that favor meaningful activities result in distinctly positive developmental shifts. When life is controllable and social supports are strong, older people fare better than their younger counterparts. However, when stressors are unavoidable and exposure is prolonged, physiological regulation suffers. We follow with an overview of age-related changes in neurological and physiological processes and the ways in which they correspond to changes in cognition and behavior. We suggest that by integrating information about age-related changes, we can predict the circumstances necessary for continued reports of strong social network ties and high levels of emotional and physical well-being, as well as circumstances that may lead to significant distress in old age.

SOCIAL AND EMOTIONAL PROCESSES AND WELL-BEING ACROSS THE ADULT LIFE SPAN

People who perceive their friends and family members as supportive during times of need have a stronger sense of meaning in their lives; that is, they live their lives with a broader purpose, adhering to a value system that fits within the larger social world (Krause 2007). In addition, people with strong social networks report greater emotional well-being in day-to-day life as well as when they experience stressful life events (see classic review by Cohen & Wills 1985). Both structural—i.e., the number and type of social partners in a given network—and functional—i.e., the perceived or actual receipt of support—aspects of social networks contribute to emotional well-being (Cohen & Wills 1985).

In old age, social spheres also influence cognitive functioning. A growing number of studies have found that older adults embedded in strong social networks and high levels of social activity are less likely than their more socially disengaged peers to experience declines in cognitive functioning (e.g., Barnes et al. 2004, Zunzunegui 2003, Wilson et al. 2007). Epidemiologist Laura Fratiglioni and colleagues of the Kungsholmen Project found that positive social networks may even be protective against cognitive decline (Fratiglioni et al. 2000). In a prospective study that followed more than 1200 older adults who were tested over a three-year period, they observed that those with strong and positive social networks were 60 percent less likely to show signs of dementia three years later. Older people who engage in volunteer activities that are either socially or mentally demanding also perform better on cognitive tasks than do older adults engaged in solitary activities with low cognitive demands (Singh-Manoux et al. 2003). Social support is related not only to staving off decline, but also to regaining functioning; stronger social networks and emotional support assessed soon after a stroke are associated with greater improvements in cognitive functioning six months later even after controlling for age and education (Glymour et al. 2008). The authors of the work above note that future studies need to rule out the possibility that prodromal symptoms of cognitive decline undetected by clinical interviews may be causing social withdrawal, yet they are encouraged by the strength of their findings that social interactions may play a causal role in staving off cognitive decline or aiding in recovery after serious illness.

Structural aspects of social networks are also related to higher levels of cognitive functioning. Older men who live alone at any point during a five-year period, for example, are twice as likely to experience cognitive declines as those who live with others (van Gelder et al. 2006). The benefits of structural aspects of social networks on cognitive functioning among older adults

pertain to the larger social context as well, as measured by characteristics of the neighborhood or the overall lifestyle of the individual (see review by Barnes et al. 2008). For example, the socioeconomic status of British urban neighborhoods significantly predicts the cognitive status of older adults residing in them independent of individual socioeconomic status and controlling for health, depression, and other potential confounding factors (Lang et al. 2008).

Positive emotions experienced during social interactions are considered a central reason why social interactions may benefit cognitive functioning (Blanchard-Fields et al. 2008). People who report less satisfaction with their networks show greater declines in cognitive functioning over time (Hughes et al. 2008). Similarly, in one study, better emotional support was prospectively linked to better cognitive performance eight years later (Seeman et al. 2001). As stated above, causal directions are difficult to discern and need to be further studied (see review by Barnes et al. 2008). However, clinical studies that randomly assign participants to social or nonsocial interventions show similar advantages of socially engaging activity on cognitive performance (Stine-Morrow et al. 2008).

Social Processes and Physical Health Outcomes

In addition to better cognitive functioning, people who report stronger social networks are at lower risk for morbidity and mortality (see review by Berkman et al. 2000, House et al. 1988, Ryff & Singer 2001). The effects described in this literature are large. The effect size of strong social networks is comparable to traditional medical indicators such as high cholesterol and smoking. Pressman & Cohen (2007) found that authors who heavily referenced social roles in their life stories lived five years longer, on average, than those who did not. Using an innovative and indirect approach, they counted the number of relational words that psychologists and fiction writers had used in their autobiographies, words such as "father," "brother," or "sister," as well as inclusive pronouns such as "we," compared to individual pronouns such as "I." They found a strong relationship between the use of relationship words and length of life.

It is becoming increasingly clear that relationships need to be emotionally meaningful and positive. Researchers have found, for example, that positive affect in early adulthood predicts mortality at older ages (Danner et al. 2001). In another study, positive affect (defined by having a positive attitude and deriving happiness in everyday activities) predicted survival ten years later among octogenarians (Lyyra et al. 2006). Emotional experience has been tied to physical indicators related to health status, such as blood pressure (Ong & Allaire 2005) and immune response (Graham et al. 2006), and is related to both physical morbidity and mortality (see review by Ryff & Singer 2001). In contrast, negative social exchanges are related to poorer health and more frequent endorsements of depressive symptoms (Newsom et al. 2008, Rook 1984). In addition, women who report low levels of emotional support (unrelated to access to instrumental assistance) are twice as likely to die as older women with high levels of emotional support (Lyyra & Heikkinen, 2006).[1] In a psychosocial intervention with patients who had coronary heart disease, Burg et al. (2005) observed that participants who had a partner and perceived higher levels of social support at baseline were less likely to die than those who had no partner and perceived lower levels of social support. Importantly, this effect remained after controlling for type of treatment and other potential confounds such as age and health-related indicators. In yet another study, older adults who reported being useful to their friends and family had lower rates of disability and mortality after a seven-year period compared to

[1] In the Hyyra & Heikkinen (2006) study, significant effects were not observed in men; however, other studies have found the effects of positive social experiences and decreased mortality for both genders (see review by Pressman & Cohen 2005).

older adults who rated themselves lower on perceived usefulness (Gruenewald, Karlamangla, Greendale, Singer, & Seeman, 2007). In the study of elderly Swedes described above, Fratiglioni et al. (2000) found similar effects for the relationship between cognition and social support. In that study, only people who reported positive social relations benefitted from the contact.

Early Origins of Healthy Relationships

To understand the full influence of social relationships on mental, physical, and cognitive health in adulthood, assessing the current circumstances of older adults is insufficient. Early childhood environments are critical for shaping emotional development (e.g., Ainsworth & Wittig 1969, Bowlby 1969). Attachment styles that young adults recall having with their parents in childhood are similar to the ones they report having with their current romantic partners (Shaver et al. 2000). Recent studies show that early relationships have effects on social, emotional, and physical functioning that extend into adulthood (e.g., Antonucci et al. 2004, Morris et al. 2007, Shaver et al. 2000). Older adults who reported that they had secure attachments with their parents in childhood endorse higher levels of positive emotions and lower levels of negative emotions when characterizing their daily emotional experiences in comparison with those who report less secure attachments to early caregivers (Consedine & Magai 2003). Perhaps the most obvious reason for the continued influence of these early relationships into adulthood is that they last: Some of the most important social relationships are highly stable throughout life. One study, for example, found that mothers continue to serve as important attachment figures for younger and middle-aged adults, second only to romantic partners in their ability to fulfill attachment needs (Doherty & Feeney 2004). Within the broader social network, other family members and friends form a constellation of social partners that provide relational stability across adulthood (Antonucci 1994, Magai 2001). However, it appears that the story is even more complicated. Repetti et al. (2002) argue convincingly that among children who are genetically vulnerable, the experience of cold and neglectful families in childhood alters functioning of brain systems (e.g., the hypothalamic-pituitary-adrenal axis) that regulate stress in enduring ways that can lead to chronic disease and early death.

Indeed, early experiences predict physical and mental health outcomes later in life. People who had childhoods marked by emotional neglect or adversity are more likely to report smaller social networks and emotional isolation in old age (Wilson et al. 2006). Among older adults, a history of childhood physical or sexual abuse is related to poorer physical and mental health (Draper et al. 2008) as well as poorer cognitive functioning (Luecken 2006). Stressful childhood experiences are also related to cardiovascular disease (Batten et al. 2004) and greater reactivity of the immune system among women (Lemieux et al. 2008).

Even less severe experiences, such as insecure attachments with caregivers or a stressful childhood marked by frequent moves, also relate to health outcomes in adulthood (Consedine & Magai 2003, Luecken 2006). For instance, younger, middle-aged, and older adults who report low levels of parental support in childhood have higher levels of depressive symptoms and a greater number of chronic health conditions than do same-aged peers who report higher levels of parental support (Shaw et al. 2004).

SOCIAL PATTERNS ACROSS ADULTHOOD

Older adults identify fewer social partners in their networks than do younger adults, a pattern observed in diverse groups including European Americans, African Americans, Germans, and Hong Kong Chinese (Fung et al. 2001, 2008). Researchers originally attributed age-related decreases in social network size to losses that are associated with aging: decreases in social roles, deaths of friends and family members, and increased functional limitations that reduce

social involvement (see review by Carstensen & Charles 1998). However, an apparent pruning process appears to begin in peoples' thirties and forties, long before the age-related losses begin (Carstensen 1992). Research suggests that aging people play active roles in reducing social networks into smaller, more intimate forms across adulthood (Carstensen, 1993, 2006; Carstensen et al. 1999). Importantly, smaller networks that have high concentrations of emotionally close partners appear to benefit mental health (Lang & Carstensen 1994). Age-related decreases are driven primarily by excluding less meaningful, casual acquaintances (Fung et al. 2001, Yeung et al. 2008). Notably, the number of emotionally close social partners remains highly stable (Fung et al. 2001, Lang & Carstensen 1994) or slightly increases with age (Yeung et al. 2008).

Experimental studies suggest that changes in network composition are voluntary. When asked about their desire to interact with potential social partners, older adults most often express preferences for familiar and emotionally close social partners, whereas younger adults are as likely to choose novel social partners (Fredrickson & Carstensen 1990, Fung et al. 1999). Older adults report the highest level of positive emotional experiences when interacting with family members, higher than the level reported by younger adults (Charles & Piazza 2007), whereas younger adults report higher levels of positive affect when interacting with new friends than do older adults. And whereas younger adults with relatively few peripheral partners in their networks report lower levels of happiness, this is not so for older adults (Lang & Carstensen 2002). Time use also distinguishes older and younger adults. Older people appear to carefully select activities that are personally and emotionally meaningful (Hendricks & Cutler 2004). Importantly, selective investments appear to hold benefits. Older adults who provide social support to others report higher levels of positive emotions, lower levels of negative emotions, greater purpose in life, and even reduced mortality (Greenfield & Marks 2004, Krause 2006). Thus, although social networks are smaller in old age, reduced size of networks appears to benefit satisfaction. Of course, network size can become too small, such that people are at risk for isolation. But generally speaking, the closeness and importance of relationships is more important than network size in old age.

EMOTIONAL WELL-BEING

Emotional well-being and distress depend centrally on social relationships. The most commonly reported daily stressors are interpersonal tensions (Almeida 2005), and interpersonal stressors can lead to high levels of emotional distress (Almeida & Kessler 1998, Rook 1984). With age, older adults are more satisfied with their social networks (Carstensen 1992). They report having experienced higher levels of positive emotions with members of their family members than do younger adults (Charles & Piazza 2007) and more positive than negative exchanges (Newsom et al. 2005). Older adults also report fewer negative interactions with members of their social networks than do younger adults (Birditt & Fingerman 2003) and smaller increases in distress when they encounter interpersonal tensions (Birditt et al. 2005). The emotional experiences of older adults may reflect these social experiences. Older adults report high levels of emotional well-being, often even higher than those reported by younger adults.

Emotional well-being refers to the subjective experience of positive and negative emotions. This construct is defined in terms of happiness, life satisfaction, or the balance between positive and negative affect. In all studies using these definitions, increases in emotional well-being are consistently observed across people in their thirties, forties, fifties, and into their sixties. In cross-sectional studies, for example, older age is related to lower levels of negative affect (Carstensen et al. 2000, Diener & Suh 1997, Mroczek & Kolarz 1998) and lower rates of anxiety and major depressive disorder (see reviews by Blazer 2003, Piazza & Charles 2006). Reports of anger also decrease for

successively older adults (Phillips et al. 2006; see review by Magai 2001). In longitudinal studies examining this same age range, older age is related to lower levels of negative affect (Charles et al. 2001), increases in life satisfaction (Mroczek & Spiro 2005), and stable levels of positive affect (Charles et al. 2001).

Findings about age differences in emotional well-being in people 60 years and older are less consistent. One cross-sectional study found upturns in negative affect (Diener & Suh 1997) after age 65, although another study found continued decreases once the investigators controlled for the number of chronic health problems and level of functional limitation (Kunzman et al. 2000). When asked about depressive symptoms, participants in their sixties and seventies reported upturns in depressive symptoms associated with age in cross-sectional (Diener & Suh 1997, Haynie et al. 2001) and longitudinal studies (Davey et al. 2004). To place in perspective the extent of these upturns observed in the mid sixties, however, the negative affect reported by the oldest old in these studies fails to reach levels reported by young adults (e.g., Diener & Suh 1997). Moreover, another study showed that reports of depressive symptoms, including feeling sad, blue, or depressed, decreases linearly with age among people ranging from 60 to 84 years old (Kobau et al. 2004), and still another study found a very slight decrease in negative affect over a 23-year period among people who entered the study when they were aged 65 or older (Charles et al. 2001).

Researchers find slight decreases (Diener & Suh 1997) or plateaus (Carstensen et al. 2000) in positive affect among successively older age groups. In longitudinal analyses, positive affect decreases slightly (Charles et al. 2001), as does life satisfaction (Mroczek & Spiro 2005). These decreases are very slight, however, such that the life satisfaction reported at age 80 is similar to the levels reported by people in their forties (Mroczek & Spiro 2005). In another study, the decrease in positive affect among the older adults equaled about a 12% decrease on the scale across more than 20 years (Charles et al. 2001). Considering findings from studies of positive and negative emotional experience together, older adults are reporting relatively high levels of well-being, and they consistently report higher levels of positive affect than negative affect (e.g., Charles et al. 2001, Diener & Suh 1997). When decreases in well-being are observed, they generally occur after age 60 and are small in magnitude. Even centenarians report overall high levels of emotional well-being (Jopp & Rott 2006).

Some researchers posit that high-intensity emotions, such as exhilaration and enthusiasm, are more likely to decrease with age than are low-arousal emotions, such as contentment or feeling at peace (Diener et al. 1985, Lawton et al. 1992). In support of the hypothesis that age differences in emotion depend on the physiological arousal they evoke, a meta-analysis including more than 100 studies that examined age differences in emotional experience reveals that age-related declines are driven predominantly by high-arousal negative and positive emotions; low-arousal positive emotions, for example, do not show a significant decrease in this meta-analysis (Pinquart 2001).

UNDERSTANDING SOCIAL AND EMOTIONAL TRAJECTORIES ACROSS ADULTHOOD

The earliest theories of social aging posited that profound qualitative changes occur in psychological functioning in later life. Disengagement theory, which dominated the study of social aging for decades, maintained that as people reach old age, they become emotionally distanced and detached from loved ones in symbolic preparation for death (Cumming & Henry 1961). As empirical investigation grew, however, observed patterns did not support key postulates of disengagement theory. Social networks do indeed decrease in size, yet the typical psychological profile of aging is generally positive and socially engaged (see review by Charles & Carstensen 2007). More recent models reconcile social and emotional trajectories.

Selective Optimization with Compensation

Selective Optimization with Compensation, developed by Baltes & Baltes (1990), offers a meta-model or heuristic to account for interactions between persons and situations within a life-span perspective (see also Marsiske et al. 1995). According to this model, across adulthood, people become increasingly aware of age-related gains and losses. Because social, cognitive, and functional reserves are often diminished with age, resources are carefully allocated. As a result, people select goals that (*a*) are important and (*b*) can be realistically obtained in later life. These goals are often selected at the cost of other, less important priorities that are eventually discarded. As goals are prioritized, people engage in behaviors that optimize their abilities to achieve these goals. If their goals cannot be met using their usual strategies, people may engage in compensatory activities, such as enlisting the help of others. Applying this model to social relationships, the maintenance of emotionally close relationships, sometimes accompanied by even higher levels of well-being, reflects selection and optimization. The discarding of peripheral relationships creates more time and energy for these important relationships.

Socioemotional Selectivity Theory

Socioemotional selectivity theory (SST) maintains that motivation changes as people age and time horizons shrink (Carstensen 1993, 2006; Carstensen et al. 1999). According to SST, awareness of the temporal horizons influences goals. Whether conscious or subconscious, awareness of constraints on time activates changes in goal hierarchies. People who are young and healthy typically view the future as expansive. When people perceive a seemingly endless temporal horizon, they prioritize goals that prepare them for a long and nebulous future. Goals focused on gaining knowledge and information for their future possibilities are prioritized over other goals. However, as people age and time horizons are constrained, goals increasingly emphasize emotion and meaning.

Life Experience

Experience also changes the ways that people approach social situations (Blanchard-Fields 2007; Hess & Auman 2001; Hess et al. 1999, 2005; Leclerc & Hess 2007). In particular, life experiences affect how people process and respond to emotional information (e.g., Blanchard-Fields 2007, Charles & Piazza 2009, Magai et al. 2006). It appears that older adults, in comparison with younger adults, are more sensitive to emotional cues when making social inferences (see review by Hess 2005). Hess and colleagues have conceptualized social expertise as the extent to which people make social judgments consistent with the values of society (Hess & Auman 2001, Hess et al. 2005; see review by Hess 2005). Hess builds on work suggesting that in the United States, cultural norms about judgments of social behavior guide people to weigh negative information about a person's moral character, such as the extent to which a person is honest or wicked, more heavily than information about a person's abilities, such as his or her athletic or intellectual prowess. The reverse is true about positive information. In several studies, Hess and his colleagues have shown that older adults in comparison with younger adults weigh negative information about moral character more heavily than information about abilities when judging strangers and rating their likability (Hess et al. 2005, Leclerc & Hess 2007).

Strength and Vulnerability Integration

According to the Strength and Vulnerability Integration theory (Charles & Piazza 2009), people change their perspective as a result of time left to live (as posited by socioemotional selectivity theory) and increase their knowledge about how to regulate their emotions and their social lives from experience garnered from time lived. These changes in perspective and knowledge enable older people to navigate their environments so that they successfully avoid

negative experiences. Importantly, the Strength and Vulnerability Integration theory also maintains that biological systems become less flexible with age. Physiological and subjective processes do not have a perfect correspondence, yet they inform one another, particularly when people experience high levels of physiological arousal. Consequently, whereas older people regulate low levels of negative distress quite well, they have greater difficulty when they experience distress for relatively long periods of time. When older people employ strategies that allow them to avoid negative emotional experiences, they experience higher levels of well-being than do younger adults. When situations creating high levels of distress are unavoidable, age-related advantages in well-being disappear and may even reverse in direction (Charles & Piazza 2009). Unfortunately, unavoidable negative situations often increase with age, such as experiencing the loss of people who provide life with meaning, experiencing functional limitations that cause pain and daily hassles, and meeting the demands of caregiving.

AGE DIFFERENCES IN PROCESSING, REMEMBERING, AND ACTING ON EMOTIONS

Social and emotional experiences change with age. Social partners that are meaningful and important are preserved, more peripheral social ties are discarded, and anger and distress are experienced less frequently. Positive affect remains highly stable, only decreasing in some studies among the oldest old. Researchers have identified reasons why these changes occur, with models and theories agreeing that perspective changes with age. This perspective increases the importance of emotionally meaningful experiences and the desire to maintain high levels of well-being. These goals, in turn, influence thoughts and behaviors related to social and emotional experiences.

Appraisals

Emotion theorists have long emphasized the importance of cognitive appraisal in determining emotional experience and well-being. Specific thoughts are related to specific emotions: For example, hopelessness, helplessness, and irrevocable loss are associated with sadness; perceptions that someone or something is standing in the way of a goal are associated with anger; appraisals of threats are related to anxiety (Levine et al. 2006). Whether a person perceives a situation as a challenge or a threat predicts associated emotional distress (Lazarus 1991). Research examining appraisals in response to laboratory stimuli or autobiographical events have found that older adults appraise and remember events less negatively and more positively with age.

Age differences in how people perceive and appraise emotional material have been widely documented. Even very early in processing, before explicit appraisals can occur, older age is associated with selective attention toward positive stimuli and away from negative stimuli (Isaacowitz et al. 2006, Mather & Carstensen 2003). Yet once people appraise information, findings suggest that younger adults are more likely to dwell on this negative information than are older adults (Charles & Carstensen 2008). In a study where younger and older adults listened to negative comments directed toward them and were asked to voice aloud their responses to these comments, younger adults were more likely to react to these negative comments by making disparaging remarks toward the people speaking and reflecting on what they had just heard. Older adults, in contrast, made few comments about what they had heard and instead made comments that were less negative and focused less on the criticisms. Older adults also made fewer requests for more information about the motives of the people speaking; that is, they appeared less engaged in the conflict (Charles & Carstensen 2008).

Older adults also describe negative situations in their own lives less negatively. When evaluating relatively minor but negative daily stressors they had experienced across the week, older age was related to lower levels of perceived severity (Charles & Almeida 2007). Even controlling for types of situations, older adults

have more positive appraisals of social situations than do younger and middle-aged adults (Lefkowitz & Fingerman 2003, Story et al. 2007). In a laboratory study, adult daughters and their mothers engaged in a problem-solving task (Lefkowitz & Fingerman 2003). Afterward, they were asked about the emotions they experienced during this interaction. Mothers reported greater frequencies of positive affect and less negative affect than did adult daughters. Another study compared interactions among older married spouses to those of younger married spouses (Story et al. 2007). Each couple was videotaped as they discussed an area of conflict between the two of them. When asked about the behavior of their spouses, older adults rated their spouse's actions more positively than did objective raters who coded these interactions. Younger couples made no such positively biased appraisals.

More positive appraisals are consistent with the writings of older adults. In one study, people ranging in age from the late teens to mid-eighties were asked to imagine themselves in different social interactions and then to describe how they and their social partner would feel (Löckenhoff et al. 2008). An example of such a scenario is one where a person who is usually quite critical pays you a compliment. Older adults reported that they would feel less anger and anxiety than did younger adults. They also reported that their social partner would feel less sadness than did the younger adults. Overall, findings pointed to age-related increases in inferences of positive emotions and age-related decreases for negative emotions. In another study where people were asked to write about past life events, older age was related to greater use of positive words and fewer negative words in a large sample including more than 3000 people ranging from age 8 to 85 (Pennebaker & Stone 2003). The age-related increase in positive content was most pronounced when comparing across people who were aged 50 and older. The same pattern was observed when researchers examined the positive and negative content of published writings (including plays, books, and poetry) of ten long-lived famous authors (Pennebaker & Stone 2003). More positive appraisals with age extend to more general perceptions as well. For example, benevolent beliefs about the world—including beliefs about the world in general and beliefs about the goodness of people—were highest among older adults relative to younger adults (Poulin & Cohen Silver 2008).

More positive appraisals may explain why older adults report fewer regrets in life, defined by such statements beginning with "I should have done," than do younger adults (Riediger & Freund 2008). Age-related differences in regret are consistent across both minor and major decisions and life experiences. For example, in laboratory studies where people are asked to evaluate options and then make a choice between several different products, older adults list more positive attributes to their chosen products and are more satisfied with their choices (Kim et al. 2008).

Another study also produced findings suggesting that older adults may experience less "buyer's remorse" than do younger adults; after choosing between two items described by an equal number of positive and negative attributes, younger and older adults were later asked to remember those attributes (Mather et al. 2005). Older adults were more accurate at later recognizing the positive features than negative features of their chosen options than were younger adults, who recognized the positive and negative features equally well. Even in situations as extreme as unresolved issues pertaining to the death of a loved one, older adults report lower levels of regret across the two years of bereavement compared with younger adults (Torges et al. 2008).

As noted above, research suggests that personality traits are quite stable across adulthood (see review by McCrae et al. 2000). Nonetheless, the few changes that do emerge suggest age-related reductions in negative thoughts. Researchers examined the trajectory of neuroticism across 12 years among men aged 40 and older (Mroczek & Spiro 2003). They found that neuroticism decreased with age until around age 80. After age 80, neuroticism showed slight

increases, such that the level of neuroticism projected at age 100 for the sample was the same level as that reported when people were in their seventies. Levels of extraversion—the personality trait related to more positive appraisals, sociability, and positive emotions—remained stable over time. The tendency to ruminate about negative events, another fairly stable trait characterized in one study by recurring and unintentional thoughts about anger-provoking situations, was also lower among older adults compared with their younger counterparts (McConatha & Huba 1999).

Memory

Studies of appraisals often require people to evaluate recent events. For example, commonly used questionnaires query people about emotions experienced across the prior few weeks (Affect Balance Scale: Bradburn 1969; Center for Epidemiological Studies-Depression: Radloff 1977) or the previous month (psychological distress: Kessler et al. 2002). Whether appraising their quality of daily life, overall life satisfaction, or the perceived emotional support received from friends and family, people often reflect over their current status, and researchers have examined these more general responses more often than a person's current emotional experience. As a result, these reports rely strongly on memory. Memories of past events factor strongly into how people appraise their lives and evaluate their affective well-being. In studies examining memory for positive, neutral, and negative stimuli, findings often suggest that the memory of older adults is less negative, and sometimes even more positive, than that of younger adults.

Researchers have found that younger adults have a negative bias when processing emotional stimuli (Rozin & Royzman 2001). They have pondered why the "bad is stronger than good" (Baumeister & Leary 1995). A growing number of studies, however, suggest that older adults do not share this bias toward negative information. Instead, older adults compared with younger adults remember both positive and negative information to equal degrees (Kensinger et al. 2007) and sometimes remember more positive than negative information (Charles et al. 2003). The age-related shift in the ratio of positive to negative material processed in memory and attention is termed the "positivity effect" (Mather & Carstensen 2005).

Within the theoretical context of SST, the positivity effect reflects adaptations to different parts of the life course. Early in life, there is demand to maximally absorb information; negative stimuli generally hold more information than positive stimuli. With experience and age, however, many of life's negative lessons have been learned. Furthermore, as time horizons grow shorter, people are in some sense relieved of the burden of preparing for the future. Motivation to preserve emotional balance shifts attention to positive aspects of life.

In studies of autobiographical memory, older adults are biased storytellers, recalling their past more positively than they reported at the time (Kennedy et al. 2004, Ready et al. 2007). Even negative memories are recalled more positively among older than younger adults (Comblain et al. 2005). These findings are consistent with those from laboratory studies (Grady et al. 2007, Kensinger 2008, Leigland et al. 2004, Mather & Knight 2005; see review by Carstensen et al. 2006). For example, in one study, older adults viewed positive, negative, and neutral images and were later asked to recall what they had seen and then to distinguish these images from newly presented items (Charles et al. 2003). Results showed that younger adults recognized and recalled a greater proportion of negative images than positive or neutral ones. Compared with younger adults, older adults remembered a greater proportion of positive images relative to neutral and negative ones. Other studies confirm the relatively more positive memories—either through remembering a greater amount of positive material or a smaller amount of negative material—among older adults than younger adults. For example, another study found that older adults' memory for negative pictures was worse relative to their memory for positive or neutral pictures as compared with

younger adults (Grühn et al. 2007). Even studies that find no age-related bias in overall memory performance see evidence of a positivity bias when examining the types of appraisals and errors that people make when recalling information. For example, older adults report a greater familiarity for positive words than for negative words (Spaniol et al. 2008) and a greater age-related tendency to make false memory errors for positive stimuli than negative stimuli (Fernandes et al. 2008).

Behavioral Responses

Thoughts—either current appraisals or memories for prior events—guide behavior. The above research indicates that older adults prioritize emotional material, such that they appraise situations less negatively and their memories are generally less negative and more positive. Their actions are consistent with decreases in negative, and increases in positive, experiences. They report more satisfaction when interacting with family members than do younger adults (Carstensen 1992, Charles & Piazza 2007) and acknowledge fewer daily stressors in their lives (Almeida 2005).

Even among people with strong social networks, however, interpersonal tensions are unavoidable. They are also the most frequently reported stressors for adults regardless of age (Almeida 2005) and create the highest levels of stress across all types of stressors reported during the course of a week (Almeida & Kessler 1998). Although positive interpersonal exchanges are related to higher levels of well-being, their effects are far weaker than those of negative experiences. The effects of positive social exchanges are limited to positive emotional experiences (Newsom et al. 2008; see review by Rook 1998). In contrast, reports of negative exchanges are linked to higher levels of depression, lower positive emotional well-being, and worse self-reported health (Newsom et al. 2008; see review by Rook 1998). The avoidance of negative exchanges, then, holds both emotional and health-related benefits. Older adults navigate their environments such that negative experiences occur less frequently compared with the reports of younger adults (see review by Charles & Carstensen 2007). Older age is related to a decreased report of interpersonal tensions and to attenuated affective responses when conflicts occur (Birditt et al. 2005).

One of the reasons why older adults report less distress in response to a negative interpersonal exchange appears to be that they engage in behaviors that prevent escalation of tense situations more often than do younger adults. For example, when asked how they would respond to emotionally complex interpersonal tensions, older age is related to endorsements of more passive actions such as doing nothing or letting the situation pass (see review by Blanchard-Fields 2007). Older adults also recommend these more passive strategies to others who are faced with negative interpersonal situations (Charles et al. 2001). These behaviors are in line with the goals of older adults when faced with an interpersonal conflict: Older adults often report goals such as preserving goodwill (Coats & Blanchard-Fields 2008, Sorkin & Rook 2006). When ages are compared, older adults report goals of social harmony more so than do younger adults, who are more likely to report goals of problem-solving and resolution of the conflict (Birditt & Fingerman 2003). Older adults also engage in strategies that reduce the negativity of conflictual situations, such as infusing negative comments with positive ones when discussing a conflict with their spouse (Levenson et al. 1994).

Studies further indicate that age-related decreases in affective distress in response to interpersonal problems may be the result of these disengagement strategies. Older age is related to less affective reactivity when people report that they found themselves in a tense social situation but chose not to engage in the argument; when people report having the argument, younger, middle-aged, and older adults all show similar rises in affective distress (Charles et al. 2009). In addition, older adults who identify the preservation of goodwill as their goal during a negative interaction report the greatest success in achieving this goal, whereas older adults who

have a goal of getting someone to change report higher levels of distress and the lowest success rate of achieving this goal when recounting the altercation (Sorkin & Rook 2006). Moreover, experts' ratings are consistent with the endorsements of older adults, as they also deem more passive responses as the best strategies when faced with tense interpersonal exchanges (Blanchard-Fields et al. 2007).

In summary, with age, people come to negotiate their environments such that they experience stressors less often, particularly social stressors. Older people appraise their worlds as more benign and appear to defuse tense situations more effectively. On reports of overall affective well-being, people who are 60 and 70 years old report lower levels of negative affect and higher levels of satisfaction than do people in their twenties and thirties (Charles et al. 2001). Thus, the cognitive, emotional, and social patterns that characterize older adults are quite positive. Yet these stable and sometimes improved patterns occur within an aging biological system—one that is characterized predominantly by decline. Below we turn to the biological systems that underlie aging.

AGE, BIOLOGY, AND SOCIOEMOTIONAL PROCESSES

Almost every physiological and biological process studied across the adult life span shows evidence of age-related decline. The brain decreases in size, with cross-sectional studies indicating small age-related declines when comparing people in their mid-twenties to those around age 50, at which time the rate of neuronal loss and decrease in overall brain volume accelerates (DeCarli et al. 2005; see review by Raz & Rodrigue 2006). The difference in brain volume is indicated by larger sulci and enlarged ventricles correlating with older age. Neurons reduce in size and density, and damage to the mitochondria and loss of myelinated fibers are more prevalent with age when comparing the brains of consecutively older adults who are age 60 and older (see review by Raz 2005; Raz et al. 2005). Neurons are also less efficient; for example, they are less effective at inhibiting the activity of surrounding neurons. Decreases are pervasive, but the rate of decline varies across different loci. For example, the amygdala, a more primitive region of the brain critical for detecting emotional stimuli, shows less pronounced age differences relative to other areas of the brain (Grieve et al. 2005, Mu et al. 1999). In contrast, the prefrontal cortex shows the most dramatic age differences, characterized by age-related increases until the mid-twenties, a plateau with very small rates of decline until the mid-fifties, and then an accelerated decline in later life (Raz & Rodrigue 2006).

The prefrontal cortex is critically involved in tasks requiring rapid learning and quick judgments. This region of the brain has been thought to play important roles in social behavior and in processing emotion-related thoughts, behaviors, and goals (see review by Davidson et al. 2007). Studies often reveal age-related differences in performances that parallel the age-related declines in brain structure. For example, in one study, researchers gave mazes and maps to people ranging from age 18 to 93 and told them to select the quickest and most efficient routes (Salthouse & Siedlecki 2007). Results indicate an age-related decrease in performance with age, with an acceleration of these age-related declines starting in the early sixties. Similarly, the ability to remember both the information and its source (e.g., did the participant hear the information or read it?) shows small declines from ages 20 to 50, but more rapid age-related declines after age 50 (Siedlecki et al. 2005). Thus, age differences in tasks requiring fluid intelligence—the ability to learn quickly, respond rapidly to often-changing situations, and flexibly weigh disparate information—decrease with age.

Finding Benefits in Decline

Given the declines observed for many cognitive tasks, early emotion theorists assumed the trajectory of emotional experience would parallel these physiological declines (Banham 1951).

Findings provide a more complex picture of how people process emotional information. Some age-related declines may paradoxically aid older adults in their increased focus on emotion-related information. For example, researchers have discussed the age-related decrease in the ability to inhibit irrelevant information—the result of a decline in the ability of neurons to suppress the activity of surrounding neurons (e.g., Darowski et al. 2008). Emotional aspects of information are often deemed irrelevant, so failure to inhibit this information may increase its salience to older adults. Research supports this contention. For example, in an incidental-memory study, adults ranging from age 20 to 83 were asked to read a passage from a story and then, about 15 minutes later, they were asked to recount all that they could remember. With each successively older age group, people recalled a greater proportion of emotional information than nonemotional information (Carstensen & Turk-Charles 1994). When recalling information about a laboratory task, the performance of older adults is marked by a greater focus on emotional rather than on perceptual details (Johnson et al. 1996, Mather et al. 1999). Older adults in comparison with younger adults also weigh emotional information more heavily than nonemotional information when making confidence ratings for their memory performance (Hashtroudi et al. 1990).

Age-related increases in the salience of emotional material also explain discrepant age differences in working memory. A vast number of studies show reliable age-related declines in working memory and inhibitory processing; these changes correlate with decreases in white-matter integrity in the anterior area of the brain (Kennedy & Raz 2009). When researchers use emotional stimuli, however, age differences do not follow the seemingly predictable pattern of decline (Mikels et al. 2005). In this study, older and younger adults viewed a positive, a negative, and a neutral image followed by a screen with a three-second interval. At the interval, they were shown a second image and asked to compare this new image to the previously viewed one, based on either its brightness or the emotional intensity that it evoked. When comparing pictures on brightness, younger adults once again outperformed older adults. When comparing emotional intensity, however, older adults were similar to younger adults in their performance for negative images and actually outperformed younger adults when rating the intensity of positive stimuli (Mikels et al. 2005). Working memory is dependent not only on biological factors influencing white matter integrity, but also on motivational influences. The age difference in task performance suggests a greater motivation and focus on positive stimuli.

In addition, slower processing speed may provide seemingly paradoxical benefits. The function of emotions is often placed in evolutionary terms, which stress rapid responses where "fight or flight" patterns determine survival. In the modern social world, rapid responses may not be the best response. Snapping at someone with a fast retort may not be as wise as pausing before responding to an interpersonal slight. When responding to negative interpersonal conflicts, faster responses may not translate to an adaptive response. Further research is needed to test this premise.

The Downside of Biological Changes

The effects of poorer inhibitory functioning and decreased speed point to serendipitous benefits from brain-related declines for emotional well-being. This deduction, however, would be premature to apply to all aspects of emotional functioning. Although poorer physiological inhibitory control may make emotions more salient, as research has suggested (e.g., see review by Zacks & Hasher 1997), poorer executive functioning is not related to increased focus on positive over negative emotional stimuli. Mather and her colleagues have found that cognitive control is fundamental to emotion-regulation success among older adults (Kryla-Lighthall & Mather 2009, Mather & Knight 2005; see review by Mather 2006). For example, older adults who were allowed to attend to positive, negative,

and neutral images remembered more positive than negative images (Mather & Knight 2005). Older adults who were distracted by a divided-attention task, however, failed to show the positivity bias and instead displayed a negativity bias similar to their younger counterparts. Importantly, the positivity effect is not observed for all studies examining age differences in memories or attention for emotional material, a discontinuity that underscores the dependency of the positivity effect on motivational efforts and cognitive-control abilities (see review by Mather & Carstensen 2005). Indeed, the positivity effect is most pronounced among older adults who have the cognitive capacity necessary and the unrestricted freedom to focus on the information they prioritize, as opposed to other information such as facts, over emotional content (Kryla-Lighthall & Mather 2009).

Poorer inhibitory control may also pose problems when individuals are recovering from high levels of activation. When people perceive high levels of threat, their body mobilizes for action. As part of this process, the hypothalamus delivers corticotropin-releasing hormone, which begins a cascade of reactions that end in the release of cortisol into the bloodstream. Cortisol passes through the blood-brain barrier, and its presence signals the hypothalamus to decrease further release of corticotropin-releasing hormone. The glucocorticoid cascade hypothesis describes how age is related to a decreased ability to down-regulate the further activation of this stress cycle (Sapolsky et al. 1986; Wilkinson 1997, 2001; but see Kudielka et al. 2004). According to this hypothesis, older age is related to a reduced ability of neurons in the hypothalamus to inhibit this activity, consistent with findings showing that high-affinity receptors responsible for feedback inhibition in the hypothalamus decrease with age (Dodt et al. 1994; see review by Ferrari et al. 2003). Furthermore, dysregulation of high-affinity receptors and an imbalance between high- and low-affinity glucocorticoid receptors are more common with age (Dodt et al. 1994, Giordano et al. 2005). The glucocorticoid cascade hypothesis originated from animal studies but has expanded to encompass human aging as well (Bakke et al. 2004; see reviews by Bjorntorp 2002, Otte et al. 2005).

The cardiovascular system is also less flexible. For example, the vasculature, including veins, arteries, and aortic-pulmonary valves, thickens and become more rigid with age. This reduced flexibility renders the heart less able to respond quickly, as evidenced by a smaller elevation in heart rate in response to both emotional and nonemotional stressors (Deschenes et al. 2006; see review by Levenson 2000). As a result, older adults may be less likely to respond physiologically to brief, relatively minor events. For situations that elicit sustained, high levels of arousal, however, these age-related changes in cardiovascular activity may lead to prolonged activation. Reductions in heart-rate variability (see review by De Meersman & Stein 2006) and inflexibility of the vasculature may contribute to poorer regulation of the system once activated. Consistent with this premise, Uchino and his colleagues have found that older age is related to greater increases in blood pressure in response to stressors both in cross-sectional (Uchino et al. 1999) and longitudinal studies (Uchino et al. 2005).

Predicting Patterns of Age Differences in Emotional Well-Being

Older age is related to increases in the ability to regulate emotions. The relative importance of emotion-related goals increases with age (Carstensen 2006) such that people engage in thoughts and actions that decrease exposure to negative situations and sometimes increase their exposure to positive events. Many of these strengths lie in social processes whereby older adults navigate their social worlds such that they report fewer social conflicts (Birditt & Fingerman 2003) and solve interpersonal problems, often more effectively than do younger adults (Blanchard-Fields et al. 2007). These strengths may even be enhanced by some age-related changes in physiological functioning. Decreases in inhibitory processes may have the consequence of paradoxically

improving the ability of emotion-related aspects of stimuli relative to nonemotional features (see review by Isaacowitz et al. 2000).

When faced with high levels of sustained arousal, however, decreased flexibility may prolong the emotional experience for older adults and leave them more vulnerable to emotional distress. Taking these findings together, we predict that older adults will experience high levels of distress and no age-related advantages when they are either unable to employ, or are ineffective in their ability to avoid, high levels of emotional arousal. When older adults are unable to prioritize emotional goals, benefit from prior experience, or engage in thoughts and behaviors that allow them to avoid experiencing high, sustained levels of emotional arousal, age will no longer confer benefits to well-being.

When Older Adults Do Not Prioritize Emotional Goals

When asked to remember a sequence of events, people often focus on factual, nonemotional information. Cognitive psychologists long considered emotional aspects of information to be the nuisance variable, irrelevant information that leaked into memories only as a result of inhibitory failures (see review by Isaacowitz et al. 2000). When emotions are instead valued and emotional information measured, older adults often excel in these cognitive tasks more than do younger adults (see review by Carstensen et al. 2006, Carstensen & Mikels 2005, Mather & Carstensen 2005).

By manipulating the importance of emotional goals, researchers have illustrated situations where age-related increases in memory for emotion-related stimuli are found; there are situations where these age differences in memory performance disappear completely (see review by Carstensen et al. 2006). For example, age-related increases in positivity of past memories disappear if people are asked to recall their past as accurately as they can as opposed to thinking about how they were feeling at the time of the events (Kennedy et al. 2004). When asked to evaluate the positive and negative attributes of a given product they chose from a set of options, older adults recalled their chosen product more positively than when they were not told to engage in such evaluations (Thomas & Hasher 2006). When evaluating different health insurance options, older adults attended to and recalled more positive than negative aspects of the different options when they evaluated their options after they were instructed to think about how they were feeling while engaged in the task (Löckenhoff & Carstensen 2007). When they were told instead to focus on the facts of each plan, the age-related bias for positive information disappeared. Studies that ask people to attend to all information, as opposed to those giving people the option of viewing a subset of the stimuli, often do not show the positivity effect (see review by Peters et al. 2007).

Similarly, older adults are just as attentive to threatening stimuli as are younger adults (Mather & Knight 2006). In daily life, then, we speculate that older adults do not direct their attention away from negative information and toward positive information in situations when they are threatened or when they do not have the time or ability to act consistently with their motivational goals. For example, a grandmother raising a grandchild must attend to potential problems and challenges that accompany raising a child. This motivation to attend to negative experiences may explain why older adults who are raising children are twice as likely as noncustodial grandparents to report high levels of depressive symptoms (Minkler et al. 1997, 2000). Indeed, the ease with which the positivity effect is eliminated suggests that it may represent chronically activated "default" motivation, but when conditions demand attention to the negative, older people can and do activate other goals.

Exceptions That Make the Rule

Researchers speculate that older adults regulate their emotions more effectively, in part, because accrued life experiences lead to expertise in social and emotional regulation (e.g., Blanchard-Fields 2007, Magai 2001). This

expertise is gathered throughout life by managing daily social interactions and resolving negative stressors. Of course, exposure does not insure greater expertise. A subset of people appears to benefit little from experience.

Neuroticism is a personality trait defined as emotional instability, where higher levels of neuroticism are associated with chronic emotional activation and reactivity (Eysenck 1967). People scoring high on neuroticism, or emotional instability, report greater numbers of interpersonal stressors in their daily lives, more negative appraisals of these stressors, and greater negative reactivity in response (Gunthert et al. 1999, Suls & Martin 2005). Neuroticism is strongly associated with negative affect (Charles & Almeida 2006). People high in neuroticism often dwell on past events and have more negative reactions to recurring problems in a pattern known as the "neurotic cascade" (Suls & Martin 2005). High levels of neuroticism increase the risk for divorce, lower occupational status (Roberts et al. 2007), worse physical health (Charles et al. 2008), and a greater number of negative life events (e.g., Farmer et al. 2002). Thus, higher levels of neuroticism are related to poorer interpersonal relationships and less successful problem resolution.

A growing number of studies suggest that people who score high on neuroticism do not experience age-related benefits in emotional functioning. People who score high in neuroticism report relatively stable levels of negative affect with age, in contrast to reductions in negative affect reported by their same-aged peers (Charles et al. 2001). Similarly, people high in neuroticism reported stable levels of life-satisfaction, not the increases in life-satisfaction that are observed among people low in neuroticism (Mroczek & Spiro 2005). In addition, older age is generally related to either similar or lower levels of affective reactivity to daily stressors (Birditt et al. 2005, Neupert et al. 2007). Among people who score high on levels of neuroticism, however, older age is related to greater affective reactivity (Mroczek & Almeida 2004).

Researchers speculate that after years of encountering negative stressors, people high in neuroticism become more sensitive and reactive to them, a phenomenon they term the "kindling effect" (Mroczek & Almeida 2004, Mroczek et al. 2006). The kindling effect is similar to the neurotic cascade in that people high in neuroticism grow more sensitive and reactive to negative experiences over time. Instead of learning from experience and becoming better at maintaining well-being, people high in neuroticism experience high levels of negative affect and are at increased risk for depression (e.g., Kendler et al. 2006). One interpretation of these findings is that people scoring high in neuroticism do not learn from their experiences and modify their emotion-regulation strategies to decrease their exposure and reactivity to negative experiences, particularly negative life experiences.

Failure to Use Cognitive and Behavior Emotion-Regulation Strategies

Older adults are motivated to maintain their affective well-being, and they engage in emotion-regulation strategies that allow them to do so. We predict at least three circumstances in which older adults are unable to employ these strategies effectively and that often increase in prevalence with age. First, older adults must have the cognitive capacity necessary to engage in emotion-regulation strategies. Mather and her colleagues posit that the positivity bias observed among older adults is dependent on cognitive-control strategies (see review by Kryla-Lighthall & Mather 2009). Older adults who perform best on demanding working-memory tasks requiring cognitive control show the greatest bias toward positive information and away from negative information (Mather & Knight 2005). In tasks with low cognitive demand, older adults displayed the positivity bias on tasks of attention and memory (Knight et al. 2007, Mather & Knight 2005). When engaged in divided-attention tasks, however, older adults display no positivity bias. This position is consistent with studies that have found strong associations between poorer cognitive

functioning and greater depressive symptomatology (Wilson et al. 2004, Yaffe et al. 1999).

Situations in which emotion-regulation strategies favored by older adults—e.g., avoidance or distraction—are ineffective or impossible to employ present a second circumstance where older adults may not have advantages in emotion regulation compared with younger adults. For example, having a chronic illness is related to higher rates of negative affect (Charles & Almeida 2006). Given the higher prevalence rates of chronic illnesses with age (Rook et al. 2007), a logical conclusion would be that older adults report higher levels of negative affect than do younger adults. Yet older adults continue to report higher levels of positive affect and lower levels of negative affect than do younger adults in comparisons of groups of people with different numbers of reported health conditions (Piazza et al. 2007). An older adult with two levels of chronic illnesses, for example, reports the same level of negative affect as does a younger adult with no chronic health conditions. This age-related advantage in negative affect is no longer present, however, when people experience a stressful event (Piazza et al. 2007). When placed in a situation where they report an event sufficient to elicit high levels of stress, age was not related to affective reactivity.

A third circumstance where older adults may not continue to show strong age-related increases in well-being over time is when they experience losses to their social network. A loss in social belonging, such as that commonly caused by bereavement, is related to increases in negative distress for people of all ages (e.g., Turvey et al. 1999). Unfortunately, the likelihood of bereavement, from loss of family or friends, increases with age. Moreover, loneliness is strongly related to depression among older adults even after controlling for marital status (Barg et al. 2006, Cacioppo et al. 2006), and researchers suggest that the effects of loneliness on physiological functioning may even be stronger among older adults than younger adults (Hawkley & Cacioppo 2007). Further research will need to explore this possibility.

CONCLUSION

There have been notable strides in understanding social and emotional aspects of aging over the past two decades. Social relationships and emotional well-being benefit from experience and time perspective. Experience confers improved regulatory skills; shorter time perspectives lead older people to place greater priority on meaningful aspects of life. Older adults appear to navigate social environments well and use social regulation, particularly social selection, to maintain relatively high levels of well-being. Cognitive resources are also deployed selectively: Attention and memory increasingly favor positive material as people grow older. A growing number of studies have acknowledged biological changes involved in aging and begun to examine how these processes influence, and are influenced by, social and emotional aspects of aging. Namely, when faced with unavoidable or inescapable negative events, older adults experience relatively high levels of physiological distress that can be highly disruptive to physical and mental health. Under such circumstances, social isolation greatly exacerbates the disruption. In summary, in everyday life older adults show social and emotional functioning that is equal to or superior to that of younger adults. When faced with prolonged and unavoidable stress, however, age-related advantages appear to be compromised.

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The authors are not aware of any biases that might be perceived as affecting the objectivity of this review.

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