



## Beyond stereotypes: Using socioemotional selectivity theory to improve messaging to older adults

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IMPROVING COMMUNICATIONS WITH OLDER ADULTS

**Cover Page**

Corresponding Author:

Laura L. Carstensen

Department of Psychology

450 Jane Stanford Way, Bldg. 420

Stanford University, Stanford, CA 94305

Telephone: (650) 723-3102

Email: [laura.carstensen@stanford.edu](mailto:laura.carstensen@stanford.edu)

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Beyond stereotypes: Using socioemotional selectivity theory to improve  
messaging to older adults

Laura L. Carstensen<sup>1</sup>

Department of Psychology

Stanford University

Hal E. Hershfield

Anderson School of Management

University of California, Los Angeles

**Abstract**

The tremendous heterogeneity in functional and demographic characteristics of the over-65 age group presents challenges to effective marketing and public health communications. Messages grounded on tacit assumptions that older people are frail, incompetent, and needy risk being overlooked by most of the older population; on the other hand, ignoring age-associated vulnerabilities is problematic. We argue that while traditional approaches to market segmentation based on chronological age often fail, reliable age differences in motivation can inform the types of information that older people typically prefer, attend to, and remember. Socioemotional selectivity theory maintains that as future time horizons grow limited - as they typically do with age - emotional goals are prioritized over goals that focus on exploration. As time left becomes more limited, positive messages are remembered better than negative, and products that help people savor the moment are preferred over those that benefit the long-term future. Relatedly, acknowledging individual strengths and personal resilience are likely to be especially appealing to older people.

*Keywords:* socioemotional selectivity theory, motivation, time horizons, marketing, public health messages

## IMPROVING COMMUNICATIONS WITH OLDER ADULTS

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3 As the nation ages, it is imperative that policymakers, marketers, and public health  
4 officials identify best practices for conveying important information to older adults. The  
5 COVID-19 pandemic underscored the need for effective public health messaging. It also laid  
6 bare the extent to which most images and messages targeting older adults are driven by  
7 stereotypes, with depictions of older people as lonely, frail, and incompetent (North & Fiske,  
8 2015). Not only are such messages unlikely to be received in ways that messengers intend, a  
9 growing literature suggests that they may do harm (Ayalon et al., 2021).

19 That said, effectively communicating with older populations is challenging.  
20 Heterogeneity in aging outcomes renders chronological age an increasingly poor predictor of  
21 social, cognitive, and physical functioning (Lowsky et al., 2014) with substantial intracohort  
22 differentiation in educational attainment, financial wellbeing, and expertise (Dannefer et al.,  
23 2019). For example, while some older people face extreme social isolation, as a group, older  
24 people are *less* lonely than younger people (Nguyen et al., 2020). In terms of emotional health,  
25 older people experience fewer negative emotions in daily life compared to younger adults  
26 (Carstensen et al., 2011; Stone et al., 2010) and these emotional advantages are persisting even  
27 in the midst of a pandemic that is placing them at far greater risk than younger people  
28 (Carstensen et al., 2020). Although one in three Americans over age 65 is economically insecure  
29 (National Council on Aging, 2019), older generations hold substantially more wealth than  
30 younger generations, with far more money flowing down through the generations than up  
31 (Employee Benefit Research Institute, 2016). Moreover, characterizing older people demands  
32 continual updating: Functional and cognitive health has been improving over historical time  
33 (Lowsky et al., 2014). Older Americans today are better educated than prior cohorts (Barro &  
34 Lee, 2013); and while the prevalence of dementia grows as societies include more older people,  
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3 the incidence of dementia is falling (with a drop of 24 percent from 2000 to 2012; (Langa et al.,  
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5 2017).

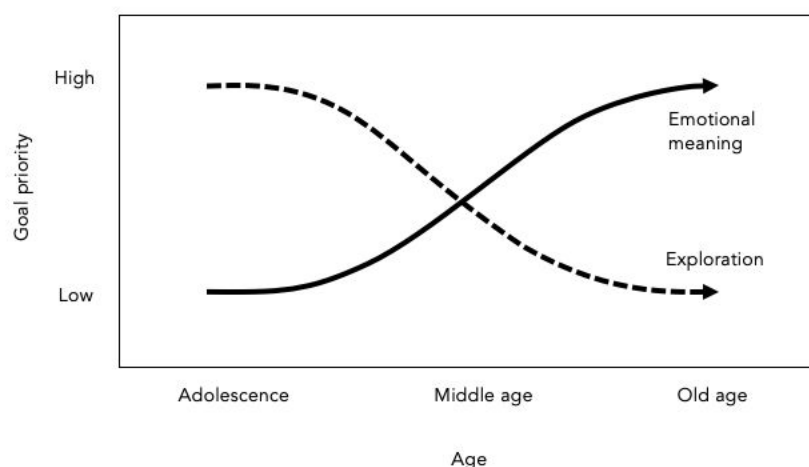
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8 Subsequently, market segmentation based on chronological age is difficult, if not futile.  
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10 Instead, time left in life has proven to be a better predictor of many outcomes than time since  
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12 birth. Socioemotional selectivity theory (SST), a life-span model of human motivation, is  
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14 grounded on the observation that perceived future horizons influence social goals. SST  
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16 postulates that age differences emerge because of the association between time left in life and  
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18 chronological age. Whereas the latter is static, the former is fluid and varies across individuals  
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20 and contexts. SST maintains because goals direct cognitive processing, perceived future time  
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22 influences what people see, hear, and remember, as well as social preferences, emotional  
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24 experiences, and decisions. Below, we review theory and related evidence that older people  
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26 attend to and remember emotionally positive information more than negative and, relative to  
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28 younger people, weigh the potential for emotional meaning more heavily in decisions,  
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30 preferences, and behavioral engagement.  
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### 35 **Socioemotional selectivity theory and the positivity effect**

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38 **Time horizons and social goals.** Socioemotional selectivity theory (SST; Carstensen,  
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40 1993, 2006; Carstensen et al., 1999) is grounded in the fundamental human ability to monitor  
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42 time left in life. From early in life humans are aware of their mortality. As they age, future time  
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44 horizons shrink. SST maintains that this perception of time as constrained or expansive has  
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46 important implications for motivation because time provides the structure for planning and  
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48 implementing goals. The subjective sense of time left in life has a greater impact on motivation  
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50 and goals than objective measures such as chronological age (see Figure 1).  
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**Fig. 1.** A conceptual framework of socioemotional selectivity theory. The theory maintains that goal priorities shift with age and time horizons such that exploration-focused goals are prioritized earlier in life, when time horizons are expansive, and emotionally meaningful goals are prioritized later in life, when time horizons are more limited.

When time horizons are vast and nebulous, people focus on goals that prepare them for long and uncertain futures. They prioritize goals that involve novelty and exploration. Risk-taking is advantageous under such temporal conditions; people learn from failures and there is ample time to correct them. SST maintains that when futures are long and nebulous, as they typically are in youth, people take social and emotional risks in order to explore. In contrast, when time horizons are limited, people prioritize emotionally meaningful goals. Unlike goals that prepare us for the future, meaningful goals are realized in their execution. As time grows more limited, it grows more valuable and it is increasingly important to make time count by spending time in emotionally meaningful ways. SST is conceptually similar to the literature on explore-exploit tradeoffs suggesting that when there are fewer “rounds” left to exploit the fruits of one’s exploration, people explore less and exploit more (Sang et al., 2020).

The hypotheses posited by SST have been widely tested, including studies that manipulate time horizons. When presented with the option of spending time with a loved one or

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3 an interesting novel social partner, older but not younger people strongly favor spending time  
4 with loved ones (Fredrickson & Carstensen, 1990). Importantly, however, when older people are  
5 asked to imagine much longer time horizons (e.g., a new medical advance will greatly extend  
6 their lives) or younger people are asked to imagine a more limited sense of time left (e.g., by  
7 imagining that they are about to move across the country, an anticipated social ending), age  
8 differences in preferences are eliminated (Fung & Carstensen, 2004). Such effects show up  
9 outside of experimental contexts when time horizons altered are due to health; young adults  
10 diagnosed with HIV place more weight on emotional aspects of relationships, just as older adults  
11 do (Carstensen & Fredrickson, 1998). Notably, age-related motivational changes account for a  
12 number of age differences previously believed to reflect age-related declines. For example, well-  
13 documented and smaller social networks typical at older ages appear to reflect an active pruning  
14 process in which emotionally close partners are retained and more peripheral contacts are  
15 discarded, which may actually contribute to improved mental health for older adults (English &  
16 Carstensen, 2014).

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19 **The positivity effect.** In addition to explicit preferences, goals direct cognitive resources.  
20 Compared to younger people, older people selectively attend to and remember positive  
21 information more than negative information (Reed et al., 2014). This observation stands in  
22 contrast to a negativity bias presumed to be universal but documented only in young people  
23 (Baumeister et al., 2020). The developmental shift away from a negativity bias to a positivity  
24 bias as people age is termed the ‘positivity effect’ (Carstensen & DeLiema, 2018). Evidence  
25 based on laboratory experiments, field studies, and neuroimaging support the contention that  
26 these age differences are grounded in top-down motivational shifts. Relative to their younger  
27 counterparts, older adults show a preference for positive faces compared to angry or sad ones  
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(Mather & Carstensen, 2003), privilege positive over negative information in both working memory (Mikels et al., 2005) and short-term memory (Mather et al., 2003), and demonstrate more positivity in autobiographical memory (Kennedy et al., 2004). Older adults show greater activation in neural regions most closely associated with emotional processing when they process positive information (Mather et al., 2004). Far less activation is observed in the presence of negative information.

**Age stereotypes and subjective age.** Perceived time left in life may also impact perceptions of subjective age, which can itself affect motivation (Barber et al., 2018; Weiss & Freund, 2012). Age is unlike other demographic categories such as race, gender, and political identities, in that relatively few older people identify with being “old.” In fact, most older people refer to “older people” in the third person (Jones, 2006). This practice does not mean that older adults are denying their place in the life cycle. Older people reliably report fewer years in their futures (Lang & Carstensen, 2002). Yet, they think of themselves as *subjectively* younger than they actually are. Fifty-year-olds report feeling about five years (or ten percent) younger than their chronological ages, and seventy-year-olds report feeling up to fifteen or twenty percent younger than they are (Kotter-Grühn et al., 2016). **Importantly, these findings do not suggest that older adults see themselves as *young*; rather, they may see themselves as *younger* than they are.**

It is very likely that these views reflect a distancing from negative stereotypes about older people in the service of maintaining a more positive, healthy, and vital self-view (Weiss & Freund, 2012). Indeed, older people with relatively positive self-perceptions of aging live longer than those who report relatively negative attitudes towards aging (Levy et al., 2002).

**Implications for effective communication and messaging**

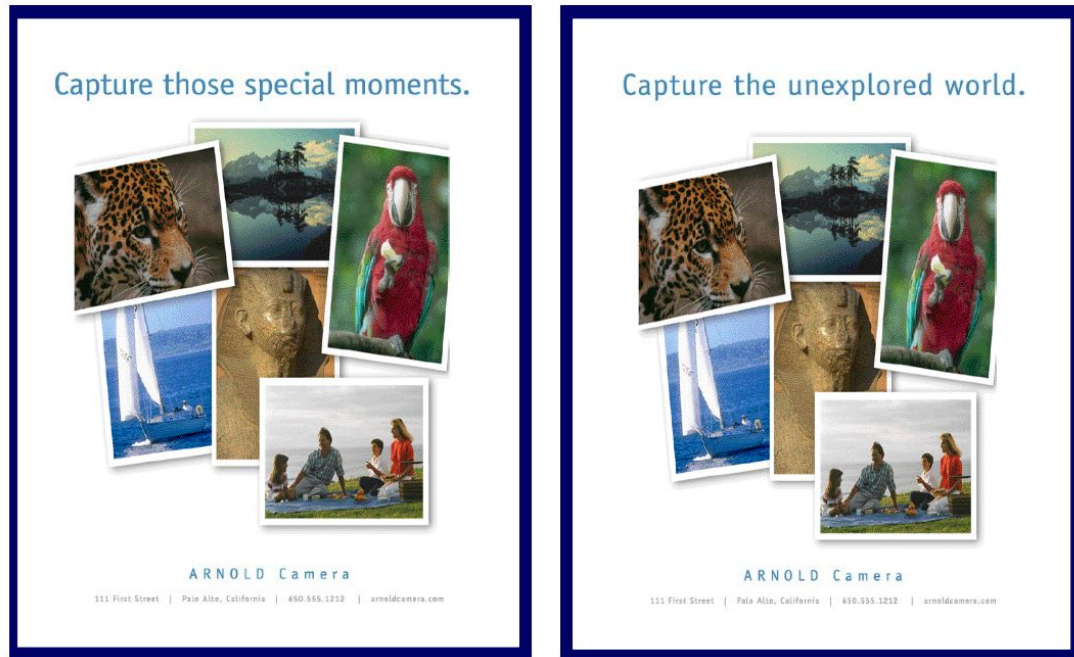
## IMPROVING COMMUNICATIONS WITH OLDER ADULTS

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3 Together, these findings hold important implications for communicating effectively with  
4 older populations. Below, we highlight three guidelines for communication and messaging,  
5 including related research that offers specific insights into sending memorable messages to older  
6 people.  
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12 **Meaning matters.** Based on the SST and time horizons literature, younger people are  
13 drawn to marketing messages that promise adventure and novelty whereas messages that promise  
14 emotionally meaningful rewards are more appealing to older people. Advertisements using  
15 emotionally meaningful slogans are better remembered by older people. In a study by Fung and  
16 Carstensen (2003), older and younger adults were presented with one of two types of  
17 advertisements that were identical in all ways except the slogan. Half of the participants saw  
18 advertisements in which the slogans promised emotional rewards (Figure 2, left panel). The other  
19 half saw advertisements in which slogans promised that the product would enable them to learn  
20 and explore (Figure 2, right panel). Relative to their younger counterparts, older adults preferred  
21 the advertisements that focused on emotional goals to the ones that focused on exploration.  
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33 **Importantly, older participants also remembered the products that were framed in emotional**  
34 **terms better than the products with exploratory frames.**  
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**Fig. 2.** A pair of advertisements (identical except for the slogan) used to study age differences in preferences and memory for products. The slogan in the left panel promises an emotionally meaningful reward, while the slogan on the right highlights gaining knowledge and experience.

Using a similar paradigm comparing emotional appeal to rational appeal (rather than exploration and knowledge), Williams and Drolet (2005) found that advertisements highlighting the emotional appeal of the featured products were better liked and remembered by older people than advertisements using rational appeals that stressed product details. Subsequent studies observed similar effects when the paradigm was extended to real brands as opposed to hypothetical brands (van der Goot et al., 2016), hedonic as well as utilitarian products (Drolet et al., 2007), and when time horizons were equated across younger and older people (Wei et al., 2013)<sup>2</sup>.

Importantly, the studies described above also assessed the influence of time horizons on preferences using different methodologies. For example, in the Fung & Carstensen (2003) study, a subsample of participants were asked to imagine that they would likely live twenty years longer than they anticipated before viewing the advertisements and voicing their preferences.

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3 Under this condition, older peoples' preferences for emotionally meaningful advertisements were  
4 eliminated. Williams and Drolet (2005) experimentally manipulated time horizons within the  
5 advertisements by adding the phrase "Life is short" (limited horizon condition) or "Life is long"  
6 (expansive horizon condition) to the advertisement text. In both these conditions, age differences  
7 were eliminated.  
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12 Consistent with a growing interest in emotional meaning, there is intriguing  
13 neuroimaging evidence that age-related changes in motivation are associated with greater  
14 concern for the common good (Mayr & Freund, 2020), suggesting that messages with a focus on  
15 social impact may be particularly effective among older segments. Recent findings from a study  
16 comparing different types of financial incentives aimed at increasing walking found that older  
17 people significantly increased step counts when incentives involved earning for charities,  
18 whereas younger people did not (Raposo et al., 2020).  
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31 **Focus on the positive.** One straightforward implication of age-related shifts towards  
32 positive information is that framing emotional content in a positive, rather than negative, ways  
33 may have more impact on older adults. Indeed, older people tend to avoid negative information:  
34 in a recent study of daily smokers from Appalachian Ohio, older adults spent less time viewing  
35 graphic tobacco warning labels compared to younger adults, for example (Roberts et al., 2016).  
36 Whereas avoidance of negative information may be adaptive for older adults' emotional well-  
37 being (Blanchard-Fields, 2009), avoiding negative information may have serious consequences  
38 in some contexts. Thus, effective messaging to older adults should not simply remove the  
39 negatively framed information. Rather, when refocusing messaging in emotional terms, such  
40 messages should emphasize the positive.  
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3 For example, in a study of information messaging related to preventing heart disease  
4 (Jayanti, 2010), half of all participants received a positive framing, in which the benefits were  
5 emphasized (e.g., “If you exercise regularly, you will reduce the risk of a heart attack”) and half  
6 received a negative framing, in which the negative consequences of an action were highlighted  
7 (e.g., “If you do not exercise, you increase the risk of having a heart attack”). Relative to younger  
8 adults, older adults were more persuaded by and showed greater intentions to adopt healthy  
9 lifestyles when information was presented with positive framings. Notthoff and Carstensen  
10 (2014) extended this work about health messaging to behavior change. Randomly assigned to  
11 one of two conditions, older adults were either informed about the *benefits* of walking or the  
12 *negative* consequences of failing to walk. Walking was measured with accelerometry over a 28-  
13 day period. Only older participants in the benefits condition increased their step counts, which  
14 notably continued to increase throughout the study period.

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31 **Ditch the stereotypes.** Research on subjective age demonstrates that most older people  
32 see themselves as relatively healthy and youthful (for their age). Yet marketing images typically  
33 fail to match these self-views. Even though a significant number of older people dye their hair  
34 for example, advertisements overwhelmingly depict older people with grey hair (Thayer &  
35 Skufca, 2019). One recent study of over 1,000 online images posted on sites with at least one  
36 million followers (e.g., Facebook, Twitter, or Instagram) found that older people were portrayed  
37 primarily in stereotypical ways (Thayer & Skufca, 2019). About 70% of the images depicted  
38 older adults as isolated, and if they were depicted with another person, it was typically in the  
39 context of receiving care. Findings from recent research speak against images that exaggerate  
40 age-related limitations. One recent survey of women aged 55 to 73 years found that 73% hated  
41 patronizing messages depicting older peoples’ difficulty with technology and 78% said that they

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3 had no interest in technologies that were designed especially for older people (J. Walter  
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5 Thompson Innovation Group, 2018).  
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**Conclusion**

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10 As societies age, effectively communicating messages to older populations becomes  
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12 increasingly important. To date, most messaging strategies are based on stereotypes and there is  
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14 ample evidence suggesting that older people are unlikely to identify with such images or  
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16 messages. Strategies based on surface-level market segmentation, however, are challenged by the  
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18 fact that aging outcomes are changing over historical time. Later-born birth cohorts are more  
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20 highly educated than earlier ones; they test much younger on cognitive tests than prior  
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22 generations. Dementia incidence is falling.  
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26 It is important to remember that when age is indexed by time since birth (i.e.,  
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28 chronological age), values, beliefs, and characterizations vary greatly within and across older  
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30 cohorts. One-size-fits-all approaches, or those that are based on outdated notions of aging, will  
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32 likely be unsuccessful. However, when perceived time left is the metric, there is evidence for to  
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34 systematic age differences in motivation that can inform communications and marketing. Much  
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36 of this research is grounded in SST, which maintains that recognition of human mortality and the  
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38 gradual approach of endings accounts for motivational changes that contribute powerfully to  
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40 cognitive processing and emotional well-being. Whereas goals about preparedness, learning, and  
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42 exploration dominate when time horizons are expansive, goals associated with emotional  
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44 meaning and satisfaction are typically prioritized when time is constrained.  
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49 Recently, theories about these age-related changes in social preferences and cognitive  
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51 processing have been applied to the receptiveness of marketing messages and responsiveness to  
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53 positive incentives. While much more research is needed, findings point to ways to incentivize  
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3 healthful behaviors, make charitable contributions, and find appeal in featured products. These  
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5 findings hold promise for issues that extend beyond individuals: Framing important societal  
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7 issues such as climate change in terms of their effects on younger loved ones will likely activate  
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9 behavior change better than frames that emphasize the long-term consequences. Messages that  
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11 portray older people as mature and wise and those that emphasize purpose and meaning over  
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13 fragility and neediness are likely to be better received.  
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17         Whereas developmental psychology has long relied on time since birth as the yardstick to  
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19 measure age, SST maintains that as people move through adulthood, perceived time left in life  
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21 becomes more important than chronological age. Limitations on time increase its value. As  
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23 people age, they tend to care more about people and activities that allow them to make the most  
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25 of the time they have left, to appreciate life, and savor time.  
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For Peer Review



**Notes**

<sup>1</sup> Address correspondence to Laura L. Carstensen, Department of Psychology, 450 Jane Stanford

Way, Bldg. 420, Stanford University, Stanford, CA 94305. Email:

[laura.carstensen@stanford.edu](mailto:laura.carstensen@stanford.edu)

<sup>2</sup> One recent study found no age-related preferences for affective versus rational ads (Sudbury-Riley & Edgar, 2016). The products tested, however, were all utilitarian (e.g., living room furniture) and the language in the advertisements was not as emotional as it has been in previous studies that have found age-related differences.

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For Peer Review



**Recommended Readings**

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- Carstensen, L.L. & DeLiema, M. (2017). The positivity effect: The negativity bias in youth fades with age. *Current Opinion in Behavioral Sciences*, *19*, 7-12. doi:10.1016/j.cobeha.2017.07.009 A critical examination of the positivity effect concluding that preferences for positive information are consistent with motivation as opposed to neural or cognitive decline.
- Raposo, S., Hogan, C. L., Barnes, J. T., Chemudupati, T. & Carstensen, L. L. (2020). Leveraging meaningful goals to incentivize healthful behaviors in younger and older people. *Psychology and Aging*. Advance online publication. doi:10.1037/pag0000428 Findings from a study in which older, but not younger, participants increased walking over baseline to benefit a charity.
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- Samanez-Larkin, G. R. S., Gibbs, S. E. B., Khanna, K., Nielsen, L., Carstensen, L. L., Knutson, B. (2007). Anticipation of monetary gain but not loss in healthy older adults. *Nature Neuroscience*, *10*, 787-791. doi:10.1038/nn1894 Findings from a neuroimaging study in which older adults experienced less arousal than younger adults in anticipation of monetary losses but comparable levels of arousal in anticipation of gains.

**Figure Captions**

**Fig. 1.** A conceptual framework of socioemotional selectivity theory. The theory maintains that goal priorities shift with age and time horizons such that exploration-focused goals are prioritized earlier in life when time horizons are expansive and emotionally meaningful goals are prioritized later in life when time horizons are more limited.

**Fig. 2.** A pair of advertisements (identical except for the slogan) used in a study of age differences in preferences and memory for products. The slogan in the left panel promises an emotionally meaningful reward while the slogan on the right highlights gaining knowledge and experience.