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Cognitive Aging in a Social and Affective Context: Advances Over the Past 50 Years

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Abstract

Objective: This review contemplates the recent consideration of social and affective factors within the study of cognitive aging and examines the multiple ways in which these factors intersect.

Methods: The article briefly reviews the models applied to cognitive aging and considers how they can inform the understanding of socioaffective aging. It then discusses the ways in which socioaffective and cognitive abilities intersect.

Results: Models of cognitive aging can fruitfully be applied to socioaffective aging, although with some points of divergence. The interactions between cognitive and socioaffective aging are multifaceted and include bidirectional influences.

Discussion: Socioaffective domains may preserve function within cognitive domains in part because socioaffective processing provides a rich source of environmental support and links to motivated cognition. The authors outline future directions related to these hypotheses.

Keywords: Affect—Age—Cognition—Context—Emotion—Emotion regulation—Social interaction

It was relatively recently within the 50-year history of cognitive aging that social and affective abilities began to be considered as relevant factors. This transformation arose in parallel with developments within the study of cognitive aging and cognitive psychology more generally. Within cognitive aging, theories increasingly embraced the multifaceted and varied nature of age-related changes. Ideas of “successful aging” (Havighurst, 1961) began to incorporate concepts of social engagement as well as cognitive function (Rowe & Kahn, 1987), and research confirmed that social and affective factors such as life satisfaction (e.g., Waldinger, Cohen, Schulz, & Crowell, 2015) or loneliness (e.g., Wilson et al., 2006) could influence the speed of age-related cognitive decline. Within cognitive psychology, there was a shift away from thinking of emotion and cognition either as non-intersecting domains or as opponents and toward thinking about synergies and interrelance of the systems (e.g., Dolan, 2002; Gross & Barrett, 2011). In this context, it began to be appreciated that many aspects of social and affective functions remained relatively preserved with age (see Scheibe & Carstensen, 2010) and that these socioaffective domains could convey benefits to older adults’ cognitive function (see Kensinger & Gutchess, 2015).

In this review, we first discuss how the types of models typically applied to cognitive aging—models of resource limitation, compensation, and domain-specific deficits—can be used to understand socioaffective aging. We then review the myriad ways in which socioaffective function can be intertwined with cognitive function. For instance, social and affective information can provide a rich and pervasive form of environmental support and can serve to cue older adults to relevant aspects of the environment. We end the review by briefly discussing why we have considered social and affective factors together, and we note some of
the open questions that we believe will be fruitful for future research.

Applying Theories of Cognitive Aging to Social and Affective Domains

Although theories of cognitive aging are multifaceted (see Salthouse, 2010), the majority can be clustered into three categories: those that focus on the availability of resources (both within and across domains), those that focus on compensatory strategies, and those that focus on domain-specific areas of loss. In this section, we briefly review these three categories as they have been applied to cognitive aging and assess the extent to which they have been useful in the understanding of social and affective functions in older age.

Resource Models

The field of cognitive aging research has emphasized the importance of resource limitations in accounting for age-related differences in performance on cognitive tasks. Discussed resources have included processing efficiency (e.g., Salthouse, 1996), attention (e.g., Craik & Byrd, 1982), executive function (e.g., West, 1996), and inhibition (e.g., Hasher & Zacks, 1988). Research has also identified contextual factors that can influence the availability of cognitive resources, such as time of day (May & Hasher, 1998).

Resource models have also been important to the study of social and affective processes, with some theories proposing that socioaffective losses with age stem from declines in cognitive resources. Although socioemotional content can minimize some age deficits in cognitive abilities, such as attention or memory (e.g., Comblain, D’Argembeau, & Van der Linden, 2005), resource models could explain why the deficits are rarely eliminated. For instance, even for social and affective stimuli, older adults often remember fewer stimuli while also committing more memory errors than younger adults (e.g., Aizpurua, Garcia-Bajos, & Migueles, 2011). The utility of resource models can also be extended to abilities that tend to improve with age. As one example, older adults possess equal or better emotion regulation ability than younger adults, yet this affective ability can be predicted by levels of fluid cognition, such as processing speed and working memory (Opitz, Lee, Gross, & Urry, 2014). Furthermore, variability in socioaffective functioning among older adults has been linked to differences in the availability of resources. For example, older adults with fewer cognitive resources are more likely to stigmatize others and find it harder to regulate their responses to stigma (Krendl, Heatherton, & Kensinger, 2009).

Although there is some convergence in the emphasis on resources within cognitive and socioaffective domains, other aspects of the literatures diverge insofar as they suggest that social and affective processing may require fewer resources. For instance, memory for emotional and social information tends to be better preserved with age than memory for neutral and nonsocial information (e.g., Cassidy & Gutchess, 2012; May, Rahhal, Berry, & Leighton, 2005). Moreover, social and emotional information can capture attention even when other forms of information cannot. When information is emotionally arousing (Buchanan, Etzel, Adolphs, & Tranel, 2006) or when it is self-relevant (Yang, Truong, Fuss, & Bislimovic, 2012), memory enhancements can occur even when attention is divided. These patterns suggest that the encoding of arousing or self-relevant information may be prioritized, and the benefits may be expected to extend to older adults, despite resource limitations.

Compensation

Many models, derived primarily from cognitive neuroscience methods, illustrate that older adults recruit additional resources in an attempt to address the cognitive challenges that occur with age. For example, models such as hemispheric asymmetry reduction in older adults (HAROLD) (Cabeza, 2002) or compensation-related utilization of neural circuits hypothesis (CRUNCH) (Reuter-Lorenz & Cappell, 2008) purport that older adults need to recruit additional neural regions to support task performance, potentially at a lower level of task difficulty than would be the case for younger adults. The posterior–anterior shift with aging (PASA) model explicitly identifies patterns of age-related changes across specific regions, whereby increased frontal lobe activity occurs hand-in-hand with decreased occipital lobe activity (Davis, Dennis, Daselaar, Fleck, & Cabeza, 2008). The Scaffolding Theory of Aging and Cognition (STAC) further emphasizes the interplay between processes that can be recruited to bolster cognitive performance and limitations to the availability of resources as through disease, injury, or individual differences as a result of nature or nurture (e.g., education; Park & Reuter-Lorenz, 2009).

The literature on social and affective aging converges with cognitive research to a large extent. The PASA pattern extends to tasks using emotional stimuli (Ford, Morris, & Kensinger, 2014). The development of the scaffolds of the STAC model is likely to be affected by socially and affectively relevant processes (e.g., leisure activities, emotion regulation ability; Park & Reuter-Lorenz, 2009). Affective and social aging has additionally emphasized the potential for older adults to allocate resources in different ways, or to different content, than younger adults. For example, although both age groups may desire to reduce their experience of negative emotions, younger and older adults may use different strategies to achieve this regulation (Urry & Gross, 2010). Whereas younger adults might employ cognitive reappraisal to alter the meaning of a situation, older adults might rely more on situation selection to remove themselves from a situation or to look away from disturbing information (Isaacowitz, Wadlinger, Goren, & Wilson, 2006). Younger and older adults also seem to differ in the ways that they encode information relative to oneself,
with older adults being more influenced by also encoding information about another person (Gutchess et al., 2015). Similarly, older adults tend to apply resources to process emotional information—and particularly positive information—in a more controlled fashion than young adults (Mather, 2016), especially within the subset of older adults with the most resources available (e.g., Reed, Chan, & Mikels, 2014).

Such strategy differences across the age groups also are possible for cognitive tasks. For example, older adults avoid situations with high cognitive demands, such as preferring fewer choices in decision making tasks (e.g., Reed, Mikels, & Löckenhoff, 2013), and they are more likely than younger adults to be impacted by the meaningfulness of the task (e.g., Hess, 2005). This tendency appears to be more pervasive in the social and affective domains, however, and differences in neural recruitment during cognitive tasks are more likely to be considered to reflect discrepancies in task difficulty or load across the age groups.

**Domain-specific Versus Domain-general Processes**

Many theories of aging have focused on changes to prefrontal (West, 1996) and medial temporal lobe function (e.g., Grady et al., 1995). Yet the trajectory of age-related changes varies across different subregions (see Mather, 2016). The subregions that show the largest age-related atrophy and disruption of function—the dorsolateral prefrontal cortex (e.g., MacPherson, Phillips, & Della Sala, 2002) and hippocampus (e.g., Leal & Yassa, 2015)—are those that are tied to selective attention and memory binding, respectively, processes that undergo large age-related decline (Gazzaley & D’Esposito, 2007; Naveh-Benjamin, 2000). By contrast, the subregions that are least affected structurally or during active task performance by aging—the ventromedial prefrontal cortex (e.g., Salat et al., 2005; but see Li et al., 2015 for meta-analytic evidence that it is overrecruited at rest) and the amygdala (e.g., Grieve, Clark, Williams, Peduto, & Gordon, 2005)—are more strongly connected to socioaffective function and likely explain the age-related preservation of some aspects of affective decision making (e.g., Blanchard-Fields, 2007) and learning (see Kensinger, 2009).

Despite the general preservation of structure and function within ventromedial prefrontal cortex and amygdala with age, these regions may be engaged under different circumstances, or may be most strongly connected for different stimuli. For instance, although both young and older adults engage the medial prefrontal cortex during affective processing, the valence of information for which they engage the region most strongly may differ. During encoding, young adults tend to engage the region more strongly for negative content than positive content, whereas older adults tend to show the opposite valence-based pattern (e.g., Kensinger & Leclerc, 2009), a pattern that is likely to be connected to age differences in processing strategy and resource allocation, as noted in the earlier section. During retrieval, there may again be a valence reversal, though perhaps not in the same direction as encoding, and age-related changes in connectivity between the prefrontal cortex and medial temporal lobe may support less negative emotional memory retrieval with age (Ford et al., 2014).

**Summary**

Many of the models developed for cognitive aging can be applied to socioaffective aging. Diminished cognitive resources often explain older adults’ difficulties in socioaffective domains, including in the perception of facial expressions of emotions and the regulation of responses to stigma. Yet there are other domains in which socioaffective domains may require fewer resources or may rely more on cognitive and neural processes that are preserved with age, yielding pockets of preservation within socioaffective domains. Also as occurs in cognitive domains, older adults can compensate for some of their declines by engaging in different processes: Just as older adults recruit more prefrontal regions during cognitive task performance, so do they overrecruit frontal regions during some socioaffective tasks. However, in socioaffective domains, these age differences may be more likely to reflect different strategies for how resources are allocated in older as compared with younger adults. Overall, research illustrates many ways in which cognitive changes with age impinge upon social and affective abilities.

**How Socioaffective Function Can Be Intertwined With Cognitive Function**

Until recently, the ways in which socioaffective aging necessitates unique consideration of cognitive abilities have been little contemplated. One example of an ability that integrates the two is wisdom. Long associated with aging, wisdom not only represents the accumulation of knowledge and cognitive expertise but is also an emotional and social process (Baltes, 1993). Recent research identifies some of the ways in which older adults achieve gains in wisdom over younger and middle-aged adults, despite losses in fluid intelligence. Their reasoning about social dilemmas and conflicts reflects more awareness of multiple perspectives, compromise, and limitations of knowledge (Grossmann et al., 2010). Although wisdom is one example of the interconnection of cognitive and socioaffective abilities, here we outline other ways in which the two domains can influence one another and become inherently intertwined.

**How Might Socioaffective Factors Influence Cognitive Ability?**

We have already alluded to the fact that social and emotional factors have the ability to impact what is remembered from
a scene or narrative or the way that attention is oriented or sustained. These effects of emotional content remain robust into older age. For example, older adults often benefit from emotional framing of information (e.g., Mikels et al., 2010) and perform better on tasks that ask them to remember socioaffective context rather than factual content (see Kensinger, 2009). Older adults also are more likely to sustain attention on emotional relative to neutral information and to remember that information, particularly if it is of positive valence (see meta-analysis by Reed, Chan, & Mikels, 2014).

Although the emotional influences on cognition are often beneficial—that is, emotion enhances attention and memory—the nature of the effects can depend on the task requirements. For instance, emotional content can be distracting and can impede ongoing task performance (Iordan, Dolcos, & Dolcos, 2013). Similarly, emotional information can be remembered at the expense of nonemotional content in older as well as younger adults (Kensinger, 2009).

Social influences can also exert both beneficial and detrimental impacts on older adults' cognitive ability. Larger social networks tend to be associated with better cognitive function and to a lessened likelihood of developing dementia (e.g., Wilson et al., 2007). Even shorter-term social interactions can convey benefits to cognitive function. For example, studies of collaborative memory have revealed that discussing information with others can boost memory accuracy (Clark, Hori, Putnam, & Martin, 2000), even when the information consists of emotional content (Kensinger, Choi, Murray, & Rajaram, in press). Although there is relatively little research extending these findings to older adult populations, there is evidence that social interaction can mitigate some of the learning and memory deficits of older adults (Derksen et al., 2015) and that older adults show similar effects of collaborative memory as younger adults (Henkel & Rajaram, 2011).

There may be some contexts, however, in which social influences on cognition are mitigated with age. Perhaps because of perspective-taking difficulties, older adults can be less likely than young adults to provide the information needed to co-ordinate a shared representation with another individual (Healey & Grossman, 2016); this may make it harder for older adults to benefit when the same information is not available to all collaborators. Moreover, if social interactions remind older adults of common stereotypes related to aging (i.e., induce stereotype threat; Lamont, Swift, & Abrams, 2015), cognitive processes including memory can suffer. The mechanisms underlying this phenomenon continue to be investigated. It has been proposed that stereotype threat disrupts controlled processes implemented during retrieval such that older adults are more impaired at distinguishing true from false memories if they are reminded of memory decline with aging just before they retrieve information (e.g., Krendl, Ambady, & Kensinger, 2015). It also has been suggested that stereotype threat induces a prevention focus in older adults, whereby they seek to avoid negative outcomes (i.e., performing poorly) rather than to achieve positive outcomes (i.e., performing well; e.g., Barber, Mather, & Gatz, 2015).

How Might Cognitive Changes With Aging Influence Emotion or Social Processing?

Cognitive declines have been linked to processes as varied as emotional experiences and thinking about others. Emotional complexity is reduced with age, which is thought to reflect reduced cognitive capacity—particularly fluid intelligence—after late midlife (Labouvie-Vief, Diehl, Jain, & Zhang, 2007). Not all aspects of emotional complexity decline with age, however; the experience of mixed emotions, such as feeling happy with a tinge of sadness, increases slightly with age (Schneider & Stone, 2015), suggesting that emotional complexity is not entirely determined by the availability of cognitive resources with age. A number of studies have explored the contribution of cognition to theory of mind, the ability to represent the mental state of another individual which is generally impaired with age (Moran, 2013). Cognitive abilities such as executive function partially account for deficits on verbal story tasks, although some evidence indicates that crystallized intelligence, such as vocabulary, can protect against declines with age. Although some aspects of theory of mind are linked to cognitive declines, the affective component seems to be distinct and is more preserved with age (e.g., Phillips, MacLean, & Allen, 2002).

Cognitive ability also may affect the ways in which perceivers extract information from others' faces with age, although evidence is mixed. Older adults experience some difficulty recognizing basic emotions, with anger and sadness posing the most difficulty. Changes to specific neuropsychological systems with age, rather than greater deficits at higher levels of difficulty that might be predicted by resource models, have been suggested to account for this pattern of emotion recognition deficits with age (Ruffman, Henry, Livingstone, & Phillips, 2008). Some of these difficulties may reflect changes with age in the ways attention is allocated to different parts of the face, with older adults attending to the eyes less than young, although cognition does not entirely account for the changes with age (e.g., Murphy & Isaacowitz, 2010). Age-related changes extend
to additional social inferences about others. Although younger and older adults largely agree on which faces look trustworthy versus untrustworthy, older adults do not rate the most untrustworthy faces as negatively as do younger adults and this alteration in ratings is most pronounced for the older adults with lower levels of cognitive ability (Zebrowitz, Franklin, Hillman, & Boc, 2013). Although age-related changes in these abilities do not seem to boil down to simple changes in cognitive function, reductions in fluid abilities appear to make some contribution.

Impairments in making inferences about others’ emotions, thoughts, or character could have widespread effects on interpersonal interactions. Representing others’ minds, having complex emotional reactions, and correctly identifying others’ emotional states could enhance relationship building through empathy for others. Cues of threat or character could provide important information about who is deserving of trust in financial or occupational matters. Interestingly, the use of naturalistic, dynamic stimuli may benefit older adults. For example, older adults exhibit advantages over younger adults in differentiating smile types in dynamic faces (Murphy, Lehrfeld, & Isaacowitz, 2010), in contrast to static faces. These discrepancies highlight the importance of translating research from the laboratory to naturalistic settings, in order to assess how older adults benefit from relevant experiences and familiar contexts.

Social and Affective Processing Provide Contextual Support

Although the two prior sections have highlighted bidirectional interactions between socioaffective domains and cognitive domains, some advantageous and some disadvantageous, it is important to note one overarching reason why social and affective domains may convey benefits in aging: their potential to operate as forms of environmental support. Environmental support refers to the ability to draw on rich contextual information to improve performance by reducing cognitive resource demands (Craik & Byrd, 1982). Older adults can be influenced by context more than young adults, for abilities ranging from language to memory (e.g., Gutchess et al., 2007; Wingfield, Amichetti, & Lash, 2015) to social perception (e.g., Noh & Isaacowitz, 2013). Because socioemotional context is prioritized throughout old age (Scheibe & Carstensen, 2010), it is likely to continue to operate as a form of environmental support for cognition in older adults.

We have already described some of the evidence that socioemotional context can provide environmental support for memory, and such examples abound. For instance, framing information in terms of interpersonal and affective contexts can equate younger and older adults’ performance (e.g., May et al., 2005), emotional reactions can increase the perceived vividness and confidence in older adults’ memories (Comblain et al., 2005), and working collaboratively with a long-term intimate partner improves older adults’ memories in some contexts that would typically be associated with collaborative memory inhibition (Harris, Keil, Sutton, Barnier, & Mellwain, 2011). More generally, connecting with information in a socially or emotionally relevant manner can provide scaffolds to improve older adults’ memories, such as when information is made personally relevant, be it through imagining interacting with another individual (Cassidy & Gutchess, 2012) or remembering positive impressions of others who are similar to oneself (Leshikar, Park, & Gutchess, 2015).

Summary

Socioaffective function and cognitive function have bidirectional influences (as shown in Figure 1). Often, older adults’ cognitive performance is better within socioaffective domains compared with other domains, in part because of the environmental support provided by these domains. However, there can be instances when the presence of social or affective information or goals can impede older adults’ cognitive function, often by distracting them from the cognitive task. Moreover, individual differences in socioaffective ability can sometimes be explained by differences in cognitive ability, suggesting that some socioaffective abilities can rely on successful deployment of cognitive resources.

Conclusions and Emerging Themes

The study of social and affective aging largely converges with the cognitive aging literature in that there is a mixture of decline, preservation, and gains in abilities with age, although the socioemotional literature may reveal more patterns of preservation (e.g., forming first impressions) and even gains (e.g., emotion regulation, wisdom).
than occur in cognitive domains. What may be most promising for future advances is the appreciation of potential strategy differences (e.g., prioritizing positive information, adopting different emotion regulation strategies) with age. There can be multiple reasons for such strategy differences. Motivational shifts with aging may often drive the strategy differences (Box 1A), but age differences in strategy use could arise for many reasons—reflecting compensation, or differences in subjective effort (e.g., Westbrook, Kester, & Braver, 2013)—and determining the reason why strategy differences occur will be an important focus for future research. Better delineating the similarities and differences in how younger and older adults approach tasks may be particularly important for the study of neural correlates of behavior; in many cases, tasks have not been sufficiently constrained and so age differences could reflect either strategy differences or different routes of implementation for the same strategy.

Although cognitive theories have shaped thinking about social and affective processes, there is a dearth of research directly tackling the interface of these domains. The potential for social and affective information to improve cognitive performance has been demonstrated, however the role of resources, mechanisms for compensation, and domain generality versus specificity have not been sufficiently probed through the use of an individual differences approach or manipulation of available resources (Box 1B). There also has been relatively little attention paid to whether social and affective factors ought to be considered members of one, shared domain—with shared mechanisms that change with age—or distinguished into emotion-specific and social-specific domains that may show divergent trajectories with age or different intersections with cognitive aging (Box 1C).

Finally, the study of social and affective domains has highlighted the importance of context. Some cognitive work has considered this factor, but that research largely has focused on the framing of the information itself (e.g., memory for a word in the context of a sentence). Recent work has highlighted the role of the mindset of the individual observer, such as focusing on information or emotion (Mikels et al., 2010), and also the broader social context in which the individual operates (e.g., social network, cultural stereotypes of aging). Context may be so important, in part, because of older adults’ reliance on environmental support; social and affective domains may provide particularly rich environmental support because these are domains in which older adults have acquired expertise. Older adults have accumulated rich experiences dealing with others over their lifetimes, which could enhance task performance or engender wisdom (e.g., Grossmann et al., 2010). Indeed, older adults were overrepresented in the group deemed to be wisest in early research on wisdom (see review by Baltes, 1993). It is possible that this life experience could protect older adults in everyday contexts, and this has been suggested to be the case in the domain of fraud vulnerability. Whereas some laboratory research indicates that cognitive

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**Box 1. Future Directions**

**A. Social, affective, and cognitive aging: Intersections with motivated cognition**

Motivational shifts can influence the priority of socioaffective factors (e.g., avoiding negative affect, sustaining social connections) and cognitive factors (e.g., attending to details, remembering content).

- How do motivational shifts with age influence the bidirectional connections between socioaffective and cognitive domains?
- To what extent do motivational influences draw on reward systems typically implicated in motivated behavior?
- What can be learned by considering age changes in motivated cognition as changes at the intersection of socioaffective and cognitive domains?

**B. Using social and affective manipulations to probe cognitive abilities**

Prior research has given hints that socioemotional resources may affect how cognitive tasks are performed, such as when emotional information is held in working memory, yet we are far from a full understanding of these types of interactions.

- How do individual differences in socioemotional ability, or socioemotional resources, influence the way that cognitive processes unfold?

**C. The intersection of social and affective factors**

Social and affective factors are often intertwined: Emotions convey socially relevant information, and social interactions often trigger emotions. Moreover, both convey environmental support. However, there are some clear points of divergence between the two in their neural underpinnings and behavioral outcomes.

- When do social and affective factors interact with cognitive ones via overlapping rather than distinct mechanisms?
Future Directions

Future directions for research into social and affective aging are likely to follow the trends of the cognitive and cognitive neuroscience literatures to some extent, while simultaneously facing challenges unique to the socioemotional domain. As in the field of cognitive aging, growth in multimodal approaches will contribute to a rich understanding of the intersection of different levels of analysis, integrating functional and structural brain imaging methods with physiological measures such as stress reactivity and heart rate variability in order to understand how these factors together relate to socioemotional aging.

The increasing interest in uncovering biological mechanisms, including the contribution of genes and epigenetics, will extend to social and affective abilities, particularly through the lens of a lifespan approach. For example, the role of early life adversity in emotional and cognitive development has been a fertile area of investigation (Hackman, Farah, & Meaney, 2010), as has been the role of intelligence in childhood on cognitive outcomes with aging (Deary et al., 2012). The intersection of these areas should lead to investigations of ways in which factors such as temperament, loneliness, social networks, and resources during childhood impact social and emotional abilities in older adulthood. Although greater interaction between research on human and animal models will be needed to establish causal links between early life experiences and late life outcomes, methods such as pharmacology (e.g., manipulating dopamine levels) and neural stimulation (e.g., temporarily enhancing or disrupting the function of a specific neural region) are underutilized in the study of aging and can provide initial steps in advancing understanding of causality.

Intervention and training studies are another route to establish causality and illustrate routes to successful aging. The approach thus far has focused largely on physical and cognitive interventions (e.g., exercise, video games). Social factors are likely to interact with cognitive and physical ones, particularly in everyday contexts, and so it may be most meaningful to study these factors in conjunction (see Hertzog, Kramer, Wilson, & Lindenberger, 2008 for discussion). Few studies have focused on social and affective factors in isolation, largely employing longitudinal studies of behavior. These studies indicate some links between higher levels of social activity and engagement and reduced levels of cognitive decline with age (e.g., Bassuk, Glass, & Berkman, 1999). Lifestyle and personality factors that may impact affect, such as practicing yoga or meditation (Gard et al., 2014), can enhance neural connectivity, a measure of how coherently brain regions operate together as a network.

A recent study has illustrated the potential to improve connectivity of the default mode network through a training program employing tasks known to engage this network (De Marco et al., 2016). Given the overlap of this network with regions activated during social tasks, this finding may have broad implications for enhancing the functioning of this network, and potentially improving performance on socially relevant tasks.

Although much additional research is needed to understand the complex interplay between social and affective factors and cognitive ones, the past 50 years have represented an exciting period with the emerging acknowledgment of the importance of these factors. We anticipate that the next decades will continue to be a fertile time to investigate the questions we have outlined here, including the potential to identify unique trajectories of the effects of aging on social and affective abilities, as well as to uncover the potential for these domains to enhance and inhibit cognition in the face of aging.

References


