Article

Mental Time Travel as Self-Affirmation

Personality and Social Psychology Review
2024, Vol. 28(2) 181–208

DOI: 10.1177/10888683231203143
pspr.sagepub.com
Sage

Elena Stephan[1] and Constantine Sedikides[2]

Abstract

Academic Abstract

This article integrates and advances the scope of research on the role of mental time travel in bolstering the self. We propose that imagining the self in the future (prospection) or in the past (retrospection) highlights central and positive self-aspects. Thus, bringing to mind one's future or past broadens the perceived bases of self-integrity and offers a route to self-affirmation. In reviewing corresponding research programs on self-prospection and nostalgia, we illustrate that mental time travel serves to affirm the self in terms of self-esteem, coherence, and control. Mental time travel could be implemented as a source of self-affirmation for facilitating coping and behavior change in several domains such as relationships, health, education, and organizational contexts.

Public Abstract

People can mentally travel to their future or to their past. When people imagine what they will be like in the future, or what they were like in the past, they tend to think about themselves in terms of the important and positive attributes that they possess. Thinking about themselves in such an affirming way expands and consolidates their self-views. This broader image of themselves can increase self-esteem (the extent to which one likes who they are), coherence (the extent to which one perceives life as meaningful), and control (the extent to which one feels capable of initiating and pursuing goals or effecting desirable outcomes). Mental time travel, then, has favorable or affirming consequences for one's self-views. These consequences can be harnessed to modify one's behavior in such life domains as relationships, health, education, and work.

Keywords

mental time travel, self-affirmation, prospection, retrospection, self-prospection, nostalgia

Introduction

The ability to divert from the present and mentally travel in time is a defining feature of the human mind. Mental time travel (MTT) involves projecting oneself temporally backward or forward to relive an event from one's personal past or to pre-live a possible event in one's future (Rasmussen & Berntsen, 2013; Tulving, 2002). MTT is frequent. Approximately half of the daily time-related thoughts transcend the present and refer to the past or the future, and 23% of such thoughts are related to two or more temporal points (past, present, and future; Baumeister et al., 2020).

Past and future MTT are enabled by autonoetic consciousness (Tulving, 1985), the capacity to "both mentally represent and become aware of subjective experiences in the past, present and future" (Wheeler et al., 1997, p. 331). Past and future MTT largely rely on common mechanisms, such as storage and recall of self-relevant information, mental imagery, self-referential processing, and brain networks (Addis et al., 2009; Berntsen & Bohn, 2010; Hassabis et al., 2007; Viard et al., 2011). Furthermore, the MTT literature uses diverse terminology. For example, past MTT has been labeled episodic or autobiographical memory (Tulving, 1983) and retrospection (Van Boven et al., 2009), whereas future MTT has been branded cognitive simulation (Schacter & Addis, 2007b) and prospection (Gilbert & Wilson, 2007). We adopt the terms retrospection and prospection for self-related processes that involve emotional, sensory, and spatial reliving or pre-living (Berntsen & Bohn, 2010; D'Argembeau & Van der Linden, 2004).

MTT entails a sense of subjective time (Wheeler et al., 1997) and is inherently linked to the self (Prebble et al., 2013). It involves revisiting one's past self and envisioning one's future self (Conway, 2005; Hamilton & Cole, 2017). We define the self as "the totality of interrelated yet distinct psychological phenomena that either underlie, causally

[1]Bar-Ilan University, Ramat Gan, Israel
[2]University of Southampton, UK

Corresponding Author:
Elena Stephan, Department of Psychology, Bar-Ilan University, Ramat-Gan 5290002, Israel.
Email: elena.stephan@biu.ac.il

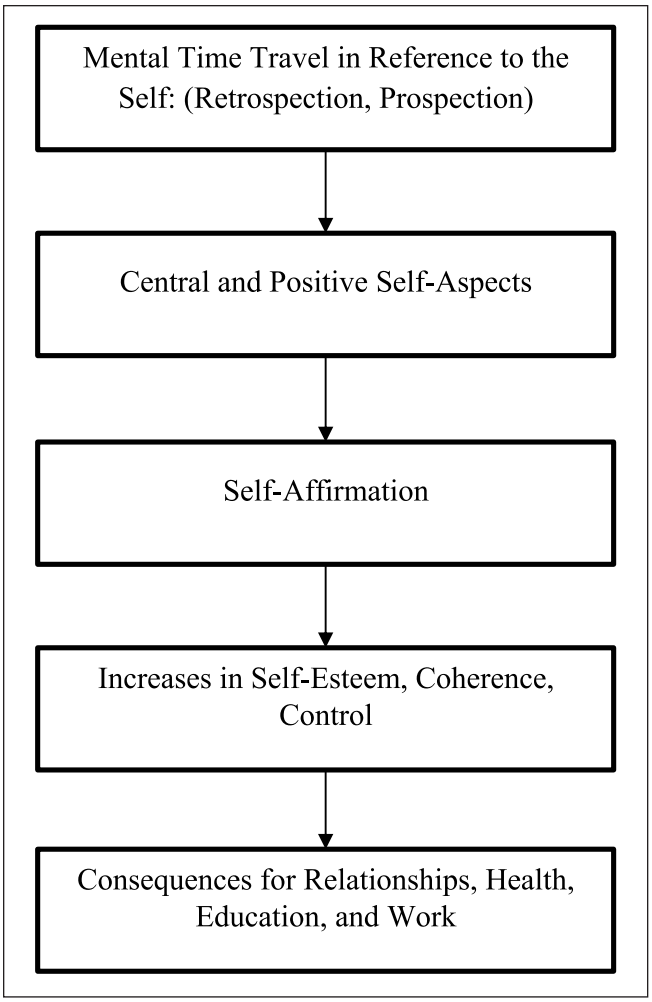

Figure 1. The MTT–as–Self-Affirmation Framework.
Note. Mental time travel into the future (prospection: self-prospection). Mental time travel into the past self (retrospection: nostalgia).

interact with, or depend upon reflexive consciousness" (Sedikides & Gregg, 2003, p. 110). The psychological phenomena that comprise the self can be at the individual level (i.e., traits, beliefs, values, goals, or behaviors that differentiate the person from others), relational level (i.e., attributes shared with dyadic attachments, roles in relationships), or collective level (i.e., attributes shared with members of valued groups, roles in groups) (Nehrlich et al., 2019; Sedikides et al., 2013).

Moreover, self-hood can be construed as comprising aspects that pertain to reflexive knowledge, interpersonal relationships, and the executive domain (Baumeister, 1998; Sedikides & Skowronski, 2000). Three MTT functions align with this subdivision (Bluck, 2003; Pillemer, 2003; Vranić et al., 2018). The first function—corresponding to the reflexive self—is self-definition. MTT enables connections among one's past, present, and future self through constructive cognitive operations (i.e., abstractions; Becker et al., 2018; Hong et al., 2021), clarifying the content of the self-concept, contributing to more enduring self-representations, and creating a sense of temporal stability (Klein, 2014; Sedikides et al., 2023); that is, MTT facilitates chronological integration of self-knowledge. The second function—corresponding to the interpersonal self—is sociability. MTT allows the initiation, development, and maintenance of social bonds through shared experiences or the prospect of shared experiences (Nelson, 1993; Sedikides & Wildschut, 2019; Wieselquist et al., 1999); that is, MTT facilitates interpersonal relationships. The third function—corresponding to the executive self—is directive. MTT guides planning, decision-making, and goal pursuit (Baumeister et al., 2016; Sedikides & Wildschut, 2020; Seligman et al., 2013); that is, MTT regulates behavior.

We are concerned in this article with MTT's relevance for the self, and in particular with its potential to bolster the self. To begin, we contend that imagining the self in the future (prospection) or the past (retrospection) commonly highlights central and positive aspects of the self. Thus, MTT influences both the structure and valence of the self-concept. Next, we advocate that representations of the future- and past-self are sources of self-positivity; that is, MTT acts as self-affirmation, fostering the integrity of the self. After addressing the conceptualization and measurement of self-affirmation, we consider the role of MTT. We propose, in particular, that MTT enhances three core facets of self-affirmation: self-esteem, coherence, and control. We support this proposal by reviewing research programs on self-prospection and nostalgia. We posit that, by serving as a source of self-affirmation, MTT confers psychological benefits at all levels of self—individual, interpersonal, and collective. After considering lingering issues, we conclude with empirical directions and practical implications.

Our theoretical account, the MTT–as–self-affirmation framework (depicted in Figure 1), is consistent with literatures on motivated reasoning (Epley & Gilovich, 2016; Kunda, 1990; Lodge & Taber, 2000; Sedikides, Green, et al., 2016) and on systematic biases in both prospection and retrospection (Newby-Clark & Ross, 2003; Rasmussen & Berntsen, 2013; Skowronski et al., 2014; Stephan, Sedikides, Heller, & Shidlovski, 2015). To a considerable extent, individuals imagine the future and reconstruct the past in a self-enhancing and self-protective manner. It is this motivational approach that largely guides our framework and literature review.

Constraints on Generality

We reviewed all relevant research. Most of the samples were collected in Western cultures. We considered issues surrounding culture and relevant evidence toward the end of this article. We detected no evidence that the processes we

discussed were moderated by culture, although the relevant literature was sparse. Also, we found no evidence that the processes we discussed were moderated by demographic factors, pointing to the generalizability of our theoretical framework.

Positionality Statement

We included all relevant literature, as informed by our theoretical framework. We have a track record of cross-cultural research and an international approach to scholarship, being informed by the diverse experiences and identities of students, collaborators, and study participants. We solicited criticism from two colleagues and incorporated their suggestions. Our cultural context is mostly Western. The cultural context of one commenting colleague is Western and that of the other East-Asian. We invite researchers from other cultural backgrounds to engage with our theoretical framework and identify ways in which it could be expanded or improved.

Citations Statement

We made a best effort to cite all scholars who published relevant research. These scholars originate in many parts of the world, including North America (Canada, USA), Europe (Croatia, Denmark, France, Germany, UK), Middle East (Israel), and East Asia (China and its special administrative region of Hong Kong, Japan, Korea). Also, these scholars represent different areas of psychology (social, personality, cognitive, neuroscientific, developmental, organizational, clinical, health) along with sociology. Finally, these scholars have used multiple and diverse methods, techniques, and data analytic procedures in their research.

Mental Time Travel, Self-Centrality, and Self-Positivity

We consider the role of MTT in the way people represent themselves, that is, the centrality (vs. peripherality) and positivity (vs. negativity) of self-conceptions.

Self-Construal

As mentioned above, people might categorize themselves as individuals, partners in a relationship, or members of a collective (Gaertner et al., 2012; Sedikides & Brewer, 2001). Regardless, the self-concept can be structurally differentiated in terms of the centrality versus peripherality of its attributes or self-construals. Central, compared to peripheral, self-construals are self-descriptive, important (i.e., imbued with motivation), certain (i.e., held confidently), and cognitively accessible (Markus, 1977; Sedikides, 1993; Sedikides & Green, 2000). Central self-construals, then, comprise the core of one's self-concept. Furthermore, central (relative to peripheral) self-construals are consequential, both psychologically and behaviorally (Crocker & Wolfe, 2001; Sedikides et al., 2021; Sedikides, Green, et al., 2016).

Self-centrality covaries with self-positivity. Central self-attributes are highly positive, whereas peripheral self-attributes are of average valence (J. D. Campbell et al., 1996; Sedikides, 1993, 1995). Moreover, people view their positive attributes as central, essential or accurate, and important (i.e., gist), whereas they view their negative attributes as secondary, non-essential, and accidental (i.e., noise; Stephan, Sedikides, Heller, & Shidlovski, 2015). Furthermore, perceiving the self favorably is associated with, and engenders, higher psychological well-being (Dufner et al., 2019), task persistence (Sedikides, Luke, & Hepper, 2016), and task performance (O'Mara & Gaertner, 2017). In what follows, we discuss how MTT contributes to gist self-construal.

The Role of Mental Time Travel in Self-Construal

MTT enables the construction and maintenance of narrative identity, namely, one's internalized, integrative, and evolving story of the self (McAdams, 2008). Autobiographical narratives often comprise self-defining memories, that is, representations of vivid and emotionally intense events in one's life that reflect recurrent life concerns and are key components of narrative identity (Singer & Salovey, 1993). The adequacy of autobiographical knowledge depends on its potential to support and promote the continuity and development of the self (Conway, 1996). Autobiographical narratives can refer not only to the reconstructed past but also to the imagined future (Neisser, 1988; Vranić et al., 2018); such narratives jointly form a stable identity, beginning in adolescence and progressing through the life course (Habermas & Bluck, 2000; McAdams, 1995). Assuming a full normative life course, the self forms a trajectory of development from the remembered past to the anticipated future (Langbaum, 1982), creating an internalized integrative narration (McAdams, 1996). The sense of connection between one's past, present, and future self constitutes self-continuity, a vital resource of the self that enables psychological homeostasis, defined as emotional equilibrium (Sedikides et al., 2023).

According to the life story model of identity (McAdams, 1995), people construe their lives as evolving stories that integrate the reconstructed past and the anticipated future, adding a sense of unity and purpose. Several principles that have emerged from the narrative study of life (McAdams, 2008) are relevant to the self-defining function of retrospection and prospection. First, to a substantial degree, the self-concept is storied: it is selective, containing personal meaning (Schacter, 1996), and includes an imagined future (e.g., hopes; McAdams, 2008). Second, stories, despite comprising a blend of complex and even contradictory self-aspects, integrate one's life concurrently and across time (Habermas

& Bluck, 2000; McAdams, 2001). Third, stories progress over time; the memories and imagery of key events in one's life, and the meaning attributed to them, change alongside transformations in motivations or roles (Conway & Pleydell-Pearce, 2000; Singer & Salovey, 1993). Finally, stories consist to a substantial extent of shared cultural knowledge (Rubin, 2005); similarly, prospection relies partly on culturally shared theories about the self and development (Heller et al., 2011) in that distal (vs. near) future-self representations are more prototypical.

The effects of temporal distancing on construal have been addressed extensively within Construal Level Theory (Liberman & Trope, 1998, 2014; Liberman et al., 2007). According to this theory, moving away from the actual experience (hypotheticality) of the self (social distance) here (spatial distance) and now (temporal distance) is associated with a more abstract mental construal of a stimulus. That is, distancing engenders more meaningful and schematic (i.e., higher-level) construal than does contextual and specific (i.e., low-level) construal. Furthermore, longer psychological distance from a future situation renders more likely that one's predictions rely on stable, schematic, and central (i.e., higher-level) constructs rather than on transient, situation-specific, and peripheral (i.e., lower-level) considerations (Liberman et al., 2007; Wakslak et al., 2012). For example, predictions and plans for the distant (vs. near) future are guided disproportionately by superordinate goals, values (Eyal et al., 2009; Fujita, 2008), or traits (Nussbaum et al., 2003; Wakslak et al., 2008).

Consistent with the self-enhancement and self-protection motives (Alicke & Sedikides, 2009; Dunning, 2014; Sedikides & Alicke, 2012), both prospection and retrospection contribute to the construction and maintenance of favorable self-views (Markus & Ruvolo, 1989; McAdams, 2008; Ross & Wilson, 2003). In *prospection*, distant (than near) future-self predictions are more positive and confidently held, as they rely on attributes central to defining the self, which is typically positive (Stephan, Sedikides, Heller, & Shidlovski, 2015). Similarly, participants attribute idealistic characteristics to their distant future self (i.e., a value-oriented self-representation that is thought to reflect one's true self), whereas they attribute pragmatic characteristics to their near self (i.e., a self-representation that is focused on available opportunities and constraints and is guided by the practicality of action; Kivetz & Tyler, 2007). In *retrospection*, nostalgic recollections of the past reflect features central to one's identity and are rose-colored (Hepper et al., 2012; Sedikides, Wildschut, et al., 2015). Moreover, subjective experience—associated with projecting oneself back into the past and forward into the future to re-experience or pre-experience an event—is influenced by the event's valence and its temporal distance from the present (D'Argembeau & Van der Linden, 2004; Ikeda & Kusumi, 2023). Specifically, for both past and future, representations of positive events are linked to a stronger sense of re-experiencing (or pre-experiencing) than representations of negative events. Furthermore, current self-enhancement motivation favors access to positive rather than negative self-relevant information (D'Argembeau & Van der Linden, 2004), therefore increasing the richness of representations for positive events both when remembering the past and imagining the future.

Taken together, we propose that in the typical population, during spontaneous or unconstrained MTT, a person brings to mind the gist of the self, which is central and positively toned. Next, we integrate the findings of several illustrative research programs to demonstrate how prospection and retrospection contribute to self-integrity maintenance.

Maintaining Self-Integrity

People value and strive for self-integrity—that is, to be good, understand themselves (i.e., have a clear or consistent self-concept), and be efficacious (Sedikides et al., 2015; Sherman & Cohen, 2006). The self as a storyteller typically exhibits self-integrity (Costabile et al., 2018), albeit within the constraints of reality (Gregg et al., 2011). We propose that MTT plays a vital role in sustaining and promoting self-integrity.

Self-integrity can be threatened in daily life by negative performance or social feedback, unfavorable health outcomes, relationship deterioration, or organizational change (Park et al., 2023; Sedikides, 2012). Threats often revolve around difficulties to meet social or cultural standards and reflect either perceived or real doubt, as well as diminishment or devaluation of the self (Leary et al., 2009; Williams, 2009). Self-threats trigger motivation to protect or reaffirm the self, and prompt cognitive and behavioral strivings that counteract the threat, thus re-establishing psychological equanimity (Sedikides, 2021; vanDellen et al., 2011).

Self-affirmation is commonly studied in the context of a psychological threat and refers to cognitions and behaviors that support self-integrity. The restoration, maintenance, or promotion of self-integrity presupposes the bolstering of a core self-aspect that is unrelated to the threatened domain (Steele, 1988). An example of such self-aspect is one's deeply-held values, expressed in writing before responding to the threat (McQueen & Klein, 2006). However, self-affirmation might serve to strengthen the psychological immune system in non-threatening situations, thus protecting against potential future threats (Sherman & Hartson, 2011). The tendency to construct desired identities can be viewed as part of the body's harm protection system, which encompasses ordinary homeostatic and immune processes (Sedikides, 2021). Hence, self-affirmation may be addressed within the ordinary stream of mental activity, as well as reparative responses to contemporaneous threats. The benefits of self-affirmation extend to two types of well-being. Specifically, a bolstered self-image is associated with sustained happiness and meaning (Nelson et al., 2014). Also by strengthening their self-image via a values-affirmation activity, people might be less susceptible to threats in their day-today lives, thereby insulating themselves against anticipated declines in well-being (Nelson et al., 2014).

On the individual level, self-affirmation improves coping by facilitating open-mindedness, intellectual humility, self-control, and flexibility in goal pursuit (Hanel et al., 2023; Sherman & Cohen, 2006). Moreover, self-affirmation offers interpersonal and intergroup benefits (e.g., reduction in defensive derogation of outgroups), and stimulates advantageous behavioral changes (e.g., careful consideration of counterattitudinal information; Sherman & Cohen, 2006). Furthermore, self-affirmation enables coping and behavior change in relationships, health, education, and organizations (Cohen & Sherman, 2014; Ferrer & Cohen, 2019; Harris & Epton, 2009). Therefore, theory and practice in these areas would benefit from advancements in two directions: (a) development of novel interventions that induce self-affirmation, and (b) understanding of the role of personality in self-affirmation. Addressing MTT promises to contribute to these directions and stimulate research.

Self-Affirmation and Mental Time Travel

We searched for illustrative parallels in the MTT and self-affirmation literatures. We reasoned that certain forms of prospection and retrospection (i.e., imagining the self in the distant future or recollecting a nostalgic event from one's past) entail self-affirmation. As such, MTT broadens the bases of self-integrity and might aid in coping with psychological threats.

We postulate that MTT and self-affirmation are interrelated. Future-self imagery and past recollections often engender self-affirmation, while self-affirmation requires an alternative outlook on the self-implicating future imagery or past recollections. Our proposed function of MTT advances theorizing on the nature of self-affirmative coping responses and provides practical insights into adaptive coping by suggesting interventional implications. On the level of personality, the tendency to travel mentally in time might be associated with spontaneous cognitions that highlight central and positive self-aspects. For example, an individual's propensity to bring to mind images of the past self—through chronic nostalgizing—might be linked to their tendency to self-affirm when facing a threat. On the situational level, contextually triggered MTT—through fleeting nostalgizing—might give rise to self-affirmation.

Our proposal for such interrelations between MTT and self-affirmation is consistent with earlier work (Critcher & Dunning, 2015), which indicates that self-affirmation expands the size of the working self-concept, narrowing the threat and realigning self-positivity with the broader self-concept. However, our notion of the future and past self as sources of self-positivity is distinct from adopting a distal or broader perspective on threat. Several research streams have addressed the outcomes of changes in perspective, showing some cognitive, emotional, and behavioral benefits of abstract representation, such as self-distancing (Kross & Ayduk, 2017), reappraisal in emotional regulation (Sheppes & Gross, 2013), and self-control (Fujita, 2008). In contrast to these research streams that focus on the way of looking at the threat, we advocate that thinking about the self in the future or in the past contributes to the maintenance and promotion of self-integrity by augmenting core elements of self-affirmation. The positive self in the present is bolstered by the incorporation of the past and future. Consequently, prospection and retrospection are useful for coping with diverse and multiple challenges in the present (Baumeister et al., 2018) above and beyond coping with a specific threat.

In this section, we review conceptualizations and measurement of self-affirmation. We demonstrate that only a handful of earlier approaches to self-affirmation refer, and only in passing, to MTT. We address core elements of self-affirmation, namely, self-esteem, coherence, and control (Wiesenfeld et al., 1999). Then, we discuss earlier and recent findings to show how MTT contributes to these core elements. Subsequently, we consider personality differences and speculate on the developmental and cultural underpinnings of these phenomena. Finally, we offer empirical directions and encourage interventional approaches.

Psychological Causes and Consequences of Self-Affirmation

People strive to advance a favorable view of themselves, that is, thinking of themselves as good, consistent, and self-efficacious, as per the self-enhancement motive (Alicke et al., 2020; Sedikides & Strube, 1997). They do so by implementing a variety of strategies (Sedikides, 2020; Sedikides & Gregg, 2008). These strategies are on the rise when individuals face a psychological threat to the self, defined as a perception of an environmental challenge to the adequacy of the self (K. W. Campbell & Sedikides, 1999; Cohen & Sherman, 2014), as per the self-protection motive (Alicke & Sedikides et al., 2009; Sedikides & Gregg, 2008).

Individuals preserve a favorable and integral self-concept directly or indirectly (Steele, 1988). The direct course involves defensive strategies that neutralize the threat, such as attributing a negative outcome to external circumstances rather than internal fault. The indirect course involves self-affirmative strategies that draw upon alternative sources of self-positivity and self-integrity, such as reflecting on deeply-held values that are irrelevant to the threat, thus enabling the individual to process and counter the threat. Although defensive strategies can be effective in sustaining self-positivity and self-integrity, they shield the individual from processing the psychological implications of threat and might hamper the promotion of behavioral change and reduction of social conflict (Sherman & Cohen, 2002). The literature has established that when facing a threat and given an opportunity to affirm the self, implementation of defensive strategies declines (Green et al., 2008; Sherman & Cohen, 2002; Sherman & Hartson, 2011). For example, self-affirmed

(vs. control) participants become more open to processing and receiving counterarguments rather than being entrenched in their own attitudinal position (Cohen et al., 2000; Correll et al., 2004; Sherman & Cohen, 2006).

Core Elements of Self-Affirmation: Self-Esteem, Coherence, and Control

Self-affirmation involves bringing to mind self-conceptions or self-relevant information that restore or bolster one's sense of "being competent, good, coherent, unitary, stable, capable of free choice, capable of controlling important outcomes" (Steele, 1988, p. 262). Corresponding broadly to these characteristics, the core facets of self-affirmation are self-esteem (self-positivity: evaluative component), coherence (making sense: cognitive component), and control (agency and goal pursuit: executive component). By rendering accessible these facets, self-affirmation serves to provide reassurance in the face of either an acute, actual psychological threat (Cohen & Sherman, 2014; Sherman & Cohen, 2006) or a mundane, anticipated one (Nelson et al., 2014).

Diverse theoretical approaches concur with the conceptualization of self-affirmation as underlain by self-esteem, coherence, and control. In general, motivational strivings in achieving "the good life" refer to what is good (encompassing desired outcomes), meaningful (establishing what is sensible), and controllable (managing what happens; Higgins, 2012a). More specifically, elaborating on one's past acts of kindness (a personal value) increases adolescent girls' body satisfaction and reduces perceived threat from having to consider their body weight and shape, with both effects being mediated by self-esteem (Armitage, 2012). Thinking about one's values is associated with shifts in cognitive processing toward broader, superordinate, and structured thinking (Wakslak & Trope, 2009). Also, reflecting abstractly on core aspects of the self (as in self-affirmation) facilitates self-control when one's resources are depleted (Schmeichel & Vohs, 2009), and self-affirmation might improve self-control by promoting abstract construal (Fujita, 2008; Schmeichel & Vohs, 2009). A close look at participants' self-affirmation narratives supports these basic themes (Cohen & Sherman, 2014): Participants list activities such as spending time with friends, nurturing their children, and volunteering—activities that are desirable, meaningful, and controllable.

Breadth of Perspective on the Self and One's Life in Self-Affirmation

Another side of self-affirmation revolves around the idea of perceiving threats in the wider context of the self and one's life course. Self-affirmation allows a psychological time-out, a moment to pull back and regain perspective on what matters (Lyubomirsky & Della Porta, 2010). Indeed, when self-affirming, "People are concerned with the big picture: they regulate their defensive adaptations to maintain very general conceptions of self-integrity rather than to remedy specific threats" (Steele, 1988, p. 289). Thus, self-affirmation reminds people about psychological resources unrelated to a particular threat and broadens their perspective beyond it. Consequently, people perceive ordinary stressors of daily life in the context of a big picture, and so the ensuing threat is rendered less impactful on their well-being. In addition, self-affirmation expands the self by highlighting connections to others, that is, to close persons (Crocker et al., 2008; Kumashiro & Sedikides, 2005). Similarly, self-affirmation serves to de-emphasize the implications of a threat by placing it in a broader context. In particular, self-affirmation blunts the impact of the threat. It broadens the content of the working self-concept by reminding people of additional and highly valued aspects of the self, thus narrowing the range of a threat (Critcher & Dunning, 2015).

Gaining perspective on what matters also implies distinguishing between gist and secondary self-aspects. Gist self-aspects are characterized by abstract construal and involve superordinate identities, traits, values, ideology, and general attitudes (Wakslak et al., 2008). As we mentioned, individuals consider their positive attributes as self-defining (i.e., gist), whereas they consider their negative attributes as accidental (i.e., noise; Stephan, Sedikides, Heller, & Shidlovski, 2015). Therefore, reflection on gist self-aspects is likely to be self-affirming.

Past-Self and Future-Self as Sources of Self-Integrity

In discussing gist self-aspects, we conceptualize the self as an entity that typically relies on the past, present, and future (Northoff et al., 2006; Sedikides et al., 2023). People often construct their positive identity not only in the present moment but also by looking back to their past and forward to their future (Alicke et al., 2013; Elder et al., 2023; Peetz & Wilson, 2008). Advancing earlier views on self-affirmation, we propose that both past and future are sources of self-integrity. Given that self-affirmation involves bringing to mind any self-conception or image that restores or bolsters one's sense of being good, consistent, and efficacious (Steele, 1988), MTT might constitute a route to self-affirmation. That is, mental travel into the future (e.g., engaging in prospective self-imagery) and the past (e.g., nostalgizing) might affirm the self, while attempts to affirm the self routinely or in the face of threat might trigger MTT. Self-affirmation and MTT, then, are related and might have overlapping consequences. We review research programs on self-prospection and nostalgia to showcase how self-affirmation and MTT are entwined.

Operationalization of Self-Affirmation: Manipulation and Measurement

Classic self-affirmation manipulations require participants to reflect on their values. MTT is not part of these manipulations. However, self-affirmation has sometimes been measured with items that refer to individuals' past or future. For example, the

Self-Affirmation Subscale of the Self-Enhancement and Self-Protection Strategies Scale (Hepper et al., 2010) addresses—in addition to reflections on values, relationships, strengths, and downward counterfactual thinking—inter-temporal comparison (e.g., "In time of stress . . .": "I am thinking how I have grown and improved over time," "I remember hardship that I had to overcome in order to be successful").

Self-Affirmative Mental Time Travel: Findings on Self-Prospection and Nostalgia

The literature indicates that MTT is conducive to self-integrity, as it influences core elements of self-affirmation. We restrict our discussion to the most relevant parts of this literature while acknowledging the breath and complexity of prospection and retrospection processes. Specifically, we focus on images of the future and recollections of the past that meet two criteria. First, these images and recollections are self-defining, that is, pivotal and reflecting of one's life trajectory. Second, they are underlain by the same motives, that is, viewing the self in a favorable light (i.e., self-enhancement; Gregg & Sedikides, 2018; Sedikides, 2020). Consequently, we relied on the self-prospection and nostalgia literatures.

Imagery of the future-self (e.g., a motivated reliance on one's self-defining features in prediction; Stephan, Sedikides, Heller, & Shidlovski, 2015) may clarify various aspects of prospection, such as goals (Moskowitz, 2012), fantasies and expectations (Oettingen & Mayer, 2002), and future self-continuity (Hershfield, 2011). Similarly, nostalgic recollections (Stephan et al., 2012), which are often self-enhancing (Luo et al., 2016; Wildschut et al., 2006), may offer insights into other aspects of mental travel to the past, such as constructing personal histories (Ross, 1989) and bringing to mind meaningful events (McAdams, 2008), and hindsight tactics (Tykocinski, 2001). We argue that MTT can contribute to self-integrity by strengthening the core elements of self-affirmation: self-esteem, coherence, and control.

Mental Travel Into the Future and Its Role in Self-Affirmation: The Case of Self-Prospection

A self-representation that is called to mind at a given moment acts as a self-guide that regulates behavior (Higgins, 1996). Research inspired by Construal Level Theory (Liberman & Trope, 2014; Trope et al., 2021; Wakslak et al., 2012) has compared representations of the near and distant future-self, illustrating that distancing induces abstract representations that rely on gist self-attributes (e.g., traits, values, superordinate identities), whereas proximity is associated with concrete self-representations that entail situational aspects. However, people represent their distant (compared to proximal) selves not only more abstractly but also more positively. Put otherwise, people are more likely to enhance their distal (than proximal) selves (Dunning, 2014; Gregg et al., 2011; Sedikides & Alicke, 2012).

Relevant research on self-prospection integrated insights from the Construal Level Theory and self-enhancement literatures, showing that mental travel into the distant (than near) future results in representing the self as increasingly good, consistent, and efficacious (Heller et al., 2011; Stephan et al., 2017; Stephan, Sedikides, Heller, & Shidlovski, 2015). In these self-prospection experiments, the authors instructed participants to imagine and briefly describe themselves either in the near future (e.g., 1 month from the present day) or in the distant future (e.g., 3 years from the present day). For example, participants read (Stephan, Sedikides, Heller, & Shidlovski, 2015, p. 154): "We are interested in how you think about yourself in the future. Now please take a couple of minutes to imagine yourself 1 month/3 years from today. Please provide a description of your imagined self below." Measurement of psychological consequences of MTT—pertaining to the three facets of self-affirmation—followed.

Self-Esteem

In a study by Heller et al. (2011, Study 2), participants imagined themselves either 1 year or 3 years from the present. Subsequently, they rated how accurately the Big Five traits would describe them, using a 45-item adjective-based measure (nine adjectives per factor) that was drawn from a large list of factor markers (Goldberg, 1992; Heller et al., 2007). In addition, participants predicted their self-esteem level either 1 or 3 years from the present, using Rosenberg's (1965) 10-item Self-Esteem Scale. Representations of the distal (compared to near) future-self involved higher levels of desirable Big Five traits (e.g., agreeableness, conscientiousness, openness) and self-esteem, and lower levels of an undesirable trait (i.e., neuroticism). Other studies by Heller et al. (2011) that addressed prediction of affect and self-related outcomes in the distant versus near future also illustrated that distancing enhances the positivity of self-views. Specifically, in Study 1, participants reported higher levels of positive affect and lower levels of negative affect in the distant, relative to the near, future. In Study 3, participants wrote freely generated narratives portraying their future selves. Relying on this more ecologically valid approach, subjected to both self-codings and rater-codings, the same pattern emerged: distant (compared to near) future selves were rated as more positive, and included more positive (and less negative) personal attributes and outcomes. Furthermore, variability in ratings of predicted affect, traits, and positivity of self-narratives was larger in the near (vs. distant) future, suggesting that distant future predictions are more prototypical and guided by culturally shared positive self-development theories (McAdams, 1996).

In a follow-up investigation, Stephan, Sedikides, Heller, and Shidlovski (2015) examined the effect of temporal distance on the better-than-average effect, "the tendency for people to perceive their abilities, attributes, and personality traits as superior compared with their average peer" (Zell et al., 2020, p. 18). Participants imagined themselves either

1 year or 3 years from the present and completed a measure of the better-than-average effect, the How I See Myself Questionnaire (Taylor & Gollwitzer, 1995). Specifically, they rated themselves on 23 positive attributes such as creativity or social self-confidence, and on 19 negative attributes such as selfishness or laziness, in comparison to their average peer of the same age and gender. Distant (than near) prospection reflected a stronger better-than-average effect, that is, higher ratings on positive attributes and lower ratings on negative attributes in comparison to peers. In summary, these findings demonstrate that people view the distal (vs. near) future self in a positive light.

Coherence

According to Construal Level Theory (Liberman & Trope, 2014), psychological distance (e.g., in time) is linked with higher-level construal of an object (e.g., the self). High-level self-construals are associated with a structured self-representation that emphasizes the self's gist (i.e., central self-attributes), whereas low-level construals are associated with a more contextualized and relatively inconsistent self-representation (Wakslak et al., 2008). Temporal distancing (e.g., imagining the self or others in the near vs. distant future) enhances reliance on individuals' gist characteristics (Wakslak et al., 2008, 2012), values (Eyal et al., 2009), and ideologies (Ledgerwood et al., 2010) in representation and judgment. For example, distant (compared to near) future self-representations incorporate broader and more superordinate identities, while entailing less complexity, more cross-situational consistency, and a greater degree of schematicity (Wakslak et al., 2008). Relatedly, distancing enhances confidence in predictions based on higher-level features (e.g., theories, self-beliefs, dispositions) compared to predictions based on lower-level aspects (e.g., irregular outcomes, specific situational, task characteristics; Liberman et al., 2007; Nussbaum et al., 2006).

In other work (Stephan, Sedikides, Heller, & Shidlovski, 2015), participants imagined and described themselves and their lives either 1 month or 3 years from the present. Participants rated self-descriptions for confidence (e.g., unlikely vs. likely to happen) and positivity. To capture beliefs about the gist of the self, participants rated the extent to which their future self-description reflected who they are. When imagining the future self, participants manifested increased confidence (and positivity) in distant (than near) self-predictions and believed that the distant self reflected who they were. Consistent with earlier findings within Construal Level Theory (Liberman et al., 2007), these results support the idea that self-prospection aids in highlighting the gist (positive) features of one's identity and promotes coherence.

Control

Conscious experience provides the sense that one's actions and accompanying outcomes originate in their will and are under their control (Nahmias et al., 2005; Pronin & Kugler, 2010). The will can be broadly characterized as a faculty that allows a person to commit to their goals and persist in the face of barriers. The literature documents several asymmetries. For example, people perceive their own futures, compared to that of their peers, as more driven by intentions and desires (Pronin & Kugler, 2010), and believe that will is a more potent determinant of future events than past occurrences (Helzer & Gilovich, 2012).

Pertinent work by Stephan et al. (2017) addressed inferences about the causal role of individuals' will in the process of prospection. Participants imagined self-relevant events (e.g., applying for a new job) taking place either 1 month or 3 years from the present. Afterward, they rated the extent to which each of the five factors (i.e., will and determination, effort, personal characteristics, situation, and luck) would impact their outcome in each event. We provide an example of experimental instructions (p. 116):

> Imagine you are applying for a job. Please rate the impact of the factors below on the outcome (getting/not getting the job). Your will and determination, the effort you exert during the application process, your socioeconomic status and family background, the strength of the applicant pool, purely chance factors and luck. The impact of each factor should be rated independently.

Drawing from Construal Level Theory (Liberman et al., 2007), Stephan et al. hypothesized that participants' predictions about temporally distant events rely more on high-level aspects (e.g., superordinate goals) than low-level aspects (e.g., contextual factors), and thus will result in stronger causal attributions to will compared to predictions about near events. Indeed, an increase in temporal distance enhanced beliefs in the causal impact of will in shaping outcomes of the self. Of course, prospective attributions to will are multiply determined. Psychological distance and high-level construals are associated with key elements of what lay people understand as personal will (Baumeister, 2008): invoking abstract rules and principles to guide action, authenticity, and capacity to resist urges (self-control). In conclusion, although the distant future is associated with will and determination, thinking about the near future is more deterministic.

Relevant to control is the experience of energization (Luke et al., 2012; Stephan et al., 2018). Energy facilitates the pursuit and achievement of desired goals (Brehm & Self, 1989; Kappes & Oettingen, 2011). Energization provides the resources needed to transform visions of a desired future-self into actual achievement and helps people to strengthen goal commitment in the face of obstacles (Oettingen et al., 2009). Stephan et al. (2018) were concerned with the general state of energy that follows self-prospection. They hypothesized that energization is jointly determined by time distance from the imagined future-self and consideration of future consequences of one's actions. First, participants completed the 12-item Consideration of Future Consequences scale (Strathman et al., 1994). Sample items are: "I consider how

things might be in the future and try to influence those things in my day-to-day behavior" and "I often engage in particular behavior in order to achieve outcomes that may not result for many years." The manipulation of time distance from the imagined future-self followed. Participants imagined and described themselves in either the near future (1 month from now) or the distant future (3 years from now). Finally, the researchers assessed energy by asking participants to rate the extent to which they were currently alert, attentive, and active (Pronin & Wegner, 2006). When imagining the distant (but not near) future-self, participants who were particularly inclined to consider future consequences of their actions reported higher levels of energy. These participants were likely able to construe a stronger link between their desired future selves and their present selves, and this link contributed to energization.

Implications

Time travel into the future highlights one's superordinate goals and values, that is, what is desirable and meaningful in life. This kind of time travel also highlights one's capability to reach these goals, namely, control. As such, MTT into the future reflects core elements of self-affirmation. Taken together, the above-reviewed work on self-prospection demonstrates that imagining the self in the more distant future engenders an increasingly favorable outlook in regard to self-esteem, coherence, and control. More distal travel in time might offer greater self-affirmation benefits, allowing a person to transcend mentally the self here and now.

Less positively biased proximal prospection serves a pragmatic directive function such as decisions based on feasibility (Liberman & Trope, 1998) or instrumental concerns (Kivetz & Tyler, 2007). However, positive distal prospection might also serve a self-defining function that allows more adaptive coping with pending diverse psychological threats by representing the self as good, consistent, and efficacious. Such prospection contributes to the maintenance of self-integrity and facilitates psychological homeostasis (Sedikides, 2021). Moreover, distal prospection might direct one's strivings to what is valuable (e.g., personal goals), meaningful (e.g., values and priorities), and controllable (e.g., achievable) in life (Higgins, 2012). Effective self-regulation implicates choices based on long-term goals, values, and meanings (Trope et al., 2021) as well as consideration of a broad range of alternatives (Baumeister et al., 2018).

The capacity to generate a positive future might be essential for psychological health and adaptive coping. For example, effective prospection is related to higher subjective well-being (i.e., increased positive affect, decreased negative affect; Blouin-Hudon & Pychyl, 2015) and satisfaction with life (Reiff et al., 2020; Sokol & Serper, 2019; Szabó, 2022), whereas faulty prospection—deficient generation of possible futures, poor evaluation of possible futures, and pessimistic beliefs about these futures—might be a causal factor in depression (Roepke & Seligman, 2015). Faulty prospection might damage self-integrity and thus compromise adaptive functioning. We speculate that self-affirmation induced by prospection resources the individual to carry on, particularly when facing a threat. Next, we address parallels between the prospection and retrospection literature.

Mental Travel Into the Past and Its Role in Self-Affirmation: The Case of Nostalgia

Nostalgia is defined as "a sentimental longing or wistful affection for the past" (The New Oxford Dictionary of English, 1998, p. 1266). This definition aligns with lay conceptions of the construct by people across 18 cultures (Hepper et al., 2012, 2014), who refer to nostalgia as encompassing fond, rose-colored, and self-defining memories of their childhood or relationships, but also as often involving a wish for a momentary return to the past. Nostalgia is not experienced by merely recalling details of an important life event. It also entails MTT to the event and re-experiencing it as if one were there (Evans et al., 2021; for more on the distinction between remembered and experienced self, see Kahneman, 2011). This property of nostalgia is consistent with autonoetic consciousness, an imagery-based mental process associated with episodic memory (Wheeler et al., 1997) and autobiographical recall (Conway & Pleydell-Pearce, 2000).

In nostalgizing (as in self-prospection), individuals represent their distant (vs. proximal) selves more abstractly and positively (Havlena & Holak, 1991; Ikeda & Kusumi, 2023; Stephan et al., 2012). As such, they are more likely to enhance their distal (vs. proximal) selves (Batcho, 1998, 2013; Luo et al., 2016). The sociologist Fred Davis (1977, p. 420) had this to say about the utility of nostalgia:

> It (nostalgia) reassures us of past happiness and accomplishment; and, since these still remain on deposit, as it were, in the bank of our memory, it simultaneously bestows upon us a certain worth, irrespective of how present circumstances might seem to question or obscure this.

Davis's view depicts nostalgia as a resource that maximizes well-being. Nostalgia, then, is likely relevant to self-affirmation.

Nostalgia is often manipulated with the Event Reflection Task (Sedikides, Wildschut, et al., 2015; Wildschut et al., 2006). Participants are randomly assigned to the experimental or control condition. In the experimental condition, they are usually provided with the above-noted Oxford Dictionary definition of nostalgia, and then list five keywords that purport to capture the relevant event. Subsequently, participants recollect a nostalgic event from their lives and write a brief description of it. In the control condition, participants recollect an ordinary (e.g., regular or everyday) event from their lives, list five pertinent keywords, and write a brief narrative about the event.

Sometimes the control condition involves a positive past event. Following a manipulation check, participants complete the measures of interest.

When individuals bring to mind nostalgic (vs. ordinary autobiographical) episodes, they experience a rise in self-esteem, coherence, and control. This form of mental travel, then, strengthens the key facets of self-affirmation.

Self-Esteem

When nostalgizing, people typically recollect personally important and positive events from their past. Such recollections boost their self-esteem. Indeed, experimentally manipulated nostalgia elevates self-esteem captured in a variety of measures (Baldwin & Landau, 2014; Cheung et al., 2013; Hepper et al., 2012; Stephan, Sedikides, Wildschut, et al., 2015; Wildschut et al., 2006). For example, in some studies (Cheung et al., 2013; Wildschut et al., 2006), the measure that followed the experimental induction of nostalgia is the Rosenberg Self-Esteem scale (Rosenberg, 1965). In other studies, experimental inductions of nostalgia are accompanied by items such as "Feel good about myself," "I like myself better," "I like myself more," and "I have many positive qualities" (Cheung et al., 2016; Hepper et al., 2012; Stephan, Sedikides, Wildschut, et al., 2015). In all studies, self-esteem has been higher in the nostalgia than the ordinary (i.e., control) condition (for meta-analytic evidence, see (Frankenbach et al., 2021; Ismail et al., 2020).

Coherence

We consider coherence a cognitive component of self-affirmation that refers to making sense of one's experiences. Nostalgia is relevant to coherence and affects coherence. We provide pertinent empirical evidence from an analysis of the abstractness of nostalgic (vs. ordinary) narratives and from experiments pertaining to the impact of nostalgia on meaning in life.

Abstraction involves moving to a more schematic, simple, and coherent representation (Liberman et al., 2007). Stephan et al. (2012) coded participants' narratives on the basis of the Linguistic Category Model (Coenen et al., 2006). In particular, judges classified linguistic terms alongside categories of increasing abstractness: from descriptive action verbs and interpretive action verbs to state verbs and (finally) adjectives. Stephan et al. found that recollections of nostalgic (vs. ordinary) events included a higher number of abstract (i.e., state) verbs and a higher number of adjectives. Greater abstraction in nostalgic narratives implies a more coherent or meaningful representation. In addition, Stephan et al. were interested in the level of abstraction of the cognitive processes manifested in narratives. They used the Linguistic Inquiry and Word Count software program (LIWC; Pennebaker et al., 2007), which computes the percentage of words in each narrative that matches the words in each linguistic category. LIWC's Cognitive Processes category comprises words related to causation and insight. Participants relied on the Cognitive Processes category more in their nostalgic than ordinary narratives. Causation and insight signify not only coherence but also meaning-making (Heine et al., 2006; Oliva, 2021).

Coherence is linked to meaning. For example, meaning in life is conceptualized as a tri-partite construct (King et al., 2016; Martela & Steger, 2016). It entails perceptions that one's life is coherent, significant, and purposeful. As such, coherence is defined as "the feeling that one's experiences or life itself makes sense" (Heintzelman & King, 2014, p. 154). Relatedly, Antonovsky (1987) conceptualized coherence as based, in part, on meaningfulness.

The nostalgic literature has mainly focused on meaningfulness. Nostalgic memories refer to cherished life experiences and bolster meaning in life (Sedikides & Wildschut, 2018). Nostalgic episodes reflect momentous occasions from one's life, where the self is routinely surrounded by close others (e.g., family, friends, and romantic partners). Such events often revolve around important cultural rituals or family traditions of symbolic value (Sedikides, Wildschut, et al., 2015). The association between momentous life events and social themes in nostalgic narratives is consistent with research on meaning, which indicates that family, friends, and relationship partners are primary sources of personal meaning in life (Hicks et al., 2010; Lambert et al., 2010).

Routledge et al. (2011) examined the effect of nostalgia on meaning in life. They induced nostalgia by presenting participants with lyrics to songs that participants had previously identified as being nostalgic (compared to control lyrics). Then, the researchers assessed meaning in life with the five-item Presence of Meaning Subscale of the Meaning in Life Questionnaire (Steger et al., 2006; e.g., "My life has a clear sense of purpose"). Nostalgia elevates meaning in life. This finding has been replicated with a variety of nostalgia inductions (Sedikides & Wildschut, 2018).

Moreover, nostalgia influences variables associated with coherence. For example, interpersonal relationships (Baumeister, 2010) and self-continuity (i.e., temporally connecting aspects of the self; Hershfield, 2011) contribute to the coherence of the self-concept. Nostalgia augments social connectedness (Frankenbach et al., 2021; Sedikides & Wildschut, 2019) and self-continuity (Hong et al., 2021, 2022). In summary, the content of nostalgia converges toward coherence and is imbued with meaning, while nostalgic recollection increases meaning.

Control

The nostalgia literature has addressed several outcomes relevant to a sense of control or efficacy. Nostalgia aids in regulating and shielding one's goals. In particular, nostalgia strengthens motivation to pursue one's goals (Stephan, Sedikides, Wildschut, et al., 2015) and prioritizes the pursuit of important over less important goals (Sedikides et al., 2018). Although not yet tested, nostalgizing might

shift priorities in goal pursuit by bringing to mind close relationships that are linked to various goals (as per Fitzsimons & Shah, 2008).

Also, nostalgia contributes to social self-efficacy. Wildschut and colleagues (2006) found that nostalgia, relative to a control condition, increased perceptions of social competence. In addition, Abeyta et al. (2015) hypothesized that nostalgia would increase one's confidence in their social abilities, which would in turn inspire them to pursue social goals. These researchers induced nostalgia by asking participants to listen to a nostalgic (vs. non-nostalgic) song. Then, participants completed a six-item measure of social-efficacy (based on Bandura, 2006). Specifically, after reading the stem, "Rate your confidence in your ability to . . . ," they responded to items like "establish successful social relationships," "resolve conflicts in relationships," and "approach people I don't know and strike up a conversation." Next, participants listed a social goal that they would like to achieve and responded to three items assessing their motivation to pursue the listed goal (e.g., "How much effort will you dedicate to attaining this goal?"). Participants in the nostalgia (vs. control) condition reported feeling more confident in their social abilities. Nostalgia increased social-efficacy, and social-efficacy in turn predicted social goal strivings.

Finally, nostalgia confers energization that is relevant to both goal-striving and efficacy. In particular, nostalgia intensifies subjective vitality, a feeling of energy and aliveness (Ryan & Deci, 2001). Sedikides, Wildschut, et al. (2016) induced nostalgia with the Event Reflection Task and then asked participants to complete the seven-item Subjective Vitality Scale (SVS; Ryan & Frederick, 1997). Sample items are: "I feel alive and vital" and "I have energy and spirit." Nostalgic (vs. control) participants reported higher subjective vitality. In a related line of research, nostalgia elevated participants' perceived youthfulness, which in turn predicted higher health-related optimism, subjective health, and physical abilities (Abeyta & Routledge, 2016).

Implications

Both self-prospection and nostalgia strengthen key facets of self-affirmation. Although we focused in our review on self-esteem, coherence, and control, MTT affects a broad array of self-related cognitive, emotional, and motivational outcomes. For example, nostalgia promotes a growth orientation (i.e., intrinsic self-expression or growth-oriented self-perception; Ai et al., 2022; Baldwin et al., 2015; Baldwin & Landau, 2014), inspiration (Evans et al., 2021; Stephan, Sedikides, Wildschut, et al., 2015), and creativity (Van Tilburg et al., 2015; Ye et al., 2013). We reason that beyond fortifying psychological resources, MTT might serve as a buffer in coping with psychological threats. This possibility aligns with earlier findings, which suggest that nostalgia functions similarly to self-affirmation in mitigating defensive responses to negative feedback (Vess et al., 2012; Wildschut & Sedikides, 2023a). Future investigations, especially on prospection, may look to advance understanding of the effects of MTT on activation of psychological resources and its buffering effect when coping with threats.

Lingering Issues in Mental Time Travel

Distinguishing the MTT–as–Self-Affirmation Framework from Temporal Appraisal Theory

Like our theoretical framework, temporal self-appraisal theory (Ross & Wilson, 2002; Wilson & Ross, 2001) is concerned with the relation between thinking about one's past and maintaining self-esteem. In particular, the theory posits that individuals sustain self-esteem, in part, by denigrating their distant past selves while extolling their recent past selves.

Our framework, though, differs from temporal appraisal theory. First, we emphasize not only MTT into the past, but also MTT into the future. Second, we highlight not only self-esteem but also coherence and control. Third, and most important, the remit of our process-oriented framework is broader than that of temporal appraisal theory. We address the representations of past or future selves that individuals bring to mind situationally or habitually. We advocate that individuals zoom into the gist of the self, which is positively toned in the typical population. Self-affirmed, individuals subsequently manifest increases in self-esteem, coherence, and control, with downstream implications. Temporal self-appraisal theory is a circumscribed self-protection account. It addresses situationally induced thinking about negative, mostly peripheral, and detailed aspects of the past self, showing how drops in self-esteem can be avoided by deprecating the distant rather than recent self.

The Gist Self Versus the True Self

As part of the MTT–as–self-affirmation framework, we focused on the gist self, that is, relatively abstract self-construals such as traits, values, ideologies, goals, and memories (Eyal et al., 2009; Nussbaum et al., 2003; Stephan et al., 2017; Wakslak et al., 2008; Wildschut et al., 2006). Furthermore, we were concerned with these gist aspects in the context of one's life, as reflected in self-narratives, proposing that bringing to mind these aspects confers self-esteem, coherence, and control.

Relevant to the model is the concept of the true self. This concept transcends personal and historical contexts. It represents a more abstract construal level than the personal attributes, aspirations, and memories that we emphasize in our framework. On that increasingly abstract level, a person adopts common humanity features, resulting in a universally converging rather than unique conceptualization of the self. Consequently, on that level, any divergence that pertains to idiosyncratic circumstances and life course would likely be lost

in favor of shared humane virtues. Consistent with this possibility, characteristics that are relevant to interpersonal functioning, particularly moral traits, are regarded as comprising the core of the true self (Christy et al., 2019), and the core of a similar concept, the authentic self (Guenther et al., 2023). People exhibit a robust, invariant tendency to believe that inside every individual resides a good true self, calling them to behave in morally virtuous ways (Strohminger et al., 2017). Stated otherwise, people—across independent and interdependent culture (De Freitas et al., 2017)—believe that moral characteristics make up the true self; thus, the good true self is viewed as essential to identity. Our theoretical framework, though, can accommodate the concept of the true (and authentic) self: to the extent that thinking about the true self is activated during MTT, self-affirmation (and accompanying benefits) will ensue.

Mental Time Travel and Mindfulness

According to Construal Level Theory (Liberman & Trope, 2014), the focus on "the self here and now" (i.e., mindfulness) might contribute to concrete thinking, impulsive behavior, insufficient perspective-taking, myopic financial behavior (e.g., decreased savings), and inconsideration of alternatives (Sedikides et al., 2023). As such, mindfulness might inhibit MTT and the ensuing self-affirmation along with its benefits. Yet, mindfulness is known to afford the benefits of self-affirmation: self-esteem (Pepping et al., 2013; Randal et al., 2015), meaning in life (Bloch et al., 2017; Garland et al., 2015), control (Elkins-Brown et al., 2017; Hofmann et al., 2010). Although it is often unclear how mindfulness bestows its benefits (Van Dam et al., 2018), recent research has provided clues.

In field and laboratory experiments, mindfulness elevated the centrality of self-conceptions, and, in turn, more central self-conceptions were associated with higher self-esteem (Gebauer et al., 2018; Vaughan-Johnston et al., 2021). Mindfulness might also increase meaning in life and control through the same mechanism, self-conception centrality. It follows that mindfulness will operate like MTT only to the extent to which in raises self-centrality.

More generally, drawing from the temporal scope account (Maglio et al., 2013), we propose that the distal scope of MTT conduces to the big picture of the self, clarifying who one is (positive identity or self-esteem), why one is (meaning in life), and where one aims (control). Mindfulness is more pertinent to how to focus. Regardless, the temporal frames of MTT and mindfulness are complementary, with inter-temporal flexibility often being crucial for optimal functioning (Sedikides et al., 2013).

Commonalities in Past and Future Mental Time Travel

A key premise of the MTT–as–self-affirmation framework is that past and future MTT rely on common cognitive and neuronal mechanisms. This premise is generally supported in the literature, although there are subtle distinctions to be made between the two forms of MTT.

In her literature review, Addis (2020) concluded that memory and imagination are essentially the same process involving constructive episodic simulation. Furthermore, she argued that this simulation satisfies the three criteria of a neurocognitive system:

> Irrespective of whether one is remembering or imagining, the simulation system: (1) acts on the same information, drawing on elements of experience ranging from fine-grained perceptual details to coarser-grained conceptual information and schemas about the world; (2) is governed by the same rules of operation, including associative processes that facilitate construction of a schematic scaffold, the event representation itself, and the dynamic interplay between the two (cf. predictive coding); and (3) is subserved by the same brain system. (p. 233)

Indeed, the human mind appears to recruit similar processes in formulating mental representations of past and future events, a notion bolstered by neuroimaging and clinical studies (Baumeister, 2022; Cheung et al., 2013; Yang et al., 2022). For example, thinking about the past and the future entails a common neural network (Buckner & Carroll, 2007; Hassabis & Maguire, 2007; Viard et al., 2011). Also, patients with difficulty in retrieving the past have problems imagining new experiences (Hassabis et al., 2007) or describing their future in detail (Addis et al., 2009; Brown et al., 2012). Yet, prospection may entail greater schematicity and positivity than retrospection (Rasmussen & Berntsen, 2013; Van Boven et al., 2009). Also, although neuroimaging studies have identified a core brain network that is engaged in both past and future MTT (D'Argembeau, 2020; D'Argembeau & Mathy, 2011; Schacter & Addis, 2007a), specific temporal computations may rely on different cellular and network dynamics (Ciaramelli et al., 2021; D'Angelo et al., 2023). Future research should examine whether nuances in the cognitive or brain mechanisms of the two MTT forms have implications for their psychological consequences.

Varieties of Past and Future Mental Time Travel

As part of the MTT–as–self-affirmation framework, we lumped together varieties of MTT. To begin, we focused on nostalgia as an illustration of retrospection. There are, of course, several other ways of thinking about one's past. These include the fading affect bias in recollections (i.e., affect associated with positive events fading faster than affect associated with negative events; Skowronski et al., 2014), downward counterfactuals (i.e., mentally representing alternatives to the past and imagining how things could have been different; Roese & Olson, 1997), mindwandering (i.e., spontaneous and self-generated thinking, unrelated to the current task; Smallwood & Schooler, 2015), reminiscence or life review

(i.e., extensively re-examining one's past; Butler, 1963), and autobiographical memory (Williams et al., 2008).

Of them, the fading affect bias involves a largely nonconscious process, and the resulting relatively positive memory has been conceptualized as an antecedent of nostalgia (Sedikides, Wildschut, et al., 2005). Counterfactual thinking often refers to imagined prevention of specific negative events and can contribute to coherence (Kray et al., 2010). However, rather than addressing specific negative events in the past, the MTT–as–self-affirmation framework is mostly concerned with an orientation toward positive events that are central to the self for maintaining self-integrity. Indeed, nostalgia is associated with more beneficial psychological consequences than counterfactual thinking (Cheung et al., 2018). Mindwandering frequently entails unpleasant life experiences (Killingsworth & Gilbert, 2010), but, when it refers to the self, it may be linked to self-affirmatory gains such as self-esteem (Mar et al., 2012) or coherence (Stawarczyk & D'Argembeau, 2015), including downstream consequences like creative problem-solving (Baird et al., 2012). Reminiscence or life review has mixed implications for psychological functioning (Elias et al., 2015; Lai et al., 2004; Pinquart & Forstmeier, 2012; Woods et al., 2018) in contrast to the advantageous implications of nostalgia (Hepper & Dennis, 2023; Ismail et al., 2018; Layous & Kurtz, 2023). Finally, autobiographical thinking is an additional mode of viewing the past, but this mode is incorporated in the control condition of the typical experiment in which nostalgia is induced via the Event Reflection Task.

We focused on self-prospection as an illustration of prospection. There are other ways of thinking about one's future. These include immune neglect in affective forecasting (i.e., overestimating the emotional impact of an event and underestimating the effectiveness of one's coping; Gilbert et al., 1998), prospective memory (i.e., remembering to act on future intentions, plans, or tasks; Einstein & McDaniel, 1996), temporal discounting (i.e., assigning different values to rewards depending on whether they are expected in the near vs. distant future; Ainslie, 1975), episodic simulation (i.e., combining elements of episodic memory to generate plausible future scenarios such as upward counterfactuals; Byrne, 2002; Schacter et al., 2007), and autobiographical planning (i.e., generating future intentions or plans based on one's experiences, goals, or the self-concept; Suddendorf & Corballis, 2007), and anticipated nostalgia (i.e., expecting or predicting to feel nostalgic for future events; Cheung et al., 2020). Szpunar et al. (2014) classified these modes of prospection in terms of simulation, prediction, intention, and planning.

Although we acknowledge nuance in the varieties of MTT, grouping them together serves well the purposes of our theoretical framework. The MTT–as–self-affirmation framework presupposed that the individual brings to mind the gist attributes of the self that are predominantly positive in the typical population. Thus, the tenets of the framework will hold as long as the individual reflects—backward or forward in time—on central positive self-aspects.

Does Mental Time Travel Inevitably Lead to Self-Affirmation?

The last point deserves clarification. It implies that MTT will not inevitably trigger self-affirmation. Under what circumstances, or in whom, is MTT unlikely to culminate in self-affirmation?

Self-affirmation has a low likelihood of being the end outcome when MTT focuses on attributes, events, or experiences that are only indirectly relevant to the self or are unrelated to the self. It does so also when it focuses on peripheral self-aspects (Monin & Miller, 2001) rather than central self-aspects. And it similarly does so when it focuses on negative past behaviors (e.g., gaffes or misconducts, unsuccessful job interviews, failed academic tests, relationship transgressions) that may elicit unpleasant emotions (e.g., shame, guilt; Tangney et al., 2007). In this last case, self-protective processes will likely be activated, such as attributing unfavorable outcomes to situations or others rather than the self (i.e., the self-serving bias), minimizing the negativity, selectively forgetting, or generating excuses (K. W. Campbell & Sedikides, 1999; Cramer, 2000; Kouchaki & Gino, 2016; Sedikides & Skowronski, 2020; Snyder & Higgins, 1988). More generally, recollecting past good deeds influences more strongly and consistently moral behavior than recollecting past negative deeds (Kappes & Crockett, 2016).

MTT also has a low likelihood of leading to self-affirmation when ruminating (brood, in particular; Nolen-Hoeksema et al., 2008) about their current distress, reasons for it, and consequences of it. Rumination is maladaptive and a risk factor for psychopathology (Aldao et al., 2010). In rumination, the individual focuses on the event rather than the gist aspects of the self. Nostalgizing has more beneficial psychological consequences than rumination (Cheung et al., 2018; Jiang et al., 2021).

In addition, MTT is unlikely to engender self-affirmation when the individual engages in depressive or anxious thinking, or exhibits symptoms of depression or anxiety. The individual might bring to mind central self-conceptions, but they will likely be negative or ambivalent. Moreover, the individual will have trouble screening out or integrating experiences that contradict their self-conceptions and pessimistic or fearful outlook. Integration difficulty may be due to positive self-features being represented concretely rather than abstractly both in depression (Alloy et al., 2006; Beck, 1976) and anxiety (Bigler et al., 2001; Stopa & Jenkins, 2007).

The case of traumatic experiences and stressful life events is also worth considering. Traumatic experiences (e.g., acts of violence, abuse, natural disasters, accidents, war) often conduce to psychopathology (e.g., post-traumatic stress disorder; Kessler et al., 1995). Due to their seriousness, we

would not expect MTT to promote self-affirmation. Stressful life events (e.g., relocation, unemployment, a new career path, relationship change, the pandemic-related lockdown), on the other hand, which are milder, can lead to self-affirmation as a result of MTT. For example, nostalgia can alleviate the negative psychological consequences of stressful life events, preparing the ground for a self-affirmatory process (Wildschut & Sedikides, 2023a, 2023b; Zhou et al., 2022). More generally, the potency of the aversive event may moderate the extent to which MTT will result in self-affirmation, with milder events being more likely to entail MTT. In a similar manner, the degree of negativity of past behaviors, rumination, and depressive or anxiety symptoms might moderate the effectiveness of MTT as self-affirmation, with higher effectiveness being observed in lower degrees of negativity.

Mental Time Travel and the Self: Roadmap for Future Research

Motivational Antecedents

One way to advance MTT's role in self-affirmation would be to identify its motivational antecedents. Avoidance motivation (assessed with the seven-item Behavioral Inhibition Scale; Carver & White, 1994) is associated with higher nostalgia, and avoidance motivation (induced by asking participants to list five events they would like to avoid) triggers nostalgia (Stephan et al., 2014). Correspondingly, approach motivation might be associated with or trigger self-prospection.

Research by Kluger et al. (2004) is relevant to this issue. These researchers worked within the regulatory focus theory (Higgins, 2012b), according to which the prevention focus system relates to duties and obligations (oughts) and satisfies security needs, whereas the promotion focus system relates to accomplishments and aspirations (ideals) and satisfies growth needs. Kluger et al. provided support for the notion that activating security needs yields behaviors characteristic of the prevention focus system, whereas activating growth needs yields behaviors characteristic of the promotion focus system (see also Blackie et al., 2016). As such, we would expect differences in MTT under prevention focus as opposed to promotion focus. For example, when considering challenges in prevention-related domains (e.g., health), individuals might turn to their past for self-affirmation, whereas when considering challenges in promotion-related domains (e.g., career), they might turn to prospection for self-affirmation. Threat specificity or generality might also be relevant. Facing a concrete threat might induce turning to one's own past experiences, whereas battling a diffuse uncertainty might induce future-oriented coping that allows consideration of alternative scenarios (i.e., "a matrix of maybes"; Baumeister et al., 2018, p. 223).

Self-Affirmatory Differences Between Past and Future Mental Time Travel

We discussed three key facets of self-affirmation: self-esteem, coherence, and control. Are these facets differentially affirmed in past-oriented versus future-oriented MTT? The benefits of the two time travel directions might diverge and be prioritized differently in particular circumstances. For example, past-oriented MTT might affirm one's self-esteem by highlighting achievements and relationships, whereas future-oriented MTT might offer a greater sense of control. Consistent with this notion, people believe that will is a more potent determinant of future events than past events (Helzer & Gilovich, 2012). Hence, although nostalgia promotes coherence (Sedikides & Wildschut, 2018), self-prospection might offer a stronger sense of control over the outcomes of one's life (Cheng et al., 2012; Stephan et al., 2017).

Mental Time Travel in Dyadic Relationships and Groups

We addressed MTT on the individual level. MTT might also be relevant in the context of dyadic relationships and groups. Pertinent forays exist. In work by Evans et al. (2022), nostalgia for past experiences shared with one's partner (i.e., romantic nostalgia) was positively associated with relationship commitment, satisfaction, and closeness. Also, inducing romantic nostalgia—either with the Event Reflection Task or via music—strengthened these relationship outcomes (see also Ai et al., 2022). Finally, participants reported more positive relationship-specific experiences on days when they felt greater romantic nostalgia. Moreover, in work by Turner and colleagues (2012, 2013, 2018), induced nostalgia fostered sociality, operationalized as social connectedness (i.e., a sense of belongingness and acceptance). Social connectedness, in turn, led to higher inclusion of an outgroup member in the self, outgroup trust, and intergroup contact intentions. Follow-up research needs to examine whether MTT increases the key facets of affirmation (i.e., self-esteem, coherence, control) not only at the level of the individual self but also at the level of the relational self and collective self.

Some preliminary research, inspired by Construal Level Theory (Liberman & Trope, 1998, 2014) already points to the relevance of MTT beyond the individual level. Henderson et al. (2006) showed that participants with a temporally distant (rather than near) perspective from a negotiated agreement were less likely to consider the issues surrounding the agreement in a localized or piecemeal manner and more likely to weigh their preferences for primary issues over their preferences for secondary issues when making a concession. Follow-up investigations may test the role of self-construal induced by MTT (e.g., highlighting one's values as part of a self-affirmation) in the negotiation process and its outcomes.

Personality Differences

Are individuals who think abstractly also more likely to be prone to self-affirmation? A stream of research has begun to address this question, albeit indirectly, that is, by testing the relation between the tendency to think abstractly in terms of goals (rather than MTT) and self-affirmation. Stephan (2023) reasoned that, if self-affirmation implies reflecting broadly or on the big picture, then individuals who construe actions or events more abstractly (e.g., in terms of goals as opposed to concrete technical features) will evince greater self-affirmation. The researchers assessed abstract construal in terms of level of action identification (Behavior Identification Form; Vallacher & Wegner, 1989). Participants thought about themselves enacting a behavior (e.g., making a list) and then marked the option that best described that behavior by choosing between the goal-relevant construal (i.e., getting organized) and technical features (e.g., writing things down). Furthermore, the researchers assessed self-affirmation in terms of the ability to generate self-affirmations spontaneously (Self-Enhancement and Self-Protection Strategies Scale; Hepper et al., 2010). Participants who construed actions more abstractly reported higher levels of spontaneous self-affirmation and lower levels of self-defensiveness. The findings will need to be replicated with other indicators of abstraction (e.g., future than present thinking) involving such scales as Consideration of Future Consequences (Strathman et al., 1994), Temporal Focus Scale (Shipp et al., 2009), and Time Perspective Inventory (Zimbardo & Boyd, 1999).

In another line of work, Stephan et al. (2017) asked whether the tendency to construe actions abstractly is associated with prospective attributions to will, a construct homologous to control—a key facet of self-affirmation. Participants completed the Behavior Identification Form (Vallacher & Wegner, 1989). Then, they imagined themselves as protagonists in three events: competing at a sporting event, applying for a job, and taking an exam (Helzer & Gilovich, 2012). Subsequently, they rated the extent to which "will" would explain the outcome of the events. Abstractness of construal emerged as a significant predictor of attributions to will. Stated otherwise, chronic construal of action in terms of goals was positively associated with the predicted impact of will on the event outcome.

Furthermore, in two daily diary studies, Updegraff et al. (2010) linked self-construal abstraction to self-esteem. In Study 1, participants described five aspects of themselves, which coders rated on abstractness (e.g., "I am the first person in my entire family to attend college") versus concreteness (e.g., "Feels like I have fulfilled a couple of my goals but I still have a lot more difficult ones ahead"; p. 100). Higher self-construal abstraction was associated with greater self-esteem level and also self-stability. Furthermore, self-construal buffered the influence of daily negative emotions on self-esteem, an effect replicated in Study 2 with a manipulation of daily self-construal (see also Vess et al., 2011).

The nostalgia literature is likewise informative. Nostalgizing, which represents more abstract reflection (i.e., MTT), positively covaries with meaning in life (Abeyta & Pillarisetty, 2023). For example, Routledge et al. (2011) asked participants to complete three scales. The first was a measure of nostalgia, the seven-item Southampton Nostalgia Scale (sample item: "How often do you experience nostalgia?"). The second was a measure of meaning, the four-item Purpose in Life scale (Crumbaugh & Maholick, 1964; sample item: "My personal existence is purposeful and meaningful"). The third was also a measure of meaning, the five-item Presence of Meaning Subscale of the Meaning in Life Questionnaire (Steger et al., 2006). Nostalgia was positively related to meaning, as assessed by both relevant scales. Similarly, a focus on the positive past was associated with self-affirmation (Yevchenko et al., 2021).

Moreover, attachment security (Feeney, 1999) might be associated with facilitated travel into the past and the future on the dispositional level. This is because attachment security constitutes a positive schematic representation of an attachment figure and the self, namely, an abstract construal. As such, attachment security might be linked with stronger self-affirmative benefits (i.e., self-esteem, meaning, control) of MTT. Other personality variables that similarly presuppose an abstract construal and more positive view of self (e.g., conscientiousness—Costa & McCrae, 1992; achievement McClelland, 1961; goal orientation—Locke & Latham, 1990) might be similarly linked to self-affirmation and its benefits.

Research on the association between personality differences in the propensity to think abstractly and to travel mentally in time on the one hand, and self-affirmation on the other, is in its infancy. Yet, the preliminary evidence we reviewed suggests that the propensity to think abstractly might be linked to self-affirmation and the key facets of self-affirmation (i.e., self-esteem, meaning, control). This invites more in-depth investigations.

Developmental Differences

Retrospection and prospection might change across the lifespan, given that time travel is frequent, spontaneous, and linked to one's developmental stage. Earlier developmental periods (i.e., adolescence and young adulthood) might involve a distal and idealized prospection (Heller et al., 2011; Kivetz & Tyler, 2007), whereas older age might entail a distal and idealized retrospection (e.g., nostalgia; Hepper et al., 2021). For example, a teenager might self-affirm by imagining themselves as a talented and competent adult (Schmid et al., 2011), whereas an elderly person might self-affirm by bringing to mind meaningful past relationships (Madoglou et al., 2017). If so, younger adults might rely more on future-oriented MTT, whereas older adults might rely more on past-oriented MTT, for self-affirmation purposes.

Cultural Differences

Retrospection and prospection might also be influenced by culture. Past-oriented MTT is more prominent among East Asians than Westerners (Gao, 2016). Similarly, East Asians are more likely to take into consideration information from the distant past when predicting future events (Ji et al., 2008), and regard a person's past and future behavior as more relevant to their impression of that person (Ji et al., 2009). Moreover, East Asians think more holistically (i.e., abstractly), focusing on relations between objects and context; that is, East Asian participants are more likely than Western participants to link an object with its background than perceive it as independent (Masuda & Nisbett, 2006; see also Wang et al., 2018).

These cultural differences have implications for the role of self in MTT and ensuing self-affirmation. Given that East Asians (relative to Westerners) think more holistically, they will likely perceive their past selves as more relevant and subjectively closer to their present selves and will be more likely to connect their future selves to their present selves. Indeed, compared to Euro-Canadians, Chinese participants reported higher self-continuity both momentarily and over time; this effect was mediated and caused by closer subjective proximity to their past and future selves (Ji et al., 2009). Westerns may have more compartmentalized or trichotomized perceptions of the past, present, and future, and thus may benefit from specifically designed MTT interventions. Although MTT may be accomplished with greater ease in East Asians, it might also entail bringing to mind more context-dependent aspects of the future and past self. This possibility is consistent with findings that East Asians are more likely to endorse contradictory self-views and consider the self as context-dependent (Spencer-Rodgers et al., 2009). Thus, as long as MTT focuses on positive gist self-aspects (rather than context-dependent aspects), it would engender self-affirmation benefits.

The content of MTT may also vary cross-culturally. That is, MTT may be structured along aspects of past and future self that are compatible with cultural standards. There are cultural disparities in independence-interdependence (Markus & Kitayama, 1991). If so, bringing to mind communal traits of the past and future self may be prized higher in East Asia, whereas bringing to mind agentic traits would be prized higher in the West. Moreover, culture may emphasize different implications of self-affirmation. For example, control may be more valued in the West, but coherence may be more valued in East Asia.

Applications

Our theoretical framework has wide applicability. The structure of MTT interventions can simulate that of self-affirmation interventions (Sherman et al., 2021) or similar ones. Relevant interventions may include The Best Possible Self exercise that aspires to promote a favorable view of oneself in the best possible future (Carrillo et al., 2019), identity-based motivation interventions that purport to connect the current self with a future desired self (Nurra & Oyserman, 2018), and nostalgia interventions that aim to assess the role of nostalgizing, or anticipated nostalgia, for long-term psychological outcomes (including self-esteem and meaning in life; Cheung, 2023; Layous et al., 2022).

MTT interventions can be applied to education in the form of wise interventions (Walton, 2014). These brief interventions strengthen psychological processes that unfold over time. Our theoretical framework provides precise guidance as to the psychological processes that MTT is likely to foster (self-esteem, coherence, control). For example, students may be asked to envision their future academic or professional self, elaborate on its characteristics, and revisit these images especially when facing challenges (e.g., test anxiety). Retracing these images might assist students in seeing the self in a positive light, clarifying what is meaningful to achieve, and procuring a sense of direction or mastery. Beyond these proximal outcomes, wise interventions can confer longer-term or downstream consequences on academic attainment (Yeager et al., 2019; Yeager & Walton, 2011), including that of minority students (Walton & Cohen, 2011).

MTT can also be applied to health, including minority health (Walton & Cohen, 2011) and youth psychopathology (Schleider et al., 2020). By bringing to mind their future and past selves, and thus affirming their self-esteem, coherence, and control, MTT will decrease defensiveness to health-risk information and strengthen readiness for health behavior change (Epton et al., 2015). MTT may also mitigate adverse responses to stressors (Harris et al., 2020). Furthermore, MTT may be particularly relevant for individuals with depressive or anxiety symptoms. Therapy may help these persons develop abstract and positive self-representations. Once formed, these representations can constitute the basis of effective MTT.

More generally, MTT may be promoted via the development of behavioral habits. Keeping the photograph of a family gathering on one's desk rather than the fleeting desktop screen might be a good place to start. Additional possibilities involve keeping a diary of meaningful memories (rather than elaborating on current events), encouraging children and adolescents to describe frequently their imagined future (so as to strengthen the key facets of self-affirmation), and fostering cross-generational sharing of life narratives.

MTT interventions may benefit the relational self. Such interventions could encourage effective coping with difficulties in close relationships, such as accommodation (i.e., responding constructively to a partner's destructive act) rather than neglect of the partner or exit of the relationship (Rusbult et al., 1991). MTT interventions may additionally benefit the collective self. At the organizational level, by bringing to mind images of the shared past (e.g., successful teamwork,

company picnics or parties) or the future (e.g., organizational vision, new building), MTT interventions might improve collegial bonds, motivation, and organizational citizenship behavior (Van Dijke & Leunissen, 2023). Moreover, by nostalgizing or imagining interacting with an outgroup member, MTT can foster intergroup contact, thus improving intergroup relations (Turner & Stathi, 2023).

MTT interventions can be implemented at the community level. For example, joined by others in recollecting nostalgic events (Naidu et al., 2023) might be useful in harnessing self-esteem, meaning, and control. MTT on a family or community level may be supported by intergenerational meetings (e.g., by actively discussing lessons from the past learned by older generations and dreams of the younger ones), and by engagement with meanings expressed in cultural heritage (e.g., art, music). In fact, MTT has been incorporated in cultural conventions or rituals. For example, mourning families often use to review photographs of the deceased and communally nostalgize about the deceased in set time periods (e.g., the 3rd, 9th, and 40th day in Christian Orthodox tradition). Nostalgia can soothe bereavement (Reid et al., 2021).

Coda

Thinking broadly about one's life, such as engaging in MTT into the past or the future, offers an additional route to self-affirmation. MTT enables the individual to maintain self-integrity imbuing them with self-esteem, meaning, and control. MTT validates one's strengths, accentuates what matters in their life, and solidifies goal pursuit.

Acknowledgments

We thank Aiden Gregg and Emily Hong for their helpful comments on an earlier draft.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was partly supported by the Israel Science Foundation (Grant No. 1228/19) to the first author.

ORCID iD

Elena Stephan https://orcid.org/0000-0002-6649-7852

References

Abeyta, A. A., & Pillarisetty, S. (2023). Nostalgia supports a meaningful life. *Current Opinion in Psychology*, *49*, 101520. https://doi.org/10.1016/j.copsyc.2022.101520

Abeyta, A. A., & Routledge, C. (2016). Fountain of youth: The impact of nostalgia on youthfulness and implications for health. *Self and Identity*, *15*(3), 356–369. https://doi.org/10.1080/15298868.2015.1133452

Abeyta, A. A., Routledge, C., & Juhl, J. (2015). Looking back to move forward: Nostalgia as a psychological resource for promoting relationship goals and overcoming relationship challenges. *Journal of Personality and Social Psychology*, *109*(6), 1029–1044. https://doi.org/10.1037/pspi0000036

Addis, D. R. (2020). Mental time travel? A neurocognitive model of even simulation. *Review of Philosophy and Psychology*, *11*(2), 233–259. https://doi.org/10.1007/s13164-020-0047-0

Addis, D. R., Sacchetti, D. C., Ally, B. A., Budson, A. E., & Schacter, D. L. (2009). Episodic simulation of future events is impaired in mild Alzheimer's disease. *Neuropsychologia*, *47*(12), 2660–2671. https://doi.org/10.1016/j.neuropsychologia.2009.05.018

Ai, T., Gillath, O., & Landau, M. (2022). Dear old love: Effects of reflecting on nostalgic memories about ex-partners on current romantic relationship. *European Journal of Social Psychology*. Advance Online Publication. https://doi.org/10.1002/ejsp.2880

Ainslie, G. (1975). Specious reward: A behavioral theory of impulsiveness and impulse control. *Psychological Bulletin*, *82*(4), 463–496. https://doi.org/10.1037/h0076860

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217–237. https://doi.org/10.1016/j.cpr.2009.11.004

Alicke, M. D., & Sedikides, C. (2009). Self-enhancement and self-protection: What they are and what they do. *European Review of Social Psychology*, *20*, 1–48. https://doi.org/10.1080/10463280802613866

Alicke, M. D., Sedikides, C., & Zhang, Y. (2020). The motivation to maintain favorable identities. *Self and Identity*, *19*(5), 572–589. https://doi.org/10.1080/15298868.2019.1640786

Alicke, M. D., Zell, E., & Guenther, C. L. (2013). Social self-analysis: Constructing, protecting, and enhancing the self. *Advances in Experimental Social Psychology*, *48*, 173–234. https://doi.org/10.1016/B978-0-12-407188-9.00004-1

Alloy, L. B., Abramson, L. Y., Whitehouse, W. G., Hogan, M. E., Panzarella, C., & Rose, D. T. (2006). Prospective incidence of first onsets and recurrences of depression in individuals at high and low cognitive risk for depression. *Journal of Abnormal Psychology*, *115*(1), 145–156. https://doi.org/10.1037/0021-843X.115.1.145

Antonovsky, A. (1987). *Unraveling the mystery of health*. Jossey-Bass.

Armitage, C. J. (2012). Evidence that self-affirmation reduces body dissatisfaction by basing self-esteem on domains other than body weight and shape. *The Journal of Child Psychology and Psychiatry*, *53*(1), 81–88. https://doi.org/10.1111/j.1469-7610.2011.02442.x

Baird, B., Smallwood, J., Mrazek, M. D., Kam, J. W. Y., Franklin, M. S., & Schooler, J. S. (2012). Inspired by distraction: Mind wandering facilitates creative incubation. *Psychological Science*, *23*(10), 1117–1122. https://doi.org/10.1177/0956797612446024

Baldwin, M., Biernat, M., & Landau, M. J. (2015). Remembering the real me: Nostalgia offers a window to the intrinsic self.

Journal of Personality and Social Psychology, *108*(1), 128–147. https://doi.org/10.1037/a0038033

Baldwin, M., & Landau, M. J. (2014). Exploring nostalgia's influence on psychological growth. *Self and Identity*, *13*(2), 162–177. https://doi.org/10.1080/15298868.2013.772320

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, *1*(2), 164–180. https://doi.org/10.1111/j.1745-6916.2006.00011.x

Batcho, K. I. (1998). Personal nostalgia, world view, memory, and emotionality. *Perceptual & Motor Skills*, *87*(2), 411–432. https://doi.org/10.2466/pms.1998.87.2.411

Batcho, K. I. (2013). Nostalgia: Retreat or support in difficult times? *American Journal of Psychology*, *126*(3), 355–367. https://doi.org/10.5406/amerjpsyc.126.3.0355

Baumeister, R. F. (1998). The self. In D.T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed.) (pp. 680–740). McGraw-Hill.

Baumeister, R. F. (2008). Free will in scientific psychology. *Perspectives on Psychological Science*, *3*(1), 14–19. https://doi.org/10.1111/j.1745-6916.2008.00057.x

Baumeister, R. F. (2010). The Self. In R. F. Baumeister & E. J. Finkel (Eds.), *Advanced social psychology: The state of science* (pp. 139–176). Oxford University Press.

Baumeister, R. F. (2022). *The self itself: How and why you become who you are*. Guilford Press.

Baumeister, R. F., Hofmann, W., Summerville, A., Reiss, P. T., & Vohs, K. D. (2020). Everyday thoughts in time: Experience sampling studies of mental time travel. *Personality and Social Psychology Bulletin*, *46*(12), 1631–1648. https://doi.org/10.1177/0146167220908411

Baumeister, R. F., Maranges, H. M., & Sjåstad, H. (2018). Consciousness of the future as a matrix of maybe: Pragmatic prospection and the simulation of alternative possibilities. *Psychology of Consciousness: Theory, Research, and Practice*, *5*(3), 223–238. https://doi.org/10.1037/cns0000154

Baumeister, R. F., Vohs, K. D., & Oettingen, G. (2016). Pragmatic prospection: How and why people think about the future. *Review of General Psychology*, *20*(1), 3–16. https://doi.org/10.1037/gpr0000060

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. International Universities Press.

Becker, M., Vignoles, V. L., Owe, E., Easterbrook, M. J., Brown, R., Smith, P. B., Abuhamdeh, S., Cendales Ayala, B., Garðarsdóttir, R. B., Torres, A., Camino, L., Bond, M. H., Nizharadze, G., Amponsah, B., Schweiger Gallo, I., Prieto Gil, P., Lorente Clemares, R., Campara, G., Espinosa, A., & Lay, S. (2018). Being oneself through time: Bases of self-continuity across 55 cultures. *Self and Identity*, *17*(3), 276–293. https://doi.org/10.1080/15298868.2017.1330222

Berntsen, D., & Bohn, A. (2010). Remembering and forecasting: The relation between autobiographical memory and episodic future thinking. *Memory & Cognition*, *38*(3), 265–278. https://doi.org/10.3758/MC.38.3.265

Bigler, M., Neimeyer, G. J., & Brown, E. (2001). The divided self revisited: Effects of self-concept clarity and self-concept differentiation on psychological adjustment. *Journal of Social and Clinical Psychology*, *20*(3), 396–415. https://doi.org/10.1521/jscp.20.3.396.22302

Blackie, L. E. R., Cozzolino, P. J., & Sedikides, C. (2016). Specific and individuated death reflection fosters identity integration. *PLoS ONE*, *11*(5), Article e0154873. https://doi.org/10.1371/journal.pone.0154873

Bloch, J. H., Farrell, J. E., Hook, J. N., Van Tongeren, D. R., Penberthy, J. K., & Davis, D. E. (2017). The effectiveness of a meditation course on mindfulness and meaning in life. *Spirituality in Clinical Practice*, *4*(2), 100–112. https://doi.org/10.1037/scp0000119

Blouin-Hudon, E.-M. C., & Pychyl, T. A. (2015). Experiencing the temporally extended self: Initial support for the role of affective states, vivid mental imagery, and future self-continuity in the prediction of academic procrastination. *Personality and Individual Differences*, *86*, 50–56. https://doi.org/10.1016/j.paid.2015.06.003

Bluck, S. (2003). Autobiographical memory: Exploring its functions in everyday life. *Memory*, *11*(2), 113–123. https://doi.org/10.1080/741938206

Brehm, J. W., & Self, E. A. (1989). The intensity of motivation. *Annual Review of Psychology*, *40*, 109–131. https://doi.org/10.1146/annurev.ps.40.020189.000545

Brown, A. D., Dorfman, M. L., Marmar, C. R., & Bryant, R. A. (2012). The impact of perceived self-efficacy on mental time travel and social problem solving. *Consciousness and Cognition*, *21*(1), 299–306. https://doi.org/10.1016/j.concog.2011.09.023

Buckner, R. L., & Carroll, D. C. (2007). Self-projection and the brain. *Trends in Cognitive Sciences*, *11*(2), 49–57. https://doi.org/10.1016/j.tics.2006.11.004

Butler, R. N. (1963). The life review: An interpretation of reminiscence in the aged. *Psychiatry*, *26*, 65–76. https://doi.org/10.1080/00332747.1963.11023339

Byrne, R. M. J. (2002). Mental models and counterfactual thoughts about what might have been. *Trends in Cognitive Sciences*, *6*(10), 426–431. https://doi.org/10.1016/s1364-6613(02)01974-5

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, *70*(1), 141–156. https://doi.org/10.1037/0022-3514.70.1.141

Campbell, K. W., & Sedikides, C. (1999). Self-threat magnifies the self-serving bias: A meta-analytic integration. *Review of General Psychology*, *3*(1), 23–43. https://doi.org/10.1037/1089-2680.3.1.23

Carrillo, A., Rubio-Aparicio, M., Molinari, G., Enrique, A., Sanchez-Meca, J., & Banos, R. M. (2019). Effects of the best possible self intervention: A systematic review and meta-analysis. *PLOS ONE*, *14*(9), e0222386. https://doi.org/10.1371/journal.pone.0222386

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, *67*(2), 319–333. https://doi.org/10.1037/0022-3514.67.2.319

Cheng, Y.-Y., Shein, P. P., & Chiou, W.-B. (2012). Escaping the impulse to immediate gratification: The prospect concept promotes a future-oriented mindset, prompting an inclination towards delayed gratification. *British Journal of Social Psychology*, *103*(1), 129–141. https://doi.org/10.1111/j.2044-8295.2011.02067.x

Cheung, W.-Y. (2023). Anticipated nostalgia. *Current Opinion in Psychology*, *49*, 101521. https://doi.org/10.1016/j.copsyc.2022.101521

Cheung, W.-Y., Hepper, E. G., Reid, C. A., Green, J. D., Wildschut, T., & Sedikides, C. (2020). Anticipated nostalgia: Looking forward to looking back. *Cognition and Emotion*, *34*(3), 511–525. https://doi.org/10.1080/02699931.2019.1649247

Cheung, W.-Y., Wildschut, T., & Sedikides, C. (2018). Autobiographical memory functions of nostalgia in comparison to rumination and counterfactual thinking: Similarity and uniqueness. *Memory*, *26*(2), 229–237. https://doi.org/10.1080/09658211.2017.1346129

Cheung, W. Y., Wildschut, T., Sedikides, C., Hepper, E. G., Arndt, J., & Vingerhoets, A. J. J. M. (2013). Back to the future: Nostalgia increases optimism. *Personality and Social Psychology Bulletin*, *39*(11), 1484–1496. https://doi.org/10.1177/0146167213499187

Cheung, W. Y., Sedikides, C., & Wildschut, T. (2016). Induced nostalgia increases optimism (via social connectedness and self-esteem) among individuals high, but not low, in trait nostalgia. *Personality and Individual Differences*, *90*, 283–288. https://doi.org/10.1016/j.paid.20215.11.028

Christy, A. G., Schlegel, R. J., & Cimpian, A. (2019). Why do people believe in a "true self"? The role of essentialist reasoning about personal identity and the self. *Journal of Personality and Social Psychology*, *117*(2), 386–416. https://doi.org/10.1037/pspp0000254

Ciaramelli, E., Anelli, F., & Frassinetti, F. (2021). An asymmetry in past and future mental time travel following vmPFC damage. *Social Cognitive and Affective Neuroscience*, *16*(3), 315–325. https://doi.org/10.1093/scan/nsaa163

Coenen, L. H. M., Hedebouw, L., & Semin, G. R. (2006). *Measuring language abstraction: The linguistic category model (LCM) manual*. Unpublished manuscript, Free University Amsterdam.

Cohen, G. L., Aronson, J., & Steele, C. M. (2000). When beliefs yield to evidence: Reducing biased evaluation by affirming the self. *Personality and Social Psychology Bulletin*, *26*(9), 1151–1164. https://doi.org/10.1177/01461672002611011

Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology*, *65*, 333–371. https://doi.org/10.1146/annurev-psych-010213-115137

Conway, M. A. (1996). Autobiographical knowledge and autobiographical memories. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 67–93). Cambridge University Press.

Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language*, *53*(4), 594–628. https://doi.org/10.1016/j.jml.2005.08.005

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, *107*(2), 261–288. https://doi.org/10.1037/0033-295X.107.2.261

Correll, J., Spencer, S. J., & Zanna, M. P. (2004). An affirmed self and an open mind: Self-affirmation and sensitivity to argument strength. *Journal of Experimental Social Psychology*, *40*(3), 350–356. https://doi.org/10.1016/j.jesp.2003.07.001

Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R professional manual*. Psychological Assessment Resources.

Costabile, K. A., Shedlosky-Shoemaker, R., & Austin, A. B. (2018). Universal stories: How narratives satisfy core motives. *Self and Identity*, *17*(4), 418–431. https://doi.org/10.1080/15298868.2017.1413008

Cramer, P. (2000). Defense mechanisms in psychology today: Further processes for adaptation. *American Psychologist*, *55*(6), 637–646. https://doi.org/10.1037/0003-066X.55.6.637

Critcher, C. R., & Dunning, D. (2015). Self-affirmations provide a broader perspective on self-threat. *Personality and Social Psychology Bulletin*, *41*(1), 3–18. https://doi.org/10.1177/0146167214554956

Crocker, J., Niiya, Y., & Mischkowski, D. (2008). Why does writing about important values reduce defensiveness? Self-affirmation and the role of positive other-directed feelings. *Psychological Science*, *19*(7), 740–747. https://doi.org/10.1111/j.1467-9280.2008.02150.x

Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, *108*(3), 593–623. https://doi.org/10.1037/0033-295X.108.3.593

Crumbaugh, J. C., & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl's concept of noogenic neurosis. *Journal of Clinical Psychology*, *20*(2), 200–207. https://doi.org/10.1002/1097-4679(196404)20:2<200::AID-JCLP2270200203>3.0.CO;2-U

D'Angelo, M., Frassinetti, F., & Cappelletti, M. (2023). The role of beta oscillations in mental time travel. *Psychological Science*, *34*(4), 490–500. https://doi.org/10.1177/09567976221147259

D'Argembeau, A. (2020). Zooming in and out on one's life: Autobiographical representations at multiple time scales. *Journal of Cognitive Neuroscience*, *32*(11), 2037–2055. https://doi.org/10.1162/jocn_a_0155

D'Argembeau, A., & Mathy, A. (2011). Tracking the construction of episodic future thoughts. *Journal of Experimental Psychology: General*, *40*(2), 258–271. https://doi.org/10.1037/a0022581

D'Argembeau, A., & Van der Linden, M. (2004). Phenomenal characteristics associated with projecting oneself back into the past and forward into the future: Influence of valence and temporal distance. *Consciousness and Cognition*, *13*(4), 844–858. https://doi.org/10.1016/j.concog.2004.07.007

Davis, F. (1977). Nostalgia, identity, and the current nostalgia wave. *Journal of Popular Culture*, *11*, 414–425. https://doi.org/10.1111/j.0022-3840.1977.00414.x

De Freitas, J., Cikara, M., Grossmann, I., & Schlegel, R. J. (2017). Origins of the belief in good true selves. *Trends in Cognitive Science*, *21*(9), 634–636. https://doi.org/10.1016/j.tics.2017.05.009

Dufner, M., Gebauer, J. E., Sedikides, C., & Denissen, J. J. A. (2019). Self-enhancement and psychological adjustment: A meta-analytic review. *Personality and Social Psychology Review*, *23*(1), 48–72. https://doi.org/10.1177/1088868318756467

Dunning, D. (2014). Motivated cognition in self and social thought. In M. Mikulincer & P. Shaver (Eds.), *APA handbook of personality and social psychology* (pp. 777–804). American Psychological Association.

Einstein, G. O., & McDaniel, M. A. (1996). *Memory fitness: A guide for successful aging*. Yale University Press.

Elder, J. J., Davis, T. H., & Hughes, B. L. (2023). A fluid self-concept: How the brain maintains coherence and positivity across an interconnected self-concept while incorporating social feedback. *The Journal of Neuroscience*, *43*(22), 4110–4128. https://doi.org/10.1523/JNEUROSCI.1951-22.2023

Elias, S. M. S., Neville, C., & Scott, T. (2015). The effectiveness of group reminiscence therapy for loneliness, anxiety and depression in older adults in long-term care: A systematic review. *Geriatric Nursing*, *36*(5), 372–380. https://doi.org/10.1016/j.gerinurse.2015.05.004

Elkins-Brown, N., Teper, R., & Inzlicht, M. (2017). How mindfulness enhances self-control. In J. C. Karremans & E. K. Papies (Eds.), *Mindfulness in social psychology* (pp. 65–78). Routledge; Taylor & Francis Group. https://doi.org/10.4324/9781315627700-5

Emmons, R. A., Froh, J., & Rose, R. (2019). Gratitude. In M. W. Gallagher & S. J. Lopez (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 317–332). American Psychological Association. https://doi.org/10.1037/0000138-020

Epley, N., & Gilovich, T. (2016). The mechanics of motivated reasoning. *Journal of Economic Perspectives*, *30*(3), 133–140. https://doi.org/10.1257/jep.30.3.133

Epton, T., Harris, P. R., Kane, R., van Koningsbruggen, G. M., & Sheeran, P. (2015). The impact of self-affirmation on health-behavior change: A meta-analysis. *Health Psychology*, *34*(3), 187–196. https://doi.org/10.1037/hea0000116

Evans, N. D., Juhl, J., Hepper, E. G., Wildschut, T., Sedikides, C., & Fetterman, A. K. (2022). Romantic nostalgia as a resource for healthy relationship functioning. *Journal of Social and Personal Relationships*, *39*(7), 2181–2206. https://doi.org/10.1177026540752210757773

Evans, N. D., Reyes, J., Wildschut, T., Sedikides, C., & Fetterman, A. K. (2021). Mental transportation mediates nostalgia's psychological benefits. *Cognition and Emotion*, *35*(1), 84–95. https://doi.org/10.1080/02699931.2020.1806788

Eyal, T., Sagristano, M. D., Trope, Y., Liberman, N., & Chaiken, S. (2009). When values matter: Expressing values in behavioral intentions for the near vs. distant future. *Journal of Experimental Social Psychology*, *45*(1), 35–43. https://doi.org/10.1016/j.jesp.2008.07.023

Feeney, J. A. (1999). Adult attachment, emotional control, and marital satisfaction. *Personal Relationships*, *6*(2), 169–185. https://doi.org/10.1111/j.1475-6811.1999.tb00185.x

Ferrer, R. A., & Cohen, G. L. (2019). Reconceptualizing self-affirmation with the trigger and channel framework: Lessons from the health domain. *Personality and Social Psychology Review*, *23*(3), 285–304. https://doi.org/10.1177/1088868318797036

Fitzsimons, G. M., & Shah, J. Y. (2008). How goal instrumentality shapes relationship evaluations. *Journal of Personality and Social Psychology*, *95*(2), 319–337. https://doi.org/10.1037/0022-3514.95.2.319

Frankenbach, J., Wildschut, T., Juhl, J., & Sedikides, C. (2021). Does neuroticism disrupt the psychological benefits of nostalgia? A meta-analytic test. *European Journal of Personality*, *35*(2), 249–266. https://doi.org/10.1080/10.1002/per.2276

Fujita, K. (2008). Seeing the forest beyond the trees: A construal-level approach to self-control. *Social and Personality Psychology Compass*, *2*(3), 1475–1496. https://doi.org/10.1111/j.1751-9004.2008.00118.x

Gaertner, G., Sedikides, C., Luke, M., O'Mara, E. M., Iuzzini, J., Jackson, L. E., Cai, H., & Wu, Q. (2012). A motivational hierarchy within: Primacy of the individual self, relational self, or collective self? *Journal of Experimental Social Psychology*, *48*(5), 997–1013. https://doi.org/10.1016/j.jesp.2012.03.009

Gao, X. (2016). Cultural differences between East Asian and North American in temporal orientation. *Review of General Psychology*, *20*(1), 118–127. https://doi.org/10.1037/gpr0000070

Garland, E. L., Farb, N. A., Goldin, P., & Fredrickson, B. L. (2015). Mindfulness broadens awareness and builds eudaimonic meaning: A process model of mindful positive emotion regulation. *Psychological Inquiry*, *26*(4), 293–314. https://doi.org/10.1080/1047840X.2015.1064294

Gebauer, J. E., Nehrlich, A. D., Stahlberg, D., Sedikides, C., Hackenschmidt, A., Schick, D., Stegmaier, C. A., Windfelder, C. C., Bruk, A., & Mander, J. V. (2018). Mind-body practices and the self: Yoga and meditation do not quiet the ego, but instead boost self-enhancement. *Psychological Science*, *29*(8), 1299–1308. https://doi.org/10.1177/0956797618764621

Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. P. (1998). Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology*, *75*(3), 617–638. https://doi.org/10.1037/0022-3514.75.3.617

Gilbert, D. T., & Wilson, T. D. (2007). Prospection: Experiencing the future. *Science*, *317*(5843), 1351–1354. https://doi.org/10.1126/science.1144161

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*(1), 26–42. https://doi.org/10.1037/1040-3590.4.1.26

Green, J. D., Sedikides, C., & Gregg, A. P. (2008). Forgotten but not gone: The recall and recognition of self-threatening memories. *Journal of Experimental Social Psychology*, *44*(3), 547–561. https://doi.org/10.1016/j.jesp.2007.10.006

Gregg, A. P., & Sedikides, C. (2018). Essential self-evaluation motives: Caring about who we are. In M. van Zomeren & J. Dovidio (Eds.), *The handbook of the human essence* (pp. 59–70). Oxford University Press. https://doi.org/10.1093//oxfordhb/9780190247577.013.4

Gregg, A. P., Sedikides, C., & Gebauer, J. E. (2011). Dynamics of identity: Between self-enhancement and self-assessment. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (*Vol. 1*, pp. 305–327). Springer.

Guenther, C. L., Zhang, Y., & Sedikides, C. (2023). The authentic self is the self-enhancing self: A self-enhancement framework of authenticity. *Personality and Social Psychology Bulletin*. Advance Online Publication. https://10.1177/01461672231160653

Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, *126*(5), 748–769. https://doi.org/10.1037/0033-2909.126.5.748

Hamilton, J., & Cole, S. N. (2017). Imagining possible selves across time: Characteristics of self-images and episodic thoughts. *Consciousness and Cognition: An International Journal*, *52*, 9–20. https://doi.org/10.1016/j.concog.2017.04.015

Hanel, P. H. P., Roy, D., Taylor, S., Franjieh, M., Heffer, C., Tanesini, A., & Maio, G. R. (2023). Using self-affirmation to increase intellectual humility in debate. *Royal Society Open Science*, *10*, 220958. https://doi.org/10.1098/rsos.220958

Harris, P. R., & Epton, T. (2009). The impact of self-affirmation on health cognition, health behaviour and other health-related responses: A narrative review. *Social and Personality Psychology Compass*, *3*(6), 962–978. https://doi.org/10.1111/j.1751-9004.2009.00233.x

Harris, P. R., Jessop, D. C., & Harris, P. S. (2020). Self-affirmation and health. *The Wiley Encyclopedia of Health Psychology*, *2*, 587–595. https://doi.org/10.1002/9781119057840.ch109

Hassabis, D., Kumaran, D., Vann, S. D., & Maguire, E. A. (2007). Patients with hippocampal amnesia cannot imagine new experiences. *Proceedings of the National Academy of Sciences of the United States of America*, *104*(5), 1726–1731. https://doi.org/10.1073/pnas.0610561104

Hassabis, D., & Maguire, E. A. (2007). Deconstructing episodic memory with construction. *Trends in Cognitive Science*, *11*(7), 299–306. https://doi.org/10.1016/j.tics.2007.05.001

Havlena, W. J., & Holak, S. L. (1991). A time-allocation analysis of nostalgia-evoking events. In Chabat, J. C., & Venkatesan, M. V. (Eds.), *Proceedings of the VIIth John-Labatt marketing research seminar, time and consumer behavior*. UQAM.

Heine, S. J., Proulx, T., & Vohs, K. D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review*, *10*(2), 88–110. https://doi.org/10.1207/s15327957pspr1002_1

Heintzelman, S. J., & King, L. A. (2014). (The feeling of) meaning-as-information. *Personality and Social Psychology Review*, *18*(2), 153–167. https://doi.org/10.1177/1088868313518487

Heller, D., Komar, J., & Lee, W. B. (2007). The dynamics of personality states, goals, and well-being. *Personality and Social Psychology Bulletin*, *33*(6), 898–910. https://doi.org/10.1177/0146167207301010

Heller, D., Stephan, E., Kifer, Y., & Sedikides, C. (2011). What will I be? The role of temporal perspective in predictions of affect, traits, and self-narratives. *Journal of Experimental Social Psychology*, *47*(3), 610–615. https://doi.org/10.1016/j.jesp.2011.01.010

Helzer, E. G., & Gilovich, T. (2012). Whatever is willed will be: A temporal asymmetry in attributions to will. *Personality and Social Psychology Bulletin*, *38*(10), 1235–1246. https://doi.org/10.1177/0146167212448403

Henderson, M. D., Trope, Y., & Carnevale, P. (2006). Negotiation from a near and distant time perspective. *Journal of Personality and Social Psychology*, *91*(4), 712–729. https://doi.org/10.1037/a0018963

Hepper, E. G., & Dennis, A. (2023). From rosy past to happy and flourishing present: Nostalgia as a resource for hedonic and eudaimonic wellbeing. *Current Opinion in Psychology*, *49*, 101547. https://doi.org/10.1016/j.copsyc.2022.101547

Hepper, E. G., Gramzow, R. H., & Sedikides, C. (2010). Individual differences in self-enhancement and self-protection strategies: An integrative analysis. *Journal of Personality*, *78*(2), 781–814. https://doi.org/10.1111/j.1467-6494.2010.00633

Hepper, E. G., Ritchie, T. D., Sedikides, C., & Wildschut, T. (2012). Odyssey's end: Lay conceptions of nostalgia reflect its original Homeric meaning. *Emotion*, *12*(1), 102–119. https://doi.org/10.1037/a0025167

Hepper, E. G., Wildschut, T., Sedikides, C., Ritchie, T. D., Yung, Y.-F., Hansen, N., Abakoumkin, G., Arikan, G., Cisek, S. Z., Demassosso, D. B., Gebauer, J. E., Gerber, J. P., González, R., Kusumi, T., Misra, G., Rusu, M., Ryan, O., Stephan, E., Vingerhoets, A. J. J. M., & Zhou, X. (2014). Pancultural nostalgia: Prototypical conceptions across cultures. *Emotion*, *14*(4), 733–747. https://doi.org/10.1037/a0036790

Hepper, E. G., Wildschut, T., Sedikides, C., Robertson, S., & Routledge, C. D. (2021). Time capsule: Nostalgia shields psychological wellbeing from limited time horizons. *Emotion*, *21*(3), 644–664. https://doi.org/10.1037/emo0000728

Hershfield, H. E. (2011). Future self-continuity: How conceptions of the future-self transform intertemporal choice. *Annals of the New York Academy of Sciences*, *1235*, 30–43. https://doi.org/10.1011/j.1749-6632.2011.06201.x

Hicks, J. A., Schlegel, R. J., & King, L. A. (2010). Social threats, happiness, and the dynamics of meaning in life judgments. *Personality and Social Psychology Bulletin*, *36*(10), 1305–1317. https://doi.org/10.1177/0146167210381650

Higgins, E. T. (1996). The "self digest": Self-knowledge serving self-regulatory functions. *Journal of Personality and Social Psychology*, *71*(6), 1062–1083. https://doi.org/10.1037/0022-3514.71.6.1062

Higgins, E. T. (2012a). *Beyond pleasure and pain: How motivation works*. Oxford University Press.

Higgins, E. T. (2012b). Regulatory focus theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 483–504). Sage Publications Ltd. https://doi.org/10.4135/9781446249215.n24

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *78*(2), 169–183. https://doi.org/10.1037/a0018555

Hong, E. K., Sedikides, C., & Wildschut, T. (2021). Nostalgia strengthens global self-continuity through holistic thinking. *Cognition and Emotion*, *35*(4), 730–737. https://doi.org/10.1080/02699931.2020.1862064

Hong, E. K., Sedikides, C., & Wildschut, T. (2022). How does nostalgia conduce to self-continuity? The roles of identity narrative, associative links, and stability. *Personality and Social Psychology Bulletin*, *48*(5), 735–749. https://doi.org/10.1177/01461672211024889

Ikeda, H., & Kusumi, T. (2023). Episodic memory and personal semantics as triggers of nostalgia: Its relationships between abstraction of memory content and temporal distance. *Memory*, *31*, 784–801. https://doi.org/10.1080/09658211.2023.2196038

Ismail, S., Christopher, G., Dodd, E., Wildschut, T., Sedikides, C., Ingram, T. A., Jones, R. W., Nooman, K. A., Tingley, D., & Cheston, R. (2018). Psychological and mnemonic benefits of nostalgia for people with dementia. *Journal of Alzheimer's Disease*, *65*(4), 1327–1344. https://doi.org/10.3233/JAD-180075

Ismail, S. U., Cheston, R., Christopher, G., & Meyrick, J. (2020). Nostalgia as a psychological resource for people with dementia: A systematic review and meta-analysis of evidence of effectiveness from experimental studies. *Dementia*, *19*(2), 330–351. https://doi.org/10.1002/1471301218774909

Ji, L.-J., Guo, T., Zhang, Z., & Messervey, D. (2009). Looking into the past: Cultural differences in perception and representation of past information. *Journal of Personality and Social Psychology*, *96*(4), 761–769. https://doi.org/10.1037/a0014498

Ji, L.-J., Zhang, Z., & Guo, T. (2008). To buy or to sell: Cultural differences in stock market decisions based on price trends.

Journal of Behavioral Decision Making, *21*(4), 399–413. https://doi.org/10.1002/bdm.595

Jiang, T., Cheung, W.-Y., Wildschut, T., & Sedikides, C. (2021). Nostalgia, reflection, brooding: Psychological benefits and autobiographical memory functions. *Consciousness and Cognition*, *90*, 103107. https://doi.org/10.1016/j.concog.2021.103107

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

Kappes, H. B., & Oettingen, G. (2011). Positive fantasies about idealized futures sap energy. *Journal of Experimental Social Psychology*, *47*(4), 719–720. https://doi.org/10.1016/j.jesp.2011.02.003

Kappes, A., & Crockett, M. J. (2016). The benefits and costs of a rose-colored hindsight. *Trends in Cognitive Sciences*, *20*(9), 644–646. https://doi.org/10.1016/j.tics.2016.06.009

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, *52*(12), 1048–1060. https://doi.org/10.1001/archpsyc.1995.03950240066012

Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science*, *330*(6006), 932–932. https://doi.org/10.1126/science.1192439

King, L. A., Heintzelman, S. J., & Ward, S. J. (2016). Beyond the search for meaning: A contemporary science of the experience of meaning in life. *Current Directions in Psychological Science*, *25*(4), 211–216. https://doi.org/10.1177/0963721416656354

Kivetz, Y., & Tyler, T. R. (2007). Tomorrow I'll be me: The effect of time perspective on the activation of idealistic versus pragmatic selves. *Organizational Behavior and Human Decision Processes*, *102*(2), 193–211. https://doi.org/10.1016/j.obhdp.2006.07.002

Klein, S. B. (2014). Sameness and the self: Philosophical and psychological considerations. *Frontiers in Psychology*, *5*, 29. https://doi.org/10.3389/fpsyg.2014.00029

Kluger, A. N., Stephan, E., Ganzach, Y., & Hershkovitz, M. (2004). The effect of regulatory focus on the shape of probability-weighting function: Evidence from a cross-modality matching method. *Organizational Behavior and Human Decision Processes*, *95*(1), 20–39. https://doi.org/10.1016/j.obhdp.2004.05.003

Kouchaki, M., & Gino, F. (2016). Memories of unethical actions become obfuscated over time. *Proceedings of the National Academy of Sciences of the United States of America*, *113*(22), 6166–6171. https://doi.org/10.1073/pnas.1523586113

Kray, L. J., George, L. G., Liljenquist, K. A., Galinsky, A. D., Tetlock, P. E., & Roese, N. J. (2010). From what might have been to what must have been: Counterfactual thinking creates meaning. *Journal of Personality and Social Psychology*, *98*(1), 106–118. https://doi.org/10.1037/a0017905

Kross, E., & Ayduk, O. (2017). Self-distancing: Theory, research, and current directions. *Advances in Experimental Social Psychology*, *55*, 81–136. https://doi.org/10.1016/bs.aesp.2016.10.002

Kumashiro, M., & Sedikides, C. (2005). Taking on board liability-focused feedback: Close positive relationships as a self-bolstering resource. *Psychological Science*, *16*(9), 732–739. https://doi.org/10.1111/j.1467-9280.2005.01603.x

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480–498. https://doi.org/10.1037/0033-2909.108.3.480

Lai, C. K. Y., Chi, I., & Kayser-Jones, J. (2004). A randomized controlled trial of a specific reminiscence approach to promote the well-being of nursing home residents with dementia. International. *Psychogeriatrics*, *16*(1), 33–49. https://doi.org/10.1017/s1041610204000055

Lambert, N. M., Stillman, T. F., Baumeister, R. F., Fincham, F. D., Hicks, J. A., & Graham, S. M. (2010). Family as a salient source of meaning in young adulthood. *Journal of Positive Psychology*, *5*(5), 367–376. https://doi.org/10.1080/17439760.2010.516616

Langbaum, R. (1982). *The mysteries of identity: The theme in modern literature*. Chicago University Press.

Layous, K., & Kurtz, J. L. (2023). Nostalgia: A potential pathway to greater well-being. *Current Opinion in Psychology*, *49*, 101548. https://doi.org/10.1016/j.copsyc.2022.101547

Layous, K., Kurtz, J. L., Wildschut, T., & Sedikides, C. (2022). The effect of a multi-week nostalgia intervention on well-being: Mechanisms and moderation. *Emotion*, *22*(8), 1952–1968. https://doi.org/10.1037/emo0000817

Leary, M. R., Terry, M. L., Allen, A. B., & Tate, E. B. (2009). The concept of ego threat in social and personality psychology: Is ego threat a viable scientific construct? *Personality and Social Psychology Review*, *13*(3), 151–164. https://doi.org/10.1177/1088868309342595

Ledgerwood, A., Trope, Y., & Chaiken, S. (2010). Flexibility now, consistency later: Psychological distance and construal shape evaluative responding. *Journal of Personality and Social Psychology*, *99*(1), 32–51. https://doi.org/10.1037/a0019843

Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality & Social Psychology*, *75*(1), 5–18. https://doi.org/10.1037/0022-3514.75.1.5

Liberman, N., & Trope, Y. (2014). Traversing psychological distance. *Trends in Cognitive Sciences*, *18*(7), 364–369. https://doi.org/10.1016/j.tics.2014.03.001

Liberman, N., Trope, Y., & Stephan, E. (2007). Psychological distance. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 353–381). Guilford Press.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Prentice-Hall.

Lodge, M., & Taber, C. (2000). Three steps toward a theory of motivated political reasoning. In A. Lupia & M. E. McCubbins (Eds.), *Elements of reason: Cognition, choice and bounds of rationality* (pp. 183–213). Cambridge University Press.

Luke, M. A., Sedikides, C., & Carnelley, K. (2012). Your love lifts me higher! The energizing quality of secure relationships. *Personality and Social Psychology Bulletin*, *38*(6), 721–733. https://doi.org/10.1177/0146167211436117

Luo, Y. L. L., Liu, Y., Cai, H., Wildschut, T., & Sedikides, C. (2016). Nostalgia and self-enhancement: Phenotypic and genetic approaches. *Social Psychological and Personality Science*, *7*(8), 857–866. https://doi.org/10.1177/1948550616660158

Lyubomirsky, S., & Della Porta, M. (2010). Boosting happiness, buttressing resilience: Results from cognitive and behavioral interventions. In J. W. Reich, A. J. Zautra, & J. Hall (Eds.), *Handbook of adult resilience: Concepts, methods, and applications* (pp. 450–464). Guilford Press.

Madoglou, A., Gkinopoulos, T., Xanthopoulos, P., & Kalamaras, D. (2017). Representations of autobiographical nostalgic mem-

ories: Generational effect, gender, nostalgia proneness and communication of nostalgic experiences. *Journal of Integrated Social Sciences*, *7*(1), 60–88.

Maglio, S. J., Trope, Y., & Liberman, N. (2013). Distance from a distance: Psychological distance reduces sensitivity to any further psychological distance. *Journal of Experimental Psychology: General*, *142*(3), 644–657. https://doi.org/10.1037/a0030258

Mar, R. A., Mason, M. F., & Litvack, A. (2012). How daydreaming relates to life satisfaction, loneliness, and social support: The importance of gender and daydream content. *Consciousness and Cognition*, *21*(1), 401–407. https://doi.org/10.1016/j.concog.2011.08.001

Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, *35*(2), 63–78. https://doi.org/10.1037/0022-3514.35.2.63

Markus, H., & Ruvolo, A. (1989). Possible selves: Personalized representations of goals. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 211–242). Erlbaum.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224–253. https://doi.org/10.1037/0033-295X.98.2.224

Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology*, *11*(5), 531–545. https://doi.org/10.1080/17439760.2015.1137623

Masuda, T., & Nisbett, R. E. (2006). Culture and change blindness. *Cognitive Science*, *30*(2), 381–399. https://doi.org/10.1207/s15516709cog000_63

McAdams, D. (1995). What do we know when we know a person? *Journal of Personality*, *63*(3), 365–395. https://doi.org/10.1111/j.1467-6494.1995.tb00500.x

McAdams, D. P. (1996). Personality, Modernity, and the storied self: A contemporary framework for studying persons. *Psychological Inquiry*, *7*(4), 295–321. https://doi.org/10.1207/s15327965pli0704_1

McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, *5*(2), 100–122. https://doi.org/10.1037/1089-2680.5.2.100

McAdams, D. P. (2008). Personal narratives and the life story. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 241–261). Guilford Press.

McClelland, D. C. (1961). *The achieving society*. Van Nostrand Company.

McQueen, A., & Klein, W. M. (2006). Experimental manipulations of self-affirmation: A systematic review. *Self and Identity*, *5*(4), 289–354. https://doi.org/10.1080/15298860600805325

Monin, B., & Miller, D. T. (2001). Moral credentials and the expression of prejudice. *Journal of Personality and Social Psychology*, *81*(1), 33–43. https://doi.org/10.1037/0022-3514.81.1.33

Moskowitz, G. B. (2012). The representation and regulation of goals. In H. Aarts & A. J. Elliot (Eds.), *Goal-directed behavior* (pp. 1–47). Psychology Press.

Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2005). Surveying freedom: Folk intuitions about free will and moral responsibility. *Philosophical Psychology*, *18*(5), 561–584. https://doi.org/10.1080/09515080500264180

Naidu, E., Gabriel, S., Wildschut, T., & Sedikides, C. (2023). Reliving the good old days: Nostalgia increases psychological wellbeing through collective effervescence. *Social Psychological and Personality Science*. Advance Online Publication. https://doi.org/10.1177/19485506221149813

Nehrlich, A. D., Gebauer, G. E., Sedikides, C., & Abele, A. E. (2019). Individual self > relational self > collective self—But why? Processes driving the self-hierarchy in self- and person-perception. *Journal of Personality*, *87*(2), 212–230. https://doi.org/10.1111/jopy.12384

Neisser, U. (1988). Five kinds of self-knowledge. *Philosophical Psychology*, *1*(1), 35–59. https://doi.org/10.1080/09515088808572924

Nelson, K. (1993). The psychological and social origins of autobiographical memory. *Psychological Science*, *4*(1), 7–14. https://doi.org/10.1111/j.1467-9280.1993.tb00548.x

Nelson, S. K., Fuller, J. A. K., Choi, I., & Lyubomirsky, S. (2014). Beyond self-protection: Self-affirmation benefits hedonic and eudaimonic well-being. *Personality and Social Psychology Bulletin*, *40*(8), 998–1011. https://doi.org/10.1177/0146167214533389

Newby-Clark, I. R., & Ross, M. (2003). Conceiving the past and future. *Personality and Social Psychology Bulletin*, *29*(7), 807–818. https://doi.org/10.1177/0146167203029007001

The New Oxford Dictionary of English. (1998). Oxford University Press.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, *3*(5), 400–424. https://doi.org/10.1111/j.1745-6924.2008.00088.x

Northoff, G., Heinzel, A., de Greck, M., Bermpohl, F., Dobrowolny, A., & Panskepp, J. (2006). Self-referential processing in our brain: A meta-analysis of imaging studies on the self. *Neuroimage*, *31*(3), 450–457. https://doi.org/0.1016/j.neuroimage.2005.12.002

Nurra, C., & Oyserman, D. (2018). From future self to current action: An identity-based motivation perspective. *Self and Identity*, *17*(3), 343–364. https://doi.org/10.1080/15298868.2017.1375003

Nussbaum, S., Trope, Y., & Liberman, N. (2003). Creeping dispositionism: The temporal dynamics of behavior prediction. *Journal of Personality and Social Psychology*, *84*(3), 485–497. https://doi.org/10.1037/0022-3514.84.3.485

Nussbaum, S., Liberman, N., & Trope, Y. (2006). Predicting the near and distant future. *Journal of Experimental Psychology: General*, *135*(2), 152–161. https://doi.org/10.1037/0096-3445.135.2.152

Oettingen, G., & Mayer, D. (2002). The motivating function of thinking about the future: Expectations versus fantasies. *Journal of Personality and Social Psychology*, *83*(5), 1198–1212. https://doi.org/10.1037/0022-3514.83.5.1198

Oettingen, G., Mayer, D., Sevincer, A. T., Stephens, E. J., Pak, H-j, & Hagenah, M. (2009). Mental contrasting and goal commitment: The mediating role of energization. *Personality and Social Psychology Bulletin*, *35*(5), 608–622. https://doi.org/10.1177/0146167208330856

Oliva, M. (2021). Causation and the narrative meaning of life. *Journal of Philosophy of Life*, *11*(1), 24–42.

O'Mara, E. M., & Gaertner, L. (2017). Does self-enhancement facilitate task performance? *Journal of Experimental Psychology: General*, *146*(3), 442–455. https://doi.org/10.1037/xge0000272

Park, L. E., Naidu, E., Lemay, E. P., Canning, E. A., Ward, D. E., Panlilio, Z., & Vessels, V. (2023). Social evaluative threat

across individual, relational, and collective selves. *Advances in Experimental Social Psychology*. Advance Online Publication. https://doi.org/10.1016/bs.aesp.2023.03.00

Peetz, J., & Wilson, A. E. (2008). The temporally extended self: The relation of past and future selves to current identity, motivation, and goal pursuit. *Social and Personality Psychology Compass*, *2*(6), 2090–2106. https://doi.org/10.1111/J.1751-9004.2008.00150.X

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). *Operator's Manual. Linguistic inquiry and word count: LIWC2007: Operator's manual*. LIWC.net.

Pepping, C. A., O'Donovan, A., & Davis, P. J. (2013). The positive effects of mindfulness on self-esteem. *The Journal of Positive Psychology*, *8*(5), 376–386. https://doi.org/10.1080/17439760.2013.807353

Pillemer, D. (2003). Directive functions of autobiographical memory: The guiding power of the specific episode. *Memory*, *11*(2), 193–202. https://doi.org/10.1080/741938208

Pinquart, M., & Forstmeier, S. (2012). Effects of reminiscence interventions on psychosocial outcomes: A meta-analysis. *Aging and Mental Health*, *16*(5), 541–550. https://doi.org/10.1080/13607863.2011.651434

Prebble, S. C., Addis, D. R., & Tippett, L. J. (2013). Autobiographical memory and sense of self. *Psychological Bulletin*, *139*(4), 815–840. https://doi.org/10.1037/a0030146

Pronin, E., & Kugler, M. B. (2010). People believe they have more free will than others. *Proceedings of the National Academy of Sciences of the United States of America*, *107*(52), 22469–22474. https://doi.org/10.1073/pnas.1012046108

Pronin, E., & Wegner, D. M. (2006). Manic thinking: Independent effects of thought speed and thought content on mood. *Psychological Science*, *17*(9), 807–813. https://doi.org/10.1111/j.1467-9280.2006.01786.x

Randal, C., Pratt, D., & Bucci, S. (2015). Mindfulness and self-esteem: A systematic review. *Mindfulness*, *6*, 1366–1378. https://doi.org/10.1007/s12671-015-0407-6

Rasmussen, A. S., & Berntsen, D. (2013). The reality of the past versus the ideality of the future: Emotional valence and functional differences between past and future mental time travel. *Memory & Cognition*, *41*(2), 187–200. https://doi.org/10.3758/s13421-012-0260-y

Reid, C. A., Green, J. D., Short, S. D., Willis, K. D., Moloney, J. M., Collison, E. A., Wildschut, T., Sedikides, C., & Gramling, S. (2021). The past as a resource for the bereaved: Nostalgia predicts declines in distress. *Cognition and Emotion*, *35*(2), 256–268. https://doi.org/10.1080/02699931.2020.1825339

Reiff, J. S., Hershfield, H. E., & Quoidbach, J. (2020). Identity over time: Perceived similarity between selves predicts well-being 10 years later. *Social Psychological and Personality Science*, *11*(2), 160–167. https://doi.org/10.1177/1948550619843931

Roepke, A. M., & Seligman, M. E. P. (2015). Depression and prospection. *British Journal of Clinical Psychology*, *55*(1), 23–48. https://doi.org/10.1111/bjc.12087

Roese, N. J., & Olson, J. M. (1997). Counterfactual thinking: The intersection of affect and function. *Advances in Experimental Social Psychology*, *29*, 1–59.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review*, *96*(2), 341–357. https://doi.org/10.1037/0033-295X.96.2.341

Ross, M., & Wilson, A. E. (2002). It feels like yesterday: Self-esteem, valence of personal past experiences, and judgments of subjective distance. *Journal of Personality and Social Psychology*, *82*(5), 792–803. https://doi.org/10.1037/0022-3514.82.5.792

Ross, M., & Wilson, A. E. (2003). Autobiographical memory and conceptions of self: Getting better all the time. *Current Directions in Psychological Science*, *12*(2), 66–69. https://doi.org/10.1111/1467-8721.01228

Routledge, C., Arndt, J., Wildschut, T., Sedikides, C., Hart, C. M., Juhl, J., Vingerhoets, A. J. J. M., & Scholtz, W. (2011). The past makes the present meaningful: Nostalgia as an existential resource. *Journal of Personality and Social Psychology*, *101*(3), 638–652. https://doi.org/10.1037/a0024292

Rubin, D. C. (2005). A basic-systems approach to autobiographical memory. *Current Directions in Psychological Science*, *14*(2), 79–83. https://doi.org/10.1111/j.0963-7214.2005.00339.x

Rusbult, C. E., Verette, J., Whitney, G. A., Slovik, L. F., & Lipkus, I. (1991). Accommodation processes in close relationships: Theory and preliminary empirical evidence. *Journal of Personality and Social Psychology*, *60*(1), 53–78. https://doi.org/10.1037/0022-3514.60.1.53

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic wellbeing. *Annual Review of Psychology*, *52*, 141–166. http://dx.doi.org/10.1146/annurev.psych.52.1.141

Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, *65*, 529–565. http://dx.doi.org/10.1111/j.1467-6494.1997.tb00326.x

Schacter, D. L. (1996). *Searching for memory: The brain, the mind, and the past*. Basic Books.

Schacter, D. L., & Addis, D. R. (2007a). The cognitive neuroscience of constructive memory: Remembering the past and imagining the future. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, *362*(1481), 773–786. https://doi.org/10.3758/rstb.2007.2087

Schacter, D. L., & Addis, D. R. (2007b). On the constructive episodic simulation of past and future events. *Behavioral and Brain Sciences*, *30*(3), 331–332. https://doi.org/10.1017/S0140525X07002178

Schacter, D. L., Addis, D. R., & Buckner, R. L. (2007). Remembering the past to imagine the future: The prospective brain. *Nature Reviews Neuroscience*, *8*(9), 657–661. https://doi.org/10.1038/nrn2213

Schleider, J. L., Mullarkey, M. C., & Chacko, A. (2020). Harnessing wise interventions to advance the potency and reach of youth mental health services. *Clinical Child and Family Psychology Review*, *23*, 70–101. https://doi.org/10.1007/s10567-019-00301-4

Schmeichel, B. J., & Vohs, K. D. (2009). Self-affirmation and self-control: Affirming core values counteracts ego depletion. *Journal of Personality and Social Psychology*, *96*(4), 770–782. https://doi.org/10.1037/a0014635

Schmid, K. L., Phelps, E., & Lerner, R. M. (2011). Constructing positive futures: Modeling the relationship between adolescents' hopeful future expectations and intentional self

regulation in predicting positive youth development. *Journal of Adolescence*, *34*(6), 1127–1135. https://doi.org/10.1016/j.adolescence.2011.07.009

Sedikides, C. (1993). Assessment, enhancement, and verification determinants of the self-evaluation process. *Journal of Personality and Social Psychology*, *65*(2), 317–338. https://doi.org/10.1037/0022-3514.65.2.317

Sedikides, C. (1995). Central and peripheral self-conceptions are differentially influenced by mood: Tests of the differential sensitivity hypothesis. *Journal of Personality and Social Psychology*, *69*(4), 759–777. https://doi.org/10.1037/0022-3514.69.4.759

Sedikides, C. (2012). Self-protection. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (2nd ed., pp. 327–353). Guilford Press.

Sedikides, C., Cheung, W.Y., Wildschut, T., Hepper, E. G., Baldursson, E., & Pedersen, B. (2018). Nostalgia motivates pursuit of important goals by increasing meaning in life. *European Journal of Social Psychology*, *48*(2), 209–216. https://doi.org/10.1002/ejsp.2318

Sedikides, C. (2020). On the doggedness of self-enhancement and self-protection: How constraining are reality constraints? *Self and Identity*, *19*(3), 251–271. https://doi.org/10.1080/15298868.2018.1562961

Sedikides, C. (2021). Self-construction, self-protection, and self-enhancement: A homeostatic model of identity protection. *Psychological Inquiry*, *32*(4), 197–221. https://doi.org/10.1080/1047840X.2021.2004812

Sedikides, C., & Alicke, M. D. (2012). Self-enhancement and self-protection motives. In R. M. Ryan (Ed.), *Oxford handbook of motivation* (pp. 303–322). Oxford University Press.

Sedikides, C., Alicke, M. D., & Skowronski, J. J. (2021). On the utility of the self in social perception: An Egocentric Tactician Model. *Advances in Experimental Social Psychology*, *63*(1), 247–298. https://doi.org/10.1016/bs.aesp.2020.11.005

Sedikides, C., & Brewer, M. B. (2001). *Individual self, relational self, collective self*. Psychology Press.

Sedikides, C., Gaertner, L., & Cai, H. (2015). On the panculturality of self-enhancement and self-protection motivation: The case for the universality of self-esteem. *Advances in Motivation Science*, *2*, 185–241. https://doi.org/10.1016/bs.adms.2015.04.002

Sedikides, C., Gaertner, L., Luke, M. A., O'Mara, E. M., & Gebauer, J. (2013). A three-tier hierarchy of motivational self-potency: Individual self, relational self, collective self. *Advances in Experimental Social Psychology*, *48*, 235–295. https://doi.org/10.1016/B978-0-12-407188-9.00005-3

Sedikides, C., & Green, J. D. (2000). On the self-protective nature of inconsistency/negativity management: Using the person memory paradigm to examine self-referent memory. *Journal of Personality and Social Psychology*, *79*(6), 906–922. https://doi.org/10.1037/0022-3514.79.6.906

Sedikides, C., Green, J. D., Saunders, J., Skowronski, J. J., & Zengel, B. (2016). Mnemic neglect: Selective amnesia of one's faults. *European Review of Social Psychology*, *27*(1), 1–62. https://doi.org/10.1080/10463283.2016.1183913

Sedikides, C., & Gregg, A. P. (2003). Portraits of the self. In M. A. Hogg & J. Cooper (Eds.), *Sage handbook of social psychology* (pp. 110–138). SAGE.

Sedikides, C., & Gregg, A. P. (2008). Self-enhancement: Food for thought. *Perspectives on Psychological Science*, *3*(2), 102–116. https://doi.org/10.1111/j.1745-6916.2008.00068.x

Sedikides, C., Hong, E., & Wildschut, T. (2023). Self-continuity. *Annual Review of Psychology*, *74*, 333–361. https://doi.org/10.1146/annurev-psych-032420-032236

Sedikides, C., Luke, M. A., & Hepper, E. G. (2016). Enhancing feedback and improving feedback: Subjective perceptions, psychological consequences, behavioral outcomes. *Journal of Applied Social Psychology*, *46*(12), 687–700. https://doi.org/10.1111/jasp.12407

Sedikides, C., & Skowronski, J. J. (2000). On the evolutionary functions of the symbolic self: The emergence of self-evaluation motives. In A. Tesser, R. Felson, & J. Suls (Eds.), *Psychological perspectives on self and identity* (pp. 91–117). APA Books. https://doi.org/10.1037/10357-004

Sedikides, C., & Skowronski, J. J. (2020). In human memory, good can be stronger than bad. *Current Directions in Psychological Science*, *29*(1), 86–91. https://doi.org/10.1177/0963721419896363

Sedikides, C., & Strube, M. J. (1997). Self-evaluation: To thine own self be good, to thine own self be sure, to thine own self be true, and to thine own self be better. *Advances in Experimental Social Psychology*, *29*, 209–269. https://doi.org/10.1016/S0065-2601(08)60018-0

Sedikides, C., & Wildschut, T. (2018). Finding meaning in nostalgia. *Review of General Psychology*, *22*(1), 48–61. https://doi.org/10.1037/gpr0000109

Sedikides, C., & Wildschut, T. (2019). The sociality of personal and collective nostalgia. *European Review of Social Psychology*, *30*(1), 123–173. http://dx.doi.org/10.1080/10463283.2019.1630098

Sedikides, C., & Wildschut, T. (2020). The motivational potency of nostalgia: The future is called yesterday. *Advances in Motivation Science*, *7*, 75–111. https://doi.org/10.1016/bs.adms.2019.05.001

Sedikides, C., Wildschut, T., Cheung, W.-Y., Routledge, C., Hepper, E. G., Arndt, J., Vail, K., Zhou, X., Brackstone, K., & Vingerhoets, A. J. J. M. (2016). Nostalgia fosters self-continuity: Uncovering the mechanism (social connectedness) and the consequence (eudaimonic well-being). *Emotion*, *16*(4), 524–539. https://doi.org/10.1037/emo0000136

Sedikides, C., Wildschut, T., Routledge, C., Arndt, J., Hepper, E. G., & Zhou, X. (2015). To nostalgize: Mixing memory with affect and desire. *Advances in Experimental Social Psychology*, *51*, 189–273. https://doi.org/10.1016/bs.aesp.2014.10.001

Seligman, M. E. P., Railton, P., Baumeister, R. F., & Sripada, C. (2013). Navigating into the future or driven by the past. *Perspectives on Psychological Science*, *8*(2), 119–141. https://doi.org/10.1177/1745691612474317

Sheppes, G., & Gross, J. J. (2013). Emotion regulation effectiveness: What works when. In H. Tennen, J. Suls, & I. B. Weiner (Eds.), *Handbook of psychology: Personality and social psychology* (pp. 391–405). John Wiley.

Sherman, D. K., & Cohen, G. L. (2002). Accepting threatening information: Self-affirmation and the reduction of defensive biases. *Current Directions in Psychological Science*, *11*(4), 119–123. https://doi.org/10.1111/1467-8721.00182

Sherman, D. K., & Cohen, G. L. (2006). The psychology of self-defense: Self-affirmation theory. *Advances in Experimental*

Social Psychology, *38*, 183–242. https://doi.org/10.1016/S0065-2601(06)38004-5

Sherman, D. K., & Hartson, K. A. (2011). Reconciling self-protection with self-improvement. In M. D. Alicke & C. Sedikides (Eds.), *Handbook on self-enhancement and self-protection* (pp. 128–151). Guilford Press.

Sherman, D. K., Lokhande, M., Müller, T., & Cohen, G. L. (2021). Selfaffirmation interventions. In G. M. Walton & A. J. Crum (Eds.), *Handbook of wise interventions: How social psychology can help people change* (pp. 63–99). Guilford Press.

Shipp, A. J., Edwards, J. R., & Lambert, L. S. (2009). Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes*, *110*(1), 1–22. https://doi.org/10.1016/j.obhdp.2009.05.001

Singer, J. A., & Salovey, P. (1993). *The remembered self: Emotion and memory in personality*. Free Press.

Skowronski, J. J., Walker, W. R., Henderson, D. X., & Bond, G. D. (2014). The fading affect bias: Its history, its implications, and its future. *Advances in Experimental Social Psychology*, *49*, 163–218. https://doi.org/10.1016/B978-0-12-800052-6.00003-2

Smallwood, J., & Schooler, J. W. (2015). The science of mind wandering: Empirically navigating the stream of consciousness. *Annual Review of Psychology*, *6*, 487–518. https://doi.org/10.1146/annurev-psych-010814-015331

Snyder, C. R., & Higgins, R. L. (1988). Excuses: Their effective role in the negotiation of reality. *Psychological Bulletin*, *104*(1), 23–35. https://doi.org/10.1037/0033-2909.104.1.23

Sokol, Y., & Serper, M. (2019). Experimentally increasing self-continuity improves subjective well-being and protects against self-esteem deterioration from an ego-deflating task. *Identity*, *19*(2), 157–172. https://doi.org/10.1080/15283488.2019.1604350

Spencer-Rodgers, J., Boucher, H. C., Mori, S. C., Wang, L., & Peng, K. (2009). The dialectical self-concept: Contradiction, change, and holism in East Asian cultures. *Personality and Social Psychology Bulletin*, *35*(1), 29–44. https://doi.org/10.1177/0146167208325772

Stawarczyk, D., & D'Argembeau, A. (2015). Neural correlates of personal goal processing during episodic future thinking and mind-wandering: An ALE meta-analysis. *Human Brain Mapping*, *36*(8), 2928–2947. https://doi.org/10.1002/hbm.22818

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, *21*, 261–302. https://doi.org/10.1016/S0065-2601(08)60229-4

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80–93. https://doi.org/10.1037/0022-0167.53.1.80

Stephan, E. (2023). *The role of self-construal abstractness in coping*. Unpublished manuscript. Bar-Ilan University.

Stephan, E., Sedikides, C., Heller, D., & Shidlovski, D. (2015). My fair future self: The role of temporal distance and self-enhancement in prediction. *Social Cognition*, *33*(2), 149–168. https://doi.org/10.1521/soco.2015.33.2.149

Stephan, E., Sedikides, C., & Wildschut, T. (2012). Mental travel into the past: Differentiating recollections of nostalgic, ordinary, and positive events. *European Journal of Social Psychology*, *42*(3), 290–298. https://doi.org/10.1002/ejsp.1865

Stephan, E., Sedikides, C., Wildschut, T., Cheung, W. Y., Routledge, C., & Arndt, J. (2015). Nostalgia-evoked inspiration: Mediating mechanisms and motivational implications. *Personality and Social Psychology Bulletin*, *41*(10), 1395–1410. https://doi.org/10.1177/0146167215596985

Stephan, E., Shidlovski, D., & Heller, D. (2017). Distant determination and near determinism: The role of temporal distance in prospective attributions to will. *Journal of Experimental Social Psychology*, *68*, 113–121. https://doi.org/10.1016/j.jesp.2016.06.006

Stephan, E., Shidlovski, D., & Sedikides, C. (2018). Self-prospection and energization: The role of time distance and consideration of future consequences. *Self and Identity*, *17*(1), 22–36. https://doi.org/10.1080/15298868.2017.1314319

Stephan, E., Wildschut, T., Sedikides, C., Zhou, X., He, W., Routledge, C., Cheung, W. Y., & Vingerhoets, A. J. J. M. (2014). The mnemonic mover: Nostalgia regulates avoidance and approach motivation. *Emotion*, *14*(3), 545–561. https://doi.org/10.1037/a0035673

Stopa, L., & Jenkins, A. (2007). Images of the self in social anxiety: Effects on the retrieval of autobiographical memories. *Journal of Behavior Therapy and Experimental Psychiatry*, *38*(4), 459–473. https://doi.org/10.1016/j.jbtep.2007.08.006

Strathman, A., Gleicher, F., & Boninger, D. S. (1994). The consideration of future consequences: Weighing immediate and distant outcomes of behavior. *Journal of Personality and Social Psychology*, *66*(4), 742–752. https://doi.org/10.1037/0022-3514.66.4.742

Strohminger, N., Knobe, J., & Newman, G. (2017). The true self: A psychological concept distinct from the self. *Perspectives on Psychological Science*, *12*(4), 551–560. https://doi.org/10.1177/1745691616689495

Suddendorf, T., & Corballis, M. C. (2007). The evolution of foresight: What is mental time travel, and is it unique to humans? *Behavioral and Brain Sciences*, *30*(3), 299–313. https://doi.org/10.1017/S0140525X07001975

Szabó, Á. (2022). Envisioning positive future selves: Perceptions of the future self and psychological adaptation in recent migrants. *Self and Identity*, *21*(8), 877–890. https://doi.org/10.1080/15298868.2021.2003427

Szpunar, K. K., Spreng, R. N., & Schacter, D. L. (2014). A taxonomy of prospection: Introducing an organizational framework for future-oriented cognition. *Proceedings of the National Academy of Sciences*, *111*(52), 18414–18421. https://doi.org/10.1073/pnas.141714411

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, *58*, 345–372. https://doi.org/10.1146/annurev.psych.56.091103.070145

Taylor, S. E., & Gollwitzer, P. M. (1995). Effects of mindset on positive illusions. *Journal of Personality and Social Psychology*, *69*(2), 213–226. https://doi.org/10.1037/0022-3514.69.2.213

Trope, Y., Ledgerwood, A., Liberman, N., & Fujita, K. (2021). Regulatory scope and its mental and social supports. *Perspectives on Psychological Science*, *16*(2), 204–224. https://doi.org/10.1177/1745691620950691

Tulving, E. (1983). *Elements of episodic memory*. Oxford University Press.

Tulving, E. (1985). Memory and consciousness. *Canadian Psychology/psychologie Canadienne*, *26*(1), 1–12. https://doi.org/10.1037/h0080017

Tulving, E. (2002). Episodic memory: From mind to brain. *Annual Review of Psychology*, *53*, 1–25. https://doi.org/10.1146/annurev.psych.53.100901.135114

Turner, R. N., & Stathi, S. (2023). Nostalgic intergroup contact and intergroup relations: Theoretical, empirical, and applied dimensions. *Current Opinion in Psychology*, *49*, 101585. https://doi.org/10.1016/j.copsyc.2023.101585

Turner, R. N., Wildschut, T., & Sedikides, C. (2012). Dropping the weight stigma: Nostalgia improves attitudes toward persons who are overweight. *Journal of Experimental Social Psychology*, *48*(1), 130–137. https://doi.org/10.1016/j.jesp.2011.09.007

Turner, R. N., Wildschut, T., & Sedikides, C. (2018). Fighting ageism through nostalgia. *European Journal of Social Psychology*, *48*(2), 196–208. https://doi.org/10.1002/ejsp.2317

Turner, R. N., Wildschut, T., Sedikides, C., & Gheorghiu, M. (2013). Combating the mental health stigma with nostalgia. *European Journal of Social Psychology*, *43*(5), 413–422. https://doi.org/10.1002/ejsp.1952

Tykocinski, O. E. (2001). I never had a chance: Using hindsight tactics to mitigate disappointments. *Personality and Social Psychology Bulletin*, *27*(3), 376–382. https://doi.org/10.1177/0146167201273011

Updegraff, J. A., Emanuel, A. S., Suh, E. M., & Gallagher, K. M. (2010). Sheltering the self from the storm: Self-construal abstractness and the stability of self-esteem. *Personality and Social Psychology Bulletin*, *36*(1), 97–108. https://doi.org/10.1177/0146167209353331

Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology*, *57*(4), 660–671. https://doi.org/10.1037/0022-3514.57.4.660

Van Boven, L., Kane, J., & McGraw, A. P. (2009). Temporally asymmetric constraints on mental simulation: Retrospection is more constrained than prospection. In K. D. Markman, W. M. P. Klein, & J. A. Suhr (Eds.), *Handbook of imagination and mental simulation* (pp. 131–147). Psychology Press.

Van Dam, N. T., van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., & Fox, K. C. (2018). Mind the hype: A critical evaluation and prescriptive agenda for research on mindfulness and meditation. *Perspectives on Psychological Science*, *13*(1), 36–61. https://doi.org/10.1177/1745691617709589

vanDellen, M. R., Campbell, W. K., Hoyle, R. H., & Bradfield, E. K. (2011). Compensating, resisting, and breaking: A meta-analytic examination of reactions to self-esteem threat. *Personality and Social Psychology Review*, *15*(1), 51–74. https://10.1177/1088868310372950

Van Dijke, M., & Leunissen, J. M. (2023). Nostalgia in organizations. *Current Opinion in Psychology*, *49*, 101540. https://doi.org/10.1016/j.copsyc.2022.101540

Van Tilburg, W. A. P., Sedikides, C., & Wildschut, T. (2015). The mnemonic muse: Nostalgia fosters creativity through openness to experience. *Journal of Experimental Social Psychology*, *59*, 1–7. https://doi.org/10.1016//j.jesp.2015.02.002

Vaughan-Johnston, T. I., Jacobson, J. A., Prosserman, A., & Sanders, E. (2021). Mind-body practices and self-enhancement: Direct replications of Gebauer et al.'s (2018) Experiments 1 and 2. *Psychological Science*, *32*(9), 1510–1521. https://doi.org/10.1177/0956797621997366

Vess, M., Arndt, J., Routledge, C., Sedikides, C., & Wildschut, T. (2012). Nostalgia as a resource for the self. *Self and Identity*, *11*(3), 273–284. https://doi.org/10.1080/15298868.2010.521452

Vess, M., Arndt, J., & Schlegel, R. J. (2011). Abstract construal levels attenuate state self-esteem reactivity. *Journal of Experimental Social Psychology*, *47*(4), 861–864. https://doi.org/10.1016/j.jesp.2011.02.014

Viard, A., Chételat, G., Lebreton, K., Desgranges, B., Landeau, B., de La Sayette, V., Eustache, F., & Piolino, P. (2011). Mental time travel into the past and the future in healthy aged adults: An fMRI study. *Brain and Cognition*, *75*(1), 1–9. https://doi.org/10.1016/j.bandc.2010.10.009

Vranić, A., Jelić, M., & Tonkovic, M. (2018). Functions of autobiographical memory in younger and older adults. *Frontiers in Psychology*, *9*, 219. https://doi.org/10.3389/fpsyg.2018.00219

Wakslak, C. J., Nussbaum, S., Liberman, N., & Trope, Y. (2008). Representations of the self in the near and distant future. *Journal of Personality and Social Psychology*, *95*(4), 757–773. https://doi.org/10.1037/a0012939

Wakslak, C. J., & Trope, Y. (2009). Cognitive consequences of affirming the self: The relationship between self-affirmation and object construal. *Journal of Experimental Social Psychology*, *45*(4), 927–932. https://doi.org/10.1016/j.jesp.2009.05.002

Wakslak, C. J., Trope, Y., & Liberman, N. (2012). Self-conceptualization, self-guides, and regulatory scope: A construal level view. In S. Vazire & T. Wilson (Eds.), *Handbook of self-knowledge* (pp. 310–326). Guilford Press.

Walton, G. M. (2014). The new science of wise psychological interventions. *Current Directions in Psychological Science*, *23*(1), 73–82. https://doi.org/10.1177/0963721413512856

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, *331*(6023), 1447–1451. https://doi.org/10.1126/science.1198364

Wang, Q., Hou, Y., Koh, J. B. K., Song, Q., & Yang, Y. (2018). Culturally motivated remembering: The moderating role of culture for the relation of episodic memory to well-being. *Clinical Psychological Science*, *6*(6), 860–871. https://doi.org/10.1177/21677026187840

Wheeler, M. A., Stuss, D. T., & Tulving, E. (1997). Toward a theory of episodic memory: The frontal lobes and autonoetic consciousness. *Psychological Bulletin*, *121*(3), 331–354. https://doi.org/10.1037/0033-2909.121.3.331

Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, pro-relationship behavior, and trust in close relationships. *Journal of Personality and Social Psychology*, *77*(5), 942–966. https://doi.org/10.1037/0022-3514.77.5.942

Wiesenfeld, B. M., Brockner, J., & Martin, C. (1999). A self-affirmation analysis of survivors' reactions to unfair organizational downsizings. *Journal of Experimental Social Psychology*, *35*(5), 441–460. https://doi.org/10.1006/jesp.1999.1389

Wildschut, T., & Sedikides, C. (2023a). Benefits of nostalgia in vulnerable populations. *European Review of Social Psychology*, *34*(1), 44–91. https://doi.org/10.1080/10463283.2022.2036005

Wildschut, T., & Sedikides, C. (2023b). Water from the lake of memory: The regulatory model of nostalgia. *Current Directions in Psychological Science*, *32*(1), 57–64. https://doi.org/10.1177/09637214221121768

Wildschut, T., Sedikides, C., Arndt, J., & Routledge, C. (2006). Nostalgia: Content, triggers, functions. *Journal of Personality and Social Psychology*, *91*(5), 975–993. https://doi.org/10.1037/0022-3514.91.5.975

Williams, H. L., Conway, M. A., & Cohen, G. (2008). Autobiographical memory. In G. Cohen & M. A. Conway (Eds.), *Memory in the real world* (3rd ed., pp. 21–90). Psychology Press.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. *Advances in Experimental Social Psychology*, *41*, 275–314. https://doi.org/10.1016/S0065-2601(08)00406-1

Wilson, A. E., & Ross, M. (2001). From chump to champ: People's appraisals of their earlier and present selves. *Journal of Personality and Social Psychology*, *80*(4), 572–584. https://doi.org/10.1037/0022-3514.80.4.572

Woods, B., O'Philbin, L., Farrell, E. M., Spector, A. E., & Orrell, M. (2018). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*, *3*(3), CD001120. https://doi.org/10.1002/14651858.CD001120.pub3

Yang, Z., Wildschut, T., Izuma, K., Gu, R., Luo, Y. L. L., Cai, H., & Sedikides, C. (2022). Patterns of brain activity associated with nostalgia: A social-cognitive neuroscience perspective. *Social Cognitive and Affective Neuroscience*, *17*(12), 1131–1144. https://doi.org/10.1093/scan/nsac036

Ye, S., Ngan, R. Y. L., & Hui, A. N. N. (2013). The state, not the trait, of nostalgia increases creativity. *Creativity Research Journal*, *25*(3), 317–323. https://doi.org/10.1080/10400419.2013.813797

Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C., Tipton, E., Schneider, B., Hulleman, C. S., Hinojosa, C. P., Paunesku, D., Romero, C., Flint, K., Roberts, A., Trott, J., Iachan, R., Buontempo, J., Yang, S. M., Carvalho, C. M., & Dweck, C. S. (2019). A national experiment reveals where a growth mindset improves achievement. *Nature*, *573*, 364–369. https://doi.org/10.1038/s41586-019-1466-y

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research June*, *81*(2), 267–301. https://doi.org/10.3102/0034654311405999

Yevchenko, I. M., Masliuk, A. M., Podolyak, N. M., & Girchenko, O. L. (2021). Students' orientation to the past, present, future and its dependence on their way of self-affirmation. *Linguistics and Culture Review*, *5*(S4), 454–468. https://doi.org/10.21744/lingcure.v5nS4.1586

Zell, E., Strickhouser, J. E., Sedikides, C., & Alicke, M. D. (2020). The better-than-average effect in comparative self-evaluation: A comprehensive review and meta-analysis. *Psychological Bulletin*, *146*(2), 118–149. https://doi.org/10.1037/bul0000218

Zhou, X., Sedikides, C., Mo, T., Li, W., Hong, E. K., & Wildschut, T. (2022). The restorative power of nostalgia: Thwarting loneliness by raising happiness during the COVID-19 pandemic. *Social Psychological and Personality Science*, *13*(4), 803–815. https://doi.org/10.17605/OSF.IO/U5RJB

Zimbardo, Ph., & Boyd, J. (1999). Putting time in perspective: A valid, reliable individual differences metric. *Journal of Personality and Social Psychology*, *77*(6), 1271–1288. https://doi.org/10.1037/0022-3513.77.6.1271