



# Psychological Inquiry

An International Journal for the Advancement of Psychological Theory

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/hpli20>

## Self-Construction, Self-Protection, and Self-Enhancement: A Homeostatic Model of Identity Protection

Constantine Sedikides

To cite this article: Constantine Sedikides (2021) Self-Construction, Self-Protection, and Self-Enhancement: A Homeostatic Model of Identity Protection, *Psychological Inquiry*, 32:4, 197-221, DOI: [10.1080/1047840X.2021.2004812](https://doi.org/10.1080/1047840X.2021.2004812)

To link to this article: <https://doi.org/10.1080/1047840X.2021.2004812>



© 2021 The Author(s). Published with license by Taylor and Francis Group, LLC



Published online: 20 Jan 2022.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

TARGET ARTICLE



# Self-Construction, Self-Protection, and Self-Enhancement: A Homeostatic Model of Identity Protection

Constantine Sedikides 

Center for Research on Self and Identity, School of Psychology, University of Southampton, Southampton, UK

## ABSTRACT

Self-protection and self-enhancement, once depicted as biases that impede accurate self-knowledge and hinder effective environmental control, have more recently been viewed as misbeliefs that can have fortuitous, adaptive consequences. I take the next step forward by construing identity protection and enhancement mechanisms as part of a routine, adaptive system. Whereas biological homeostasis regulates physiological processes, *psychological homeostasis* regulates the emotional states that threaten a desired identity. I elaborate on the nature of psychological homeostasis, the identity system that it modulates, and the immune system that safeguards it from harm. I discuss the construction of self-views and narratives in the ordinary stream of mental activity, as well as reparative responses to contemporaneous threats, similar to the immune system's response to microbes that breach the body's initial defenses. Using basic immunological principles, I distinguish between innate and adaptive psychological immunity, compare the spread of disease to that of threatening information among related self-views and narratives, and consider the "memories" of the biological and psychological immune systems to redress future threats. In addition, I offer a set of propositions that include predictions about various aspects of immunity, and end by considering the roles of awareness and self-deception in the immunity process.

## KEYWORDS

Self; self-protection; self-enhancement; identity; homeostasis

## Introduction

Personal identity is a relative newcomer in animal evolution, an adaptation that is most evolved in the human species. Crafting and preserving an identity and its components derives from the human capacities for conscious reflection, symbolic representation, and linguistic communication. In addition to the fundamental capabilities of differentiation, continuity, and agency, which it shares with other species, human identity comprises meta-beliefs, that is, beliefs about one's characteristics, attitudes, and actions. Personal identity encompasses the self-views and narratives which track individuals' standing on the characteristics and abilities that fulfill their survival and reproductive needs, including physical and social attractiveness, intellectual prowess, self-regulatory proficiency, and social status.

As such, identity construction is no idyl pastime. Forging a desired identity can supersede biological imperatives. People starve themselves to satisfy appearance goals. They behave recklessly, adopt detrimental health habits, and trade long-term benefits for short-term gains, to advance personal images. Throughout history, the desire to preserve religious and spiritual ideals has led people to ignore physiological needs (e.g., by fasting), to tolerate severe deprivations (e.g., sexual celibacy), and to endure torture or martyrdom. Even without the veneer of religious transcendence, people

sacrifice their lives to defend their self-views, their core values, as well as their social and cultural identifications (Bushman et al., 2007; Jost et al., 2017; Nisbett, 1996).

Stories can be concocted to reel such actions into the biological adaptation framework without emphasizing identity protection. Anorexia might be a misguided attempt to improve mate selection. Sacrificing one's life in battle might be an extreme form of group altruism. Even sexual celibacy, which seems an obvious nemesis to inclusive fitness, has been explained as a sacrifice to promote the fitness of close kin or as a parental ploy to concentrate financial resources on fewer children (Deady et al., 2006).

There are more compelling explanations for positive identity formation, promotion, and protection that make the above concoctions less susceptible to charges of being post-hoc patchwork or, in Gould and Lewontin (1979) notable phrase, "just so" stories. The perspective on identity construction and preservation introduced in this article regards the tendency to construct desired identities as part of the body's harm protection system, which encompasses ordinary homeostatic and immune processes. Although analogies with the biological immune system have been used to describe the regulation of psychological states (Gilbert et al., 1998; Rosenzweig, 2016; Sawada et al., 2018; Shields et al., 2017), I do not consider biological immunity as an analogy or metaphor: rather, I consider immunity, both psychological and

biological, to be components of a coordinated, adaptive, harm protection system in humans. Whereas psychological immunity comprises different content than biological immunity (thoughts, beliefs, and narratives vs. t-cells and b-cells), I assume that immunity is an adaptation that operates according to similar principles—whether in animals that have minimal capacity for conscious awareness or in humans, whose capacities for reflection, abstraction, and projection, necessitate an additional, psychological, component.

Personal identity emerges as a feature of consciousness that facilitates effective environmental control. The self-views and narratives that personal identity comprises are a boon to planful action. Individuals who can categorize their characteristics and abilities accurately and efficiently are better-positioned to make behavioral decisions that expedite goal pursuits. Personal identity, in the sense of understanding one's needs and capabilities, allows individuals to coordinate their skills and desires with the fluctuating requirements of their social and physical environments.

However, personal identity, as with many adaptations, introduces liabilities in addition to benefits. Although self-knowledge in the service of advancing personal goals generally promotes psychological well-being, the setbacks that individuals experience in their material and social pursuits inflict emotional pain. In this regard, the self-views that evolved to promote fitness can also arouse self-doubt and insecurity. Humans appear to be unique in the animal kingdom in their capacity to feel bad about *themselves*—that is, about the self-views that their identities comprise. In this article, I use fundamental principles of the body's biological protection system—homeostatic regulation and immunity—as the template for describing the structure and function of the complementary psychological harm protection system.

### The Backdrop: Self-Protection and Self-Enhancement

In psychology, identity protection has been represented by research and theory on self-protection and self-enhancement (Alicke & Sedikides, 2011; Leary, 2007; Paulhus & Reid, 1991). That people deploy psychological defenses to protect themselves against threatening information is one of psychology's fundamental premises, beginning with the Freudian defense mechanisms (Freud, 1920). In Freudian theory, defense mechanisms squelch or neutralize a threat by, for example, denying its truth (denial), projecting it onto others (projection), or reversing it (reaction formation). Freudian psychology was steeped in a Hobbesian (Hobbes, 1991) worldview in which barely civilized individuals are constrained by societal norms. The Freudian defenses were, accordingly, directed at the anxiety that socially unacceptable sexual and aggressive urges arouse. Modern social and personality psychology has expanded self-threats to include anything that diminishes self-views and induces negative affect including a sense of social isolation (Leary et al., 2009), meaninglessness (Heine et al., 2006), lack of freedom (Deci & Ryan, 1995), and mortality awareness (Pyszczynski

et al., 2004). In principle, any desired and important self-views that can be compromised by internal (e.g., conjectures, memories, projections) or external (e.g., criticism, poor performance, declining social or financial status) events are subject to self-protection (Jonas et al., 2014; Sedikides, 2012).

Self-enhancement is a more recent addition to the literature than self-protection. Whereas self-protection is geared primarily toward preventing a decline in self-views, self-enhancement involves calibrating one's abilities and prospects above their objective standing (Sedikides et al., 2015). Self-enhancement is represented in phenomena such as the better-than-average effect (Zell et al., 2020), the self-serving bias (Mezulis et al., 2004), and overclaiming (Paulhus & Harms, 2004). Self-enhancement encompasses both overestimating one's characteristics or knowledge relative to an impartial standard (Preuss & Alicke, 2009) and evaluating one's characteristics more favorably than those of others (Chambers et al., 2003).

Self-protection and self-enhancement occur for many reasons, such as differential access to information, egocentrism, and selective recall (Sedikides & Alicke, 2012, 2019), but a key aspect of research on the self is the claim that individuals are motivated to construe experiential data in a way that defends, buttresses, or promotes their desired self-views. This motivational claim invokes a dilemma that has accompanied this literature throughout its history: If understanding one's characteristics and abilities facilitates physical and social adaptation, why would people be motivated to make inaccurate self-appraisals? Stated otherwise, if personal identity evolves for environmental control, why does not the value of accurate self-appraisal often outweigh the desire to feel good?

### The Adaptive Value of Positive Identities

The answer to this question requires a more thorough analysis of the motivation to feel good—what I refer to as psychological homeostasis—than has hitherto been supplied. I address this issue in two main sections below in describing conceptions of personal identity and psychological homeostasis. I note, however, that considerable progress has already been made, especially in regard to the so-called self-serving or motivated biases that were once treated uniformly as deviations from rationality. Taylor and Brown (1988) challenged the blanket assumption of irrationality by highlighting various adaptive consequences of such biases. These included promoting happiness, boosting positive self-regard, facilitating social relationships, and increasing productivity. The authors described these tendencies as ways to manage negative feedback (see also Taylor, 1991), a view that accords with the predominant methodological strategy in this literature, namely, introducing a self-threat (e.g., negative social or performance feedback) and then assessing ways in which participants allay it (e.g., excuses, justifications).

In the 30 plus years of theory and research since Taylor and Brown (1988) began chipping away at the “error and

bias” depiction of identity protection mechanisms, the view that deviations from rational models can entail adaptive judgment strategies is now accepted (Dufner et al., 2019; Gigerenzer et al., 2011; Yong et al., 2020). Nevertheless, the take-home message from current treatments is that inaccurate self- and social-judgments—what McKay and Dennett (2009) term “misbeliefs”—are occasionally adaptive when they subserve biological fitness. For example, McKay and Dennett cited research (from Taylor et al., 2000; but see Zell et al., 2021) showing that HIV positive and AIDS patients who registered optimistically biased estimations about the course of their illness survived longer than those who were more realistic.

McKay and Dennett (2009) distinguished between errors that represent deviations from a system’s normal functioning, and those that are integral. Monochromatic and dichromatic color-blindness, for example, are visual defects. By contrast, inherent errors are compromises required for optimal function. The immune system’s rejection of transplanted organs is a case in point. Given that the immune system is programmed to thwart pathogens, it attacks when it recognizes foreign objects. If the immune system were calibrated to be more accepting of external invaders, it might fail to detect serious health threats.

Whereas in the early history of judgment and decision-making, deviations from normative standards were depicted as instances of human irrationality, the work of Taylor and Brown (1988) suggested that they might belong in McKay and Dennett (2009) later category, as compromises that promote biological fitness. This view was elaborated in error management theory (Haselton & Buss, 2000, 2009), which noted that many demonstrations of bias and error are attributable to the format in which problems are presented, the abstract nature of the presentation, and the stringent standards of accuracy the problems impose. Building on many of Gigerenzer and colleagues’ findings (e.g., Gigerenzer & Goldstein, 1996), error management theory stated that heuristic judgments produce the most adaptive solutions available, especially when information is limited or processing capacity is low.

The case for viewing identity maintenance mechanisms as an integral part of an adaptive system, rather than as fortuitous exceptions to it, requires clarity about the nature of the system in question and the purpose for which it evolved. As argued above, personal identity may have emerged in humans to promote environmental mastery (Sedikides & Skowronski, 1997). I outline the process as follows. The exigencies of physical adaptation in humans led to the evolution of enhanced cognitive skills, including a global neuronal workspace in which mental operations (thoughts, reflections, projections) could be undertaken with increased independence from external input (Dehaene, 2014). These mental operations enabled internal models of objects, events, and circumstances, including a model of the self and its components. Self-reflection, minimally, entails self-awareness, a capacity that at least some other mammals share. What sets human consciousness apart is the ability to form higher-level abstractions and to reflect on them. Given these

capacities, abstractions about the self were inevitable. These abstractions comprise self-views, which take the form of broad-based traits, or more circumscribed characteristics that vary situationally. Reflection on self-views includes evaluating their quality, assessing their prospects for achieving personal goals, projecting their future progress, and constructing counterfactual alternatives about selves that might have been or could be.

Despite its benefits, personal identity, and the capacity for self-reflection that enables it, have the downside of compromising psychological homeostasis when experiential data threaten important self-views. In counteracting this threat, identity protection mechanisms likely evolved to be deployed—preemptively or reparatively—to obviate or minimize the damage to these self-views, and to maintain or restore psychological homeostasis. The inaccuracies that these mechanisms sometimes entail can hinder healthy adaptation. So, a dilemma arises where personal identity, which presumably evolved to promote environmental mastery, impedes it. How can an identity system with these endemic “mistakes” be part of an adaptive whole?

The answer to this question depends on the extent to which one grants the importance of emotional well-being, or psychological homeostasis, in the larger adaptation scheme. In the early days of self-serving attribution research, investigators portrayed deviations from normative models or expectations as irrational affective influences that obstructed the need for accurate assessment. This is a canonical view in Western thought with long historical roots. One of the unifying threads in philosophy from Aristotle to Kant is the exhortation of reason over passion. By the late 19<sup>th</sup> century, however, Dostoyevsky in literature, Schopenhauer and Nietzsche in philosophy, and Freud in psychology, had decided the issue contrarily—strongly in favor of the passions.

Despite the prevailing zeitgeist, emotions were given short shrift in most of the first century of experimental psychology, which was dominated by behavioral and cognitive models. Emotions made a comeback with the rise of neuroscience perspectives in the 1990s, but with a difference. Researchers and theorists in many areas including psychology (Vohs et al., 2007), neuroscience (Damasio, 2005), economics (Frank, 1988), and philosophy (Nussbaum, 2001), converged on the belief that emotions guide and inform rational thought far more than they derail it. This is the point of departure for the view of psychological homeostasis advanced in this article. Emotional equilibrium, or psychological well-being, is essential to biological adaptation. In fact, the two are inextricably bound: neither biological nor psychological homeostasis can be achieved, if either aspect of the body’s maintenance system malfunctions.

Even granting the importance of psychological homeostasis, the issue still remains as to whether some self-protective tendencies create more trouble than the system can absorb. In this regard, I submit that the tendency to view each instance of self-protection and self-enhancement in isolation, as though all aspects of an adaptive system are necessarily beneficial, is misleading. Adaptations rarely, if ever, provide perfect solutions to environmental challenges. Rather, they

provide better solutions than the functions they replace. All adaptations are works in progress, in that they can be modified or eliminated as ecologies change and pose new challenges. At any juncture in its history, an adaptation contains liabilities as well as benefits. This is true not only of the body's identity protection system, but of consciousness more broadly. Consciousness enables people to reflect on their pasts, plan for their futures, and construct mental simulations. At the same time, consciousness has substantial liabilities such as allowing people to contemplate their mortality, wallow in their shortcomings, exaggerate ills and slights, and misperceive danger (Leary, 2004). Yet, there seems little doubt that the capacities that consciousness confers are a net evolutionary gain.

I make a similar argument for the body's identity protection system. The cost-benefit ratio of psychological homeostasis versus effective environmental mastery varies with different instances of self-enhancement and self-protection. Consider first a parent who overestimates her child's characteristics and abilities. As long as the overestimation is not egregious, this makes the parent feel good, instills confidence in the child, and represents a net gain in most respects (Brummelman & Sedikides, 2020). Another example is analogous to the body's rejection of transplanted organs. Suppose a child raises his threshold for attending to a hyper-critical parent's remarks. As a consequence, the child rejects some useful information, just as the body rejects a useful organ, but, in the main, enjoys the emotional benefits of ignoring the parent's gratuitous harping.

In other cases, the cost of maintaining psychological homeostasis may be higher.

Although Taylor et al. (2000) findings highlighted the potential health benefits of optimism (i.e., longer survival rates for HIV and AIDS patients; but see Zell et al., 2021), miscalibrating one's health status can be detrimental. Likewise, ignoring danger, overestimating one's abilities, and being defensive in relationships, although they may accrue short-term emotional advantages, can be harmful in the long-term. Despite these obstacles, I contend that psychological immunity is a coordinated, adaptive system, one that—by helping to maintain psychological homeostasis and forge a favorable identity—confers far more advantages than liabilities in its promotion of psychological well-being. In developing a model of psychological homeostasis and immunity, however, it is important to avoid glossing over the potential liabilities of the system, and to account for the factors that determine its success or failure in specific instances. I pursue this objective in the remainder of the article. In particular, I offer an expanded view of psychological homeostasis, define personal identity and explain why it needs to be protected, and hypothesize on the nature of the identity protection system, the way it operates, and how it accomplishes, or fails to accomplish, its goals.

## Overview

With the waxing of the neuroscience-evolution model in psychology, and the waning of the cognitive-computer

metaphor, biological and psychological approaches to human functioning have been conjoined. However, although virtually all self theories discuss the evolutionary relevance of self-serving mechanisms, the study of self-protection and self-enhancement has yet to be integrated into a comprehensive perspective on organismic harm protection.

The perspective on psychological homeostasis and immunity advanced here treats self-protection as part of the same organic process by which the biological system defends the body from damage. Psychological immunity from the negative emotions or psychological states that self-threats introduce operates in the same manner as biological immunity from disease, and, in fact, the distinction between psychological and biological well-being has been overdrawn. Accordingly, the propensity to protect desired self-views, which can sometimes be shown to represent “bias” in relation to normative models, is no more biased from a functional perspective than regulating blood sugar levels. Modeled on the biological immune system, I discuss how global and specific self-views are constructed preemptively, contemporaneously, and prospectively to regulate psychological well-being.

I begin by elaborating my conception of psychological homeostasis. I describe psychological homeostasis as a regulatory process by which individuals modulate their affect within an acceptable range. The degree to which any information source threatens psychological homeostasis depends on the credibility of the threat, the centrality of the threatened self-views, and chronic as well as situation-specific individual differences. All psychologically healthy individuals receive unfavorable feedback, accept it to a certain degree, and also harbor some negative self-views. Psychological homeostasis, therefore, does not entail blanket dismissal of information that induces negative affect; rather, it requires judicious decisions about how to regulate affect while maximizing environmental control.

I follow this point with a section on identity construction to specify what I mean by personal identity, what it comprises, why I think that it is inevitable in self-reflective, linguistic beings, and the vital functions that identity serves. I depict the personal identity system as comprising networks that include identity themes, self-views, and narratives ranging from global to situation-specific. I pay special attention in this section and throughout the article on identity construction that occurs in the ordinary stream of conscious activity.

The third section uses biological immunity as a model for explaining psychological immunity. The obvious difference between these two types of immunity involves their content: Biological immunity entails events at the cellular level, whereas psychological immunity involves beliefs, thoughts, narratives, and projections. In addition to elaborating these parallels, I hypothesize how psychological immunity networks function, particularly with regard to the spread of narrative influence throughout the network, and the possibility of mutation (i.e., negative self-evaluations in one area extending to others). I also discuss the ways in

which positive affect and negative affect influence the success or failure of immune responses.

I end by considering what has been a major issue in the self-protection/self-enhancement literature, namely, awareness of constructing and deploying protective mechanisms, and the influence that awareness has on how these mechanisms are used or whether they succeed. Self-deception has sometimes been considered paradoxical by philosophers (how can individuals unconsciously protect against threat without recognizing the need for protection?), but the paradox is more ostensible than real in light of modern cognitive psychology, with self-serving mechanisms varying along an awareness continuum.

### Psychological Homeostasis

Physical and social adaptation require people to evaluate which environmental features are likely to promote their interests and are worthy of approach, and which are harmful and essential to avoid. Given that evaluation is the foremost aspect of any approach-avoidance mechanism (Breed & Moore, 2016; Elliot, 1999), self-reflection results inevitably in *self-evaluation* (Sedikides et al., 2007; Vallacher et al., 2002), or judging one's capacities, habits, circumstances, and preferences on a good-bad dimension. In humans, this fundamental propensity to self-evaluate introduces a novel source of pleasure and pain. The same cognitive capacities that provide the wondrous opportunities for planning and reflection also create and exacerbate unpleasant psychological states by enabling individuals to imagine social slights that do not exist and obsess over ones that do, to experience guilt and shame over moral transgressions, and to wallow in unfavorable social comparisons and pessimistic projections. With regard to personal identity, unpleasant psychological states occur when a desired self-image, such as of being socially or physically attractive, competent, powerful, or ethical, is challenged by social or performance feedback, or by ruminating on real or imagined deficiencies (Alicke & Sedikides, 2009; Sedikides & Gregg, 2008). Stated otherwise, human emotional life is affected by discrepancies between what individuals want to be and where real-life outcomes place them (Higgins, 1989).

Psychological homeostasis is the mechanism by which the emotional consequences of such discrepancies are regulated. Whereas biological homeostasis is generally construed in terms of physiological regulation, psychological homeostasis modulates emotional well-being. In the same way that biological homeostasis operates chronically in the background to modulate bodily states, and in the foreground during emergencies (such as disease or extreme environmental conditions), psychological homeostasis regulates emotional equilibrium—both routinely and reparatively—in preparation for identity threats and in response to them.

I retain the biological-psychological homeostasis distinction for conceptual clarity, but emphasize that these are different aspects of a general homeostatic system. The Red Queen in Carroll's (1871) "Through the Looking Glass" aptly identified the basic homeostatic principle ("A slow sort

of country! said the Queen. Now see here, it takes all the running you can do, to keep in the same place"), before Cannon (1915) co-opted it for physiological regulation. Bernard (1865), even before the Red Queen and Cannon, referred to a steady state of the internal milieu. Homeostasis is a regulatory process by which systems maintain their function within an acceptable range, which varies among individuals. Emotion regulation (i.e., psychological homeostasis) is no more or less biological than temperature or blood sugar regulation. Unsurprisingly, emotions and other physiological processes are strongly related. As Damasio (2018) has observed, feelings are what alert the brain that physiological states have been disrupted. Further, the failure of emotion regulation, in its most extreme form, such as in chronic depression, degrades physiological functioning and threatens survival.

Pain is perhaps the prime example of the symbiosis between biological and psychological homeostasis. Pain is a poorly understood sensory process (Fillingim, 2017). One takeaway message from modern pain research is that there is no simple relationship among a pain stimulus, the route that pain travels, and its registration in the brain. Even nociceptive pain, which is the most directly tied to an initiating stimulus, varies widely among individuals, and lacks a reliable correspondence between neurological activity and subjective experience (Zaki et al., 2016). Nevertheless, there are subjective differences between a broken foot and a broken heart: People can distinguish many varieties of pain. Whatever physiological and neurological evidence ultimately reveal about the various ways in which humans can hurt, I argue that the mechanisms that have evolved to address unique human emotions operate on the same general principles that characterize bodily regulation (homeostasis) and protection (immunity).

That actions and cognitions are guided by the desire to feel good or to avoid feeling bad is not, of course, a novel observation. It is the bedrock tenet of the Epicureans, who were prominent in Greek philosophical circles of the third (and part of fourth) century B.C. (De Witt, 1973). The Epicureans were not hedonists and did not therefore confine the pursuit of good feeling to physical or sensual gratification. Although abundant food, drink, and sex may be the *summum bonum* for some, others require satisfying family lives, copious amounts of football, contributing to society, professional success, or, like the Epicureans, behaving justly and attaining serenity of soul. Whether people prefer to titillate their minds or their bodies, their preferences are based on what they believe will ultimately promote material advancement and emotional well-being.

Social, personality, and health psychologists have not ignored the benefits of good feelings. The literature has shown that subjective well-being, and positive emotions more specifically, are associated with increased likeability, sociability, coping, prosocial behavior, energy, confidence, optimism, self-efficacy, originality, goal-pursuit, and physical health (Kushlev et al., 2020; Lyubomirsky et al., 2005; Sedikides et al., 2018). Further, research on emotion regulation (McRae et al., 2011; Tamir, 2021) has assessed people's

ability to exercise emotional control so as to counter negative thoughts and moods (Beck, 1976; Gross, 2015), and to facilitate goal pursuit like delaying gratification, maintaining satisfying interpersonal relationships, and making effective decisions (DeSteno et al., 2013); Nyklicek et al., 2010; Gross, 2014). I rely on some of these findings, such as that reappraising emotion-laden situations is more effective in reducing negative emotions than trying to suppress negative thoughts (Nolen-Hoeksema et al., 2008), and that reappraisal is more effective when it occurs early in an emotion episode (Sheppes & Meiran, 2007), in the following sections to describe preparatory and reparative immune responses to identity threat.

I focus specifically on the ways in which emotional reactions to mental events (e.g., perceptions, thoughts, images, projections) and external feedback engage homeostatic and immune process that superintend the construction and modification of personal identity and its components (i.e., self-views and narratives). Negative emotional reactions to threatened identity components entail bodily responses and cognitive interpretations, each to varying degrees, and with different levels of coordination between the two. From James (1884) onward, psychologists have debated the relative roles of physiology and cognition in characterizing emotional responses (Feldman-Barrett et al., 2016). The James-Lange theory of emotion, which trumpeted the importance of what is now the study of interoception, was in retreat for many years based on Cannon's (1927) objections that the viscera have few afferent pathways and respond too slowly to account for emotional experience. Researchers now recognize that visceral afferents are more numerous than efferents (Bernston et al., 2019), and respond rapidly enough to support the contribution that the James-Lange theory stipulated. Current interoceptive theories emphasize that interoceptive inputs (e.g., reduced glucose levels in the blood) inform relevant brain regions (primarily, the insula) of the body's homeostatic status, which motivates the processes that maintain or restore homeostasis (Tsakiris & Critchley, 2016). In fact, individuals who are better able to detect their internal bodily changes experience more intensely felt emotions (Wiens et al., 2000).

For present purposes, I adopt Prinz's (2004) conception of emotions as "embodied appraisals," emphasizing that all emotions have a bodily component, but allowing that some emotional experiences, such as being insulted, include more cognitive machinery than others. An important implication of this mind-body continuum entails the extent to which self-threats are consciously registered. I assume that psychological homeostasis is routinely disturbed by threats whose emotional influences are experienced bodily—things that "eat away at your gut"—without being consciously recognized.

With regard to personal identity, the extent to which identity threats disrupt psychological homeostasis depends on their relevance for physical and social adaptation (Tooby & Cosmides, 2008). I assume, consistently with basic emotion theories harking back to Darwin (1896) and represented more recently by Ekman (1999), that emotions with direct

survival value (such as fear) require little cognitive intervention to spur motivated avoidance or escape responses (LeDoux, 2015). As applied to personal identity, people can, in some circumstances, reflexively and unconsciously escape threatening information by dismissing it as biased or invalid. When strong emotional reactions are consciously registered, however, they are difficult to ignore; typically, some degree of cognitive work in the form of recruiting or constructing narratives is required to thwart or mitigate the challenge.

Researchers have frequently decried the lack of coordination among the mechanisms by which people enhance or protect their identities—what Tesser and colleagues (2000) called the self "zoo." In a similar vein, Baumeister (1998) referred to the self as a collection of loosely related topics. Continuing this theme, Leary and Tangney (2003) identified, off the top of their heads, 17 self-predicated phrases. This number could be easily doubled. Although these laments refer to the self rather than to self-enhancement/protection *per se*, issues related to motivated identity maintenance probably constitute the single largest theme within the broader study of the self.

Tesser (2000) proposed that avoiding or reducing negative affect was the theoretical mechanism that linked the various identity protection mechanisms. My proposed conception of psychological homeostasis accords with this view, but I hope to provide a more comprehensive context for understanding what psychological homeostasis is, why it is important, the nature of the identity that it protects, the manner in which self-protection occurs, the tradeoff between accuracy and self-protection, the place of self-enhancement in the harm protection system, and the level of awareness at which the harm protection system typically operates.

Further comments are needed to clarify my conception of psychological homeostasis. *First*, whereas biological homeostasis is geared to maintaining the stability of physiological and metabolic processes, one might argue that psychological homeostasis is different in that there is no limit on how "good" people want to feel. My answer to this is twofold. It is true that psychological homeostasis generally strives toward a high level of subjective well-being, but this simply means that the homeostatic level for psychological states is in a sense higher than that for biological states: One does not, for example, aspire to have high blood-pressure. It is untrue, however, that positive hedonic states are unbounded. Extreme happiness elides into mania, and trying constantly to achieve emotional highs through drugs or religious ecstasies is of dubious value. I assume that people aspire to a certain set-point of subjective well-being (Diener et al., 2006), and, although the consequences of deviating in each direction may be asymmetric (i.e., people can generally tolerate positive deviations better than negative ones), there are levels at which too much pleasure becomes unsustainable and disagreeable.

*Second*, for most of human history, the belief in an immaterial soul led to the conclusion that other species lacked feelings or emotions. This would now be a minority view in scientific circles, but it raises the questions of what interior worlds are like, and whether they can be altered. I

have assumed that biological and psychological homeostasis are part of a coordinated harm protection system in humans, and I assume further that the same is true of all animals, and perhaps for other species as well, which would mean that even cockroaches have their good and bad days. If it feels like something to be a bat (Nagel, 1974), then perhaps it also feels like something to be a bug. If this is correct, what about the ability to regulate emotional states? I take no strong stand on this: For all I know, cats might chase their tails to improve their moods. What I do assert, with some confidence, is that humans are the only species that regulates its emotions with regard to its identity. I consider it unlikely, for example, that chimpanzees recall their youthful exploits to ward off thoughts of their decaying physicality. Having said that, I fully expect some counterexamples from animal cognition researchers.

*Third*, the practice of developing psychological homeostasis on the model of its biological counterpart emphasizes the transient nature of these states and their susceptibility to internal and external influences. Most extant notions of self-esteem, by contrast, generally construe it as an enduring personality characteristic that fluctuates in certain circumstances (i.e., state self-esteem; Zeigler-Hill, 2013). Further, whereas definitions of self-esteem typically include both favorable self-views and positive feelings about oneself (Sedikides & Gregg, 2003), I separate these constructs: psychological homeostasis refers to emotion or affect, which can, in turn, influence self-views. This distinction is needed to account for circumstances in which individuals with generally positive views of their characteristics and capacities still experience negative affect, due, for example, to falling short of their personal standards.

*Fourth*, as the more current term, *allostasis*, indicates, homeostatic processes are predictive and proactive. That is, the body makes homeostatic adjustments in, for example, extreme climates or conditions to serve metabolic needs, and in response to illness, such as in the form of elevated fever, to stimulate immune responses. I maintain the term homeostasis rather than allostasis for present purposes, but note that the psychological system also makes preparatory adjustments. For example, a spouse who has adapted to a hypercritical partner may raise her affective threshold, such that a criticism would have to be especially harsh to disrupt homeostasis and threaten a desired self-view. Homeostatic adjustments can also overcorrect. For example, rises in blood pressure before public speaking can be viewed as prediction errors in that they are not metabolically required. Analogously, people may, by anticipating adversity, become overly defensive to perceived slights in a way that is disproportionate to the communicator's intentions.

*Fifth*, sustaining psychological homeostasis is not as simple as seeking all emotional pleasures and avoiding all pains. At some level, most healthy individuals accept that negative actions, inactions, habits, and characteristics apply to them. Indeed, when people are asked about their negative behaviors and undesirable traits, they are forthcoming (Cheung et al., 2014; Preuss & Alicke, 2017). Further, individuals are not indiscriminately self-serving; they can resolve

psychological conflict in ways that are credible to themselves and others (Gregg et al., 2011; Sedikides, 2020).

*Sixth*, acceptable levels of emotional well-being are idiosyncratic. Individuals who wish to be seen as cultured, for example, differ in the degree to which threats to this self-view upset psychological homeostasis. Some have a wide latitude of emotional acceptance for unfavorable information, whereas others are upset by even a slight discrepancy between external feedback and their desired self-views (Briere & Runtz, 2002; Flury & Ickes, 2007; Wickham et al., 2016).

*Seventh*, psychological states are complex, and some of the most cherished contain elements of pleasure and pain. The feeling of "pathos," for example, can be self-actualizing, although it combines sadness with happiness (Juhl et al., 2017). Maslow's (1943) hierarchy of needs perpetuated the intellectual tradition of considering complex emotional states—such as those evoked by a beautiful sunset or a Mahler symphony—as "higher" than simpler states—such as lust. Maslow's hierarchy accords with Mill's (1863, Chapter 2) assertion that: "It is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied." Speaking from the vantage of a fool, I take no sides in determining which psychological states are best: Some prefer lust to Mahler, others prefer Mahler to lust, and it is too late to ask Mahler. Psychological pains and pleasures are idiosyncratic; they depend on biology, reinforcement history, values and beliefs, as well as goals and aspirations. The most pleasing states to some are aversive to others. Many identity goals, such as to be a good parent, physically fit, or erudite, may entail considerable physical pain or psychological perseverance. Whether an experience disrupts psychological homeostasis will be contingent upon which self-views people value, how much negative affect they experience, and their tolerance for difficult or unpleasant physical and mental states.

*Finally*, psychological homeostasis is fundamental. Large-scale motives such as to manage existential anxiety, to feel in control of one's life, to form secure social bonds, or to attain a sense of meaningfulness and purpose (Fiske, 2010), are all manifestations of maintaining positive homeostatic states.

## Identity and Identity Components

### Approach and Avoidance

Even before brains evolved, all life forms were imbued with approach and avoidance mechanisms to promote survival. Plants bend "happily" toward the light, and respond "fearfully" to shade, by altering their structure and germination patterns. The advent of brains provided a significant advance in approach and avoidance proficiency by introducing enhanced sensory, memory, and attention processes, and permitting greater anticipation of and planning for changing conditions.

The expanding capabilities of consciousness allowed further improvements by enabling: a flexible attentional gateway that prioritizes which features of the internal and



external environment require the greatest resources; an expanded cognitive workspace; representations of prior and present experiences in visual images or words along with the ability to evaluate and alter these representations; the simulation of different actions and their possible outcomes; and the potential to imagine alternative pasts as well as hypothetical futures (Sedikides & Skowronski, 1997).

In evolution, one adaptation potentially facilitates others. To take an obvious example, the brain evolved long before linguistic skills appeared, but it was necessary for language and other emergent abilities. In this regard, personal identity is likely an adaptation that is enabled by another adaptation—consciousness. Identity might be an inevitable consequence of the cognitive ability to form abstract concepts (such as trait summaries of behavior) and construct complex explanations (such as narrative stories), or it might have been selected independently for these benefits (Sedikides & Skowronski, 2000). In either case, personal identity contributes to effective environmental control in numerous ways. Most importantly, personal identity promotes what Heider (1958) called “unequivocal behavior orientation.” By summarizing and categorizing their preferences and tendencies, people can make quick decisions that coordinate their abilities and needs with environmental conditions and affordances.

### ***I, Me, Mine***

Beginning with William James (1890), psychologists have divided the study of personal identity into two components: a subjective “I” that experiences events and a concrete “me” that comprises experiential data. An excellent definition of the “I” is proffered by a philosopher who, ironically, argues that it does not exist: “... the self is a unified, happiness-seeking, unbrokenly persisting, ontologically distinct or *bounded* ‘me’ who is an owner of experiences, thinker of thoughts and agent of actions” (Albahari, 2006, p. 2). Stated succinctly, the sense of being a person with an identity is based on the perception that “I” contains an essence that perseveres through time, that is distinct from others, that experiences feelings, that strives to maximize positive feelings, that owns its feelings, sensations, and thoughts, and that initiates action.

I do not, for the present purposes, need to tackle the philosophical questions of whether the “I” is something that exists, ontologically, or what kind of thing the “I” might be, metaphysically. Virtually all theorists, including philosophers who deny the self’s ontological status, acknowledge that people have a sense of “I” or a belief in their identity. Several findings suggest that elements of the phenomenological “I” are associated with the elevated self-views that people maintain. For one, individuals feel as though their successful experiences represent their true, essential selves more than their unsuccessful ones, and this belief is stronger when they judge their own than others’ true selves (Zhang & Alicke, 2021). Regarding agency, perhaps the most ubiquitous finding in the self-serving attribution literature is that individuals ascribe more causality or responsibility to themselves

than is warranted for positive events or outcomes (Campbell & Sedikides, 1999). Relatedly, children treat favorable, fortuitous outcomes, as having issued from their intentional efforts (Nelson, 2003). The perception of agency is facilitated by (or perhaps is a consequence of) “intentional binding” (Haggard & Clark, 2003)—the tendency to view self-produced movements and effects as closer in time than they actually are. Finally, the belief in a continuous self may contribute to self-serving tendencies via the perception that positive events fit a coherent life narrative, whereas negative ones represent disruptions in this unified process (Lilgendahl and McLean (2020).

The aspect of personal identity with which I am primarily concerned is James (1890) “we” or the material self—the content of personal identity. This identity component derives from the most distinctive features of human consciousness: the ability to reflect on experience, recall the past, construct hypothetical scenarios, and project into the future, along with the abilities to develop abstract, linguistic categories (e.g., self-views) and reflect on those. I construe self-views broadly to include evaluative autobiographical information that is relevant to being a certain “kind” of person (e.g., winning a contest as opposed to attending one), important affiliations (such as gender, religion, and employment organizations), social and economic status, and the subject of many research investigations, namely, trait-like summaries representing one’s characteristics and abilities.

Given that identity emerges in a community, and in specific groups, self-views are shaped by group values, as social identity theorists emphasize (Abrams et al., 2005; Ellemers et al., 2002). Groups sculpt the characteristics and abilities that are most relevant for self-evaluation, as well as the valence (i.e., positivity-negativity) attached to these identity components. Further, the tendency to behave in ways that are consistent with group associations influences self-knowledge and self-evaluation (Bem, 1972). In the current framework, social identity is an aspect of the material self, which comprises self-views and narratives that pertain to group associations and the evaluations that are attached to those associations.

### ***The Embodied Self***

During the roughly 30-year period when the computer metaphor pre-dominated in psychological theory and research, an implicit mind-body dualism was upheld, such that the influence of bodily events (including feelings) on information-processing were deemphasized. Given my reliance on homeostasis and immunity as the mechanisms for identity protection, I firmly embrace the view of the embodied self that has come to replace earlier, disembodied, conceptions. I consider interoceptive cues to be fundamental to emotional experience, and to play a vital role in informing and influencing the self-views that identity comprises.

Bodily self-awareness precedes both the phenomenological experience of “I” and the self-reflective “we” of identity. Soon after birth, and perhaps innately, infants possess a body schema that allows them to distinguish the contours of

their bodies vis-à-vis the external environment (Rochat, 2011). Further, people are pre-reflectively, or unconsciously, self-aware in the experience of feeling, acting, and perceiving (Henry & Thompson, 2011). The basic orientation of “I”-ness, of a first-person perspective viewing the internal and external environment, originates in the bodily feedback that attends sensory and motor activity. In this regard, the self can be construed as an inference that is predicated on bodily activity.

Interoceptive cues affect both the perception that self-protection is required and the ensuing modification of self-views. Interoception reports on the body’s homeostatic state, which, in the context of psychological homeostasis, involves bodily cues that signal positive or negative self-related experiences. Models of interoceptive predictive coding (Seth, 2013) assume that interoceptive signals are analyzed against a prior probability distribution and assessed for their statistical likelihood against this background. The type and intensity of an emotional experience is the interplay between a “gut” feeling and a top-down expectancy, where the gut feeling is based on the internal workings of the body, and the expectancy may be based on past knowledge or on a recent exteroception (e.g., a visual image).

### Identity Themes

Identity has been frequently modeled as a web of associated traits (Greenwald & Pratkanis, 1984; Kihlstrom & Klein, 1994). Although I maintain something akin to the trait approach in depicting identity as a system of self-views, I also argue that these identity components are conceptualized most effectively within the context of the missions or themes that currently preoccupy individuals. Identity themes are goals and projects toward which mental and behavioral energy is directed, such as sustaining rewarding interpersonal relationships, achieving financial well-being, becoming a good parent, learning a new skill, changing occupations, and improving one’s health and fitness.

When self-threats occur, the self-views and narratives that they recruit depend on which identity themes are presently activated and which are most relevant to the topic of the threat. An aspiring attorney who fails the bar exam, for example, will potentially suffer a setback not only to his attorney self-view, but also to the self-views with which it is associated. Further, the meaning of self-views varies within different identity themes. Intelligence in the context of one’s impressive crossword puzzle ability is a different concept than intelligence defined with reference to one’s floundering legal skills. The flexibility of self-views in this regard allows people to emphasize different facets of a trait when one interpretation is threatened (Dunning et al., 1989).

In addition to providing the nexus within which self-views acquire their meaning, identity themes engender self-views. Parenthood, for example, prompts people to think about aspects of their identity (e.g., willingness to sacrifice for others) that may previously have been ignored. Assuming that people typically develop their self-views within the framework of specific projects and goals,

traditional depictions of identity as comprising abstract traits may exaggerate the extent to which personal identity is defined by global characteristics.

The claim that self-threats are evaluated with respect to particular identity themes accords with the more general observation that homeostasis is contextualized. That is, interoception is not simply a matter of registering the body’s current state, but also of assessing physiological needs and capacity in relation to the organism’s present situational requirements (Akins, 1996; De Vignemont, 2018). Extended to psychological homeostasis, this implies that self-threats are not interpreted indiscriminately, but rather in relation to their implications for an individual’s current schemes and projects. People can face threats to self-views (e.g., being forgetful) subsumed under one identity theme (e.g., friend) with mild regret, but with considerable alarm, resulting in homeostatic imbalance, under another (e.g., parent).

### Self-Views

Whereas personality theories account for individual differences in behavior and needs from a third-person or objective perspective, personal identity refers to individuals’ beliefs about their characteristics, abilities, and needs. Behaviors and needs are part of a larger group of topics about which people have self-views. Most have beliefs, for example, about their abilities, preferences, status, popularity, emotional tendencies, attitudes, and values.

Regardless of the specific topic, I consider self-views to involve summaries about one or more areas of functioning. In addition, I assume that virtually all self-views are associated with one or more identity themes, although they may also have meaning aside from these goals and projects. For example, although “cooperativeness” has different connotations in employment settings as opposed to interpersonal settings, people may also harbor abstract notions of their standing on this characteristic. When a self-view has diverse meanings under different identity themes, the cognitive availability and centrality of the theme determines which view prevails. Given that central identity themes derive from fundamental adaptive needs (e.g., “do people like me, love me, respect me?”), they are generally the most frequently (Higgins, 1996; Sedikides & Skowronski, 1991) or easily (Shi et al., 2017; Watson et al., 2007) activated, and exert the strongest influence on self-views (Gebauer et al., 2013; Sedikides & Strube, 1997).

### Narratives

As existential philosophers—particularly Heidegger (1927) and Sartre (1936)—emphasized, and psychologists have elaborated and assessed empirically (Bruner, 2003; McAdams, 2011a; Pasupathi et al., 2007), mental life is occupied by narratives or stories that explicate how people arrive at the identities they have and where they stand in relation to the ones they want. Narrative theories in psychology developed to provide richer descriptions of subjective experience than trait conceptions allowed (Habermas & Bluck, 2000;

McAdams, 2011b; McAdams & Pals, 2006; McLean et al., 2020). Their main thrust has been on people's search for meaning and on their interpretations of consequential life experiences.

Philosophers have viewed the self as the center of narrative stories (Dennett, 1992), and the brain as a narrative-generating device with the self as the protagonist (Schechtman, 2011). Some, consistent with the mainstream approach in psychology, view narratives as the constituents of a grand life story (Dennett, 1992), whereas others believe that they encompass more localized issues (Velleman, 2003). I use the term "narrative" broadly to include explanations of specific events as well as more elaborate life stories.

In the self-enhancement/self-protection literature, narratives are typically reparative, in the form of excuses and justifications following negative experiences. (Baumeister et al., 1990; Costabile et al., 2018; McAdams & Guo, 2015). Despite this emphasis, narratives may be constructed more frequently in the everyday process of ruminating on experiences, fantasizing, conducting internal monologues and hypothetical dialogues, telling stories to explain actions and goals, comparing present and past circumstances, imagining hypothetical scenarios, and projecting into the future. In this regard, psychological immunity pervades cognitive life in the same way that biological immunity pervades cellular life. Just as the biological immune system routinely manufactures leukocytes for use against microbial invaders, the psychological immune system develops narratives to counter or negate self-threats. I call these *preemptive narratives*.

Preemptive narratives can be represented as covering laws that encompass different identity regions. Global narratives include autobiographical stories such as having surmounted major life obstacles or having mended one's ways, as well as cultural clichés such as that "the world is unfair" or "the economy is declining." Such narratives can be effective in palliating or dismissing imminent threats. Someone fired from a job, for example, or who fails to acquire one, can tap into a narrative that emphasizes the improbability of having attained the job in the first place. Stereotypes, and racist and sexist narratives, attribute personal failures and disappointments to the alleged advantages that minorities enjoy. More detailed and circumscribed narratives, by contrast, are constructed to address situation-specific threats, such as faring poorly on a particular task or receiving critical social feedback from an employer.

Although preemptive narratives generally serve self-protection, they can also promote self-enhancement. Preemptive narratives may be engaged, for example, in comparative biases such as evaluating one's characteristics (Zell et al., 2020) or life prospects (Weinstein, 1980) more favorably than those of others. Calibrating self-beliefs upwards in supportive narratives provides protection in case objective circumstances, such as poor performance or comparison with superior others, require downgrading self-views. A characteristic that is scaled back from an unrealistically high point may still wind up at a level that is favorable enough to avoid upsetting psychological homeostasis (Alicke et al., 1997; Sweeny et al., 2006).

## Narrative Networks

Building on theories of associative trait networks (Kihlstrom & Klein, 1994), I propose that identity themes, self-views, and narratives can be modeled similarly, and that such networks provide a useful way to conceptualize psychological immunity. As described in the next section, when a threat is encountered, preemptive or reparative narratives are recruited to counteract it. The success in thwarting an attack depends on the plausibility of the narratives, on how widely in the system the attack spreads, and on the prevalence of antagonistic narratives—those that support the attack and that hinder the efforts to defeat it. In this section, I illustrate networks that buttress attacks with a coordinated defense.

I conceptualize such networks as comprising identity themes, self-views, and narratives that range from global to extremely specific (depicted here as sub-narratives). Figure 1 exemplifies an immunity network centered on a corporate executive identity theme. I assume that identity themes can be relatively temporary (e.g., member of an organization) or chronic (e.g., sibling), and that multiple components are typically active at any given point in time. Identity themes also vary in their centrality (Sedikides, 1993, 1995). Even a temporary theme (e.g., teenager who is madly in love with Person X), can accrue high centrality at a given point in time. Central themes are the most emotionally potent, and evoke the most elaborate narrative construction and repair.

To defend pro-actively against attacks to this identity component, the executive has recourse to extant self-view categories including being a powerful, competent, efficient, and liked person. Each self-view category is buttressed by narratives and sub-narratives. The self-view category of "powerful," for example, includes a narrative about taking charge of situations, which branches into sub-narratives concerning specific situations where the executive has demonstrated leadership. Self-views and narratives vary in the extent to which they are specific to an identity theme or general across identity categories. For example, people may have a general belief in their "intelligence" and more refined conceptions of intelligence tailored to different identity themes. By contrast, the corporate executive's conception of being "efficient" in this example may pertain only to this identity theme. The same holds for narratives. Some narratives and sub-narratives apply to specific self-view categories and/or to specific identity themes, whereas others are applied more generally across categories.

Figure 2 illustrates a more complex example involving multiple identity themes, with multiple self-views and narratives within each. As this figure depicts, identity themes can entail both supportive and antagonistic narratives. For example, threats to the individual's competence as a corporate executive are countered by narratives about his team's prior success and his ability to take charge of situations, but aggravated by having recently missed an important deadline. As elaborated in the following sections, the success of a defense depends, in part, on the ratio of supportive to antagonistic narratives that a threat recruits, as well as on the strength of each narrative.

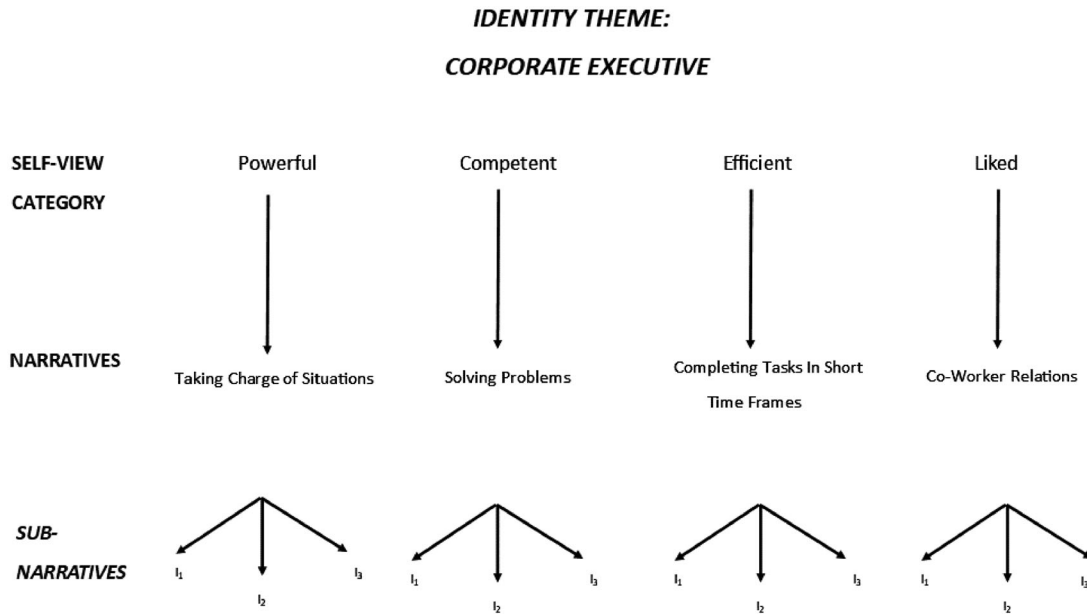


Figure 1. An Immunity Network Centered on an Identity Theme.

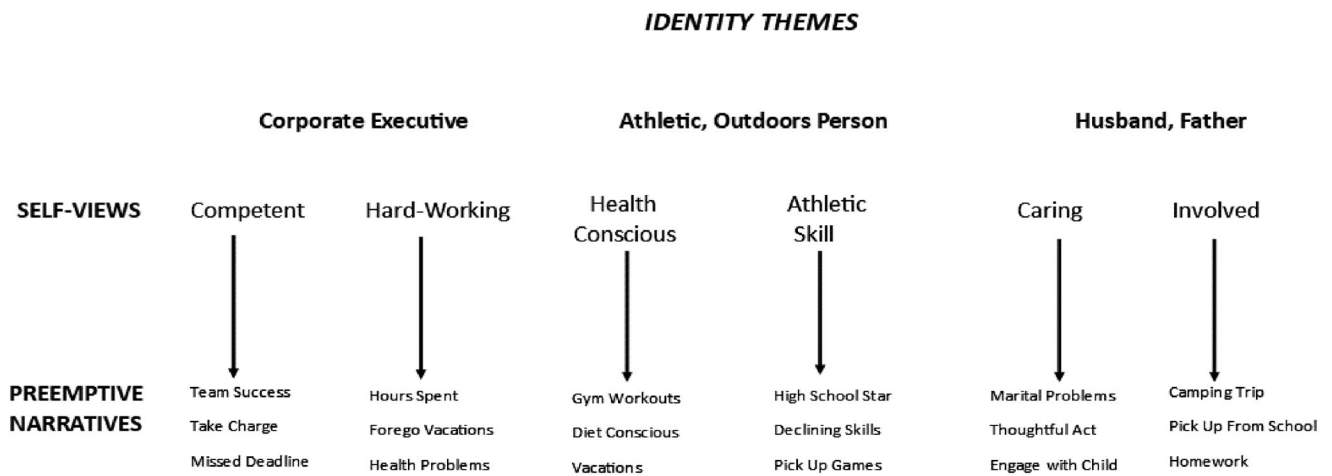


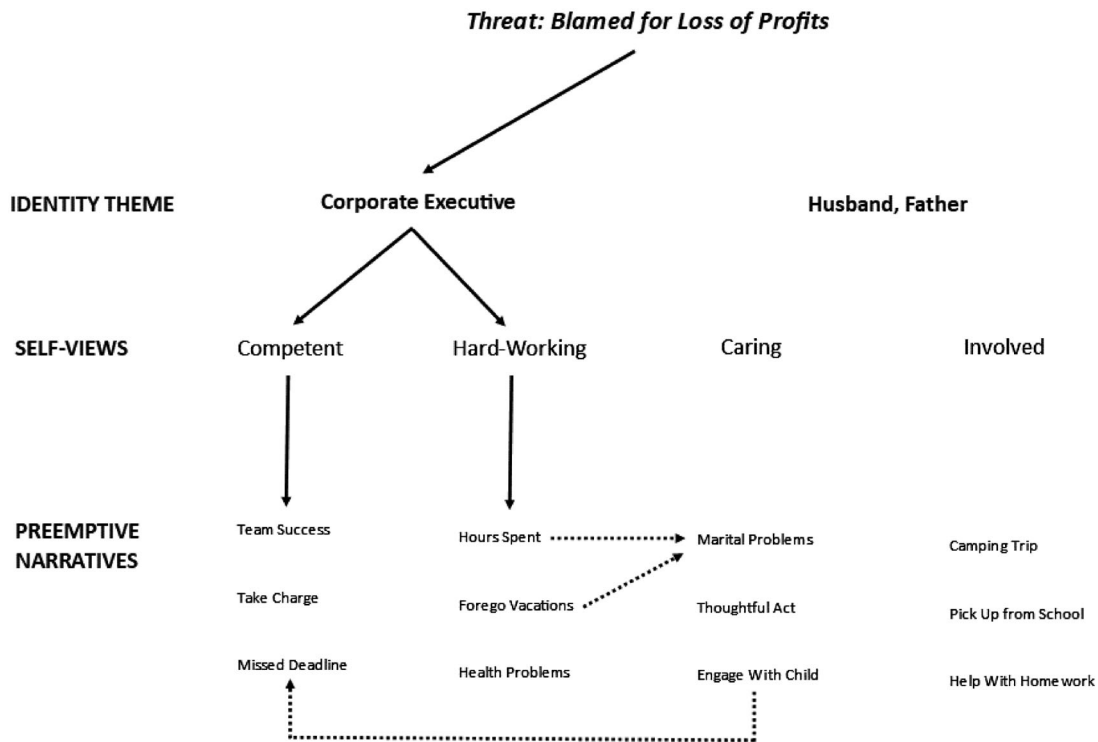
Figure 2. A Complex Immunity Network Involving Multiple Identity Themes, With Multiple Self-Views and Narratives Within Each.

Finally, Figure 3 uses two identity themes to illustrate some of the complex paths that link narratives and self-views throughout a network. In this example, the executive is blamed for loss of profits in his division, which most directly affects self-views associated with his identity as a corporate executive, such as being competent and hard-working, which, in turn, recruits narratives designed to protect this self-view. As noted, any recruited narrative can prime others within the same or different identity themes. For example, in thinking about how many hours he has devoted to his job and the vacations he has foregone, the executive may inadvertently conjure up recent marital problems. The perception that he has suffered interpersonal difficulties due to his job commitment may then buttress the defense that he is being scapegoated for his division's downturn. Further, ruminating on his marital problems could lead him to think about the time he has spent with his children, which could then serve as an excuse for having missed an important deadline.

### Psychological Immunity

#### Purpose of Psychological Immunity

Psychological immunity evolved to serve psychological homeostasis in the same manner that biological immunity preserves biological equilibrium. I assume that the same principles by which the biological immune system routinely produces antibodies, monitors the environment for danger, and reacts to pathogenic attacks, apply to psychological immunity. Although biological and psychological immunity have the same ultimate purpose of promoting survival, there are two noteworthy distinctions between these systems. The first is that living creatures could not survive without biological immunity, whereas it is an open question as to whether they could survive without psychological protection. Would individuals be overwhelmed by anxiety or depression, if they interpreted their experiences without defenses? There is no definitive answer, but, even if the absence of psychological



**Figure 3.** Two identity Themes Illustrating Some of the Complex Paths that Link Narratives and Self-Views Throughout a Network.

immunity were not lethal, it would almost certainly degrade psychological homeostasis.

The second difference between psychological and biological immunity pertains to the role of cognitive control in psychological immunity. Lymphocytes do not willfully impede the spread of disease. Psychological immunity includes both the automatic deployment of self-views and narratives that prevent or ameliorate threats, and more purposeful or controlled strategies to protect self-views and maintain psychological homeostasis.

Immunity from harm, whether of the biological or psychological variety, requires continual vigilance. Several biological safeguards prevent antigens from entering cells. If these passive, physical barriers (skin and mucous membranes) are breached, more active pattern-recognition receptors recognize potential threats, and neutralizing antibodies bind to viruses, bacteria, or other antigens while they are outside the cell to prevent their entry. Nevertheless, the biological task is formidable: Harmful microbes enter from almost any bodily region, and the average person has nearly 400 m of mucosal surfaces to defend.

The psychological immune task is arguably as challenging. Identity threats are posed not only by serious events such as dissolution of close relationships, failure at life goals, and deterioration of material circumstances, but also by mundane slights such as veiled criticism, arguments, envy over others' accomplishments, and the myriad doubts that arise in the ordinary stream of consciousness. Positive identity maintenance requires a subtle negotiation between desired self-views and the sundry internal or external events that challenge them.

Immune failure has serious physical and emotional consequences. The inability to maintain desired self-views

disrupts psychological homeostasis. In the extreme, such disruptions can be as detrimental as the tissue damage that pathogens cause, particularly when negative emotions hamper the ability to satisfy social and material needs. Psychological immune processes evolved in humans to obviate these consequences. After first describing the components of the psychological immune system, I frame psychological immunity according to the biological model (Coico & Sunshine, 2015; Sompayrac, 2016) to describe the process of constructing a system that is geared to preventing harm, and the ways in which it reacts to the failure of its initial defenses.

### **Comparative Immunity Principles**

#### ***Innate Versus Adaptive Immunity***

All multi-celled organisms have innate immune systems. Vertebrates with jaws (gnathostomes) also have adaptive ones. Although the distinctions among these systems are nuanced and not mutually exclusive, the innate system, having handled microbial invasions until around 200 million years ago, is geared to counteracting pathogens that have been common to species since their origin, whereas the adaptive system counters microbes that evolve and pose new threats to extant immune responses. The adaptive system, therefore, is better equipped to contest novel threats, although it is slower to respond.

The parallel to psychological immunity is that common threats—those pertaining to social or material well-being—are the ones that preemptive narratives (similar to innate immunity) are geared to combat, whereas novel or idiosyncratic threats are more likely to require reparative narratives (akin to adaptive immunity). Virtually all humans require

ready-made narratives to counter social criticism, rejection, or exclusion, and to protect against threats to competence in areas that affect their material needs and reproductive prospects. As noted, preemptive narratives may be global in character or specific to individual identity themes. Many of these narratives are constructed during ordinary mental activity in the absence of imminent threats, parallel to the biological immune system's routine production of the proteins that compose antibodies.

Adaptive immunity is invoked to restore psychological homeostasis once initial barriers have been breached; that is, when self-views or preemptive narratives fail to deflect an attack. Adaptive immunity entails reparative narratives that are constructed anew or that modify extant narratives. This occurs when damaging feedback is unexpected, such as when thoughts or images wander into dangerous territory or when self-views are threatened in novel circumstances. The latter may happen, if someone were criticized by a friend or failed at a task for which they believed they possessed superior skills.

Constructing a favorable identity, therefore, is not exclusively a matter of nudging negative feedback in a more positive direction but entails a continual process of managing the stream of conscious activity, including memories, thoughts, and projections. Stated otherwise, self-protection and self-enhancement are much more than triage for unfavorable feedback; they are also preventative measures that strengthen the identity system preemptively in the absence of external feedback.

Due to the difficulty of assessing identity construction in the ordinary stream of conscious activity, a preponderance of the evidence pertains to adaptive (i.e., reparative) as opposed to innate (i.e., preemptive) immunity. The most relevant literature for preemptive immunity has been conducted under the auspices of self-affirmation theory (Sherman & Cohen, 2006; Steele, 1988). Conceptually, self-affirmation involves re-assuring one's fundamental self-worth as a bulwark against psychological threat (Cohen & Sherman, 2014). Methodologically, self-affirmation typically entails writing briefly about an important value, and then being presented with a threatening situation that is divorced from that value. For example, participants might write about their religious values and then be presented with potentially threatening health information. The typical finding is that value affirmation serves to allay the threat, allowing people to behave less defensively.

Critcher and Dunning's (2015) interpretation of self-affirmation effects is especially useful for casting this research into the present framework. I view value affirmation as a way of priming either an identity theme, a self-view, or both, along with providing the opportunity to recruit or create supportive narratives. Values, and the narratives that support them, are likely to have rich connections throughout the narrative network. Further, the value-affirmation task favors recruiting positive versus antagonistic narratives, thereby providing a strong state of affective immunity. Although threats may be potent, they tend to be focalized in one identity aspect (what has been called the

"working self-concept"; Markus & Wurf, 1987). According to Critcher and Dunning's interpretation, value-affirmation is effective in diminishing the threat, and in promoting adaptive behavior, because it expands the working self-concept, thereby mitigating the threat to any one aspect. I regard this as an example of the general function of preemptive narrative networks, namely, to provide immunity against specific threats. As self-affirmation research indicates, focusing explicitly on identity themes or self-views enhances their effectiveness.

### *Automatic Monitoring*

The innate immune system's macrophages routinely monitor the internal environment for invaders, and recruit defenders when attacks are detected. Stated otherwise, the innate immune system develops an action plan that includes the weapons needed and the places where they should be distributed. Attacks are thwarted by stimulating antibody production, which binds a virus to the cell and prevents it from entering.

Macrophages do their work without conscious assistance. The proteins they secrete (cytokines) communicate with other immune system cells and inform them that the battle is engaged. I assume, likewise, that a great deal of psychological immunity occurs without conscious assistance. The psychological immune system constantly monitors the internal (i.e., thoughts and perceptions) and external environment for threats. When detected, narratives can be deployed automatically to defend against them. As I describe in the final section of this article, the paradox of self-deception, which is often assumed to accompany motivated bias, becomes less problematic with the recognition that a preponderance of psychological immunity occurs at an unconscious level.

### *Memory for Previous Invasions*

After having successfully fended off an infection, most of the lymphocytes tailored to a specific threat expire, thereby preventing overpopulation with useless cells. Some of these lymphocytes survive, however, to be available if similar threats reemerge. As such, the remaining lymphocytes can be said to possess memories for the invasion in that their prior experience increases their efficiency to counter future threats.

The psychological immune system operates analogously. Narratives that successfully divert identity threats are recruited more readily when similar threats recur. Recency and frequency principles apply: Narratives that have been rehearsed or recently created are more likely to be applied to a present attack, and well-rehearsed narratives have an advantage in memory. There is, however, one notable exception: Continually deploying the same excuse has the meta-cognitive liability of excuse frequency being associated with low credibility (Schlenker et al., 2001). There are only so many times a rejected suitor can tell himself that women are intimidated by his charm, good looks, and intelligence

before he registers how frequently he relies on this narrative and begins to question its validity.

### **Flexibility**

The biological immune system maintains considerable flexibility in responding to attacks. In particular, the adaptive immune system in vertebrates can, through experience with different pathogens, create antibodies designed for specific invaders. The psychological immune system is similarly flexible. Rather than recruiting an identical narrative for each threat encountered, people are capable of adjusting stories to the unique requirements of a current threat (Jonas et al., 2014; vanDellen et al., 2011). Indeed, given that most threats contain novel components, virtually all extant narratives are adapted to address situational nuances. A narrative about an employer failing to appreciate an individual's unique abilities, for example, changes somewhat with different employers.

Another type of flexibility involves reprioritizing values and the narratives associated with them. A failed writer can tell herself that she is living a fuller life than her more successful colleagues, or that artistic integrity trumps popular appeal. Without abandoning the value of becoming a published author, the struggling writer constructs narratives that elevate other values.

Flexibility also involves switching to a new identity theme. In biological immunity, class switching occurs when cells of the adaptive immune system (B lymphocytes) change the class of antibodies they produce. The analogy in psychological immunity is to switch from a threatened self-view to promote a different identity component. Research on compensatory self-inflation (Baumeister & Jones, 1978; Greenberg & Pyszczynski, 1985) has demonstrated that individuals who experience a threat to an aspect of their identity that they cannot adequately defend (e.g., receiving negative feedback about their intelligence) respond by elevating their standing on another characteristic (such as sociability).

### **Efficiency**

The immune system operates at an expense. Battles fought in the tissues against disease sometimes cause collateral damage. The neutrophils that leave the blood to attack pathogens can damage healthy tissue. The inflammation that occurs in response to toxins, infections, and injuries can, especially when prolonged, promote the buildup of plaque, resulting in damage to the heart, brain, and other organs. To counteract this danger, biological immune responses are economical, producing just enough antibodies to mount an effective defense.

The psychological immune system also benefits from a proportionate response. Attacking a relatively small threat with a barrage of narratives, or with a complex and convoluted one, may seem obviously defensive, leading the individual to suspect that the threat is more serious than anticipated. Measured responses reserve emotional resources for more serious challenges.

Another aspect of immune efficiency is selectivity. The first time an attack is encountered, lymphocytes search blindly for their cognate antigen—that is, for the molecules they are designed to recognize. When detected, they proliferate (referred to as clonal expansion) so that far more are available in the future to thwart a particular antigen. This process ensures that subsequent invasions are countered with more focalized attacks.

Psychological immunity evinces the same type of selectivity in searching for narratives that are most directly suited to a specific threat. As with biological immunity, novel threats may lead initially to a fishing expedition until the most viable narrative is recruited or created. In this regard, both biological and psychological immune systems act conservatively by repeating strategies whose effectiveness has been established.

Finally, immune efficiency entails knowing which microbes to attack. For example, potentially harmful organisms, such as bacteria in the intestines, serve critical adaptive functions, like aiding in digestion. Biological immune processes must avoid the error, therefore, of attacking health-promoting microbes. By the same token, negative feedback about one's habits and capacities can provide sound bases for remediation and improvement. Therefore, it would be counterproductive for psychological immune processes to squelch all adaptive, accurate information that contradicts desired self-views.

### **Strengthening by Exposure**

One of the most salutary medical advances in biological immunity was Jenner's discovery in 1796 that exposure to a weakened form of the cowpox virus stimulated antibodies that inoculated the system against further exposure (Baxby, 1999). McGuire (1961) transported this idea to resisting attitude change. He showed, in experiments on "inoculation theory," that exposure to weak counterarguments provided a stronger defense against attitude change than did exposure to strong, supportive arguments. By implication, exposure to weak self-view threats—those that stimulate successful counter-narratives—can strengthen psychological immunity by heightening the availability of these narratives for recruitment against future attacks.

### **Mixed Consequences**

Adaptations that promote immunity can have deleterious offshoots. About 75 years ago, medical researchers noted that patients with sickle cell anemia, a hereditary blood disease, were more resistant to malaria (Allison, 1956). The sickle cell mutation was selected as a defense against malaria in the areas of Africa where it was most prevalent. Unfortunately, when two copies of the mutant gene are inherited, one from each parent, sickle cell disease can cause tissue damage and ultimately death.

Psychological adaptations also have positive and negative ramifications. As noted, the cognitive capacities that enable linguistic coding, abstraction, hypothetical reasoning, and future projection, make it possible for humans to construe

their experiences optimistically, recall selectively favorable information, regulate negative emotions, and develop positive self-views. Yet, these cognitive capacities also enable anxiety about the future, despair about the past, and mortality awareness. Put otherwise, some adaptations are double-edged swords that can harm as well as benefit.

### Success and Failure in Immune Response

The success or failure of psychological immunity depends on the ability to dismiss or counter threats with extant self-views, narratives, or, if these do not work, create reparative narratives tailored to the unique features of an attack. The success of a defense increase when a narrative network enables a coordinated defense.

Psychological immunity, however, faces the same liabilities as its biological counterpart, namely, the problems of mutation and metastasis. Once antigens enter cells where antibodies cannot neutralize them, they can replicate rapidly. Metastasis in biological systems occurs when a pathogen spreads from an initial site to others. To counteract the spread of disease, “killer” T cells (cytotoxic lymphocytes) are manufactured that recognize and destroy the infected cells. Nevertheless, viruses that mutate, such as influenza or HIV, can exceed the immune system’s ability to produce new antibodies.

In psychological immunity, mutation and metastasis can occur in either order. Mutation involves misconstruing an initial threat or recruiting antagonistic narratives that convert the threat into more pernicious forms. When mutation occurs first, such as when constructive criticism (e.g., your manuscript is too wordy) is transmuted into an extreme self-view threat (e.g., the reviewer thinks I am a terrible writer), it metastasizes by stimulating antagonistic narrative pathways and associated self-views, thereby strengthening the initial misinterpretation or turning the threat into a larger one with a more complex web of tributaries. On the other hand, threats that metastasize first, such as when a minor failure connects through the network with antagonistic narratives, can eventually acquire more ominous connotations.

In this section, I present a series of propositions about the factors that determine whether a defense against an identity attack is likely to succeed in protecting or restoring psychological homeostasis. I do not intend an exhaustive treatment; instead, I concentrate on a subset of logical derivations from the current perspective on psychological immunity and narrative networks. Factors such as the credibility of the threat and the importance or centrality of the threatened self-view (Leary et al., 2009; Sedikides et al., 2016) have been well-established in the literature and are not repeated here.

**Proposition 1.** The innate psychological immune system (i.e., extant self-views and preemptive narratives) is prioritized over the adaptive one (i.e., reparative narratives).

Dismissing a threat because it seems invalid, or recruiting existing narratives that effectively defeat it, is generally preferable to creating reparative narratives. One problem with

reparative narratives is the metacognitive awareness of constructing them: The act of preparing an excuse may lead people to question the excuse’s validity, something that may be less likely to occur with pre-constructed narratives. Another problem is that, with no previous track record, reparative narratives may provide a poorer rebuttal to the facts than narratives that have been previously tested.

**Proposition 2.** Narrative recruitment favors the most positive and relevant narratives that are available.

Narrative networks generally contain both supportive and antagonistic elements. Even people with superior skills and characteristics occasionally encounter disappointments and obstacles that evoke negative thoughts and stories, and these may be recruited inadvertently when challenges arise. In fact, the main focus of most cognitive behavioral therapies (Beck, 1976) is to develop strategies to defeat negative thoughts and stories.

As is evident from the persistence of depression and low self-esteem, antagonistic narratives are formidable problems. Nevertheless, I assume that healthy, adaptive functioning is the norm, and that it primarily favors recruiting positive narratives and circumventing negative ones. The ability of psychological immunity to achieve this is facilitated by selective memory searches (Kunda, 1990). Although antagonistic narratives can sometimes overtake positive ones, in the same way that diseases can overwhelm biological immunity, maintaining homeostasis—psychological or biological—dictates a system that generally promotes adaptive functioning.

**Proposition 3.** Narratives spread by thematic similarity.

Narratives that address similar themes spread within and across self-views, which I refer to as narrative drift. In Figure 3, the hours that the executive spent working with his team evokes narratives about marital problems this caused, which may in turn prime other narratives that stem from the original threat. I assume that narrative recruitment spreads most rapidly within an identity theme (e.g., thinking about the hours he spent working on a problem immediately evokes narratives about vacations he missed), before spreading across themes (e.g., thinking about missing a deadline recruits a narrative about having missed a child’s soccer game; Tesser, 2000).

**Proposition 4.** The ability of psychological immune processes to quash a threat depends on its scope.

The scope or broadness of a threat is defined by the number and variety of identity themes and self-views it implicates. Performing poorly on a test of general intelligence, for example, implicates more facets of intelligence than performing poorly in a chemistry class. Similarly, receiving negative social feedback, such as being charged with selfishness, is more difficult to defend than being charged with a selfish act in that the former may assail numerous self-views.

Global narratives are especially effective in countering broad-based threats. A story about common sense being more important than book smarts, for example, may allay



threats to self-views of intelligence. Other examples include “life is unfair,” “the government is out to get me,” and “rich people have all the advantages.”

Redemption stories (McAdams et al., 2001) can be deployed to ameliorate apparent shortcomings or indiscretions when it is implausible to deny them completely. For example, a person who has overcome youthful irresponsibility might reason that he is a much better parent than he used to be (even if he is not a particularly good one), grant himself credit for holding down a job, and declaim routine decency as a moral triumph.

**Proposition 5.** Valenced narratives gain “momentum.”

I assume narrative searches are valence-consistent, such that each positive narrative that is recruited increases the chances of recruiting other positive narratives, and likewise for negative narratives. Positive and negative narratives therefore have a reciprocal effect: Each recruited positive narrative makes it less likely that an antagonistic narrative will be evoked, and vice versa. Provided that the goal of narrative recruitment is to defeat self-view threats and restore psychological homeostasis, positive narrative recruitment terminates once this is achieved. The accretion of negative narratives—akin to biological metastasis—requires a concerted effort to quell or reverse. Given my assumption that each new negative narrative that is evoked makes this more difficult, it is obviously beneficial to stem the tide of negative narratives before they accumulate. Low self-esteem may be due, in part, to a chronic failure to contain the recruitment of negative narratives.

**Proposition 6.** Affective states influence memory for past experiences, exacerbate and palliate threats, and fuel narrative drift. I propose six ways in which affect influences psychological immunity and homeostasis.

**6.1.** First and foremost, people use affective states to interpret their present experiences. Beginning with work on mood-as-information (Schwarz & Clore, 1983), researchers increasingly recognized that people’s beliefs about their emotional states, and their subjective experiences—both of which are context dependent (Martin et al., 1997)—influenced their interpretations of events (Greifeneder et al., 2011).

Damasio’s (2005) notion of somatic markers applies a similar idea to memories for past experiences. Translated to personal identity, somatic markers are affective states that are elicited by self-threats, and, akin to evaluative priming (Fazio, 2001), can evoke affectively-compatible narratives. A student whose teacher provides a constructive critique of her writing, for example, can experience the same negative affect that occurred when her parents criticized her messy room. This affective match may prime narratives such as “adults criticize everything I do,” which obviates positive change in an otherwise repairable identity component.

Somatic markers that align present affective experiences with previous ones influence the way those experiences are interpreted (Gasper & Danube, 2016). The prior example involved matching past and present negative affect, but somatic markers for positive affect can also influence

psychological immunity. In fact, because social norms encourage praise and discourage criticism, people may reexperience the positive affect that derives from false praise each time it is proffered. In this way, favorable self-views may be fostered even when people receive unrealistic praise—a view immortalized in Carnegie’s (1936) “How to Win Friends and Influence People.”

Further, bodily cues can be used to interpret the meaning of ambiguous feedback. Interoceptive signals including cardiac, respiratory, or enteric changes, which typically accompany unfavorable emotions, may be used to interpret an innocent social exclusion as a slight, or to enhance or depreciate the value of a performance. When irrelevant body changes are misattributed to external events, they may shift self-views in a positive or negative direction.

**6.2.** Similarly, extended affective states (or moods) influence the way thoughts or external events are interpreted. Research suggests that people automatically link affect to current mental contents (Huntsinger et al., 2014). In negative affective states, otherwise innocuous thoughts about relationships, status, and behavioral outcomes may be interpreted pejoratively (Forgas, 1995), thereby upsetting psychological homeostasis. Similarly, events and actions with ambiguous meanings, such as a comment made by a friend, can lead to self-doubts and self-recriminations. Psychological immune efforts are encumbered, therefore, when negative affective states create threats that would not otherwise have arisen, or when they exacerbate existing threats. By contrast, in contexts in which people experience success, positive moods may increase the tendency to evaluate one’s characteristics favorably, especially in conditions of inward focus (Bless, 2001).

**6.3.** Emotional set points may be adapted to specific contexts. Whereas traditional ideas about biological homeostasis assumed fixed set points for physiological regulation, the more recent concept of allostasis assumes that set points change to fit environmental requirements, such as adjusting metabolic needs when danger is anticipated (Sterling & Eyer, 1988). In the context of psychological homeostasis, emotional set points might be adapted to specific contexts. When anticipating favorable outcomes, set points for psychological homeostasis may be set higher, such that more favorable outcomes are required to satisfy emotional needs. Consequently, the same compliment, performance outcome, or esthetic pleasure may fail to deliver the usual emotional reward. Conversely, homeostatic set points in difficult or hostile environments may be set lower, making it easier to maintain emotional equanimity.

**6.4.** Positive affective states promote “risky” information seeking about the self. When preemptive immunity in an identity area is strong, people are more willing to approach situations, such as difficult tasks or environments, that can potentially upset psychological homeostasis. Consistent with Fredrickson’s (2001) broaden-and-build theory, the positive emotional states that immunity promotes expand openness to thoughts and actions. Although this carries the risk of downgrading self-views, the danger is mitigated by the buffering that positive mood provides against the potentially

deleterious consequences of negative information (Raghunathan & Trope, 2002).

**6.5.** Narratives that have successfully reduced negative affect in the past are recruited when self-threats occur or are anticipated. A socially anxious person might recall a well-rehearsed narrative that explains why he dislikes parties (Mogg et al., 1987). Conversely, certain narratives can be studiously avoided, if they are known to evoke anxiety or conflict. Relationship partners, for example, may learn to sidestep narratives that lead predictably to accusations about each other's shortcomings and inadequacies (Rusbult et al., 1991).

**6.6.** Affective states may fuel narrative drift. Narrative drift increases when the affect that a narrative arouses causes other narratives to be evoked. Each new narrative can intensify the affect, thereby priming related narratives, and so on. Drift begins with associated terms or narratives, and proceeds to more remote ones. Recall, for example, may favor events whose affect matches a present emotional state (Eich et al., 1994; Fiedler et al., 2001). A person who feels bad about having been inconsiderate to a friend may link this event to other antagonistic narratives in which he was inconsiderate, assuming that their affective tags are similar. The intensity in negative affect associated with this new narrative leads to thoughts about more distant narratives involving other inappropriate social behavior, which heightens affect further, causing even more remote narratives to be recalled.

**Proposition 7.** Selective memory favors positively-skewed narratives and aligns past events with present self-views.

Previously constructed narratives contain elements that range from completely veridical accounts of actual events to fanciful constructions that may even include events that never happened. Metacognitive processes are required, therefore, to assess narrative accuracy and to distinguish experienced events from imagined ones. Tulving (2005) used the phrase "autonetic" consciousness to refer to the metacognitive experience of having first-hand knowledge. However, this subjective sense of self-involvement is liable to be imperfect; in fact, the feeling of involvement may be what leads people astray in parsing reality from fantasy in episodic memories.

Along these lines, De Brigard (2014) depicted episodic memory as a system for hypothetical thinking whose main function is to simulate events that may have happened in the past or that may occur in the future. Consistent with this idea, Van Hoek et al. (2015) showed that the same core brain network involved in autobiographical memory and future projection (and not involved, presumably, in projections about others; Szpunar, 2010) is implicated when participants imagine more favorable alternatives to negative events. In contrast, then, to the traditional view of episodic memory as a backward-looking capacity limited primarily by interference and decay, memory may be part of a larger cognitive system that makes fallible predictions about the past, present, and future. In fact, building on Tulving's (1985) metaphor of memory as form of mental time travel,

investigators have conceptualized memory as part of a cognitive system that evolved to plan for the future (Schacter et al., 2015; Sedikides & Wildschut, 2016, 2020).

**7.1.** The memories and projections that narratives comprise, therefore, are stories with an imperfect connection to reality, or what Mahr and Csibra (2018, p. 3) described as "the outputs of a scenario construction mechanism." Keven (2016, p. 2500) captured the goal-directedness of narratives as follows: "...episodic memory is based on narratives, which bind event memories into a retrievable whole that is temporally and causally organized around subjects' goals." The ultimate goal, within the context of psychological immunity, is to maintain psychological homeostasis. The malleability of memory facilitates this objective. In fact, virtually all conscious and non-conscious events vary in their faithfulness to reality, regardless of whether they are tethered to the past, present, or future. Consequently, the validity estimates that people attach to these mental contents can be poorly calibrated: People confidently recall events that never occurred, and just as confidently dismiss events that did (Garry et al., 1996; Lindsay et al., 1981). Indeed, simply thinking about an event increases the likelihood that it will be recalled as having happened (Johnson & Raye, 1981), and imagining its occurrence increases this likelihood further (Goff & Roedinger, 1998). Although some have gone as far as to argue that veridical trace representations have no memorial advantage over non-factual representations (Michaelian, 2016), I regard selective memory as I do interpretations of contemporaneous events: A balancing act guided by the dual requirements of psychological homeostasis and accuracy that favors information consistent with a positive identity.

**7.2.** Memories are a function of both trace representations and the manner in which these representations are recruited (Klein, 2013). Each time a narrative is recalled, the extent to which it was constructed to serve psychological homeostasis rather than to provide an accurate view of events becomes less obvious, and the simple act of re-generating a narrative strengthens its perceived validity. In this way, narratives that initially contain fictitious elements may eventually be accepted as accurate, or at least as more accurate, and come to occupy significant positions in identity stories. Although narratives that preserve the past correctly are advantaged in identity stories over fanciful constructions, those that initially have low validity gain stature over time via rehearsal and embellishment.

**7.3.** A narrative's embeddedness in larger stories also accrues advantages in that past events that jive with current realities seem more believable (Eagly et al., 2001). For example, an atheist may overestimate her frequency of childhood religious doubts. Aligning past events with present self-views helps to support that identity component. A different mode of support is to remember past events more negatively. People underestimate their past abilities to enhance the value of their present ones (Wilson & Ross, 2011). Although these are not memory effects *per se*, it may be that people selectively recall events consistent with having overcome obstacles. Someone who has fallen short of his

career goals, for example, can take solace in recalling how far he has come, and the hurdles he has surmounted.

## What Kind of “Motivational Bias” Does Identity Maintenance Entail?

### *Motivated Bias*

As noted at the outset, the phrase “motivated bias,” as applied to self-enhancement and self-protection, has had a pejorative connotation, suggesting that the person to whom it applies is deluded or at least self-deceived. I began with the assumption that, all things considered, motivated biases that subserve favorable identity maintenance facilitate rather than impede healthy adaptation.

In this section, I discuss two aspects of motivational bias as they relate to psychological immunity and homeostasis. The first is the relationship between motivated bias and self-deception, and the second is the issue of awareness. Self-deception is typically defined by the following conditions:

- a. X believes p.
- b. The objective evidence suggests that p is false.
- c. X purposively construes the evidence to support her belief in p.
- d. X’s biased construal is what causes and maintains her belief in p.
- e. X is unaware that she has biasedly construed the evidence.

As an example, Bob believes he is hilarious, but everyone who knows him thinks he is painfully unfunny. Bob unconsciously registers that he may be dull-witted, and this recognition causes him to misconstrue the evidence. He might accomplish this by: convincing himself that people believe his jokes are funny when he tells them (misperception); mis-recalling the number of times people have laughed at his jokes (biased memory); claiming that people who fail to laugh at his jokes are humorless (self-serving bias); or believing that more people laugh at his jokes than they do at others’ (comparative bias). If you suggested to Bob that his construals were biased, he would earnestly deny it.

Bob is both self-deceived, and motivationally-biased. A motivated bias is an “expectancy-guided process in which the expectancy, or hypothesis, is driven by a desire or need” (Alicke et al., 2020, p. 580). As applied to personal identity, motivational bias entails purposive encoding, recall, construal, projection, and decision-making, which skew experiential data in a direction that fosters a desired identity component and maintains or restores psychological homeostasis.

However, self-deception and motivational bias, albeit related, are not isomorphic, especially with regard to the issue of accuracy. In the present example, Bob’s belief in his comic prowess is wrong by any objective reckoning. In other cases, however, motivational bias can promote accuracy. A student might be motivationally biased to believe that she

will win a prestigious reward, and this belief might propel her to do so.

Further, whereas self-deception suggests an active propensity to avoid the truth, motivated tendencies often occur with little effort. Given that most individuals have elevated self-views (Schwartz, 2006; Thomaes et al., 2017), they naturally assimilate new information to these favorable beliefs, a tendency akin to confirmation bias. Of course, when elevated views are justified, a motivated bias to confirm these views may also be justified. And as noted, the inaccuracies that self-enhancement and self-protection entail tend to be small when assessed against objective standards (Alicke & Govorun, 2005), although they are often large when measured in the aggregate (Zell et al., 2020). For example, motivated nudges to exaggerate one’s social and intellectual skills, and those of one’s children and relationship partners, confers benefits that outweigh the costs of inaccuracy (Brown & Dutton, 1995; Gregg et al., 2011; Sedikides, 2020). So, even when motivated biases do entail self-deception, they are likely to promote adaptive functioning (Grundmann et al., 2021; Sedikides & Skowronski, 2020; Stanley & De Brigard, 2019).

### *The Issue of Awareness*

The second main issue regarding motivational biases is whether, or to what degree, people are aware of them. In fact, it is quite possible for people to have at some inkling of their biases but nevertheless maintain them (Rosenzweig, 2016). Some parents, for example, may realize, if push came to shove, that they overestimate their children’s positive qualities and downplay their faults, but continue to do so nonetheless.

Self-deception, by contrast, has often been considered paradoxical. This supposed paradox was first articulated by Sartre (1943), who argued that a person must be aware of a threat to counteract it. How, then, can Bob repress the threatening information about being humorless without awareness, if he must first recognize the threat to repress it? Is another monitor needed to repress the knowledge of the original repression? And another monitor to repress that?

Self-deception, and motivated bias more generally, seem less paradoxical in light of current theory and research on automaticity and unconscious processes (Bargh, 2017). People need not be any more aware of the motivation to maintain psychological homeostasis than they are of the motivation to maintain biological homeostasis or combat disease. Just as the immune system is engaged to fight infection without conscious aids, psychological threats can invoke narrative aids without deliberation. Stated otherwise, people overestimate their skills and traits in much the same way that macrophages attack pathogens: Both serve a fundamental, adaptive need, and neither requires conscious controls for a threat to be recognized or a defense to be marshaled (Paulhus & Levitt, 1987). The claim that a motivated bias is purposive does not necessarily imply conscious intent. People can be “up to something,” without knowing what it

is that they are up to, namely, protecting and advancing their desired self-views.

However, establishing self-deception or motivational bias in particular instances can be difficult, given that the people to whom motives are ascribed may be at a loss to identify them (Wilson & Dunn, 2004). Consider the case of Mary, a happily married woman who, while on a business trip, invites her old boyfriend, Bubba, to dinner to catch up on old times. Mary winds up sleeping with him, and afterwards wishes to deny to herself that she invited Bubba for this purpose.

Mary's ability to conclude that her infidelity was inadvertent rather than planned depends to some extent on the objective evidence. If Mary had frequently fantasized about sleeping with Bubba or had previously slept with another old boyfriend, the deck would be stacked against her. In this regard, Mary might use objective data in the same manner as an outside observer, as Bem (1972) suggested in the realm of attitudes. Of course, individuals are capable of surmounting troublesome evidence. Mary could, for example, rely on subjective indicators, such as her belief that despite her standing desire, she experienced no active plan to sleep with Bubba when she asked him to dinner. People, after all, have many desires that they do not intend to actuate.

As a general rule, being less aware of one's protection strategies may aid in their success. Mary would be in the strongest position, if she constructed a convincing narrative and failed even to consider that her purpose in constructing it was to excuse her infidelity. Of course, given the circumstances, Mary's complete failure to recognize this possibility might indicate a serious personality disorder.

Mary, therefore, probably has some inkling, although not one she dwells on, that the narrative she favors could be wrong, and that a less charitable one might apply. When less generous explanations are feasible, motivated biases, like self-deception, are more a matter of what Fingarette (1969) called a failure to "spell out" an engagement in the world than of complete inadvertence. In this regard, Mary might have a nagging suspicion that she invited Bubba with amorous intentions, while refusing to state this to herself explicitly. Greenwald (1997) provided an example along these lines of refusing to open an envelope that could contain unwanted news.

From the psychological immunity standpoint, the motivation to believe in one's narratives is more important in maintaining desired self-views than hiding the possibility of contradiction from oneself, although these are correlated. Some narratives and beliefs, such as that one's obnoxious child is adorable, or that the opposing player's block of the home team's shot was goaltending, are experienced perceptually with virtually no awareness of contradiction, and as a result, are believed resolutely (von Hippel & Trivers, 2011). Others are more tenuous. Let us suppose that anyone who knows Mary is 100% certain that she intended to sleep with Bubba. Mary, however, is hell-bent on denying it. When Mary constructs her narrative (e.g., she thought that the restaurant served excellent Coquilles St. Jacques and she knew this was Bubba's favorite dish), she might be quite aware

that others will disbelieve it. Despite this, she is convinced. I maintain that, in psychological immunity, individuals are capable of believing what is palpably untrue. In general, the better they can disguise their deception, the more successful they will be in ignoring the facts. Nevertheless, people are quite capable of deceiving themselves while recognizing that the facts are aligned against them.

## Summary and Conclusions

I began with the premise that, in addition to facilitating effective environmental control, the main purpose of personal identity is to maintain psychological homeostasis or emotional well-being (Dufner et al., 2019). I assume that Descartes' iconic "ex cogito ergo sum" (roughly "I think, therefore I am"), which situates cognition at the helm of human consciousness, is a mistake that has permeated the study of personal identity up to the present (Damasio, 2005). People are not thinking beings who happen to have feelings; rather, they are feeling beings who think. The person as computer metaphor that dominated the information-processing era gave rise to an inapt "hot" versus "cold" cognition terminology to distinguish affective from cognitive processes. In fact, there are no hot cognitions, because there are no cold ones: Except for those who are comatose or in a vegetative state (and probably not even them), people are never emotionally inert. Feelings attend all conscious and unconscious experiences, and are vital in creating and maintaining personal identity.

Although many investigators have assumed, at least tacitly, that emotional equilibrium underlies identity protection mechanisms, the phrase "motivational bias" that is usually applied to such tendencies suggests a departure from an identity system's normal, adaptive function. I sought to demystify psychological homeostasis by viewing it as a routine, adaptive, process by which people monitor their internal and external environments for threats to their self-views or, more generally, to their theories about their characteristics, relationships, and circumstances. I argued that people advance and protect their identities by constructing predominantly favorable narratives about their past, present, and projected future experiences. People also create narratives when no threat is imminent, which serve preemptively to protect against future unfavorable thoughts and experiences. These narratives are by no means infallible: People obviously struggle with depression, low self-esteem, and lack of motivation. Nevertheless, such problems would be even more pervasive and debilitating if narrative protections were unavailable to palliate them.

Psychological immunity occurs in the service of enjoying the most favorable emotional life that people can attain, given their life circumstances and psychological resources—what I refer to as psychological homeostasis. The advanced capacities that human consciousness entails generate emotional rewards that are qualitatively unavailable to other species (e.g., pride in others' accomplishments), but also create a panoply of negative emotions that threaten well-being. Few humans have the luxury of prolonging indefinitely the

ecstasy of a cat laying in the sun or a dog frolicking on the beach. Life circumstances continually challenge psychological equanimity. When serious impediments arise, interpretive and projective capacities can either diminish or exacerbate the threat. The more positive preemptive narratives an individual has available to counter unfavorable thoughts, experiences, and outcomes, the better chance there is that psychological homeostasis will be protected or restored to an acceptable level.

I close with a final word about the importance of personal identity, on which the significance of my approach hinges. True, having a favorable identity is just one part of psychological well-being, but, in my view, it is a large part. Much of the apparent irrationality that people evince occurs in the service of defending their identities. Imagine a “gun to the head test” in which the supreme omniscient being has finally been contacted via mobile phone with a mega-GPS reach. Suppose that this being is in a vengeful mood, and has commanded a reporter to ask people questions that they must answer correctly to avoid extinction to themselves and their families. If people believed that the supreme being knew the objectively correct answer, and that an incorrect response would lead to instant death, would more of them acknowledge global warming, and fewer claim that female humans were created by a rib transplanted from the first human male? A large part of the puzzle of why “people believe weird things” (Shermer, 1997) is less about their logical capacities or susceptibility to cult indoctrination than it is that these beliefs go to the core of their identities. Mundane self-deceptions are less hidden than Freud assumed, and serve to nurture the identities that people promote to themselves and others.

With all this, one might question, as some neuroscientists have (Varki & Brower, 2013), whether the benefits that consciousness provides is worth the costs that it incurs. The future of the human species will tell.

## Acknowledgments

I thank George X. Sedikides for his input on matters of immunology. I dedicate this article to the memory of Mark D. Alicke.

## ORCID

Constantine Sedikides  <http://orcid.org/0000-0003-4036-889X>

## References

- Abrams, D., Frings, D., & Randsley de Moura, G. (2005). Group identity and self-definition. In S. A. Wheelan (Ed.), *Handbook of group research and practice* (pp. 329–350). London, UK: Sage Publications.
- Akins, K. (1996). Of sensory systems and the “aboutness” of mental states. *Journal of Philosophy*, 93(7), 337–372. <https://doi.org/jphil199693723>.
- Albahari, M. (2006). Introduction: The two-tiered illusion of self. In M. Albahari (Ed.), *Analytical Buddhism* (pp. 1–5). London, UK: Springer.
- Alicke, M. D., & Govorun, O. (2005). The better-than-average effect. In M. D. Alicke, D. A. Dunning, & J. I. Krueger (Eds.), *The self in social judgment* (pp. 85–106). New York, NY: Psychology Press.
- 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), 1–48. doi:10.1080/10463280802613866
- Alicke, M. D., & Sedikides, C. (2011). *Handbook of self-enhancement and self-protection*. New York, NY: Guilford Press.
- Alicke, M. D., LoSchiavo, F. M., Zerbst, J., & Zhang, S. (1997). The person who outperforms me is a genius: Maintaining perceived competence in upward social comparison. *Journal of Personality and Social Psychology*, 73(4), 781–789. doi:10.1037/0022-3514.73.4.781
- Alicke, M. D., Sedikides, C., & Zhang, Y. (2020). The motivation to maintain favorable identities. *Self and Identity*, 19(5), 572–589. doi:10.1080/15298868.2019.1640786
- Allison, A. C. (1956). Sickle cells and evolution. *Scientific American*, 195(2), 87–94. doi:10.1038/scientificamerican0856-87
- Bargh, J. A. (2017). *Before you know it: The unconscious reasons we do what we do*. New York, NY: Touchstone.
- Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., Vol. 1, pp. 680–740). New York, NY: McGraw-Hill.
- Baumeister, R. F., & Jones, E. E. (1978). When self-presentation is constrained by the target’s knowledge: Consistency and compensation. *Journal of Personality and Social Psychology*, 36(6), 608–618. doi:10.1037/0022-3514.36.6.608
- Baumeister, R. F., Stillwell, A., & Wotman, S. R. (1990). Victim and perpetrator accounts of interpersonal conflict: Autobiographical narratives about conflict. *Journal of Personality and Social Psychology*, 59(5), 994–1005. doi:10.1037/0022-3514.59.5.994
- Baxby, D. (1999). Edward Jenner’s Inquiry; a bicentenary analysis. *Vaccine*, 17(4), 301–307. doi:10.1016/S0264-410X(98)00207-2
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: Penguin.
- Bem, D. J. (1972). Self-perception theory. *Advances in Experimental Social Psychology*, 6, 1–62. doi:10.1016/S0065-2601(08)60024-6
- Bernard, C. (1865). *An introduction to the study of experimental medicine* (Transl. H. C. Greene). Henry Schuman, Inc.
- Bernston, G. G., Gianaros, P. J., & Tsakiris, M. (2019). Interoception and the autonomic nervous system: Bottom-up meets top-down. In M. Tsakiris & H. De Preester (Eds.), *The interoceptive mind* (pp. 3–24). New York, NY: Oxford University Press.
- Bless, H. (2001). The consequences of mood on the processing of social information. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook in social psychology* (pp. 391–412). Oxford, UK: Blackwell Publishers.
- Breed, M. D., & Moore, J. (2016). *Animal behavior* (2nd ed.). Cambridge, MA: Academic Press.
- Briere, J., & Runtz, M. (2002). The inventory of altered self-capacities (IASC): A standardized measure of identity, affect regulation, and relationship disturbance. *Assessment*, 9(3), 230–239. doi:10.1177/1073191102009003002
- Brown, J. D., & Dutton, K. A. (1995). Truth and consequences: The costs and benefits of accurate self-knowledge. *Personality and Social Psychology Bulletin*, 21(12), 1288–1296. doi:10.1177/01461672952112006
- Brummelman, E., & Sedikides, C. (2020). Raising children with high self-esteem (but not narcissism). *Child Development Perspectives*, 14(2), 83–89. doi:10.1111/cdep.12362
- Bruner, J. (2003). Self-making narratives. In R. Fivush & C. A. Haden (Eds.), *Autobiographical memory and the construction of a narrative self* (pp. 209–225). Mahwah, NJ: Erlbaum.
- Bushman, B. J., Ridge, R. D., Das, E., Key, C. W., & Busath, G. L. (2007). When God sanctions killing: Effect of scriptural violence on aggression. *Psychological Science*, 18(3), 204–207. doi:10.1111/j.1467-9280.2007.01873.x
- 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. doi:10.1037/1089-2680.3.1.23
- Cannon, W. B. (1915). *Bodily changes in pain, hunger, fear and rage*. New York, NY: D. Appleton & Company.
- Cannon, W. B. (1927). The James-Lange theory of emotions: A critical examination and an alternative theory. *The American Journal of Psychology*, 39(1/4), 106–124. doi:10.2307/1415404

- Carnegie, D. (1936). *How to win friends and influence people*. New York, NY: Simon & Schuster.
- Carroll, L. (1871). *Through the looking-glass, and what Alice found there*. London: Macmillan & Co.
- Chambers, J. R., Windschitl, P. D., & Suls, J. (2003). Egocentrism, event frequency, and comparative optimism: When what happens frequently is "more likely to happen to me". *Personality & Social Psychology Bulletin*, 29(11), 1343–1356. doi:10.1177/0146167203256870
- Cheung, W. Y., Wildschut, T., Sedikides, C., & Pinter, B. (2014). Uncovering the multifaceted-self in the domain of negative traits: On the muted expression of negative self-knowledge. *Personality & Social Psychology Bulletin*, 40(4), 513–525. doi:10.1177/0146167213518224
- Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology*, 65, 333–371. doi:10.1146/annurev-psych-010213-115137
- Coico, R., & Sunshine, G. (2015). *Immunology: A short course* (7th ed.). Chichester, UK: Wiley Blackwell.
- Costabile, K. A., Shedlosky-Shoemaker, R., & Austin, A. B. (2018). Universal stories: How narratives satisfy core motives. *Self and Identity*, 17(4), 418–431. doi:10.1080/15298868.2017.1413008
- Critcher, C. R., & Dunning, D. (2015). Self-affirmations provide a broader perspective on self-threat. *Personality & Social Psychology Bulletin*, 41(1), 3–18. doi:10.1177/0146167214554956
- Damasio, A. (2005). *Descartes' error: Emotion, reason, and the human brain*. London, UK: Penguin Random House.
- Damasio, A. (2018). *The strange order of things: Life, feelings, and the making of cultures*. London: Penguin Random House.
- Darwin, C. (1896). *The expression of the emotions in man and animals*. New York, NY: D. Appleton and Company. (Original work published 1872)
- De Brigard, F. (2014). Is memory for remembering? Recollection as a form of episodic hypothetical thinking. *Synthese*, 191(2), 155–185. doi:10.1007/s11229-013-0247-7
- De Vignemont, F. (2018). In M. Tsakiris & H. De Preester (Eds.), *The Interoceptive mind* (pp. 259–271). Oxford: Oxford University Press.
- De Witt, N. W. (1973). *Epicurus and his philosophy*. Westport, CT: Greenwood Press.
- Deady, D. K., Law Smith, M. J., Kent, J. P., & Dunbar, R. I. M. (2006). Is priesthood an adaptive strategy? : Evidence from a historical Irish population. *Human Nature (Hawthorne, N.Y.)*, 17(4), 393–404. doi:10.1007/s12110-006-1002-2
- Deci, E. L., & Ryan, R. M. (1995). Human autonomy. In M. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 31–49). New York, NY: Springer. doi:10.1007/978-1-4899-1280-0\_3
- Dehaene, S. (2014). Reading in the Brain revised and extended: Response to Comments. *Mind & Language*, 29(3), 320–335. doi:10.1111/mila.12053
- Dennett, D. C. (1992). The self as a center of narrative gravity. In F. Kessel, P. Cole, & D. Johnson (Eds.), *Self and consciousness: Multiple perspectives* (pp. 103–116). Hillsdale, NJ: Erlbaum.
- DeSteno, D., Gross, J. J., & Kubzansky, L. (2013). Affective science and health: The importance of emotion and emotion regulation. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, 32(5), 474–486. doi:10.1037/a0030259
- Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *The American Psychologist*, 61(4), 305–314. doi:10.1037/0003-066X.61.4.305
- 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: An Official Journal of the Society for Personality and Social Psychology, Inc.*, 23(1), 48–72. doi:10.1177/1088868318756467
- Dunning, D., Meyerowitz, J. A., & Holzberg, A. D. (1989). Ambiguity and self-evaluation: The role of idiosyncratic trait definitions in self-serving assessments of ability. *Journal of Personality and Social Psychology*, 57(6), 1082–1090. doi:10.1037/0022-3514.57.6.1082
- Eagly, A. H., Kulesa, P., Chen, S., & Chaiken, S. (2001). Do attitudes affect memory? Tests of the congeniality hypothesis. *Current Directions in Psychological Science*, 10(1), 5–9. doi:10.1111/1467-8721.00102
- Eich, E., Macaulay, D., & Lee, R. (1994). Mood dependent memory for events of the personal past. *Journal of Experimental Psychology: General*, 123(2), 201–215. doi:10.1037/0096-3445.123.2.201
- Ekman, P. (1999). Basic emotions. In T. Dalgleish & M. J. Power (Eds.), *Handbook of cognition and emotion* (pp. 45–60). New York, NY: John Wiley & Sons Ltd.
- Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of Psychology*, 53, 161–186. doi:10.1146/annurev-psych.53.100901.135228
- Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist*, 34(3), 169–189. doi:10.1207/s15326985ep3403\_3
- Fazio, R. H. (2001). On the automatic activation of associated evaluations: An overview. *Cognition & Emotion*, 15(2), 115–141. doi:10.1080/02699930125908
- Feldman-Barrett, L., Lewis, M., & Haviland-Jones, J. M. (2016). *Handbook of emotions* (4th ed.). New York, NY: Guilford Press.
- Fiedler, K., Nickel, S., Muehlfriedel, T., & Unkelbach, C. (2001). Is mood congruency an effect of genuine memory or response bias? *Journal of Experimental Social Psychology*, 37(3), 201–214. doi:10.1006/jesp.2000.1442
- Fillingim, R. B. (2017). Individual differences in pain: Understanding the mosaic that makes pain personal. *Pain*, 158(1), S11–S18. doi:10.1097/j.pain.0000000000000775
- Fingarette, H. (1969). *Self-deception*. London: Routledge & Kegan Paul.
- Fiske, S. T. (2010). *Social beings: Core motives in social psychology* (2nd ed.). New York, NY: Wiley.
- Flury, J. M., & Ickes, W. (2007). Having a weak versus strong sense of self: The sense of self scale (SOSS). *Self and Identity*, 6(4), 281–303. doi:10.1080/15298860601033208
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39–66. doi:10.1037/0033-2909.117.1.39
- Frank, R. H. (1988). *Passions within reason: The strategic role of the emotions*. New York, NY: W. W. Norton & Company.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218–226. doi:10.1037/0003-066X.56.3.218
- Freud, S. (1920). *On metapsychology: The theory of psychoanalysis* (Trans. J. Strachey). London: Penguin Books.
- Garry, M., Manning, C., Loftus, E. F., & Sherman, S. J. (1996). Imagination inflation: Imagining a childhood event inflates confidence that it occurred. *Psychonomic Bulletin & Review*, 3(2), 208–214. doi:10.3758/BF03212420
- Gasper, K., & Danube, C.L. (2016). The scope of our affective influences: When and how naturally occurring positive, negative, and neutral affects alter judgment. *Personality & Social Psychology Bulletin*, 42(3), 385–399. doi:10.1177/0146167216629131
- Gebauer, J. E., Wagner, J., Sedikides, C., & Neberich, W. (2013). Agency-communion and self-esteem relations are moderated by culture, religiosity, age, and sex: evidence for the "self-centrality breeds self-enhancement" principle. *Journal of Personality*, 81(3), 261–275. doi:10.1111/j.1467-6494.2012.00807.x
- Gigerenzer, G., & Goldstein, D. G. (1996). Reasoning the fast and frugal way: Models of bounded rationality. *Psychological Review*, 103(4), 650–669. doi:10.1037/0033-295X.103.4.650
- Gigerenzer, G., Hertwig, R., & Pachu, T. (2011). (Eds.). *Heuristics: The foundations of adaptive behavior*. Oxford: Oxford University Press.
- 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. doi:10.1037/0022-3514.75.3.617

- Goff, L. M., & Roediger, H. L. III (1998). Imagination inflation for action events: Repeated imaginings lead to illusory recollections. *Memory & Cognition*, 26(1), 20–33. doi:10.3758/bf03211367
- Gould, S. J., & Lewontin, R. C. (1979). The spandrels of San Marco and the Panglossian paradigm: A critique of the adaptationist programme. *Proceedings of the Royal Society of London*, 205, 581–598. doi:10.1098/rspb.1979.0086
- Greenberg, J., & Pyszczynski, T. (1985). Compensatory self-inflation: A response to the threat to self-regard of public failure. *Journal of Personality and Social Psychology*, 49(1), 273–280. doi:10.1037/0022-3514.49.1.273
- Greenwald, A. G. (1997). Self-knowledge and self-deception: Further consideration. In M. S. Myslobodsky (Ed.), *The mythomaniacs: An inquiry into the nature of deception and self-deception* (pp. 51–71). Mahwah, NJ: Erlbaum.
- Greenwald, A. G., & Pratkanis, A. R. (1984). The self. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 129–178). Hillsdale, NJ: Erlbaum.
- 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). New York, NY: Springer.
- Greifeneder, R., Bless, H., & Tuan Pham, M. (2011). When do people rely on affective and cognitive feelings in judgment? A review. *Personality and Social Psychology Review: An Official Journal of the Society for Personality and Social Psychology, Inc*, 15(2), 107–141. doi:10.1177/1088868310367640
- Gross, J. J. (2014). Emotion regulation: Conceptual and empirical foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–20). New York, NY: Guilford Press.
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1–26. doi:10.1080/1047840X.2014.940781
- Grundmann, F., Scheibe, S., & Epstude, K. (2021). When ignoring negative feedback is functional: Presenting a model of motivated feedback disengagement. *Current Directions in Psychological Science*, 30(1), 3–10. Advance online publication. doi:10.1177/0963721420969386
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748–769. doi:10.1037/0033-2909.126.5.748
- Haggard, P., & Clark, S. (2003). Intentional action: Conscious experience and neural prediction. *Consciousness and Cognition*, 12(4), 695–707. doi:10.1016/s1053-8100(03)00052-7.
- Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology*, 78(1), 81–91. doi:10.1037/0022-3514.78.1.81
- Haselton, M. G., & Buss, D. M. (2009). Error management theory and the evolution of misbeliefs. *Behavioral and Brain Sciences*, 32(6), 522–523. doi:10.1017/S0140525X09991440
- Heidegger, M. (1927). *Being and time* (Transl. J. Stambaugh). Albany, NY: State University of New York Press.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: John Wiley & Sons.
- Heine, S. J., Proulx, T., & Vohs, K. D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review: An Official Journal of the Society for Personality and Social Psychology, Inc*, 10(2), 88–110. doi:10.1207/s15327957pspr1002\_1
- Henry, A., & Thompson, E. (2011). Witnessing from here: Self-awareness from a bodily versus embodied perspective. In S. Gallagher (Ed.), *The Oxford handbook of self* (pp. 228–249). Oxford University Press.
- Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? *Advances in Experimental Social Psychology*, 22, 93–136. doi:10.1016/S0065-2601(08)60306-8
- Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York, NY: Guilford Press.
- Hobbes, T. (1991). *Leviathan*. Cambridge: Cambridge University Press. (Original work published 1651)
- Huntsinger, J. R., Isbell, L. M., & Clore, G. C. (2014). The affective control of thought: Malleable, not fixed. *Psychological Review*, 121(4), 600–618. doi:10.1037/a0037669
- James, J. (1884). What is an emotion? *Mind*, 9(34), 188–205.
- James, W. (1890). *The principles of psychology*. New York, NY: Henry Holt and Company.
- Johnson, M. K., & Raye, C. L. (1981). Reality monitoring. *Psychological Review*, 88(1), 67–85. doi:10.1037/0033-295X.88.1.67
- Jonas, E., McGregor, I., Klackl, I., Agroskin, D., Fritsche, I., Holbrook, C., ... Quirin, M. (2014). Threat and defense: From anxiety to approach. *Advances in Experimental Social Psychology*, 49, 219–286. doi:10.1016/B978-0-12-800052-6.00004-4
- Jost, J. T., Becker, J., Osborne, D., & Badaan, V. (2017). Missing in (collective) action: Ideology, system justification, and the motivational antecedents of protest behavior. *Current Directions in Psychological Science*, 26(2), 99–108. doi:10.1177/0963721417690633
- Juhl, J., Routledge, C., Hicks, J. A., & Sedikides, C. (2017). Can affectively negative experiences contribute to well-being? The affectively negative need-fulfillment model. In M. D. Robinson & M. Eid (Eds.), *The happy mind: Cognitive contributions to well-being* (pp. 389–407). Springer.
- Keven, N. (2016). Events, narratives and memory. *Synthese*, 193(8), 2497–2517. doi:10.1007/s11229-015-0862-6
- Kihlstrom, J. F., & Klein, S. B. (1994). The self as a knowledge structure. In R. S., Wyer, Jr., & T. K. Srull, (Eds.), *Handbook of social cognition* (Vol. 1, pp. 153–208). Hillsdale, NJ: Erlbaum.
- Klein, S. B. (2013). *The two selves: Their metaphysical commitments and functional independence*. Oxford: Oxford University Press.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108(3), 480–498. doi:10.1037/0033-2909.108.3.480
- Kushlev, K., Heintzelman, S. J., Lutes, L. D., Wirtz, D., Kanippayoor, J. M., Leitner, D., & Diener, E. (2020). Does happiness improve health? Evidence from a randomized controlled trial. *Psychological Science*, 31(7), 807–821. doi:10.1177/0956797620919673
- Leary, M., & Tangney, J. P. (2003). The self as an organizing construct in the behavioral sciences. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 1–18). New York, NY: Guilford.
- Leary, M. R. (2004). *The curse of the self: Self-awareness, egotism, and the quality of human life*. New York, NY: Oxford University Press.
- Leary, M. R. (2007). Motivational and emotional aspects of the self. *Annual Review of Psychology*, 58, 317–344. <https://doi.org/10.1146/annurev.psych.58.110405.085658>
- 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: An Official Journal of the Society for Personality and Social Psychology, Inc*, 13(3), 151–164. doi:10.1177/1088868309342595
- LeDoux, J. E. (2015). Feelings: What are they and how does the brain make them? *Daedalus, the Journal of the American Academy of Arts & Sciences*, 144(1), 96–111. doi:10.1162/DAED\_a\_00319
- Lilgendahl, J. P., & McLean, K. C. (2020). Narrative identity processes and patterns of adjustment across the transition to college: A developmentally contextualized approach. *Journal of Personality and Social Psychology*, 119(4), 960–977. doi:10.1037/pspp0000277
- Lindsay, R. C. L., Wells, G. L., & Rumpel, C. M. (1981). Can people detect eyewitness-identification accuracy within and across situations? *Journal of Applied Psychology*, 66(1), 79–89. doi:10.1037/0021-9010.66.1.79
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131(6), 803–855. doi:10.1037/0033-2909.131.6.803
- Mahr, J., & Csibra, G. (2018). Why do we remember? The communicative function of episodic memory. *Behavioral and Brain Sciences*, 41, 1–93. doi:10.1017/S0140525X17000012

- Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology*, 38(1), 299–337. doi:10.1146/annurev.ps.38.020187.001503
- Martin, L., Abend, T., Sedikides, C., Green, J. D. (1997). How would I feel if...? Mood as input to a role fulfillment evaluation process. *Journal of Personality and Social Psychology*, 73(2), 242–253. doi:10.1037/0022-3514.73.2.242
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. doi:10.1037/h0054346
- McAdams, D. P. (2011a). Narrative identity. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 99–115). New York, NY: Springer.
- McAdams, D. P. (2011b). Life narratives. In K. L. Fingerman, C. A. Berg, J. Smith, & T. C. Antonucci (Eds.), *Handbook of lifespan development* (pp. 589–610). New York, NY: Springer.
- McAdams, D. P., & Guo, J. (2015). Narrating the generative life. *Psychological Science*, 26(4), 475–483. doi:10.1177/0956797614568318
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *The American Psychologist*, 61(3), 204–217. doi:10.1037/0003-066X.61.3.204
- McAdams, D. P., Reynolds, J., Lewis, M., Patten, A. H., & Bowman, P. J. (2001). When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narratives and their relation to psychosocial adaptation in midlife adults and in students. *Personality and Social Psychology Bulletin*, 27(4), 474–485. doi:10.1177/0146167201274008
- McGuire, W. J. (1961). Resistance to persuasion conferred by active and passive prior refutation of the same and alternative counterarguments. *The Journal of Abnormal and Social Psychology*, 63(2), 326–332. doi:10.1037/h0048344
- McKay, R. T., & Dennett, D. C. (2009). The evolution of misbelief. *The Behavioral and Brain Sciences*, 32(6), 493–510. doi:10.1017/S0140525X09990975
- McLean, K. C., Syed, M., Pasupathi, M., Adler, J. M., Dunlop, W. L., Drustrup, D., ... McCoy, T. P. (2020). The empirical structure of narrative identity: The initial Big Three. *Journal of Personality and Social Psychology*, 119(4), 920–944. doi:10.1037/pspp0000247
- McRae, K., Ochsner, K. N., & Gross, J. J. (2011). The reason in passion: A social cognitive neuroscience approach to emotion regulation. In K. D. Vohs & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (2nd ed., pp. 186–203). New York, NY: Guilford Press.
- Mezulis, A. H., Abramson, L. Y., Hyde, J. S., & Hankin, B. L. (2004). Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias. *Psychological Bulletin*, 130(5), 711–747. doi:10.1037/0033-2909.130.5.711
- Michaelian, K. (2016). *Mental time travel: Episodic memory and our knowledge of the personal past*. Cambridge, MA: MIT Press.
- Mill, J. S. (1863). *Utilitarianism* (1st ed.). London: Parker, Son & Bourn, West Strand.
- Mogg, K., Mathews, A., & Weinman, J. (1987). Memory bias in clinical anxiety. *Journal of Abnormal Psychology*, 96(2), 94–98. doi:10.1037//0021-843x.96.2.94
- Nagel, T. (1974). What is it like to be a bat? *The Philosophical Review*, 83(4), 435–450. doi:10.2307/2183914
- Nelson, K. (2003). Narrative and the emergence of a consciousness of self. In G. D. Fireman, T. E. McVay, & O. J. Flanagan (Eds.), *Narrative and consciousness*. New York, NY: Oxford University Press.
- Nisbett, R. A. (1996). *Culture of honor: The psychology of violence in the South*. Boulder, CO: Westview Press.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 3(5), 400–424. doi:10.1111/j.1745-6924.2008.00088.x
- Nussbaum, M. C. (2001). *Upheavals of thought: The intelligence of emotions*. Cambridge: Cambridge University Press.
- Nykcicek, I., Vingerhoets, A., & Zeelenberg, M. (2010). *Emotion regulation and well-being*. New York, NY: Springer.
- Pasupathi, M., Mansour, E., & Brubaker, J. R. (2007). Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development*, 50(2–3), 85–110. doi:10.1159/000100939
- Paulhus, D. L., & Harms, P. D. (2004). Measuring cognitive ability with the over-claiming technique. *Intelligence*, 32(3), 297–314. doi:10.1016/j.intell.2004.02.001
- Paulhus, D. L., & Levitt, K. (1987). Desirable responding triggered by affect: Automatic egotism? *Journal of Personality and Social Psychology*, 52(2), 245–259. doi:10.1037/0022-3514.52.2.245
- Paulhus, D. L., & Reid, D. B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60(2), 307–317. doi:10.1037/0022-3514.60.2.307
- Preuss, G. S., & Alicke, M. D. (2009). Everybody loves me: Self-evaluations and metaperceptions of dating popularity. *Personality & Social Psychology Bulletin*, 35(7), 937–950. doi:10.1177/0146167209335298
- Preuss, G. S., & Alicke, M. D. (2017). My worst faults and misdeeds: Self-criticism and self-enhancement can co-exist. *Self and Identity*, 16(6), 645–663. doi:10.1080/15298868.2017.1296019
- Prinz, J. (2004). *Gut reactions: A perceptual theory of emotion*. Oxford: Oxford University Press.
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin*, 130(3), 435–468. doi:10.1037/0033-2909.130.3.435
- Raghunathan, R., & Trope, Y. (2002). Walking the tightrope between feeling good and being accurate: Mood as a resource in processing persuasive messages. *Journal of Personality and Social Psychology*, 83(3), 510–525. doi:10.1037/0022-3514.83.3.510
- Rochat, P. (2011). Possession and morality in early development. *New Directions for Child and Adolescent Development*, 2011(132), 23–38. doi:10.1002/cd.294
- Rosenzweig, E. (2016). With eyes wide open: How and why awareness of the psychological immune system is compatible with its efficacy. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 11(2), 222–238. doi:10.1177/1745691615621280
- Rusbult, C. E., Verette, J., Whitney, G. A., Slovick, 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. doi:10.1037/0022-3514.60.1.53
- Sartre, J.-P. (1936). *The transcendence of the ego: An existentialist theory of consciousness* (Transl. F. Williams & R. Kirkpatrick). New York, NY: Hill and Wang.
- Sartre, J.-P. (1943). *Being and nothingness: An essay on phenomenological ontology* (Trans. H. E. Barnes). London: Methuen.
- Sawada, N., Auger, E., & Lydon, J. E. (2018). Activation of the behavioral immune system: Putting the brakes on affiliation. *Personality & Social Psychology Bulletin*, 44(2), 224–237. doi:10.1177/0146167217736046
- Schacter, D. L., Benoit, R. G., De Brigard, F., & Szpunar, K. K. (2015). Episodic future thinking and episodic counterfactual thinking: Intersections between memory and decisions. *Neurobiology of Learning and Memory*, 117, 14–21. doi:10.1016/j.nlm.2013.12.008
- Schechtman, M. (2011). The narrative self. In S. Gallagher (Ed.), *The Oxford handbook of the self*. Oxford: Oxford University Press.
- Schlenker, B. R., Pontari, B. A., & Christopher, A. N. (2001). Excuses and character: Personal and social implications of excuses. *Personality and Social Psychology Review*, 5(1), 15–32. doi:10.1207/S15327957PSPR0501\_2
- Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *Comparative Sociology*, 5(2–3), 137–182. doi:10.1163/156913306778667357
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45(3), 513–523. doi:10.1037/0022-3514.45.3.513
- Sedikides, C. (1993). Assessment, enhancement, and verification determinants of the self-evaluation process. *Journal of Personality and Social Psychology*, 65(2), 317–338. doi: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. doi: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). New York, NY: Guilford Press.
- Sedikides, C. (2020). On the doggedness of self-enhancement and self-protection: How constraining are reality constraints? *Self and Identity*, 19(3), 251–271. doi:10.1080/15298868.2018.1562961
- Sedikides, C., & Alicke, M. D. (2012). Self-enhancement and self-protection motives. In R. M. Ryan (Ed.), *Oxford handbook of motivation* (pp. 303–322). New York, NY: Oxford University Press.
- Sedikides, C., & Alicke, M. D. (2019). The five pillars of self-enhancement and self-protection. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed., pp. 307–319). Oxford: Oxford University 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. doi:10.1002/ejsp.2318
- 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. doi:10.1016/bs.adms.2015.04.002
- 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). London, UK: Sage Publications.
- Sedikides, C., & Gregg, A. P. (2008). Self-enhancement: Food for thought. *Perspectives on Psychological Science: a Journal of the Association for Psychological Science*, 3(2), 102–116. doi:10.1111/j.1745-6916.2008.00068.x
- 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. doi:10.1080/10463283.2016.1183913
- Sedikides, C., Horton, R. S., & Gregg, A. P. (2007). The why's the limit: curtailing self-enhancement with explanatory introspection. *Journal of Personality*, 75(4), 783–824. doi:10.1111/j.1467-6494.2007.00457.x
- Sedikides, C., & Skowronski, J. J. (1997). The symbolic self in evolutionary context. *Personality and Social Psychology Review: An Official Journal of the Society for Personality and Social Psychology, Inc*, 1(1), 80–102. doi:10.1207/s15327957pspr0101\_6
- Sedikides, C., & Skowronski, J. J. (1991). The law of cognitive structure activation. *Psychological Inquiry*, 2(2), 169–184. doi:10.1207/s15327965phi0202\_18
- 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). Washington, DC: APA Books. doi: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. doi: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. doi:10.1016/S0065-2601(08)60018-0
- Sedikides, C., & Wildschut, T. (2016). Past forward: Nostalgia as a motivational force. *Trends in Cognitive Sciences*, 20(5), 319–321. doi:10.1016/j.tics.2016.01.008
- Sedikides, C., & Wildschut, T. (2020). The motivational potency of nostalgia: The future is called yesterday. *Advances in Motivation Science*, 7, 75–111. doi:10.1016/bs.adms.2019.05.001
- Seth, A. K. (2013). Interoceptive inference, emotion, and the embodied self. *Trends in Cognitive Sciences*, 17(11), 565–573. doi:10.1016/j.tics.2013.09.007
- Sheppes, G., & Meiran, N. (2007). Better late than never? On the dynamics of online regulation of sadness using distraction and Cognitive reappraisal. *Personality & Social Psychology Bulletin*, 33(11), 1518–1532. doi:10.1177/0146167207305537
- Sherman, D. K., & Cohen, G. L. (2006). The psychology of self-defense: Self-affirmation theory. *Advances in Experimental Social Psychology*, 38, 183–242. doi:10.1016/S0065-2601(06)38004-5
- Shermer, M. (1997). *Why people believe weird things: Pseudoscience, superstition, and other confusions of our time*. New York, NY: Henry Holt and Company.
- Shi, Y., Sedikides, C., Cai, H., Liu, Y., & Yang, Z. (2017). Disowning the self: The cultural value of modesty can attenuate self-positivity. *Quarterly Journal of Experimental Psychology (2006)*, 70(6), 1023–1032. doi:10.1080/17470218.2015.1099711
- Shields, G. S., Moons, W. G., & Slavich, G. M. (2017). Inflammation, self-regulation, and health: An immunologic model of self-regulatory failure. *Perspectives on Psychological Science: a Journal of the Association for Psychological Science*, 12(4), 588–612. doi:10.1177/1745691616689091
- Sompayrac, L. (2016). *How the immune system works* (5th ed.). Hoboken, NJ: Wiley Blackwell.
- Stanley, M. L., & De Brigard, F. (2019). Moral memories and the belief in the good self. *Current Directions in Psychological Science*, 28(4), 387–391. doi:10.1177/0963721419847990
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, 21, 261–302. doi:10.1016/S0065-2601(08)60229-4
- Sterling, P., & Eyer, J. (1988). Allostasis: A new paradigm to explain arousal pathology. In S. Fisher & J. Reason (Eds.), *Handbook of life stress, cognition and health* (pp. 629–649). New York, NY: John Wiley & Sons.
- Sweeny, K., Carroll, P. J., & Shepperd, J. A. (2006). Is optimism always best? Future outlooks and preparedness. *Current Directions in Psychological Science*, 15(6), 302–306. doi:10.1111/j.1467-8721.2006.00457.x
- Szpunar, K. K. (2010). Evidence for an implicit influence of memory on future thinking. *Memory & Cognition*, 38(5), 531–540. doi:10.3758/MC.38.5.531
- Tamir, M. (2021). Effortful emotion regulation as a unique form of cybernetic control. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 16(1), 94–117. doi:10.1177/1745691620922199
- Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin*, 110(1), 67–85. doi:10.1037/0033-2909.110.1.67
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103(2), 193–210. doi:10.1037/0033-2909.103.2.193
- Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American Psychologist*, 55(1), 99–109. doi:10.1037//0003-066X.55.1.99
- Tesser, A. (2000). On the confluence of self-esteem maintenance mechanisms. *Personality and Social Psychology Review*, 4(4), 290–299. doi:10.1207/S15327957PSPR0404\_1
- Tesser, A., Crepaz, N., Collins, J. C., Cornell, D., & Beach, S. R. H. (2000). Confluence of self-esteem regulation mechanisms: On integrating the self-zoo. *Personality and Social Psychology Bulletin*, 26(12), 1476–1489. doi:10.1177/01461672002612003
- Thomae, S., Brummelman, E., & Sedikides, C. (2017). Why most children think highly of themselves. *Child Development*, 88(6), 1873–1884. doi:10.1111/cdev.12937
- Tooby, J., & Cosmides, L. (2008). The evolutionary psychology of the emotions and their relationship to internal regulatory variables. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (p. 114–137). New York, NY: Guilford Press.
- Tsakiris, M., & Critchley, H. (2016). Interoception beyond homeostasis: Affect, cognition and mental health. *Philosophical Transactions of the Royal Society of London. Series B Biological Sciences*, 371, 1–6. doi:10.1098/rstb.2016.0002

- Tulving, E. (1985). Memory and consciousness. *Canadian Psychology/Psychologie Canadienne*, 26(1), 1–12. <https://doi.org/10.1037/h0080017>
- Vallacher, R. R., Nowak, A., Froehlich, M., & Rockloff, M. (2002). The dynamics of self-evaluation. *Personality and Social Psychology Review*, 6(4), 370–379. doi:10.1207/S15327957PSPR0604\_11
- Van Hoeck, N., Watson, P. D., & Barbey, A. K. (2015). Cognitive neuroscience of human counterfactual reasoning. *Frontiers in Human Neuroscience*, 9, 420. doi:10.3389/fnhum.2015.00420
- 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: An Official Journal of the Society for Personality and Social Psychology, Inc*, 15(1), 51–74. doi:10.1177/1088868310372950
- Varki, A., & Brower, D. (2013). *Denial: Self-deception, false beliefs, and the origins of the human mind*. New York, NY: Twelve.
- Velleman, D. J. (2003). Narrative explanation. *Philosophical Review*, 112(1), 1–25. doi:10.1215/00318108-112-1-1
- Vohs, K. D., Baumeister, R. F., & Lowenstein, G. (2007). (Eds.), *Do emotions help or hurt decision making? A hedgefoxian perspective*. New York, NY: Russel Sage Foundation.
- von Hippel, W., & Trivers, R. (2011). The evolution and psychology of self-deception. *The Behavioral and Brain Sciences*, 34(1), 1–16. doi:10.1017/S0140525X10001354
- Watson, L. A., Dritschel, B., Obonsawin, M. C., & Jentsch, I. (2007). Seeing yourself in a positive light: Brain correlates of the self-positivity bias. *Brain Research*, 1152, 106–110. doi:10.1016/j.brainres.2007.03.049
- Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39(5), 806–820. doi:10.1037/0022-3514.39.5.806
- Wickham, R. E., Williamson, R. E., Beard, C. L., Kobayashi, C. L., & Hirst, T. W. (2016). Authenticity attenuates the negative effects of interpersonal conflict on daily well-being. *Journal of Research in Personality*, 60, 56–62. doi:10.1016/j.jrp.2015.11.006
- Wiens, S., Mezzacappa, E. S., & Katkin, E. S. (2000). Heartbeat detection and the experience of emotions. *Cognition & Emotion*, 14(3), 417–427. doi:10.1080/026999300378905
- Wilson, A. E., & Ross, M. (2011). The role of time in self-enhancement and self-protection. In M. A. Alicke & C. Sedikides (Eds.), *Handbook of self-enhancement and self-protection* (pp. 112–127). New York, NY: Guilford Press.
- Wilson, T. D., & Dunn, E. (2004). Self-knowledge: Its limits, value, and potential for improvement. *Annual Review of Psychology*, 55(1), 493–518. doi:10.1146/annurev.psych.55.090902.141954
- Yong, J. C., Li, N. P., & Kanazawa, S. (2021). Not so much rational but rationalizing: Humans evolved as coherence-seeking, fiction-making animals. *American Psychologist*, 76(5), 781–793. <https://doi.org/10.1037/amp0000674>
- Zaki, J., Wager, T. D., Singer, T., Keyesers, C., & Gazzola, V. (2016). The anatomy of suffering: Understanding the relationship between nociceptive and empathic pain. *Trends in Cognitive Sciences*, 20(4), 249–259. doi:10.1016/j.tics.2016.02.003
- Zeigler-Hill, V. (Ed.). (2013). *Current issues in social psychology. Self-esteem*. New York, NY: Psychology Press.
- Zell, E., Lesick, T. K., Stockus, C. A., & Sedikides, C. (2021). *A meta-analysis of self-enhancement and physical health*. Unpublished manuscript, University of North Carolina at Greensboro.
- 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. doi:10.1037/bul0000218
- Zhang, Y., & Alicke, M. D. (2021). My true self is better than yours: Comparative bias in true self judgments. *Personality & Social Psychology Bulletin*, 47(2), 216–231. Advance online publication. doi:10.1177/0146167220919213