



Proof

5

THE PSYCHOLOGY OF DEFENSIVENESS

An Integrative Security System Model of Attachment, Self-Esteem, and Worldviews

Joshua Hart

Early men who were most afraid were those who were most realistic about their situation in nature, and they passed on to their offspring a realism that had a high survival value. The result was the emergence of man as we know him: a hyperanxious animal who constantly invents reasons for anxiety even where there are none.

(Becker, 1973, p. 17)

The existence of this handbook testifies to the psychological importance of security in human affairs. No doubt we have natural selection to thank for this—like rabbits and antelopes, people make good targets for grassland predators, so it is to their advantage to be a bit skittish. And unlike bunnies and antelopes, people are not especially fast or agile, nor do they reproduce prolifically enough for ancestral populations to have withstood mass casualties. Once deprived of an arboreal habitat, humans would not have lasted long on planet Earth without keen vigilance about vulnerability and a motivation to feel (and be) secure.

It helps that humans are smarter and more socially sophisticated than other animals. If outrunning a predator is not an option, then it is a good alternative to be able to outwit it, perhaps in collaboration with others—to learn its ways, anticipate its movements, and maybe even turn the tables by hunting the very animals that would eat people for lunch. But herein lies an ironic juxtaposition of psychological characteristics: a propensity to be acutely attuned to one's vulnerability (i.e., anxious), and the cognitive capacity to dwell on it, to imagine a universe of horrible things that can befall one's existence, and to understand with unshakeable certainty that, despite best efforts to the contrary, one's life will, sooner or later, come to an abject, inglorious conclusion! It seems inevitable that such a juxtaposition of otherwise advantageous psychological tendencies would be synergistic, with anxiety intensifying contemplation of vulnerability, and contemplation of vulnerability intensifying anxiety.

In turn, such an arrangement seems untenable. Fear and anxiety confer adaptive advantages but not if they escalate, unmitigated, in the absence of imminent, realistic threats. People who chronically tremble and cower at abstract, hypothetical, or imaginary dangers waste valuable resources and cannot effectively pursue adaptive goals like exploring and mating. Yet humans' psychological apparatus seems designed for just such an ungovernable outcome, a Frankenstein's monster of the animal kingdom, created by nature but unable to live contentedly within it.

Proof





How, then, do we manage? The solution seems to be a dynamic, “defensive” regulation of anxiety. In fact, the picture of human nature I have just illustrated follows from the ideas of Ernest Becker (e.g., 1973) and the codification of those ideas into the social psychological framework of terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991), according to which humans’ potential for death anxiety engenders an array of self-esteem and worldview-relevant epistemic pursuits aimed at providing individuals with a sense of immortality, either literally or in symbolic form.

Specifically, TMT suggests that worldviews palliate death anxiety by giving meaning to life, imbuing it with a sense of order, purpose, and lastingness. A central activity of religions, social groups, and other fundamentally spiritual and moral collectives (not to mention secular government and corporate entities who wish to develop mass appeal; see Shepherd, Kay, & Eibach, this volume) is to cultivate such worldviews. These worldviews include prescriptions for individual behavior that give people an opportunity to gain a sense of immortality, either by contributing to something larger and more enduring than themselves, by fusing their identity with the (larger and more enduring) collective, or by qualifying for a literal afterlife by adhering to putatively divine doctrines. Living up to the standards of conduct derived from a worldview leads people to view themselves positively, so this “felt goodness”—that is, self-esteem—is itself an anxiety buffer, a sense of immortality by association.

TMT’s analysis of humans’ defense against existential terror includes the assumption that emotional vulnerability—a realistic reflection of physical vulnerability—and efforts to maintain equanimity develop in the context of child-caregiver relations, well before children fully apprehend how vulnerable they really are (e.g., Solomon, Greenberg, & Pyszczynski, 1998). In other words, self-esteem and worldview defenses are developmentally rooted in processes controlling infants’ relations with their caregivers—that is, *attachment* (Bowlby, 1982). People initially derive security from emotional bonds with other people—their caregivers—but also, later, from feelings of self-worth and agency, and belief systems that render the world intelligible, navigable, and even potentially benevolent. As I hope to show, this tripartite machinery (attachment, self-esteem, and worldviews) is developmentally, structurally, and functionally coherent, organized by a higher-order motive to maintain security, ultimately counterbalancing anxiety (and motivating pursuits that are adaptive in their own right).

Indeed, several of the chapters in this volume describe theories and research emphasizing the security-augmenting functions of epistemic processes (Briñol, Petty, & DeMarree; Shepherd et al.; Van den Bos, McGregor, and Martin), attachment (Gillath & Karantzas; Lemay; Mikulincer and Shaver), and self-evaluations (Freis, Brown, & Arkin; Lemay). In the following pages, I explain how these perspectives, TMT, and other frameworks can be combined into an integrative *security system* model of how people strive to maintain a sense of psychological security, and how such strivings permeate, even dominate, a broad array of other psychological processes that determine what people think, feel, and do. In short, I propose that most psychological phenomena in the domains of close relationships, self-evaluation, and epistemology reflect, in part, either preemptive or compensatory efforts to bolster security.

Attachment, TMT, and the Security System

A special sort of redirected behavior to which humans are prone but which is not met with in lower animals occurs when the object towards which behaviour is redirected is a symbolic one. Examples are aggression directed towards an effigy of the original object and attachment behaviour directed towards a national symbol, e.g., flag or anthem.

(Bowlby, 1982, p. 100)





During adolescence and adult life a measure of attachment behaviour is commonly directed not only towards persons outside the family but also towards groups and institutions other than the family. A school or college, a work group, a religious group or a political group can come to constitute for many people a subordinate attachment-“figure”, and for some people a principle attachment-“figure.”

(Bowlby, 1982, p. 207)

Attachment theory was originally inspired by John Bowlby’s efforts to understand the deleterious mental health consequences of children’s separation from the caregivers to whom they had formed emotional bonds (i.e., attachments). The theory posits that humans and other mammals have innate behavioral systems that motivate immature members of a species to maintain proximity to caregivers. This explains why separation engenders psychological disorder: youngsters who experience negative emotions such as panic and terror when separated from caregivers are powerfully motivated to seek proximity, which in turn elicits caregiving, thereby greatly increasing young humans’ chances of surviving to reproductive age. In other words, separation distress is highly adaptive, even if it can lead to mental illness when proximity and resultant emotional security are chronically unattainable.

However, attachment theory’s explanatory range transcends the emotional dynamics of child-caregiver relationships. Indeed, Bowlby’s recognition that attachment behavior endures, differentiated and elaborated, throughout the life span has become a wellspring of theoretical inspiration. One notable result is Hazan and Shaver’s (1987) assertion that romantic love involves elements of attachment, both generally and as manifested in the different patterns, or styles, that people characteristically exhibit in their romantic relationships. This observation touched off 25 (and counting) years of research on adult attachment, demonstrating that, indeed, attachment processes influence all manner of loving relationships throughout adulthood, not to mention information processing, emotion regulation, and other aspects of psychological functioning outside of relationships (see Mikulincer & Shaver, 2007a, for a comprehensive review).

Although much less attention has been paid to Bowlby’s speculation that attachment, as a process of maintaining emotional security, could be directed *outside* close dyadic relationships—for example, toward groups of people or even symbolic entities—such a formulation is appealing for its parsimony. Perhaps a broader range of human concerns can be attributed to attachment or attachment-like processes than is commonly recognized.

This possibility figures prominently in the security system model of defensiveness (Hart, Shaver, & Goldenberg, 2005). Specifically, we have posited that many of the strivings social and personality psychologists identify as functioning to manage anxiety (or maintain security, that is, equanimity) are patterned after attachment dynamics. The general principle is quite simple: when threatened or distressed, people seek proximity to a solace-providing “attachment figure” whose attention and responsiveness exert a calming effect. In turn, feeling secure in attachment figures’ availability promotes exploration, cognitive openness, and other growth-oriented, adaptive outcomes. These processes are easily observed in infants and young children, and most observers would probably agree that when a child treats a non-person—for instance, a teddy bear or a blanket—as if it were an attachment figure, the psychological apparatuses known collectively as the attachment system are at play. Perhaps it is plausible, then, that individuals’ beliefs, attitudes, affiliations, and even positive self-evaluations could also serve attachment functions.

This view is consistent with a developmental analysis long asserted by terror management theorists, who see self-esteem and worldviews as predicated on early attachment interactions:

... children must join their social milieu by learning the language, beliefs, and customs of their culture, and toward this end parental affection becomes increasingly contingent





on the child's behaving in socially acceptable ways . . . [C]hildren come to associate being good with being safe (good = safe = alive) and being bad with being helpless and vulnerable (bad = insecure = dead). This is how self-esteem originally becomes an anxiety buffer.

(Solomon et al., 1998, p. 14)

As children construct emotionally charged mental representations (i.e., beliefs and attitudes) about the world, the way it works, and their place within it, partly by internalizing the values held dear within a particular cultural context (including parents, friends, and society at large), these worldviews become another (potential) source of self-esteem, and thus security, in addition to palliating existential concerns directly. For example, people tend to believe that they have control over events in their lives (e.g., Langer, 1975) or that God does (e.g., Kay, Gaucher, Napier, Callan, & Laurin, 2008), that the world is just (e.g., Jost & Banaji, 1994; Lerner & Miller, 1978) and intelligible (e.g., Heine, Proulx, & Vohs, 2006), that good things are likely to happen to them (e.g., Weinstein, 1980), and that, at life's conclusion, some form of attractive afterlife awaits.

In sum, attachment theory and TMT both recognize that anxiety motivates attachment behavior—Bowlby (1982) considered this a kind of homeostatic check on children's motivation to explore the (dangerous) world—and that proximity to responsive caregivers helps down-regulate anxiety, promoting security and the fortitude to resume exploring, affiliating with peers, and so on.

Later, conditional caregiving and self-awareness make self-esteem a proxy for attachment, and worldviews constitute a final strand weaving together the psychological security blanket. The security system framework thus views attachment, self-esteem, and worldviews (or epistemic processes in general) as being of a kind (i.e., functionally similar), at least in the context of security regulation. In that sense, they are fungible psychological resources that are functionally intertwined and share common associative networks due to their developmental relations (a point I will unpack later in this chapter).

Evidence for the Death-Anxiety-Buffering Function of Self-Esteem and Worldviews

According to some terror management theorists, self-esteem and worldviews essentially usurp attachment to buffer death anxiety, presumably sometime during childhood, because attachment security is not sufficient to address a problem as intractable as death (e.g., Greenberg, 2012). Although probably no longer a widely held view, TMT as originally articulated did not include attachment as a distinct anxiety buffer, and TMT researchers have since amassed a large body of evidence for the defensive function of self-esteem and worldviews, most of which ignores attachment. This evidence is amply reviewed elsewhere (see Burke, Martens, & Faucher, 2010; Hayes, Schimel, Arndt, & Faucher, 2010; Pyszczynski, Solomon, & Greenberg, 2003), so I will describe it only briefly.

First, the research tests the *mortality salience hypothesis*: when people are made cognizant of their own mortality, they should subsequently strive to bolster psychological resources that protect against death anxiety (i.e., if, as TMT specifies, people are motivated to protect themselves against death anxiety and if the structures in question fulfill that function). Indeed, mortality salience, which is typically instilled by asking research participants to reflect on and write about their own death and how it makes them feel, causes people to strive to enhance or defend their self-esteem, for example, by focusing on aspects of the self that confer self-esteem. Mortality salience has been shown to increase reckless driving among individuals who pride themselves on their driving abilities, for instance (Taubman Ben-Ari, Florian, & Mikulincer, 1999), and to inspire people to take social risks to impress others (Landau & Greenberg, 2006). Additionally, research shows





that mortality salience causes people to defend their beliefs, values, and affiliations, whether by denigrating outgroup members and people who hold different political or religious beliefs (e.g., Greenberg et al., 1990), by advocating punishment for worldview transgressors (e.g., Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989) or aggression toward adversaries (e.g., Pyszczynski, Abdollahi, et al., 2006), or simply by directing praise or charity toward worldview-affirming others (e.g., Greenberg et al., 1990; Jonas, Schimel, Greenberg, & Pyszczynski, 2002).

A complementary body of research finds that such effects are eliminated when people's death-anxiety-buffering resources are dispositionally robust or experimentally augmented. For example, people whose self-esteem is naturally high or experimentally boosted (e.g., with positive personality feedback) appear to be less defensive in response to mortality salience (Harmon-Jones et al., 1997), as are people with intrinsically religious worldviews (Jonas & Fischer, 2006). (This research supports the *anxiety buffer hypothesis*, which states that bolstering death-anxiety-buffering structures should reduce defensiveness whereas undermining them should increase defensiveness.)

That these experimental effects are attributable to death concerns per se has not been established directly, but many studies have shown that mortality salience defenses, or the diminishment (or absence) thereof, correspond to the extent to which death-related thoughts are active and accessible, though not quite conscious. For example, some research, using a word-fragment completion task in which some fragments can be completed with either a death-related word or a word unrelated to death, suggests that mortality salience causes immediate suppression of death thoughts (fewer fragments completed as death words), followed by a rebound (more death words), and that same temporal pattern appears to characterize self-esteem and worldview defense processes (i.e., they tend to occur after a brief delay; e.g., Pyszczynski, Greenberg, & Solomon, 1999).¹ High self-esteem and intrinsic religiosity are associated with less death-thought accessibility after mortality salience compared to lower self-esteem and intrinsic religiosity; along similar lines, threats to self-esteem or worldviews have been shown to increase the accessibility of death-related thoughts, consistent with the anxiety buffer hypothesis (see Hayes et al.'s 2010 review of death-thought accessibility research). Yet the salience of several other aversive but non-death-related topics (e.g., physical pain, failing an exam) does not tend to cause the same effects as mortality salience (e.g., Greenberg et al., 1995).

In sum, there is little doubt that self-esteem and worldviews are psychological resources that people turn to when they are reminded of their mortality, and most evidence is consistent with the explanation that this is because self-esteem and worldviews protect against death anxiety.

Evidence That Attachment Is a Terror Management Mechanism

But what about attachment? Research shows that, like self-esteem and worldviews, attachment plays a role in managing death concerns: mortality salience activates the attachment system (e.g., Florian, Mikulincer, & Hirschberger, 2002; Mikulincer, Gillath, & Shaver, 2002); feeling secure in one's attachments attenuates defensiveness (e.g., Mikulincer & Shaver, 2001), and relational concerns (i.e., from contemplating problems in a close relationship) increase the accessibility of death-related thoughts (e.g., Florian et al., 2002).

Despite these findings, and despite viewing the anxiety-buffering properties of self-esteem and worldviews as developmentally predicated on attachment dynamics, some main-line terror management theorists have resisted incorporating attachment into TMT as an independent anxiety buffer. Instead, they have preferred to interpret attachment's anxiety-buffering properties as subsidiary to self-esteem and worldviews (e.g., Greenberg, 2012; see also Cox & Arndt, 2012, who seem to be more agnostic on this issue).

Given the interrelations among attachment, self-esteem, and worldviews, it is difficult to tease them apart. After all, attachment is a source of self-esteem and, via socialization, a source of





worldviews; worldviews (as consensually shared conceptions of reality) are a basis for attachment to like-minded people and groups; and self-esteem makes people feel loved and “meaningful.” Thus far, research has not successfully delineated the boundaries between these processes (see Hart, 2014, for a review), which is one reason I think that, at present, it does not make much sense to argue strenuously that defensiveness is “all about” one or the other of them—for example, that attachment works as a defense because close relationships are a source of self-esteem—or to posit a fixed and universal hierarchical arrangement.

The other way terror management theorists have treated attachment is as a *proximal* defense (e.g., Greenberg, 2012) rather than as a symbolic mechanism like self-esteem and worldviews. In other words, whereas self-esteem and worldviews are often *distal* defenses—not necessarily logically related to death, and thus presumably operating indirectly, by symbolic association with representations of immortality (typically when death thoughts are accessible but non-conscious; Pyszczynski et al., 1999), attachment is a more concrete, direct mode of defense. This view places attachment in a category with other proximal defenses that are directly and obviously oriented toward removing death concerns from consciousness, for example, via distraction, suppression, denial, and other modes of cognitive distortion. The idea is that attachment works well enough for mundane childhood fears, and may temporarily remove death concerns from consciousness among adults, but that, fully apprehended and conceptualized, death as a psychological problem must be brought down using “bigger guns,” namely, the symbolic immortality formula provided by self-esteem and worldviews, which keep death concerns at bay over the longer term. As Greenberg (2012) puts it:

... loved ones can be of value as proximal defenses by increasing a sense of safety, and may also buffer anxiety through a relatively primitive connection between physical and emotional closeness and felt security. However, I would view these latter effects not as a symbolic mode of handling the problem of death, but as something that reduces anxiety the way popular pharmacological interventions such as Valium and Xanax . . . do. (p. 22)

My position is that just as the boundaries between defensive domains are blurry, so are the boundaries between so-called proximal and distal defenses. It is hard to argue with Greenberg’s (2012) point that benzodiazepines are not symbolic defenses (although it is worth considering that they might instill a psychological state that includes positive feelings about the self, so perhaps that is an open question). But activating representations of a loving relationship partner (see Mikulincer & Shaver, 2007b) does not strike me as unambiguously non-symbolic. I doubt, for instance, that merely *thinking about* taking Valium or Xanax would effectively buffer anxiety and obviate defenses, but, evidently, merely thinking about people to whom one is securely attached does. Indeed, adult attachment theory suggests that internalized mental representations of close relationship figures can stand in for actual proximity to such figures, such that “. . . security can be attained by the activation of soothing, comforting mental representations of relationship partners who regularly provide care and protection” (Mikulincer & Shaver, 2007b, p. 141). In that sense, attachment processes seem meaningfully different from more concrete proximal defenses. Nor does *actual* proximity to a caregiver seem an unambiguously direct way to confront the problem of death; in cases of imminent danger, perhaps, but in the course of abstract contemplation of one’s inevitable demise, sympathy from one’s wife or girlfriend seems of limited direct solace.

Even if Greenberg (2012) is correct—and I tend to think he is—that attachment’s anxiety-buffering function stems in part from a “primitive” association between closeness and felt security, it seems to me that that *is* a relatively symbolic mode of functioning, akin to the “oceanic feeling” that Freud (e.g., 1930) described in characterizing religiosity. It is not clear to me why such a feeling of comfort in “limitlessness”—which Freud thought could be traced back to





infantile consciousness, as a child's experience of being *part of* the mother's breast while nursing at it—is categorically different from the sense of symbolic immortality that TMT describes as arising from self-accomplishment.

Beyond conceptual arguments about the proper status of attachment as a terror management mechanism, some studies suggest that mortality salience causes people seek proximity to attachment figures even when they imagine those figures to be critical or complaining (i.e., threatening self-esteem; Hirschberger, Florian, & Mikulincer, 2003). Similarly, people may seek to affiliate with others (e.g., to sit with a group of people rather than alone) to cope with mortality salience, even if they think their affiliation partners hold antagonistic worldviews (Wisman & Koole, 2003). (Affiliation may itself be a distinct defense mechanism, though very little research has explored that possibility.) On the basis of these findings and others, Mikulincer, Florian, and Hirschberger (2003) concluded that attachment can be considered not only a partly independent death-anxiety buffer but specifically a distal one.

A Security System Integration

If the mechanistic boundaries between attachment, self-esteem, and worldviews are as superficial as I think they are, then defensive processes seem likely to be broader and more fluid than TMT specifies. For one thing, it seems likely that attachment is the prototype for defensive operations, and self-esteem and worldviews are additional weapons in the defensive arsenal, rather than representing a wholly different combat strategy. If so, then it seems likely that, as is true of the attachment system, a more general variety of threats than death awareness should activate self-esteem and worldview defenses (especially when attachment is not an option). This is a possibility that TMT researchers have emphatically dismissed at times, largely to rebut criticisms that the processes TMT describes can be more parsimoniously explained, for example, by a simple “mood repair” explanation (i.e., negative thoughts motivate people to think positive thoughts about themselves and the world).²

However, TMT's own propositions seem to predict that a large variety of threats should instigate defensiveness, even when death concerns are not directly raised. Specifically, the anxiety buffer hypothesis predicts that threats to self-esteem and worldviews should activate implicit death concerns (and as I have noted, death-thought accessibility studies bear this out; see Hayes et al., 2010). Once they are accessible, the mortality salience hypothesis predicts that death thoughts should activate self-esteem and worldview defenses, as literally hundreds of TMT studies demonstrate. Therefore, self-esteem threats should cause worldview defenses, and vice versa.

In seeming contrast to these predictions, derived from TMT itself, a non-trivial number of TMT studies have included comparison conditions alongside mortality salience that should undermine either self-esteem (e.g., imagining failing an exam) or worldviews (e.g., feeling uncertain; Landau, Johns, et al., 2004) but find that these manipulations do not cause the same defenses as mortality salience (see, e.g., Pyszczynski, Greenberg, Solomon, & Maxfield, 2006). Perhaps it comes down to a matter of degree (i.e., of death-thought activation), something that current manipulations and measures are not calibrated well enough to ascertain. But the bottom line is that threatening anything that protects against death concerns should cause terror management defenses, even if TMT is flawless.

It was on this basis that I and my colleagues (2005) concocted our integration of attachment theory and TMT, following Mikulincer and colleagues' (e.g., 2003) work and the observation that TMT itself appears to predict “fluid compensation”—that is, that a myriad of putatively death-related palliative mechanisms, which can be broadly categorized as pertaining to either attachment, self-esteem, or worldviews, should be relatively interchangeable as both threats and defenses. Consequently, threatening or bolstering any one of the mechanisms should increase or





decrease (respectively) the defensive activation of the remaining mechanisms. As described above, we conceptualized these processes as reflecting the existence of an integrated, general-purpose security system that fluidly manages threats to prevent unmitigated anxiety. We noted that some studies already supported such a phenomenon; for example, studies showed that priming attachment security reduced worldview defense in the form of intergroup bias (Mikulincer & Shaver, 2001), and that self-esteem threats increased it (Fein & Spencer, 1997). However, we did not yet know if (a) attachment threats would elicit worldview and self-esteem defenses or (b) self-esteem and worldview threats would elicit attachment defenses, so we conducted a series of studies to find out.

Prior research had suggested that, sometimes, defensive processes at the intersection of attachment and TMT research are moderated by personality differences, especially attachment *anxiety* and *avoidance*. These two dimensions of insecurity (attachment security, at least among adults, is typically defined by low anxiety and avoidance; Brennan, Clark, & Shaver, 1998) reflect dispositional hyperactivation and deactivation of the attachment system, respectively. Individuals higher on attachment anxiety are chronically concerned that close relationship partners will reject or abandon them, they are not easily soothed, and they report higher fear of death, among other things (Mikulincer, Florian, & Tolmacz, 1990; see also Lemay, this volume). Individuals higher on attachment avoidance are overly self-reliant and uncomfortable with intimacy. They, too, have a higher fear of death, but this fear is primarily implicit (Mikulincer et al.), presumably owing to their tendency to suppress negative emotions (e.g., Fraley & Shaver, 1997). Hence, we expected to find that the security system's dynamics would be moderated by attachment style, such that both dimensions of insecurity would be associated with proneness to threat; anxiety would be associated with more hyperactivating strategies, such as ingroup affiliation and seeking proximity to attachment figures; and avoidance would be associated with more deactivating strategies, such as self-esteem defense and evasion of intimacy.

In Study 1, we randomly assigned participants to think and write about their own death (mortality salience), separation from a loved one (separation salience), or a neutral topic (watching television), before exposing them to essays either praising or derogating the United States of America (i.e., worldview boosting vs. threatening, respectively). Results showed that both mortality salience and separation salience caused participants who were higher in attachment anxiety to defend their worldview by evaluating the pro-American essayist more positively than did anxiously attached participants in the control condition. In other words, an attachment threat, separation salience, had the same effect as mortality salience on worldview defense. Furthermore, the effect was moderated by attachment anxiety (i.e., it occurred only among high-anxiety individuals) but not self-esteem or neuroticism, suggesting that the process was fundamentally attachment related and not a result of the self-esteem relevance of the attachment threat or a more general proneness to negative affect.

Study 2 repeated the mortality vs. separation (vs. television) priming paradigm but assessed self-esteem defense instead of worldview defense. At the beginning of the study, participants were asked to rate the desirability of a list of personality traits; then, after the priming manipulation, participants were asked to rate the self-descriptiveness of each trait. Results showed that both mortality salience and separation salience increased the extent to which participants reported that traits they viewed as desirable were more self-descriptive, and that traits they viewed as less desirable were less self-descriptive. In other words, participants appeared to be trying to augment their self-esteem by viewing themselves as having more desirable (and less undesirable) personalities. Attachment style did not play much of a role in this study, although for a certain subset of traits, attachment avoidance was especially associated with self-enhancement in both of the threat conditions, in keeping with avoidantly attached individuals' emphasis on bolstering self-esteem (e.g., Mikulincer, 1998).





Studies 3 and 4 examined the effects of a worldview threat and a self-esteem threat, respectively, on attachment defenses. In Study 3, compared to a neutral condition, participants whose worldview was threatened with an anti-US essay subsequently expressed greater desire for closeness and commitment in their “ideal” romantic relationship if they were higher in anxiety and avoidance (i.e., “fearful avoidants”), or less desire for intimacy if they were higher in avoidance but lower in anxiety (“dismissing avoidants”). (The low-avoidant participants expressed such a strong desire for closeness in the control condition that there was no room for them to increase it in the worldview threat condition.) In sum, among avoidant individuals, a worldview threat activated attachment defenses, the nature of which (seeking vs. evading intimacy) depended on their level of attachment anxiety.

These results were replicated exactly in Study 4, which included a condition threatening participants’ self-esteem instead of their worldviews. Specifically, participants were given either an easy or an (unbeknownst to them) impossible word-search puzzle, told that the average student finds four words, and given 2 minutes to find as many words as they could. Although the study did not include a manipulation check for the expected impact on self-esteem, we thought that holding the study in large-group sessions, where participants in the impossible-puzzle condition would presumably notice people all around them circling words, would be sufficient to instill some diffidence! (Participants were debriefed afterward, of course.)

These studies confirmed our expectation that, except for predictable differences in threat sensitivity and defensive style associated with attachment insecurity, it would not particularly matter whether a threat was aimed at participants’ close relationships, their worldviews, or their self-esteem—each kind of threat would elicit defensiveness—nor would it matter much whether the measured defense was a worldview defense, a self-esteem defense, or an attachment defense. Pointed threats cause defensiveness, broadly speaking, and the domain of defense does not need to match the domain of threat; nor does mortality salience need to be explicitly involved.

In a series of more recent studies (currently in progress; Hart, Shaver, & Goldenberg, 2013), we have begun examining the other side of the fluid compensation hypothesis, namely, that bolstering one security system mechanism would increase the durability of the entire system. Preliminary evidence suggests this is true: in one study, a self-affirmation exercise (reinforcing important values) lowered state attachment anxiety (i.e., made people more secure in an attachment sense); in another, experimentally enhancing attachment security led to less defensive responses to a self-esteem threat. Another study found that experimentally boosting self-esteem increased state attachment security and reduced avoidance (albeit only among participants who were dispositionally high in either attachment anxiety or avoidance). We also found that college students higher in intrinsic religiosity (a form of worldview security) or self-esteem are less likely to have attachment insecurity in the context of relationships with their parents that generalizes to their romantic relationships, suggesting that secure self-esteem and worldviews foster attachment security.

Although we have not measured death-thought accessibility in the context of the above-described studies, we originally accepted TMT’s analysis that death concerns lay implicitly at the core of the heterogeneous defense system whose operation we envisioned as being responsible for our findings. However, we also suggested that the security system might be best construed as reflecting a general security motivation, and more recent evidence seems to support this construal. For example, several studies show that ostensibly non-death-related threatening stimuli cause worldview defense (e.g., subliminal exposure to the word “pain” increased pro-American bias; Holbrook, Sousa, & Hahn-Holbrook, 2011).

Hence, my interpretation of existing data leans toward viewing death concerns as pervasively linked to, but not necessarily fully mediating, security concerns more generally. Certainly death poses a threat to all other things in life, so in that sense it should be the most potent threat for most people. And to the extent that security concerns are represented in a semantic network





of terrifying threats, activating one threat should tend to spread activation to related concepts, including death. However, it may not be the activation of death thoughts per se that mediates defensiveness but a more general appraisal of vulnerability or threat. Recently, other theorists have landed on a similar interpretation.

Security System Alternatives

There is no shortage of theories that cover much of the same conceptual and laboratory territory I have discussed so far and that are typically framed in such a way as to supplement or supplant TMT. In fact, a recent special issue of *Social Cognition* (Proulx, 2012) is full of such “threat-compensation” theories, among which the security system can surely be counted (see Hart, 2014). Each of the theories tries to identify the general psychological concern(s) around which defensive processes are organized. These “watered-down” revisions of TMT are largely consistent with the original security system formulation, especially in that most of them hypothesize that a variety of threats and defenses are more or less interchangeable. However, they differ from the security system in some important ways.

First, many of the theoretical alternatives focus on “uncertainty” (e.g., McGregor, Nash, Mann, & Phillips, 2010; Van den Bos, 2001), “meaninglessness” (i.e., disrupted associations between mental representations; e.g., Heine et al., 2006), or “inconsistency” (as in between expectations and reality, or between discordant mental representations, cf. cognitive dissonance theory; e.g., Proulx, Inzlicht, & Harmon-Jones, 2012—I refer to these as “epistemic equilibrium” theories). According to these views, defensiveness (or “threat compensation”) is not an effort to restore attachments or to defend self-esteem or worldviews but, rather, is oriented toward restoring certainty/meaning/consistency. Although I think that these epistemic equilibrium theories’ concept of an underlying “aversive arousal” (Proulx et al.) or “anxious uncertainty” (McGregor et al.) is probably very similar to the concept of insecurity, it strikes me as unlikely that cognitive consistency or something like it is the sole or main proximate cause of the implicit or explicit angst that causes defensiveness, or that attachment, self-esteem, and worldviews are related to defensiveness solely or mainly to the extent that they involve mental representations that can be either internally consistent or inconsistent.

As I have argued elsewhere (Hart, 2014), such a view seems to throw out the theoretical baby with the bathwater by recasting processes as being only incidentally connected to particular motivational domains (aside from the desire to maintain meaning). In other words, non-self-esteem threats cause people to defend their self-esteem not because self-esteem directly reduces aversive arousal but because it reduces aversive arousal *among individuals predisposed to think of themselves positively*. Therefore, individuals lower in self-esteem would be expected to respond to a meaning threat by defending a *negative* self-image—perhaps by expressing preference for negative self-feedback relative to positive self-feedback.

Though not abundant, some evidence exists for such a perspective, such as research inspired by self-verification theory showing that people with negative self-views appear to want to have those views confirmed (e.g., Swann, Wenzlaff, Krull, & Pelham, 1992; also see similar research on worldview verification motives; e.g., Major, Kaiser, O’Brien, & McCoy, 2007). But other evidence seems to point to different conclusions: for example, research showing reduced defensiveness among atheists given “evidence” of an afterlife, ostensibly in violation of their worldviews (Heflick & Goldenberg, 2012).

There can be little doubt that people prefer consistency among mental representations, between expectations and reality, and so on; after all, there is a reason why cognitive dissonance theory stands as a social psychology classic more than half a century later. Sometimes, people may even choose consistency over other security-providing outcomes. However, my point is that





consistency is not (always) the most potent source of security (for everyone); sometimes, people will prefer comforting inconsistency over disquieting consistency. Most people know a sports fan or two who indulge in superstitions, elaborate rituals, and other auspices despite knowing better; regardless of the apparent inconsistency between belief and action, such behavior actually seems to comfort them. Many of those same sports fans certainly do not react defensively—quite the opposite—when their hapless teams surprise everybody by winning a contest they were expected to lose. I remain unconvinced that such unexpected inconsistencies would cause defensiveness any more than having negative expectancies confirmed would quell it. And even though dissonance reduction processes are no doubt real and pervasive, the human brain may actually be wired for inconsistency (Kurzban, 2010), so even though the embarrassment of hypocrisy may pose a threat to people, they may be better equipped to cope with trivial inconsistencies than epistemic equilibrium theories suggest.

In other words, the content of perceived consistency and inconsistency matters. This brings me to the second major difference between epistemic equilibrium theories and the security system theory, which is that epistemic equilibrium theories, in casting cognitive consistency at the top of a hierarchy of defensive operations, upend the notion that attachment is the system on which more elaborate defenses are predicated. I do not doubt that a preference for consistency could precede, developmentally, attachment formation (which does not fully develop until around six months of age; Bowlby, 1982). It does not follow, of course, that attachment behavior stems from motivation for cognitive consistency—not that epistemic equilibrium theorists would make such an argument; but in construing defensiveness as a cognitive consistency phenomenon, epistemic equilibrium theories appear to diminish the status of attachment as a defensive system, or perhaps to separate it from other kinds of defense. My position contrasts starkly in that, as I have explained, I view attachment as integral to defensiveness, providing the scaffolding over which other defenses are layered.

One might even take the argument further to suggest that self-esteem and worldviews (including consistency among mental representations) are themselves “attachments,” that is, to a view of the self as valuable and enduring and to one’s affiliations and beliefs as ultimately good, true, and existentially meaningful. Perhaps neuroscience will eventually help evaluate this possibility; if it is accurate, then brain regions and circuits mediating “pure” attachment processes should overlap heavily with those mediating self-esteem and epistemic ones. Meanwhile, we can at least examine the proposition conceptually.

Attachment: The Original Security System

According to Bowlby (1982), attachment is identifiable by at least four hallmark behaviors: (1) maintenance of proximity to attachment figures, (2) use of the attachment figure as a secure base from which to explore, (3) use of the attachment figure as a safe haven in times of alarm or distress, and (4) protest of separation from the attachment figure (i.e., separation anxiety). In the abstract, substituting “self-esteem” or “worldviews” for “the attachment figure” does not raise any immediate problems. People try to maintain “proximity” to their positive self-views and beliefs by more or less constantly seeking to affirm and augment them, even when a threat is not present. High self-esteem and equanimity-providing worldviews are associated with optimal functioning (a “secure base”; e.g., Taylor & Brown, 1988). Self-esteem and worldviews serve defensive functions (a “safe haven,” as TMT and related studies amply demonstrate, including the ones described by Briñol et al. in the present volume to bolster their view that psychological threats prompt people to try to validate their active thoughts as a means of restoring confidence). And people become distressed when their self-esteem or worldviews are challenged.





One objection to this analysis might be that it seems to open the possibility that *anything* that people are motivationally or emotionally invested in is an “attachment” and therefore part of the security system. I do not find anything particularly problematic about that. In fact, evidence seems to support associative and functional links between security system components and “comfort food” (Troisi & Gabriel, 2011), physical warmth (Williams & Bargh, 2008), and money (Zhou, Vohs, & Baumeister, 2009), among other things.

In a related vein, McGregor and colleagues (McGregor et al., 2010; Nash, McGregor, & Prentice, 2011) have suggested that defensive behavior may be best understood as a response to the thwarting of individuals’ active goals. I find this view quite appealing, and I think it is compatible with the security system, at least to the extent that people’s goals are nearly always related to attachment, self-esteem, or worldviews in some manner, or else to their health and well-being on a more fundamental level.³

So perhaps it is not such a stretch that self-esteem and worldviews are *literally* products of attachment system functioning, not just connected to the attachment system by remote association to socialization and other developmental experiences. This remains speculative, of course, something to be examined more systematically in future research.

Security System Distilled

Although I am not prepared to assert definitive postulates, it seems worth attempting a few formal statements about the security system theory, to wrap up and extend the foregoing discussion. First, a definition (modified from Hart et al., 2005): insecurity is conscious or unconscious appraisal of personal vulnerability, either physical or psychological; security, by contrast, is conscious and/or unconscious appraisal of durability (“everything is going to be okay”). Security and insecurity reflect both dispositional and situational assessments, so a person could be generally insecure but feel secure in a given moment, and vice versa.

Second, a postulate: security and insecurity stem from appraisals of (a) health and safety, (b) close relationships, (c) self-worth, and (d) epistemic concerns; these domains are developmentally, functionally, and semantically related, such that in the context of security regulation, they are roughly interchangeable, and in normal circumstances people try to maintain security or eliminate insecurity.

Third, state and trait differences in personality dimensions relevant to security system operations should moderate those operations. For example, attachment insecurity (anxiety and/or avoidance) should predict higher proneness to threat and thus greater defensiveness; moreover, the kind of insecurity (anxiety vs. avoidance) should predict particular patterns of defensiveness, such that, for example, attachment anxiety should predict preferential use of relational defenses, whereas attachment avoidance should predict preferential use of self-esteem defenses. Regarding worldviews, attachment insecurity has been associated with motivation for cognitive closure (Mikulincer, 1997), so both anxiety and avoidance should predict stronger responses to uncertainty, and greater motivation to restore uncertainty in the face of threat. (It has already been shown that attachment style moderates worldview defenses against mortality salience; insecurity is associated with harsher defensive judgments against worldview transgressors, whereas security is associated with more positive defenses; Mikulincer & Florian, 2000.)

Lower self-esteem should similarly be associated with defensiveness; however, evidence is convoluted on this front, with some evidence suggesting that lower self-esteem potentiates defensiveness and other evidence suggesting that higher self-esteem does (see Burke et al., 2010, for a review). Some evidence suggests that perhaps it is necessary to examine domain-specific self-esteem levels; perhaps global self-esteem is too broad a construct to yield reliable results (e.g., Cox & Arndt, 2012).





Other personality variables reflecting worldview-relevant dispositions should also moderate defensive styles and preferences, and some evidence supports this. For example, individuals high in personal need for structure respond to mortality salience with pronounced epistemic defenses (e.g., Landau, Johns, et al., 2004; Vess, Routledge, Landau, & Arndt, 2009). Similarly, political orientation sometimes moderates mortality salience effects, because people either hew more closely to their political values after mortality salience (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992) or else embrace (typically conservative) policies and leaders because they are perceived to be more security focused (e.g., Landau, Solomon, et al., 2004).

Finally, the security system theory follows TMT in proposing an ultimate (evolutionary) benefit to security maintenance processes. Despite the presumed survival benefits of being attuned to threats to one's existence, there is also presumably an advantage in being able to regulate such attunement. If so, one would expect people's reactions to security threats to differ depending on the nature and imminence of the threats. In particular, abstract threats (e.g., contemplating non-existence) or those that are temporally distant (e.g., dying from a disease in old age) are best dealt with using short-term palliative mechanisms rather than unabated anxious arousal. Indeed, TMT's dual-process model (Pyszczynski et al., 1999) specifies that distal (self-esteem and worldview) defenses occur when mortality is an accessible but not pressing concern, whereas more direct proximal defenses are activated by conscious thoughts of death.

According to a similar view, the level at which threats are construed determines whether people are likely to engage in relatively direct or indirect defenses (Tullett, Teper, & Inzlicht, 2011)—such that concrete construals should lead to direct defenses, whereas abstract construals could lead flexibly to either direct or indirect defenses. For example, when one contemplates the bus bearing down on oneself while crossing the street, the likely response is to hurry up instead of defending one's political views. By contrast, contemplating the fleeting nature of life while observing one's children playing might be expected to lead to *either* a direct defense (e.g., opting for a healthy salad instead of a juicy burger at dinnertime) *or* an indirect one (e.g., yelling at the television screen when a Tea Party politician appears on the evening news).

Perhaps as time passes after mortality (or another threat) is made salient, the threat is construed in an increasingly abstract manner, frequently leading to more fluid (i.e., non-specific) defenses. This is conjecture, but it is perhaps not a coincidence that most studies that show people defending themselves in a domain unrelated to the one that is experimentally threatened operationalize threats at least somewhat abstractly, for example, by having participants imagine a threatening event (which is naturally more abstract than having them actually experience one). This topic seems ripe for future research.

In sum, the security system model integrates research on defensiveness in a relatively inclusive way. Most findings in the TMT literature and related bodies of work can be accommodated by acknowledging an overarching security motivation at the heart of defensive processes. In my view, the advantage of the security system integration is that it unifies, more or less neatly, an array of theories in the mainstream of social and personality psychology, even if it does not always leave them perfectly intact. These include cognitive dissonance theory (a theory about epistemic threats) and the contemporary epistemic equilibrium theories (e.g., Proulx et al., 2012), as well as self-verification and worldview verification theories (also of the epistemic equilibrium ilk; Major et al., 2007; Swann, 1983), social identity theory (a theory about the relation between worldviews and self-esteem or, differently construed, group attachments and self-esteem; Tajfel & Turner, 1986), self-affirmation theory (a theory about self-esteem and worldviews; Steele, 1988) and other self-esteem maintenance theories (Tesser, 2000), and, of course, attachment theory and TMT. All posit that humans are motivated to attain security in some form: self-integrity, self-esteem, belongingness, cognitive consistency, attachment to close others, epistemic certainty, and existential comfort. A vast body of empirical research derived





from these theories shows that when people feel threatened (i.e., insecure), they become defensive and take steps to restore security, including social support seeking, cognitive and affective rigidity, self-enhancement, ingroup bias, and intergroup rancor. When people feel secure, they (generally) become more psychologically flexible and pro-social, attesting to the adaptive benefits of security regulation. The security system can even account, in principle, for empirical inconsistencies in the defensiveness literature, which would be expected to arise in situations where two or more defensive avenues conflict with one another (e.g., self-enhancement vs. self-verification).

Future Directions and Conclusion

Despite my rosy assessment that the security system integration can unite theorists and researchers of different stripes and make sense of data from different corners of psychological inquiry, I acknowledge that it has important shortcomings. First and foremost, to my knowledge there is not yet a way to *measure* security! We can measure attachment style, self-esteem, meaning in life, and so on—at both trait and state levels—but these are partial indicators at best (and self-reports, at that). Tritt, Inzlicht, and Harmon-Jones (2012), among others, have begun to piece together a theory of the neurobiological underpinnings of aversive arousal, but, to date, such efforts have not translated into a viable, proven measure of insecurity in the brain or the body. I am skeptical that such a measure will be found—insecurity is a construct, and like all psychological constructs, it is not likely to have a concrete instantiation or direct referent in the world of material things, or at least not a simple one. Moreover, neuroimaging approaches are still plagued by internal and external validity concerns stemming from the resource-heavy, technologically constrained neuroimaging methods. (Of course, these are the reasons why theories are allowed to proliferate like weeds, creating new names for concepts that are often very similar. I say potato, you say potahto!)

Second, while it is tempting to reduce psychological functioning to a few simple principles, it is obvious that not all functioning is related to security maintenance, and even security maintenance may not be the neat, fluid process that I and others have described. There are enough examples of defensiveness being moderated by personality traits in one instance but not in another (ostensibly parallel) case to make one wonder whether we are really observing a unitary (defensive) process or rather a constellation of similar-looking micro-processes that nevertheless have slightly different origins or functions. Additional research is needed to evaluate this possibility against the security system and similar views.

The need for additional research is also underscored by persistent inconsistencies in laboratory findings, as when situational or dispositional variables moderate defensive processes in some studies but not others, or when some studies find that an array of threats elicit similar defenses but others find that defenses are particular to one kind of threat. These vagaries, and the methodological obstacles described above, have led me to call for a renewed focus on methodological innovation and rigor among psychologists who study defensive processes (Hart, 2014).

Such a shift in emphasis from theory to methodology may help us answer some basic questions that seem essential to theoretical progress, including ones regarding the neurobiological and psychological structure of security maintenance. We do not know whether security motivation is hierarchically organized and, if so, how; nor do we know much of anything about its representation in the brain and mind. Is the motivation represented primarily semantically, or is it governed by more phylogenetically and ontogenetically primitive structures and functions? Perhaps neuroimaging has the potential to answer some questions that simple questionnaire and behavioral methods seem incapable of addressing. As neuroscientists make progress toward





identifying specific psychological processes by mapping them to distinct neural signatures (e.g., patterns of brain activation), it may become possible to determine the extent to which attachment, self-esteem, and worldview defenses overlap with one another, and to determine the extent to which filling out a particular self-report measure (e.g., of intergroup bias) recruits each of these constituent processes.

It also seems worthwhile to apply some new approaches, or approaches more commonly used in other areas of inquiry, such as naturalistic and longitudinal designs, or even case studies, to the domain of security maintenance. Experimental designs are prized for their ability to reveal the direction of causal relations between variables, but they are notoriously limited in other respects. In addition to their artificiality, experiments tend to gloss over fine-grained individual differences. More idiographic approaches could eventually reveal that defensiveness operates differently from individual to individual. For example, for one person, an early near-death experience could mean that mortality concerns are central to that person's efforts to maintain security; for another person who is abandoned by an attachment figure or suffers a profound humiliation early in life, the main issue could be attachment or self-esteem, instead. Such differences might lead to substantially different security system organizations. To address these and similar issues, longitudinal approaches could be used to examine how security maintenance develops and unfolds over time (e.g., testing fundamental theoretical assumptions about the developmental relationship between attachment and self-esteem, or how security concerns become differently managed once death awareness develops), or how it operates in ongoing real-life situations.

Eventually, it will be important to integrate theories and research on psychological security with those addressing more growth-oriented concerns. Sometimes, "defense" looks quite a bit like "offense" (cf. McGregor, 2006), making it difficult to distinguish the two. Similarly, to my knowledge, no existing defensiveness theories easily account for instances where people respond to augmented security with apparent defensiveness—as when the winners of a sporting contest respond by "rubbing it in" the faces of their vanquished opponents, or even riot aggressively, apparently as part of a celebration (as after the 2010 National Basketball Association finals in Los Angeles, California). Exploring phenomena such as these may help illuminate some of the more elusive details of security maintenance processes.

Conclusion

I have love in me the likes of which you can scarcely imagine and rage the likes of which you would not believe. If I cannot satisfy the one, I will indulge the other.

(Coppola, Hart, Veitch, & Branagh, 1994)

In a volume about personal security, it is tempting to conclude that security concerns are not just prevalent on the landscape of human psychology but paramount. Perhaps they are; perhaps not. Either way, it is important to acknowledge that people are driven by a myriad of interests: sex, sustenance, the warmth of sunlight on one's face, the exploration of an unfamiliar neck of the woods or part of the globe, the tender love for one's children. Yet it is also clear that these interests and many others besides are influenced by the undercurrent of a basic concern that seems built into the human animal, a concern about one's own vulnerability. The scholarship in this volume describes the range of research demonstrating the far-reaching influence of security motivations, which seem to be integral to explaining both love and hate, in addition to much else. On the horizon, perhaps, is an integrative theory that can make sense of it all. I hope the security system represents a step in the right direction.





Notes

- 1 Despite an abundance of evidence that terror management defenses engage after a delay following mortality salience, the evidence on death-thought accessibility is mixed, with some evidence suggesting that the temporal pattern of death-thought accessibility after mortality salience is moderated by attachment style (Mikulincer & Florian, 2000), and other evidence suggesting that death accessibility wanes in (presumably) linear fashion after mortality salience (Trafimow & Hughes, 2012) rather than following the suppression-rebound pattern posited by TMT. Moreover, although threats to self-esteem and worldviews elevate death-thought accessibility, it is unclear to what extent that might extend to the accessibility of negative themes in general. It thus remains an open question as to whether death-thought accessibility mediates terror management defenses, because at present there is little to no direct evidence to settle the issue.
- 2 Mood repair and similar reductions of TMT are parsimonious, but they seem to fall short of accounting for why the things that make people feel good take the particular form that they do. TMT can be used not only to predict when people are likely to become defensive but also to identify what kind of defenses they are likely to use and to explain the reasons they are effective.
- 3 One potential shortcoming in McGregor and colleagues' reactive approach motivation theory is that it does not appear to explain instances of defensiveness or security motivation that involve avoidance goals, as when individuals lower in self-esteem respond to mortality salience by trying to prevent self-esteem decrements by "playing it safe" (for example, by opting to tell a not-as-funny but guaranteed-to-work joke in a fictional commencement speech instead of a hilarious joke that might miss its mark; Landau & Greenberg, 2006).

References

- Becker, E. (1973). *The denial of death*. New York: Simon and Schuster.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.
- Brennan, K.A., Clark, C.L., & Shaver, P.R. (1998). Self-report measurement of adult attachment: An integrative overview. In J.A. Simpson & W.S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford.
- Burke, B.L., Martens, A., & Faucher, E.H. (2010). Two decades of terror management theory: A meta-analysis of mortality salience research. *Personality and Social Psychology Review, 14*, 155–195.
- Coppola, F.F., Hart, J.V., Veitch, J. (Producers), & Branagh, K. (Director). (1994). *Frankenstein* [Motion picture]. United States: TriStar Pictures.
- Cox, C.R., & Arndt, J. (2012). How sweet it is to be loved by you: The role of perceived regard in the terror management of close relationships. *Journal of Personality and Social Psychology, 102*, 616–632.
- Fein, S., & Spencer, S.J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology, 73*, 31–44.
- Florian, V., Mikulincer, M., & Hirschberger, G. (2002). The anxiety-buffering function of close relationships: Evidence that relationship commitment acts as a terror management mechanism. *Journal of Personality and Social Psychology, 82*, 527–542.
- Fraley, R., & Shaver, P.R. (1997). Adult attachment and the suppression of unwanted thoughts. *Journal of Personality and Social Psychology, 73*, 1080–1091.
- Freud, S.S. (1930). *Civilization and its discontents*. Oxford, England: Hogarth.
- Greenberg, J. (2012). Terror management theory: From genesis to revelations. In P.R. Shaver & M. Mikulincer (Eds.), *Meaning, mortality, and choice: The social psychology of existential concerns* (pp. 17–35). Washington, DC: American Psychological Association.
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of the need for self-esteem: A terror management theory. In R.F. Baumeister (Ed.), *Public self and private self* (pp. 189–212). New York: Springer.
- Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S., & Lyon, D. (1990). Evidence for terror management theory II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology, 58*, 308–318.
- Greenberg, J., Simon, L., Harmon-Jones, E., Solomon, S., Pyszczynski, T., & Chatel, D. (1995). Testing alternative explanations for mortality effects: Terror management, value accessibility, or worrisome thoughts? *European Journal of Social Psychology, 12*, 417–433.
- Greenberg, J., Simon, L., Pyszczynski, T., Solomon, S., & Chatel, D. (1992). Terror management and tolerance: Does mortality salience always intensify negative reactions to others who threaten one's worldview? *Journal of Personality and Social Psychology, 63*, 212–220.





- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror management theory and self-esteem: Evidence that increased self-esteem reduces mortality salience effects. *Journal of Personality and Social Psychology*, *72*, 24–36.
- Hart, J. (2014). Toward an integrative theory of psychological defense. *Perspectives on Psychological Science*, *9*, 19–39.
- Hart, J., Shaver, P.R., & Goldenberg, J.L. (2005). Attachment, self-esteem, worldviews, and terror management: Evidence for a tripartite security system. *Journal of Personality and Social Psychology*, *88*, 999–1013.
- Hart, J., Shaver, P.R., & Goldenberg, J.L. (2013). Further evidence for a security system model of attachment, self-esteem, and worldviews: The effects of security boosts on defensiveness. Manuscript in preparation.
- Hayes, J., Schimel, J., Arndt, J., & Faucher, E.H. (2010). A theoretical and empirical review of the death-thought accessibility concept in terror management research. *Psychological Bulletin*, *136*, 699–739.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*, 511–524.
- Heflick, N.A., & Goldenberg, J.L. (2012). No atheists in foxholes: Arguments for (but not against) afterlife belief buffers mortality salience effects for atheists. *British Journal of Social Psychology*, *51*, 385–392.
- Heine, S.J., Proulx, T., & Vohs, K.D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review*, *10*, 88–110.
- Hirschberger, G., Florian, V., & Mikulincer, M. (2003). Strivings for romantic intimacy following partner complaint or partner criticism: A terror management perspective. *Journal of Social and Personal Relationships*, *20*, 675–687.
- Holbrook, C., Sousa, P., & Hahn-Holbrook, J. (2011). Unconscious vigilance: Worldview defense without adaptations for terror, coalition, or uncertainty management. *Journal of Personality and Social Psychology*, *101*, 451–466.
- Jonas, E., & Fischer, P. (2006). Terror management and religion: Evidence that intrinsic religiousness mitigates worldview defense following mortality salience. *Journal of Personality and Social Psychology*, *91*, 553–567.
- Jonas, E., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The Scrooge effect: Evidence that mortality salience increases prosocial attitudes and behavior. *Personality and Social Psychology Bulletin*, *28*, 1342–1353.
- Jost, J.T., & Banaji, M.R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology*, *33*, 1–27.
- Kay, A.C., Gaucher, D., Napier, J.L., Callan, M.J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology*, *95*, 18–35.
- Kurzban, R. (2010). *Why everyone (else) is a hypocrite: Evolution and the modular mind*. Princeton, NJ: Princeton University Press.
- Landau, M.J., & Greenberg, J. (2006). Play it safe or go for the gold? A terror management perspective on self-enhancement and protection motives in risky decision making. *Personality and Social Psychology Bulletin*, *32*, 1633–1645.
- Landau, M.J., Johns, M., Greenberg, J., Pyszczynski, T., Martens, A., Goldenberg, J.L., & Solomon, S. (2004). A function of form: Terror management and structuring the social world. *Journal of Personality and Social Psychology*, *87*, 190–210.
- Landau, M.J., Solomon, S., Greenberg, J., Cohen, F., Pyszczynski, T., Arndt, J., Miller, C.H., Ogilvie, D.M., & Cook, A. (2004). Deliver us from evil: The effects of mortality salience and reminders of 9/11 on support for President George W. Bush. *Personality and Social Psychology Bulletin*, *30*, 1136–1150.
- Langer, E.J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, *32*, 311–328.
- Lerner, M.J., & Miller, D.T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, *85*, 1030–1051.
- Major, B., Kaiser, C.R., O'Brien, L.T., & McCoy, S.K. (2007). Perceived discrimination as worldview threat or worldview confirmation: Implications for self-esteem. *Journal of Personality and Social Psychology*, *92*, 1068–1086.
- McGregor, I. (2006). Offensive defensiveness: Toward an integrative neuroscience of compensatory zeal after mortality salience, personal uncertainty, and other poignant self threats. *Psychological Inquiry*, *17*, 299–308.
- McGregor, I., Nash, K., Mann, N., & Phillips, C.E. (2010). Anxious uncertainty and reactive approach motivation (RAM). *Journal of Personality and Social Psychology*, *99*, 133–147.
- Mikulincer, M. (1997). Adult attachment style and information processing: Individual differences in curiosity and cognitive closure. *Journal of Personality and Social Psychology*, *72*, 1217–1230.
- Mikulincer, M. (1998). Adult attachment style and affect regulation: Strategic variations in self-appraisals. *Journal of Personality and Social Psychology*, *75*, 420–435.
- Mikulincer, M., & Florian, V. (2000). Exploring individual differences in reactions to mortality salience: Does attachment style regulate terror management mechanisms? *Journal of Personality and Social Psychology*, *79*, 260–273.





- Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review*, 7, 20–40.
- Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of personal death: A case study of affect regulation. *Journal of Personality and Social Psychology*, 58, 273–280.
- Mikulincer, M., Gillath, O., & Shaver, P.R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83, 881–895.
- Mikulincer, M., & Shaver, P.R. (2001). Attachment theory and intergroup bias: Evidence that priming the secure base schema attenuates negative reactions to out-groups. *Journal of Personality and Social Psychology*, 81, 97–115.
- Mikulincer, M., & Shaver, P.R. (2007a). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford.
- Mikulincer, M., & Shaver, P.R. (2007b). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry*, 18, 139–156.
- Nash, K., McGregor, I., & Prentice, M. (2011). Threat and defense as goal regulation: From implicit goal conflict to anxious uncertainty, reactive approach motivation, and ideological extremism. *Journal of Personality and Social Psychology*, 101, 1291–1301.
- Proulx, T. (Ed.). (2012). Threat-compensation in social psychology: Is there a core motivation? [Special issue]. *Social Cognition*, 30(6).
- Proulx, T., Inzlicht, M., & Harmon-Jones, E. (2012). Understanding all inconsistency compensation as a palliative response to violated expectations. *Trends in Cognitive Sciences*, 16, 285–291.
- Pyszczynski, T., Abdollahi, A., Solomon, S., Greenberg, J., Cohen, F., & Weise, D. (2006). Mortality salience, martyrdom, and military might: The Great Satan versus the Axis of Evil. *Personality and Social Psychology Bulletin*, 32, 525–537.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1999). A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychological Review*, 106, 835–845.
- Pyszczynski, T., Greenberg, J., Solomon, S., & Maxfield, M. (2006). On the unique psychological import of the human awareness of mortality: Theme and variations. *Psychological Inquiry*, 17, 328–356.
- Pyszczynski, T., Solomon, S., & Greenberg, J. (2003). *In the wake of 9/11: The psychology of terror*. Washington, DC: American Psychological Association.
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory: I. The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology*, 57, 681–690.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). A terror management theory of social behavior: The psychological functions of self-esteem and cultural worldviews. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 93–159). New York: Academic Press.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1998). Tales from the crypt: On the role of death in life. *Zygon*, 33, 9–43.
- Steele, C. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261–302). New York: Academic Press.
- Swann, W.B., Jr. (1983). Self-verification: Bringing social reality into harmony with the self. In J. Suls & A.G. Greenwald (Eds.), *Psychological perspectives on the self* (Vol. 2, pp. 33–66). Hillsdale, NJ: Erlbaum.
- Swann, W.B., Wenzlaff, R.M., Krull, D.S., & Pelham, B.W. (1992). Allure of negative feedback: Self-verification strivings among depressed persons. *Journal of Abnormal Psychology*, 101, 293–306.
- Tajfel, H., & Turner, J.C. (1986). The social identity theory of intergroup behaviour. In S. Worchel & W.G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall.
- Taubman Ben-Ari, O., Florian, V., & Mikulincer, M. (1999). The impact of mortality salience on reckless driving: A test of terror management mechanisms. *Journal of Personality and Social Psychology*, 76, 33–45.
- Taylor, S.E., & Brown, J.D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193–210.
- Tesser, A. (2000). On the confluence of self-esteem maintenance mechanisms. *Personality and Social Psychology Review*, 4, 290–299.
- Trafimow, D., & Hughes, J.S. (2012). Testing the death thought suppression and rebound hypothesis: Death thought accessibility following mortality salience decreases during a delay. *Social Psychological and Personality Science*, 3, 622–629.
- Tritt, S.M., Inzlicht, M., & Harmon-Jones, E. (2012). Toward a biological understanding of mortality salience (and other threat compensation processes). *Social Cognition*, 6, 715–733.





Proof
The Psychology of Defensiveness

- Troisi, J.D., & Gabriel, S. (2011). Chicken soup really is good for the soul: "Comfort food" fulfills the need to belong. *Psychological Science*, 22, 747–753.
- Tullett, A.M., Teper, R., & Inzlicht, M. (2011). Confronting threats to meaning: A new framework for understanding responses to unsettling events. *Perspectives on Psychological Science*, 6, 447–453.
- Van den Bos, K. (2001). Uncertainty management: The influence of uncertainty salience on reactions to perceived procedural fairness. *Journal of Personality and Social Psychology*, 80, 931–941.
- Vess, M., Routledge, C., Landau, M. J., & Arndt, J. (2009). The dynamics of death and meaning: The effects of death-relevant cognitions and personal need for structure on perceptions of meaning in life. *Journal of Personality and Social Psychology*, 97, 728–744.
- Weinstein, N.D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806–820.
- Williams, L.E., & Bargh, J.A. (2008). Experiencing physical warmth promotes interpersonal warmth. *Science*, 322, 606–607.
- Wisman, A., & Koole, S.L. (2003). Hiding in the crowd: Can mortality salience promote affiliation with others who oppose one's worldviews? *Journal of Personality and Social Psychology*, 84, 511–526.
- Zhou, X., Vohs, K.D., & Baumeister, R.F. (2009). The symbolic power of money: Reminders of money alter social distress and physical pain. *Psychological Science*, 20, 700–706.

Taylor & Francis
Not for distribution

