

# In Human Memory, Good Can Be Stronger Than Bad

Constantine Sedikides<sup>1</sup>  and John J. Skowronski<sup>2</sup>

<sup>1</sup>Center for Research on Self and Identity, University of Southampton, and <sup>2</sup>Department of Psychology, Northern Illinois University

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## Abstract

Some researchers assert that the psychological impact of negative information is more powerful than that of positive information. This assertion is qualified in the domain of human memory, in which (a) positive content is often favored (in the strength of memories for real stimuli or events and in false-memory generation) over negative content and (b) the affect prompted by memories of positive events is more temporally persistent than the affect prompted by memories of negative events. We suggest that both of these phenomena reflect the actions of self-motives (i.e., self-protection and self-enhancement), which instigate self-regulatory activity and self-relevant processes.

## Keywords

memory, self, self-motives, self-enhancement, self-protection

Some researchers (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001) assert that negative stimuli have a greater impact on an individual than positive stimuli. Believers in this assertion often apply it to memory. For example, after soliciting memories from her readership and finding that many reported memories were negative (e.g., “Sitting on my bathroom floor after my father died”), Caren (2018) invoked the “bad is stronger than good” notion to explain this negativity in recall content. However, such an application overlooks a considerable corpus of empirical findings (Matlin & Stang, 1978) evincing the opposite tendency: In human memory, good is often stronger than bad. Indeed, the tendency for positivity to be stronger than negativity in human memory was even noted by the authors who opined that “bad is stronger than good” (Baumeister et al., 2001, pp. 343–344; Rozin & Royzman, 2001, p. 305).

In this article, we discuss current research highlighting that, in human memory, good can be stronger than bad. Specifically, we advance the idea that self-regulatory mechanisms and cognitive processes can produce memory positivity. In this regard, we assume that individuals desire to protect and enhance the self (Sedikides, 2018) and that these self-motives can jointly influence cognitive processes and self-regulatory mechanisms to promote good over bad in memory.

Some findings (Stanley & De Brigard, 2019) align with our objectives, because they suggest that people protect and enhance the self by forgetting details about their own moral transgressions but not forgetting details about their own morally praiseworthy deeds. Moreover, the relevant literature shows that, when past moral transgressions are recalled, individuals strategically compare their more recent unethical behaviors with their older unethical behaviors to foster a perception of personal moral improvement over time.

Such effects should be prominent for memories with strong implications for the self (Gebauer, Wagner, Sedikides, & Neberich, 2013), especially as the time lag between event occurrence and time of recall increases, given the cumulative nature of these effects across time (Taylor, 1991). Moreover, the relevant self-regulatory motivations and mechanisms may be prevalent when individuals are in a positive and present-focused state and are keen to maintain it (Carstensen, 2006). Intriguingly, considering that older adults are chronically in a present-focused state, they evince positivity effects in memory more strongly than younger adults, who are

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## Corresponding Author:

Constantine Sedikides, University of Southampton, Center for Research on Self and Identity, Southampton, SO17 1BJ, England  
E-mail: cs2@soton.ac.uk

often future focused (Reed, Chan, & Mikels, 2014; Singer, Rexhaj, & Baddeley, 2007). However, even shifting younger adults into a present-focused state reliably produces positivity effects in memory (Reed & Carstensen, 2012).

In the remainder of this article, we highlight three sets of findings demonstrating that, in human memory, good can be stronger than bad. Individuals can exhibit stronger memory for the content of positive memories, manifest more false positive memories, and feel more intense affect during positive memory recall, in comparison with negative memories.

## Positivity Biases in Memory Strength

### *Real-world personal memories*

Real-world personal memories sometimes evince stronger memory for good than for bad. For example, participants in one study (D'Argembeau & Van der Linden, 2008) retrospectively recalled positive events and negative events that involved either self-evaluations (i.e., pride and shame) or other-evaluations (i.e., admiration and contempt). Participants' ratings of the properties of each memory suggested that they recalled the self-evaluation positive events in greater detail than the self-evaluation negative events. This outcome did not occur in the case of events linked to other-evaluations.

Another example comes from research in which students each kept one diary of unique events that happened in their own life and another diary that included events from the life of another person (Skowronski, Betz, Thompson, & Shannon, 1991). At the end of the semester, each student rated the strength of their memory for each event. For other-events, negative memories were rated as stronger than positive memories. However, for self-events, positive memories were rated as stronger than negative memories.

Similar results emerged in studies (Ritchie, Sedikides, & Skowronski, 2017) in which, at Time 1, participants recorded up to eight positive personal events and up to eight personal negative events. They did the same for events in the life of an acquaintance. On a later free recall test, participants remembered a larger proportion of their positive Time 1 self-events than their negative Time 1 self-events. The opposite pattern emerged in recall for the events in the life of the acquaintance.

### *Memories in the laboratory*

Matlin and Stang (1978) reviewed many research results indicating that participants often exhibit positivity biases in memory (also see Dutta & Kanungo, 1975). Similar results continue to emerge. For example, consider

experiments exploring memory for the content of feedback presented in the form of statements or short vignettes (e.g., "You are the kind of person who cheats on tests"; for a paradigm overview, see Sedikides, Green, Saunders, Skowronski, & Zengel, 2016). The feedback typically varies in valence (negative vs. positive), self-centrality (central to the self-concept vs. peripheral to the self-concept), and self-relevance (referring to the self vs. referring to a peer). In comparison with recall for self-enhancing feedback (positive feedback + feedback about the self + feedback relevant to a central self-conception), recall for feedback that is self-threatening (negative feedback + feedback about the self + feedback relevant to a central self-conception) is especially poor. This phenomenon is labeled the *mnemic-neglect effect* (Sedikides et al., 2016).

The mnemic-neglect effect likely reflects the action of the self-protection motive. To wit, the mnemic-neglect effect (a) strengthens when feedback is particularly diagnostic of one's negative and central traits (and thus is particularly self-threatening; Green & Sedikides, 2004), (b) strengthens when feedback pertains to relatively unmodifiable traits (and thus magnifies the threat of stagnation; Green, Pinter, & Sedikides, 2005), and (c) diminishes by prior engagement in a self-affirmation task, which presumably solidifies participants' comfort in the face of self-threat (Green, Sedikides, & Gregg, 2008).

The mnemic-neglect effect can be viewed in terms of memory cuing: When people try to freely recall an item, the more often an item is linked to other items in a memory network, the higher the probability that the item will be retrieved. Results from experiments that directly assessed feedback processing suggest that self-threatening feedback is processed shallowly (Sedikides et al., 2016), which produces a sparse network of links to memory cues that can aid recall. Hence, self-threatening feedback may be poorly remembered, because there are few other cues that link to self-threatening items in memory. Support for this possibility comes from research showing that the mnemic-neglect effect emerges in memory tasks (e.g., free recall) that rely on cue networks during recall, but it cancels out in memory tasks (e.g., recognition) that do not rely on such networks (Green et al., 2008). Thus, although self-threatening information is stored in memory, the absence of cues linked to the information makes it hard to locate in the memory network. Additional results align with this minimal-linkage view by (a) suggesting that memories for threatening feedback may be stored separately from other (usually positive) self-knowledge (Pinter, Green, Sedikides, & Gregg, 2011) and (b) illustrating that the mnemic-neglect effect is disrupted (i.e., lost) when the manner in which self-enhancing feedback and self-threatening feedback are processed

during encoding is equalized. This latter effect occurs (a) when participants are placed under cognitive load while encoding feedback items (Zengel, Wells, & Skowronski, 2018) and (b) in participants with high anxiety or high social anxiety, who are chronically vigilant toward self-threatening information (Zengel, Skowronski, Valentiner, & Sedikides, 2015).

## False Memory and Memory Distortion

### *Real-world personal memories*

Individuals sometimes exhibit a positivity bias in their real-world memory distortions. Illustrative studies indicate that (a) students remembered they received more A grades than they had actually earned (i.e., according to transcripts; Bahrick, Hall, & Berger, 1996) and (b) participants were positively biased in their recall of their cholesterol scores and the cardiovascular risk categories into which they were placed (Croyle et al., 2006). Moreover, in the latter study, participants who received the most undesirable test results (and who were presumably the most threatened) were most likely to misremember their medical data.

Gramzow and Willard (2006) proposed that such positively biased memory distortions are especially likely on attributes that are central (as opposed to peripheral) to an individual's self-concept (Gebauer et al., 2013). They further reasoned that grade point averages (GPAs) should be more central to a college student's current working self-concept than SAT scores, which are a part of the student's past. Memory results showed that students indeed exaggerated their GPAs but not their SAT scores. However, when students engaged in a self-affirmation task before recall, they did not exaggerate. A feeling of security dampened the self-protection motive, preventing memory reconstruction processes from contributing to GPA inflation.

As illustrated by the results of a study reported by Wilson, Smith, Ross, and Ross (2004), these memory distortions emerge early in life. They interviewed 40 pairs of siblings about between-siblings disputes. Although siblings described the same episodes, both older (mean age = 7.0 years) and younger (mean age = 4.4 years) siblings ascribed more serious transgressions to their opponents than to themselves.

Some positive distortions may stem from the need to maintain current state positivity. Rodriguez and Strange (2015) tried to induce cognitive dissonance in students by asking them to write an essay supporting large tuition increases. Such manipulations often alter attitudes in the direction of the essays, an outcome that these researchers replicated. However, the researchers added a novel twist: They assessed each participant's

memory for their initial attitude. Rodriguez and Strange hypothesized that, because participants were motivated to minimize the discomfort produced by perceived inconsistency between their important attitudes and actions, they would misremember their initial attitude toward tuition increases as being more positive than it was before the essay. The results were consistent with the hypothesis.

### *False memories in the laboratory*

Some experiments have produced self-serving positive distortions in memory for laboratory-generated stimuli. For example, Fotopoulou, Conway, Solms, Tyrer, and Kopelman (2008) reported memory results from participants who exhibited prior indications of clinical confabulation (i.e., they produced fabricated or distorted memories about themselves or the world without the conscious intention to deceive). These participants read six short stories describing the actions of a protagonist. The stories varied in affective tone: Three were positive, and three were negative. Some participants imagined themselves as the story protagonist, whereas others imagined that the protagonist was another person. The confabulation-prone participants in the self-referent condition remembered the negatively toned stories as being less negative than did other participants. Moreover, analysis revealed that participants who read negative stories in the self-referent condition recalled the stories in a manner that enhanced the positivity of the story protagonists' images.

### **The Fading-Affect Bias**

Remembering a game-winning goal might make a person feel good, and remembering a game-losing error might make a person feel bad. However, findings indicate that the affect associated with pleasant events persists longer than the affect associated with unpleasant events, a phenomenon labeled the *fading-affect bias*. In one illustrative study (Walker, Vogl, & Thompson, 1997), participants kept a diary of daily events for a predetermined period. When recording the events, participants rated each event's pleasantness. During a testing session that occurred after the completion of diary recording, participants rated how each event made them feel when the event was recalled during the testing session. Affect faded from event occurrence to recall, but this fading was smaller for positive events than for negative events. These results have proven to be robust (Skowronski, Walker, Henderson, & Bond, 2014) and have emerged in adults and children alike (Rollins, Gibbons, & Cloude, 2018).

Self-regulatory processes and self-motives likely play key roles in this emergence. Studies linking the self to the fading-affect bias are a case in point. For example, Ritchie et al. (2017) demonstrated that (a) the fading-affect bias emerges in memories for events in an individual's own life but not in memories for events from the lives of others, (b) the fading-affect bias for self-events is accentuated among individuals with favorable self-views, and (c) this self-positivity-linked increase in the fading-affect bias is due to both higher levels of positive affect in the recall of positive events and lower levels of negative affect in the recall of negative events. The latter two results duplicated those from an earlier study (Ritchie, Sedikides, & Skowronski, 2016), which also found that the fading-affect bias was linked to participant perceptions of self-continuity in life across time and to perceptions of high life meaningfulness. Other research pointing to the link between the self and the fading-affect bias indicates that the fading-affect bias is accentuated for events that are perceived to be central to the self (i.e., self-defining), in comparison with events that are seen as peripheral to the self (Ritchie, Skowronski, Cadogan, & Sedikides, 2014; Wood & Conway, 2006).

Work on the link between self-regulation and the fading-affect bias demonstrates that the magnitude of the fading-affect bias is sometimes disrupted in individuals who experience difficulties in self-regulation. These individuals exhibit high levels of (a) dysphoria (Walker, Skowronski, Gibbons, Vogl, & Thompson, 2003), (b) anxiety (Walker, Yancu, & Skowronski, 2014), (c) narcissism (Ritchie, Walker, Marsh, Hart, & Skowronski, 2014), (d) symptoms reflecting an eating disorder (Ritchie, Kitsch, Dromey, & Skowronski, 2019), and (e) inability to identify and express their feelings (alexithymia) or low emotional awareness (Muir, Madill, & Brown, 2017).

## Conclusion

In human memory, is bad stronger than good? Not always—maybe even not usually. Self-motives as well as self-regulatory and cognitive processes linked to those motives can contribute to better memory for, stronger false memories for, and the presence of stronger memory-promoted affect for the good than for the bad.

To be clear, we do not argue that such positivity effects will emerge invariably. Indeed, the evidence already amply attests to the fact that these positivity effects will sometimes not occur or will reverse for certain kinds of people, events, and situations. This variability is sensible. Human memory is linked to an array of influences that operate at many levels—individual, interpersonal, and societal. Sometimes these influences

will promote positivity in memory, and sometimes they will promote negativity. A blanket statement characterizing the dominant trend in human memory as “bad is stronger than good” is likely erroneous. Instead, in human memory, good is often (maybe even usually) stronger than bad and is sometimes so because of the actions of self-motives, along with the self-regulatory and cognitive processes that are linked to those motives.

## Recommended Reading

- Sedikides, C. (2018). (See References). An overview of research on self-protection and self-enhancement.
- Sedikides, C., Green, J. D., Saunders, J., Skowronski, J. J., & Zengel, B. (2016). (See References). A comprehensive literature review on the mnemonic-neglect effect.
- Skowronski, J. J., Walker, W. R., Henderson, D. X., & Bond, G. D. (2014). (See References). A comprehensive literature review on the fading-affect bias.
- Stanley, M. L., & De Brigard, F. (2019). (See References). An illustration of the interplay between self-positivity and memory.
- Zengel, B., Wells, B. M., & Skowronski, J. J. (2018). (See References). The most recent investigation of the mnemonic-neglect effect.

## Transparency


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## ORCID iD

Constantine Sedikides  <https://orcid.org/0000-0002-7563-306X>

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