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Life Is Pleasant—and Memory Helps to Keep It That Way!

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People's recollections of the past are often positively biased. This bias has 2 causes. The 1st cause lies in people's perceptions of events. The authors review the results of several studies and present several new comparative analyses of these studies, all of which indicate that people perceive events in their lives to more often be pleasant than unpleasant. A 2nd cause is the *fading affect bias*: The affect associated with unpleasant events fades faster than the affect associated with pleasant events. The authors review the results of several studies documenting this bias and present evidence indicating that dysphoria (mild depression) disrupts such bias. Taken together, this evidence suggests that autobiographical memory represents an important exception to the theoretical claim that bad is stronger than good.

In surveys of subjective well-being conducted around the world, and with only a very few exceptions (countries in extreme poverty), people generally report that they are happy with their lives. In the United States, this positive feeling of well-being is certainly widespread: It is found in people with physical disabilities, people with mental disabilities, individuals with low incomes, and members of minority groups (e.g., Diener & Diener, 1996; Lykken & Tellegen, 1996).

Studies of autobiographical memory suggest at least two important sources for this feeling of well-being. First, much research indicates that the events from people's autobiographies are more often perceived to be pleasant than unpleasant. Second, much research that examines how positive and negative emotions fade over time suggests that this fading is not uniform. Specifically, the emotion associated with pleasant events decreases in intensity less than the emotion associated with unpleasant events (an outcome referred to here as the *fading affect bias* or *fading affect*).

An important caveat needs to be added to these statements: Not everyone may show these effects. For example, mildly depressed people may perceive their lives to be more negative than the lives of others. This article also examines the relation between mild depression (dysphoria) and the fading affect bias. Although possible relations between dysphoria and memory can be discussed at length, we use this research to underscore the general theme of our article: Autobiographical memory is usually biased in favor of pleasant information.

Life Is Pleasant: Pleasant Events Outnumber Unpleasant Events

The first piece of evidence that suggests that life is pleasant comes from research on happiness. Chwalisz, Diener, and Gallagher (1988) compared the happiness levels of normal, healthy students with the happiness levels of students who were wheelchair users as a result of spinal injuries. If a bias for happiness were to exist in any special population, one would suspect that individuals who had been severely disabled would *not* show this bias. Surprisingly, both healthy and disabled participants reported

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that they were happy 50% of the time, unhappy 22% of the time, and in a neutral mood 28% of the time.

The positivity bias obtained with measures of mood may not extend to the affective content of personal events. Waldfogel (1948) conducted one of the first studies that investigated the affective content of autobiographical memory. In a retrospective memory study, participants were given 85 min to write down all of the events they could remember from the first 8 years of their childhood. Later, they were asked to give several ratings of these events, including whether each event was pleasant, unpleasant, or neutral. If the positivity bias for mood found by Chwalisz and her colleagues was a mood phenomenon, then the positivity bias should disappear when the relative frequencies of positive and negative memories are compared. It did not. Waldfogel's participants rated about 50% of their events as pleasant, about 30% as unpleasant, and about 20% as neutral.

A critic would be correct to point out that Waldfogel's findings could have alternative explanations. One explanation is that participants in a standard recall task might be responding to subtle environmental cues that might trigger more pleasant memories than unpleasant memories. This concern was addressed in a study in which a sensory deprivation chamber was used. In one of their experiments, Suedfeld and Eich (1995) had 24 participants spend 1 hr in a sensory deprivation chamber. At the end of the hour, while still floating in the chamber, participants were asked to recall 12 memories and to make several ratings for each memory. If the bias in favor of pleasant events is caused by environmental cues, then sensory deprivation should eliminate that bias. It did not. Participants rated their recalled events as being pleasant (66%) more often than unpleasant (33%).

Another criticism that could be lodged against the bias in favor of pleasant events is that the Waldfogel (1948) and Suedfeld and Eich (1995) data came from events that were voluntarily recalled by participants. This argument can be countered by examining the affective content of involuntary memories (memories that come to mind unbidden). Berntsen (1996) used a diary procedure in which Danish participants were asked to record their involuntary memories as they occurred. Participants recorded a brief description of each memory and the situation in which it came to mind. Berntsen's data showed that these involuntary memories were often triggered by stimuli in the immediate surroundings. If the bias for pleasant information is caused by a voluntary search for positive memories, then sampling involuntary memories should eliminate this bias. It did not. Consistent with the results of the Waldfogel and Suedfeld and Eich studies, the memories recorded in Berntsen's study were positively biased: 49% of the events were positive, 32% were neutral, and 19% were negative.

Although the results of these studies are suggestive, they also are potentially tainted by retrospective memory biases. A source of data that bypasses this difficulty comes from diary studies of memory (Thompson, Skowronski, Larsen, & Betz, 1996). Participants in the Thompson et al. studies usually recorded one event each day and were told to record only unique events. Event recording typically spanned an academic term. However, 6 participants kept diaries for periods ranging from 1.5 to 2.5 years. When participants recorded each event, they also rated the event's pleasantness (among other ratings). Hence, a person's perception of the pleasantness or unpleasantness of each event at the time it happened is exactly known. Across eight studies, these data sets included a total of 229 participants and a total of 23,202 diary entries. Data comprised a variety of participants, including participants of different racial and ethnic backgrounds and participants who ranged in age from late teens to early 50s. If the positivity bias obtained in the previous studies was the result of a retrospective bias, then the use of a diary methodology should eliminate the bias. It did not. The results presented in Table 1 are clear: Every study yielded more pleasant than unpleasant events.

One might argue that this conclusion is suspect because participants engage in self-editing of event entries, causing positive events to be overrepresented in the diaries. There are at least two reasons to discount this concern. The first has to do with the nature of instructions provided to participants. Participants were explicitly told to try to record events such that the diaries would contain as many different combinations of these ratings as possible. If participants drew any conclusions about the kinds of events that should be recorded, it would likely be to record equal numbers of pleasant and

Table 1
Percentages of Events Initially Rated as Pleasant, Unpleasant, and Neutral From Eight Data Sets of Autobiographical Memory (Thompson et al., 1996)

Data set	*N*	No. of events	Pleasant	Neutral	Unpleasant
1980–1981	30	2,787	62.5	18.0	19.5
1983	19	1,751	61.9	8.9	29.2
1986	35	2,745	69.5	6.3	24.3
1987	43	3,621	67.6	4.1	28.3
1989	33	2,973	52.9	17.9	29.1
1991	25	2,303	47.4	22.2	30.4
1992	38	3,332	56.4	16.6	27.0
Longitudinal	6	3,690	57.8	23.8	18.4
Total	229	23,202	59.5[a]	14.7[a]	25.8[a]

[a] Mean value.

unpleasant events. The second reason to discount the self-editing concern lies in the diary entries themselves. If self-editing were widespread in these studies, one might suspect that relatively few diary entries would deal with very personal (and sometimes troubling) life events. Participants routinely included diary entries that described the intimate details of some extremely unpleasant events (e.g., deaths or romantic troubles). If participants were trying to selectively edit their diaries, these events would be likely candidates for such editing.

Figure 1 presents a summary of all of the studies discussed thus far (in order: Chwalisz et al., 1988; Waldfogel, 1948; Suedfeld & Eich, 1995; Berntsen, 1996; Thompson et al., 1996). A similar picture emerges in all of these studies: 50% or more of the events or estimates are rated as pleasant, whereas roughly 25% are rated as unpleasant. We argue that it is the relative weight of positive and negative events that gives life its affective tone. As demonstrated by estimates of global happiness and ratings of life events, most people perceive life to be pleasant more often than they perceive life to be unpleasant.

Why do pleasant events outnumber unpleasant events? We propose a simple answer: People seek out positive experiences and avoid negative ones. This truth is so basic that it is implied in many psychological theories of memory (Taylor, 1991), personality (Freud, 1920/1952), and cognition (Festinger, 1957) as well as in other areas too numerous to mention. Higgins (1997) described this basic motivation in terms of two simple hedonic principles: promotion focus and prevention focus. The former refers to the motivation to promote self-interests such as pleasure, whereas the latter refers to the motivation to prevent hardship. Thus, the content of autobiographical memory reflects the tendency for people to seek out pleasant life experiences.

Memory Keeps Life Pleasant: Negative Affect Fades Faster Than Positive Affect

If most life events are perceived to be pleasant, how might the pleasantness of an event

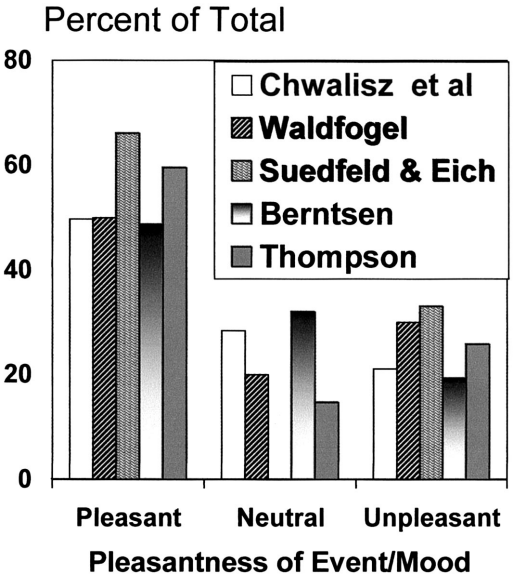

Figure 1. Percentages of pleasant, neutral, and unpleasant events–moods from the studies of Chwalisz et al. (1988), Waldfogel (1948), Suedfeld and Eich (1995), Berntsen (1996), and Thompson et al. (1996).

change once it is incorporated into a person's autobiography? One theory relevant to this question is Taylor's (1991) mobilization-minimization hypothesis. This theory fits with the notion that the suppression of negative affect is a healthy coping mechanism. According to this hypothesis, when a person experiences a negative event, two sets of mechanisms are activated. The first mechanism is the mobilization of resources: The theory postulates that when a negative event occurs, people will strongly mobilize their biological, psychological, and social resources to cope with the immediate consequences of the event. Such high levels of mobilization are usually not necessary with a positive event. The second mechanism is minimization. To return to a state of homeostasis, people activate opponent processes with the goal of minimizing the impact of the event. Minimization occurs biologically, cognitively, and socially, and minimization is usually stronger for negative events than for positive events. This implies that there is a tendency to "deaden" the emotional impact of negative events relative to the impact of positive events. Such deadening occurs directly because people are motivated to view their life events in a relatively positive light.

Several studies provide support for this proposition. In an early study of autobiographical memory (Cason, 1932), participants described between three and eight emotional memories from the previous week and were asked to rate how they felt about each memory on an 11-point scale. They then made similar judgments 3 weeks after recording the events. Cason found that the feelings associated with all events became weaker over time. This weakening was larger for unpleasant events than for pleasant events (the fading affect bias).

Holmes (1970) suggested that this differential rate of fading affect across time might be responsible for the fact that positive events tend to be better remembered than negative events (Matlin & Stang, 1978; Robinson, 1980; Thompson et al., 1996). Holmes asked participants to record pleasant and unpleasant events for a 1-week retention interval and assessed the affect associated with the events. Replicating Cason's results, Holmes found that initially unpleasant events faded in emotional intensity more than initially pleasant events. However, pleasant events were not recalled better than unpleasant events.

Suedfeld and Eich's (1995) sensory deprivation chamber study also yielded data relevant to the fading affect bias. After exposing participants to a period of sensory deprivation, Suedfeld and Eich presented 12 common, emotionally neutral probe words and asked the participants to recall memories in response to those words. Participants were also asked to rate the intensity of the event at the time the event occurred and at the time of event recall on a 9-point scale ranging from *neutral* (1) to *extremely intense* (9). Events were rated as being more intense at the time of occurrence ($M = 5.76$) than at the time of recall ($M = 3.92$). Although Suedfeld and Eich did not directly compare the fading of affective intensity for pleasant and unpleasant events, they reported that the average current pleasantness rating of events was slightly positive (0.17 on a scale ranging from -1 to 1), a finding that would be expected if negative affect faded more than positive affect.

Walker, Vogl, and Thompson (1997) examined the relation between the positivity bias in memory and the fading affect bias using a diary methodology. In three studies, participants were asked to record unique daily events for some period of time and were tested on their diary contents after a retention interval (3.5 months in Experiment 1, 1 year in Experiment 2, and 4.5 years in Experiment 3). Participants recorded the pleasantness of each event when the event occurred and later recorded how the event made them feel at recall. These ratings were made on a 7-point scale ranging from –3 (*extremely unpleasant*) to 3 (*extremely pleasant*), with 0 being neutral. The data from that study are depicted in Figure 2 and replicate the results reported by Cason and Holmes: The affective intensity of events fades with time, and intensity fades more for negative events than for positive events.

The fading affect bias is likely not due to a retrospective distortion of the initial event affect in memory (e.g., Conway & Ross, 1984; Ross, 1997). The Walker et al. (1997) research methodologically eliminated the possibility of such a bias through the use of a diary procedure in which ratings of event affect were obtained at the time of the event. The ratings of initial affective intensity for positive and negative

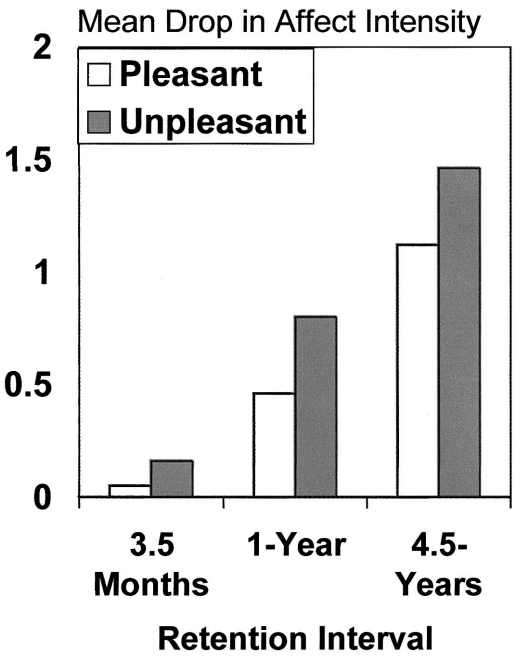

Figure 2. Mean decreases in emotional intensity for pleasant and unpleasant events at three retention intervals: 3.5 months, 1 year, and 4.5 years (data from Walker et al., 1997).

events were equivalent, a finding that confirms the view that fading affect bias represents genuine emotional fading. Rather than viewing the fading affect bias as a retrospective error in memory, we argue that the fading affect bias represents evidence of healthy coping processes operating in memory. Research on affective forecasting suggests that people often overlook the effectiveness of these coping processes. This research shows that people routinely overestimate the long-term emotional impact of negative events (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000).

The findings that people perceive life events as generally pleasant and that pleasant emotions fade more slowly than unpleasant emotions suggest that our memory system does not treat negative and positive affect equally. Not only do positive life events outnumber negative life events, the affect of these events in memory fades differentially. This differential fading of affect gives rememberers a heightened sense of positivity when remembering their life events. Such findings are consistent with what some researchers refer to as "the psychological immune system," a system that helps to dampen the effects of negativity (e.g., Gilbert et al., 1998).

Some Exceptions to the Rule

Is life pleasant for everyone? Certainly, there are individual differences in the proportions of negative and positive events that people enter into their diaries. In every data set but one (the six long-term diaries), there were a few participants who reported more unpleasant than pleasant events. All together, 17 of the 229 participants reported that negative pattern. This suggests that life is not perceived to be pleasant by everyone. Researchers interested in depression have already reached this conclusion, pointing out that depressed people experience a pervasive sense of hopelessness that stems from their tendency to focus on negative events and to attribute such events to themselves (e.g., Abramson, Metalsky, & Alloy, 1989).

Similarly, does the fading affect bias hold true for everyone? One possibility is that individuals who are dysphoric (mildly depressed) might show a different bias than those who are nondysphoric (or no bias at all). This suspicion was induced by the results of research examining the relation between mild depression and autobiographical memory that show that memory is often less detailed (e.g., Williams & Broadbent, 1986; Williams & Scott, 1988) and more negative (e.g., Lloyd & Lishman, 1975; Seidlitz, Wyer, & Diener, 1997; Williams & Scott, 1988).

Walker, Skowronski, Gibbons, Vogl, and Thompson (in press) investigated the effects of dysphoria on the fading affect bias. In Experiment 1, 65 participants recalled six emotionally intense memories from their lives and provided a series of ratings for each event. Participants rated the pleasantness or unpleasantness of each event at the time of event occurrence and also rated the affect experienced when they recalled the event. Participants also completed the Beck Depression Inventory and, according to the guidelines of Beck and Steer (1987), were classified as either dysphoric (19 participants) or nondysphoric (46 participants). Figure 3 presents mean decreases in affective intensity for pleasant and unpleasant events among dyspho-

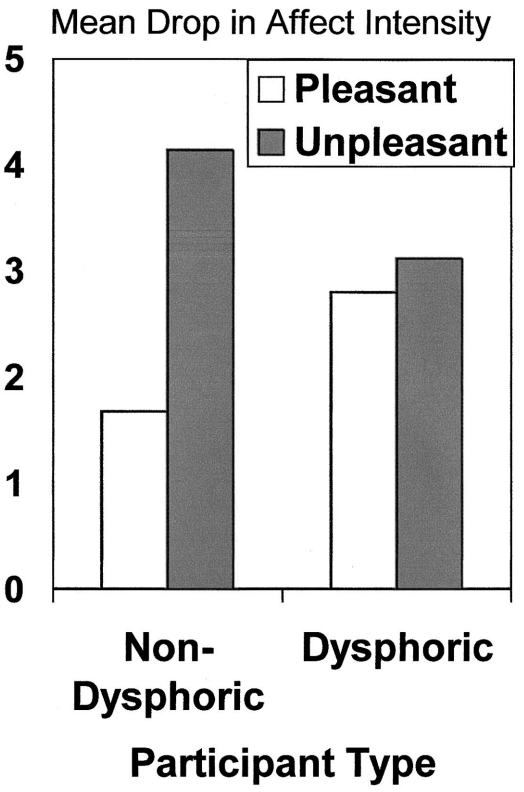

Figure 3. Mean decreases in emotional intensity for pleasant and unpleasant events among dysphoric and nondysphoric participants (data from Walker et al., in press).

ric and nondysphoric participants. Among nondysphoric participants, the usual fading affect bias emerged: Unpleasant emotions faded more than pleasant emotions. Among dysphoric participants, unpleasant and pleasant emotions faded evenly. Dysphoria disrupted the fading affect bias. Experiment 2 replicated and extended the findings of Experiment 1 with a much larger and diverse sample including 337 participants from three different student populations: students at a historically Black university, students at a primarily commuter campus, and students at a traditional university. The results were essentially the same for all three samples: Increased levels of dysphoria were associated with a greater disruption of the fading affect bias. These results underscore the general premise of this article: Autobiographical memory is generally biased in favor of pleasantness, but this bias can be disrupted.

Good Can Be Stronger Than Bad

In a sweeping review of the literature, Baumeister, Bratslavsky, Finkenauer, and Vohs (2001) proclaimed that "bad is stronger than good." We agree that this claim is well supported in many domains of research. Negative stimuli often evince powerful reactions that can be difficult to ignore or surmount. This makes sense, particularly from an evolutionary perspective, because stimuli that provoke negative reactions are often dangerous (see Öhman, Flykt, & Esteves, 2001).

However, the data presented in this article suggest that autobiographical memory provides at least one substantial limitation to this claim. Two ways to assess the relative strength of positive and negative events are to look at the frequency of those events and to look at the durability of the affect associated with them. In both of these tests, negative events fall short: Positive events outnumber negative events, and positive affect outlasts negative affect. Some might argue that the real strength of negative events can be seen by the strong reactions that people have to such events. This argument is flawed because it fails to recognize that such reactions have a shared purpose, to return the individual to a state of positivity. When one recognizes this simple fact, Baumeister et al.'s argument becomes absurd. If negative events were truly strong, then they should routinely overpower efforts to minimize them. They do not. In short, *good can be stronger than bad.*

Good emotional coping skills are the norm rather than the exception. The benefits of good emotional coping skills seem readily apparent. Individuals who are able to effectively draw upon social support in good and bad times are more likely to overcome obstacles and to revel in life's delights (Pennebaker, 1997). In fact, good emotional coping skills may even lead to a longer life. Danner, Snowdon, and Friesen (2001) analyzed the handwritten diaries of 180 Catholic nuns that were composed relatively early in life (M age = 22 years). Diary entries were scored for emotional content, and this was used to predict survival during the ages of 75 to 95 years. A strong relation was found between positive emotional content and survivability: Positive emotions experienced early in life predicted longevity more than 60 years later.

The findings presented here suggest that bad is not always stronger than good. Instead, the data that we have reviewed suggest that most people perceive their lives to more often be positive than negative and that the negative emotions that are associated with bad events tend to fade over time, whereas the positive emotions associated with good events tend to persist. Together, these biases allow people to cope with tragedies, celebrate joyful moments, and look forward to tomorrow.

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