

## BRIEF REPORTS

# Memories of Yesterday's Emotions: Does the Valence of Experience Affect the Memory-Experience Gap?

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Intense pain is often exaggerated in retrospective evaluations, indicating a possible divergence between experience and memory. However, little is known regarding how people retrospectively evaluate experiences with both pleasant and unpleasant aspects. The Day Reconstruction Method (DRM; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004b) provides a unique opportunity to examine memory-experience gaps in recollections of individual days, which elicit a wide gamut of emotions. We asked female participants ( $N = 810$ , Study 1, and  $N = 615$ , Study 2) to reconstruct episodes of the previous day using the DRM and demonstrated that memory and experience diverge for both pleasant and unpleasant emotions. When they rated their day overall in a retrospectively evaluative frame of mind, the participants recalled more unpleasant and pleasant emotions than they reported feeling during the individual episodes, with a larger gap for unpleasant emotions than for pleasant emotions. The findings suggest that separate processes are used for committing positive and negative events to memory and that, especially when unpleasant emotions are involved, prudence is favored over accuracy.

*Keywords:* memory-experience gap, recall, retrospective evaluation, peak-end rule, negativity bias

“Experiences are fleeting [whereas] memories are what we get to keep from our experience” (Kahneman & Riis, 2005, p. 286). Discrepancies between memory and experience (referred to hereafter as the memory-experience gap) have been documented for both short (Hsee & Hastie, 2006) and extended experiences (Wirtz, Kruger, Scollon, & Diener, 2003). Yet the distinction between pleasant and unpleasant emotions (Isen, 1999), together with the view that they are not merely opposites, calls for a subtler exploration of the memory-experience gap. Our study extends the literature on this gap by examining whether evaluative and experiential ratings of pleasant and unpleasant emotions diverge systematically. We discuss evidence for the memory-experience gap and then turn to how positive and negative affect may be differentially impacted by memory processes, which could lead to different gap predictions for the two affect types.

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We acknowledge support from the Center for Health and Wellbeing, Princeton University. We thank Mary Himmelstein, Amy Krilla, Janie Qi, and Shimon Saphire-Bernstein for excellent assistance.

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### The Memory-Experience Gap

The *memory-experience gap* is defined as a discrepancy between the average of experienced emotions and the overall evaluation of the experience, which is usually more intense than the averaged emotions. The gap has been demonstrated in people's ratings of various experiences, ranging from vacations (Kemp, Burt, & Furneaux, 2008; Wirtz et al., 2003) to episodes of pain (Broderick, Stone, Calvanese, Schwartz, & Turk, 2006; Stone, Schwartz, Broderick, & Shiffman, 2005), but the focus has generally been on one specific emotion at a time.

Some of the better known examples of the memory-experience gap surfaced from studies by Kahneman and colleagues (Kahneman, Fredrickson, Schreiber, & Redelmeier, 1993; Redelmeier & Kahneman, 1996; Redelmeier, Katz, & Kahneman, 2003). They found that retrospective evaluations were strongly associated with the worst pain experienced during a given event. These evaluations were also based in part on the pain experienced near the end of the event. Such a pattern is called the *peak-end rule*. This rule has been studied extensively with pain, a negative subjective experience, both in experimental settings (Kahneman et al., 1993) and in the context of medical procedures such as colonoscopy (Redelmeier et al., 2003) and lithotripsy (Redelmeier & Kahneman, 1996).

Several plausible rationales have been proposed for the memory-experience gap: the salience memory heuristic (Stone et al., 2005), the self- and goal-relevance of the task (Singer & Salovey, 1991), peak coding (Fredrickson & Kahneman, 1993), personal theories of an event (McFarland, Ross, & DeCourville,

1989), and associative networks (Ingram, 1984). All of these theories posit ways in which memories of an experience could be distorted relative to the experience itself.

Stone et al. (2005) suggested that a salience memory heuristic leads to an overreliance of memory on prominent instances, thereby ignoring less noticeable events. Memory-experience gaps would result, as the average of experienced emotions will inevitably diverge from the amplified emotionality experienced during single instances. The researchers studied this effect in chronic pain patients with rheumatologic conditions who rated their pain in an ongoing manner and in retrospect. Patients exhibited memory-experience gaps that widened with greater variance in the patient's experience of pain.

Previous research has found a link between a person's recollection of an event and his or her theory on the event. Memory-experience gaps in the context of menstrual symptoms, for example, have been shown to correlate with a woman's beliefs about her typical menstrual distress; those who expect great distress tend to exaggerate symptoms on recall (McFarland et al., 1989). Theories can also bring about a "rosy view," a tendency to recall events more favorably afterward than when they occurred (e.g., a bicycle trip to California; Mitchell, Thompson, Peterson, & Cronk, 1997, Study 3; likewise a spring break; Wirtz et al., 2003). These retrospective evaluations are based in part on anticipations or theories, with a biker's fond view of an arduous journey shaping such a perception.

Finally, Forgas's (1995) Affect Infusion Model suggests that extensive processing of information (as opposed, e.g., to direct access or a mere reproduction of the existing cognitive representation of an event) increases the influence of specific and local emotions on subsequent measures of overall affect. This implies that a memory-experience gap will emerge, though the model does not help differentiate between pleasant and unpleasant emotions. On the other hand, there exists Baumeister, Bratslavsky, Finkelauer, and Vohs's (2001) premise that bad trumps good, and Rozin and Royzman's (2001) premise that negativity dominance exists, such that combinations of positive and negative entities yield evaluations that are more negative than the algebraic sum of individual subjective valences would predict. From these premises follow that negative events will have stronger impact than positive ones and create a larger memory-experience gap.

### Is the Memory-Experience Gap Equivalent for Positive and Negative Affect?

To date, no investigations have directly compared the memory-experience gap for positive and negative emotions. We propose that the gap may not be identical for differentially valenced emotions. Our rationale for this hypothesis is twofold: (a) Positive and negative affect are not mere opposites. Rather, they have different effects on cognition, memory, and motivation (Isen, 1999). Reanalyzed data from previous mood studies show that positive and negative affect emerge consistently, regardless of the descriptors that are used (Watson & Tellegen, 1985). Such a trend has also been investigated in the PANAS scales (Positive Affect Negative Affect Schedule; Watson, Clark, & Tellegen, 1988). Moreover, (b) negative stimuli, like those from traumatic events and unfavorable feedback, impact the experiencing person more powerfully than do positive events (Baumeister et al., 2001; Miron-Shatz, 2009). Hence, we examined and compared the extent to which the gap exists for both positive and negative emotions. Below, we describe theories on why the memory-

experience gap exists and attempt to relate them to the discrepancy between positive and negative affect.

### Study Overview, Hypotheses, and a Research Question

The present study examined whether the memory-experience gap exists in positive and negative emotions. Participants used the Day Reconstruction Method (DRM; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004a, 2004b) to record their experiences throughout episodes of the previous day. The dependent variable in this study is the gap between the daily average of emotion ratings in individual episodes and the recalled rating of the day (the memory-experience gap). The DRM is designed to reduce recall biases by eliciting a careful reconstruction of episodes. Its instructions encouraged participants to relive each episode in detail—their activities, whom they interacted with, and their feelings. This procedure aims to evoke one's contextual experience, as opposed to the semantic and decontextualized way of remembering that involves one's preconceived notions about emotions (Robinson & Clore, 2002). The DRM replicates affective patterns obtained with methodologies that capture experiences in real time (Stone et al., 2006), supporting the validity of DRM episode affective ratings as representative of the actual experience.

Hypothesis 1 predicts that there is a memory-experience gap for both unpleasant and pleasant emotions. We predicted that overall daily ratings would be consistently higher than ratings of experience in individual episodes throughout the day. Thus, when asked to rate their day overall, women will report being angrier, happier, and friendlier than their average episode ratings suggest.

Hypothesis 2 claims that the memory-experience gap will be larger for unpleasant emotions than for pleasant ones because negative features of each situation would receive greater emphasis than positive ones in the recalled ratings of the day.

A secondary research question concerns the use of the DRM and whether the timing of the overall evaluation—done either before or after the experiential ratings—would affect the memory-experience gap. Hastie and Park (1986) proposed that, once a judgment is formed, encoding and retrieval may be directed by a search for evidence supporting the judgment. This notion would suggest that, were the overall evaluation to be done prior to the experiential ones, the memory-experience gap would subside.

Study 1 examined the hypotheses using a version of the DRM in which emotion ratings of episodes precede the overall ratings of how one felt during the day. To explore the possibility of an order effect on the memory-experience gap in retrospective evaluations, overall evaluations of the day were collected before the episode ratings in Study 2.

### Study 1

#### Method

**Participants.** A survey company (Austin Trends, Inc.) used random-digit dialing to recruit 810 women from Columbus, Ohio, to answer a questionnaire at a conference center. The women's mean age was 42.30 years ( $SD = 10.94$ ); the majority were married or cohabiting (69.9%), and 74.7% had a paying job, either full or part time. The median household income was \$60,001 to \$70,000. All participants spoke English at home.

**DRM.** The participants followed the DRM protocol (Kahneman et al., 2004a, 2004b), which is designed to capture experien-

tial ratings of episodes throughout the day, as well as emotional ratings of the day overall.

**PANAS.** The overall daily Pleasant and Unpleasant Emotions scales were constructed by averaging the episode-based daily ratings of the pleasant emotions (“happy” and “friendly”) and the unpleasant emotions (“angry,” “tense,” and “depressed”), respectively. The average, standard deviations, and alpha for each scale are listed in Table 1.

**Procedure.** The participants arrived at a conference center where they filled out a survey. Participants first responded to satisfaction (“How satisfied are you with your life as a whole these days?”) and demographic questions. Next, participants were asked to reconstruct the previous day by sorting their activities into episodes lasting from 20 min to 2 hr; they were free to list as many as desired. They completed a brief summary of each episode that encompassed episode name, beginning time, ending time, and short descriptions of the episode. Participants then responded to questions about each episode, including the nature of the activity (e.g., commuting), people involved (e.g., alone, with coworkers), and the extent to which they experienced various feelings: friendly, happy, competent, interested, calm, angry, tense, depressed, tired or impatient for it to end, on a scale ranging from 0 (*not at all*) to 6 (*very much*). Next, overall daily ratings for each emotion were assessed by asking the respondent, “Overall, how did you feel yesterday?” Participants rated the extent to which each emotion was experienced the previous day using the same emotion scale described above ranging from 0 (*not at all*) to 6 (*very strongly*).

**DRM-based emotional ratings of episodes.** Episode-based daily experience scores for each emotion were calculated by multiplying the emotion’s rating in each episode by the proportion of one’s waking hours the episode occupied and adding these products. The average, standard deviations, and alpha for each scale are listed in Table 1.

The primary variables of interest were based on the differences between ratings of episodes and of the entire day. Variables were created for each emotion, and the gap was defined by subtracting the episode-based experience rating of a given emotion from the overall daily evaluation for that emotion. Variables were also created for each scale: The gap for the Pleasant Emotions scale was generated by subtracting the episode-based Pleasant Emotions scale from the overall daily Pleasant Emotions scale, and the same was done for the Unpleasant Emotions scale. For all of these variables, a positive score means that the overall daily evaluation

was higher than episode-based ratings, and a zero score indicates no difference.

## Results and Discussion

We start by presenting descriptive information of our data to illustrate the nature of our participants’ reports. Numbers of episodes ranged from one to 27 ( $M = 13.29$ ,  $SD = 4.87$ ), with the average day lasting 15.29 waking hours ( $SD = 2.73$ ). Most participants (63%) reported on a weekday. Additional descriptive statistics on episodes, including mean episodes spent alone, most time-consuming activities, and most common activities, can be found in Table 2).

### Hypothesis 1

To assess the prediction that overall daily ratings of emotions would be higher than those based on episodes, we examined the memory-experience gaps for each emotion on the Pleasant and Unpleasant Emotions scales. As displayed in Table 3,  $t$  tests confirmed our first hypothesis that the value of the memory-experience gap was positive for all individual emotions and the scale scores.

Table 3 lists the means and standard deviations of the gaps for specific emotions and for the Pleasant and Unpleasant Emotions scales as well as the proportion of participants for whom the gap was positive. Figure 1 presents the distribution of the memory-experience gaps according to their size and valence.

We display this proportion to show that 70% of the participants had a Pleasant Emotions scale gap, and 71% had an Unpleasant Emotions scale gap. This indicates that memory-experience gaps exist beyond pain ratings and are present in the evaluation of a whole day, which can be viewed as an extended stretch of time comprised of multiple episodes.

### Hypothesis 2

We tested the hypothesis that the memory-experience gap is larger for unpleasant emotions than for pleasant ones. A paired samples  $t$  test indicated that the gap was significantly larger for the Unpleasant Emotions scale ( $M = .41$ ,  $SD = .72$ ) than for the Pleasant Emotions scale ( $M = .28$ ,  $SD = .61$ ),  $t(805) = 3.73$ ,  $p < .001$ .

Table 1  
Scale Characteristics

Scale	Study 1			Study 2		
	$M$	$SD$	$\alpha$	$M$	$SD$	$\alpha$
Pleasant emotion: Experienced	4.05	1.11	.87	4.10	1.07	.86
Unpleasant emotion: Experienced	1.09	0.94	.86	1.35	1.10	.87
Pleasant emotion: Recalled	4.46	1.19	.83	4.34	1.28	.79
Unpleasant emotion: Recalled	1.53	1.36	.83	2.27	1.28	.75
Memory-experience gap: Pleasant emotions	0.39	0.73	.58	0.25	1.11	.69
Memory-experience gap: Unpleasant emotions	0.45	0.81	.66	0.92	1.15	.66

*Note.* Pleasant refers to aggregates of “friendly” and “happy.” Unpleasant refers to aggregates of “tense,” “angry,” and “depressed.”

Table 2  
Descriptive Statistics for Episodes

Variable	Study 1		Study 2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total episodes	13.29 <sup>a</sup>	4.87	12.59 <sup>b</sup>	4.73
Episodes spent alone	3.47	2.98	3.47	3.09
Length of day (in minutes)	917.12	164.25	882.46	182.88
Most time consuming activities (in minutes)				
Work	95.15	72.62	101.13	75.49
Sleep/resting	91.34	94.91	89.75	68.67
Watching television	90.07	68.56	91.02	65.56
Reading	85.18	57.99	89.46	63.71
Relaxing	84.67	72.31	88.48	64.22
	%	<i>n</i>	%	<i>n</i>
Most common activities				
Talking to noncoworkers	93.1	754	91.5	562
Eating	90.4	732	89.6	550
Grooming	87.2	706	84.7	520
Watching television	86.3	699	80.0	491
Commuting	76.2	617	80.1	492
Total weekdays	63.0	510	67.6	415
Total weekends	37.0	300	32.4	199

<sup>a</sup> No. of episodes ranged from one to 27. Extreme values included one episode (2 participants), two episodes (5 participants), 24 episodes (5 participants), 25 episodes (1 participant), and 27 episodes (3 participants), when these values were excluded. *M* episodes = 13.32 (*SD* = 4.69). <sup>b</sup> No. of episodes ranged from two to 27. Extreme values included two episodes (3 participants) and 27 episodes (1 participant, when these values were excluded. *M* episodes = 12.62 (*SD* = 4.65).

### Summary

Study 1 confirmed the hypothesis that there are memory-experience gaps in positive and negative emotions. It also supported the hypothesis that the memory-experience gap would be more pronounced for unpleasant emotions. A potential problem in interpreting the results of this study lies in the fact that participants completed ratings of experienced emotions during the individual episodes immediately before providing their overall emotion ratings of the day. Thus, they might have weighed their episode experiences more heavily when considering the overall rating than they would otherwise

have done. Priming—whereby initial exposure to a concept subconsciously affects people's subsequent judgments and choices—may constitute the underlying mechanism for this effect (e.g., Fox & Rottenstreich, 2003; Shariff & Norenzayan, 2007). This phenomenon would result in an inflated memory-experience gap.

### Study 2

Study 2 was designed to examine whether the results of Study 1 would persist despite a change in procedure, as predicted by Hastie and Park (1986) and Forgas (1995). Hastie and Park

Table 3  
Memory-Experience Gaps for Studies 1 and 2

Variable	Study 1			Study 2		
	<i>M</i> of gap	<i>SD</i>	<i>t</i>	<i>M</i> of gap	<i>SD</i>	<i>t</i>
Unpleasant emotions						
Happy	0.30	0.83	10.27**	0.13	1.21	2.66*
Friendly	0.48	0.90	15.36**	0.36	1.32	6.78**
Pleasant scale	0.39	0.73	15.28**	0.25	1.11	5.50**
Unpleasant emotions						
Tense	0.53	1.20	12.49**	1.37	1.55	21.94**
Depressed	0.27	0.83	9.13**	0.57	1.34	10.57**
Angry	0.53	1.06	14.20**	0.81	1.59	12.60**
Unpleasant scale	0.45	0.81	15.64**	0.92	1.15	19.67**

*Note.* The *t* values are from a paired-samples *t* test of the difference between overall ratings and mean duration-weighted ratings for each emotion. Significant *t* values indicates that overall ratings for the day were significantly different from the mean duration-weighted ratings.

\*  $p < .01$ . \*\*  $p < .001$ .

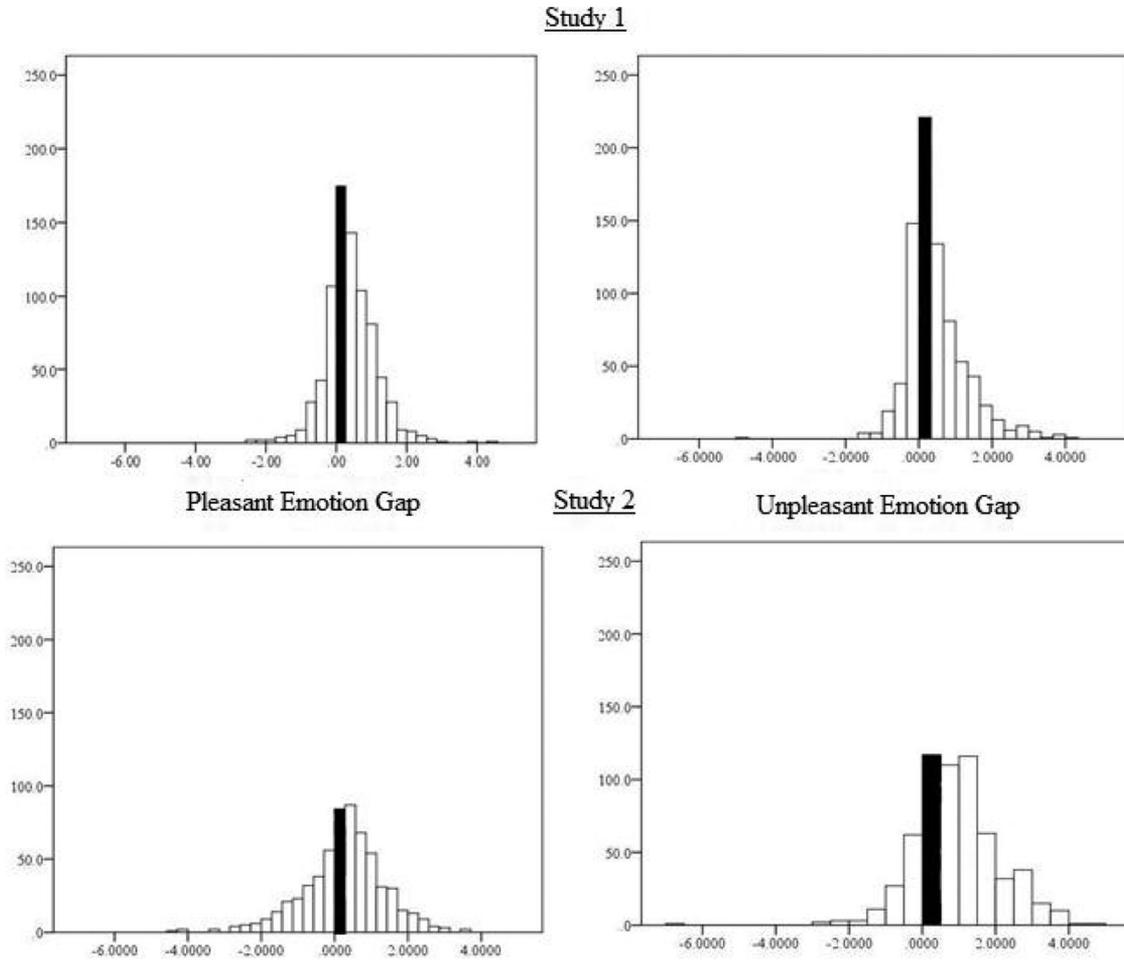


Figure 1. A histogram of the frequency and size of memory-experience gaps. The blackened bar marks the number of participants for whom the memory-experience gap was zero.

challenged the notion that judgments are dictated by memories. They proposed that order matters, so that once judgment is formed, for example, by saying, “This was a good day,” memories will be retrieved to support this judgment. Their work suggested that when judgment precedes memory retrieval, the memory-experience gap should be reduced. Forgas also argued that the association between memory and evaluation is not straightforward. His model elaborates on how deliberation of local emotional events affects overall evaluations. The prediction here is that if the person initially produces an overall evaluation, rather than contemplate local, highly affective incidents, there will be less room for extensive processing of these local events, thereby reducing the memory-experience gap. Thus, although order was not the primary focus of this inquiry, we conducted Study 2 to examine whether our results regarding the existence of the memory-experience gap and the greater gap of unpleasant affect versus pleasant affect hold regardless of the procedural variation.

#### Method

**Materials.** We used the same DRM questionnaires as in Study 1, except in Study 2, the survey opened by asking the participants

to rate how they felt overall during the previous day; afterward, respondents listed and described the specific episodes.

**Participants.** The participants consisted of 615 women from Austin, Texas. Their mean age was 42.00 years ( $SD = 10.46$ ). Most women (56.4%) were married or cohabiting, and 92.4% had a paying job, either full or part time. The median household income was \$50,001 to \$60,000.

#### Results and Discussion

Numbers of episodes ranged from two to 27 ( $M = 12.59$ ,  $SD = 4.73$ ), with the average day lasting 14.71 hours ( $SD = 3.05$ ). Most participants (68%) took the survey on a weekday. Additional descriptive statistics on episodes, including mean episodes spent alone, most time-consuming activities, and most common activities, may be found in Table 1.

The average, standard deviations, and alpha for each scale are listed in Table 2. As in Study 1, duration-weighted scores of episode-based daily experience for each emotion correlated highly with the nonduration-weighted sums of experiential scores ( $r = .98$ ,  $p < .001$ ). Descriptives of the women’s days are presented in Table 1.

### Hypothesis 1

We computed memory-experience gaps to examine the hypothesis that overall daily ratings of emotions were higher than those based on episodes, as outlined above. The *t* tests (see Table 3) showed that the memory-experience gap was positive for both the Pleasant Emotions scale,  $t(1418) = 5.05, p < .001$ , and the Unpleasant Emotions scale,  $t(1418) = 21.27, p < .001$ . This outcome applied to all of the unpleasant and pleasant emotions.

Table 3 lists the means and standard deviations of the memory-experience gaps for specific emotions and for both scales. Figure 1 presents the distribution of the memory-experience gaps according to their size and valence.

The correlation between pleasant and unpleasant gaps was  $r = -.23, p < .001$ . In addition, the memory-experience gaps for pleasant and unpleasant emotions were significantly greater than zero ( $M = 0.25, SD = 1.11, t(612) = 5.50, p < .001$  ( $M = 0.92, SD = 1.15, t(612) = 19.67, p < .001$ ), respectively). This finding demonstrates that for both pleasant and unpleasant emotions, memory-experience gaps exist even when overall memory-based ratings precede experience-based ones.

### Hypothesis 2

To examine the hypothesis that the memory-experience gap would be larger for unpleasant emotions than for pleasant ones in retrospective evaluations, we conducted a paired-samples test that indicated a significantly larger gap for unpleasant emotions ( $M = 0.91, SD = 1.05$ ) than for pleasant emotions ( $M = 0.07, SD = 0.97$ ),  $t(611) = 13.20, p < .001$ .

### Secondary Hypothesis: Order Effects in the Memory-Experience Gap

To examine whether the size of the memory-experience gap would vary based on the order of the overall ratings relative to the episode-based ones, we compared these gaps as they appeared in Study 1 and Study 2. There were no other variations in method save for the order, the two groups of participants were of comparable demographics, and the incentives were identical; thus, we treated Study 1 and Study 2 as cells in one between-participants design.

The memory-experience gap for pleasant emotions was significantly higher for Study 1 than for Study 2 ( $M = 0.39$  [ $SD = 1.11$ ] and  $M = 0.25$  [ $SD = 0.97$ ], respectively),  $t(1418) = 2.82, p < .005$ . However, the memory-experience gap for unpleasant emotions was significantly higher for Study 2 than for Study 1 ( $M = 0.92$  [ $SD = 1.05$ ] and  $M = 0.45$  [ $SD = 1.15$ ], respectively),  $t(1418) = -8.61, p < .001$ .

## General Discussion

This paper examined the discrepancy between life as we live it and life as we remember it. We expanded on existing knowledge on the memory-experience gap by looking at individual days, which contain both positive and negative events. This method allowed for an exploration of the separate gaps between evaluative and experienced assessments of pleasant and unpleasant emotions.

We found that a memory-experience gap exists for pleasant and unpleasant emotions, and it persists regardless of variations in how

the DRM was administered. The presence of a gap between recalled and experienced emotions is compatible with construal level theory, which proposes that temporal remoteness causes the representation of an event to be characterized by a few abstract elements, whereas temporal proximity leads to representation by multiple-incident details (Trope & Liberman, 2003). Accordingly, when participants recall, for instance, how happy they were overall during the previous day, this recollection seems to contain the events' distilled essence, rather than the milder flavors of the actual happiness experienced during each and every episode.

The memory-experience gaps were more pronounced for unpleasant emotions; people remembered being angrier, sadder, and more tense overall than they reported through measures of their actual experiences. The amplification of unpleasant emotions in retrospect corresponds with the notion that negative events have a stronger impact than positive ones (Baumeister et al., 2001; Rozin & Royzman, 2001). Similarly, previous research using the DRM demonstrated that moments of extreme negative mood were more predictive of participants' overall evaluations than moments of extreme positive mood (Miron-Shatz, 2009). The emphasis on negative emotions also supports the idea that disagreeable peak-coding sensations carry adaptive utility (Stone et al., 2005). If these emotions convey a sense of danger or distress, emphasizing them in memory could serve a warning function. This evolutionary reasoning can explain why in our results peak coding for unpleasant emotions was more resilient to order effects than the equivalent effect for pleasant emotions. When reconciling these findings with the Affect Infusion Model (Forgas, 1995), one might conclude that there is more extensive processing of information in generating evaluative ratings for unpleasant emotions than for pleasant ones. This, again, corroborates concepts like negativity bias, which was recently demonstrated in a study examining the attentional allocation to affectively neutral, positive, and negative stimuli (Hajcak & Olvet, 2008).

Furthermore, when the participants rated the day overall (retrospective mode) before completing the experiential ratings, the memory-experience gap for pleasant emotions was smaller than when experiential ratings preceded overall evaluations. The opposite was true for unpleasant emotions, countering our secondary hypothesis regarding order effects; despite existing theory on judgment leading to selectivity in memory retrieval (Hastie & Park, 1986), we did not find the discrepancy between memory and experience generally reduced when the former preceded the latter. Nevertheless, these findings substantiate Isen's (1999) suggestion that separate neural paths exist for emotions of positive and negative valence.

One limitation to our study is that even what we refer to as "experienced" emotions were in fact retrospective recollections. Studies have indicated that methods such as the DRM yield patterns very similar to those obtained by online experience sampling (Stone, Shiffman, & DeVries, 1999). Regardless, a future study using ecological momentary assessment (e.g., Riis et al., 2005; Stone, Shiffman, Atienza, & Nebeling, 2007) could provide a more direct comparison of subsequent and real-time measurements of emotion.

A gender limitation also existed in our study, because all the participants were women. Yet previous studies have found that women self-reflect more than men, a finding that has been linked to gender differences in depressive symptoms (Nolen-Hoeksema,

Larson, & Grayson, 1999). Whether this tendency leads to the emphasis on negative emotions in retrospective evaluations requires examination. Future studies should explore if the results generalize to men, whether gender influences the process of generating overall evaluations.

In summary, our findings suggest that the gap between experienced emotions and their representations in memory is a constant presence, one that is more pronounced for negatively valenced emotions. Thus, our recollections may be inaccurate representations of our experiences because they accentuate experienced disutility; perhaps our memories are designed to favor prudence over accuracy.

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Received August 4, 2008

Revision received June 8, 2009

Accepted August 3, 2009 ■