Motivational Reasons For Misremembering Past Negative Events

Leonardo Nicolao, The University of Texas at Austin, USA
Rajagopal Raghunathan, The University of Texas at Austin, USA

Previous studies have shown that people often misremember the intensity of a past negative event, with a bias towards remembering the event as having been less negative than it actually was. This paper sheds some light on the reasons for this effect. Across two studies, we show that this effect holds for self-relevant but not for self-irrelevant events, suggesting that a motivational process underlies the revision of memory. Results from experiment 2, which show that the revision of memory only occurs when people do not have resources necessary to cope with the negativity of the past event, offer further evidence consistent with a motivational explanation.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/12914/volumes/v34/NA-34

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
**Motivational Reasons for Misremembering Past Negative Events**

Leonardo Nicolao, The University of Texas at Austin, USA
Rajagopal Raghunathan, The University of Texas at Austin, USA

**Extended Abstract**

In recent years, a significant amount of research attention has been focused on documenting the relationship among experienced, predicted and remembered utilities of negative experiences. Much of this work points to discrepancies between how much an event is actually enjoyed and how much it is predicted to be enjoyed (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Redelmeier & Kahneman, 1996; Wilson, Meyers, & Gilbert, 2003). Across these papers, findings indicate that people expect future negative events to be even more negative that they actually are. Two conceptually distinct sets of mechanisms have been proposed to explain these findings. One set of theories (Trope & Liberman 2000) suggests that a perceptual mechanism underlies these findings. Specifically, these authors propose that people have a tendency to focus on the “central” aspects when events are far in the future and on more peripheral aspects when events are closer. Since a central aspect of negative events is, by definition, their negativity, these events appear more negative in the future than in real-time.

The work by Gilbert et al. (1998) hints at a motivational mechanism underlying the discrepancy between actual and predicted utilities. These authors offer a “psychological immune system” perspective to suggest that once a negative event has occurred, a series of mechanisms are triggered with the objective of ameliorating the negative feelings. These mechanisms work to protect the individual from harmful effects of negative feelings. Because people do not have an intuition about the functioning of the immune system, they expect future negative events to be even more negative than they actually are.

In this research, we advance the past research by examining the relationship between actual and remembered (rather than predicted) utilities of negative events. In doing so, we document the moderating role of the self-relevance of the negative event (events are high in self-relevance when they are diagnostic for assessing a relevant aspect of the self, such as one’s ability in math for a math student). Specifically, we find that past negative events portrayed as being more (vs. less) self-relevant are remembered as being less negative than they actually were. Because the functioning of the immune system should be especially appropriate in situations where the negative experience is more (vs. less) self-relevant, this pattern of findings suggests that a motivational mechanism biases memory for past events in a more palatable direction. Results from a second study provided further directional support for the idea that a motivational mechanism underlies the discrepancy between remembered and actual utilities for negative events.

**Experiment 1**

In order to test this effect of self-relevance on the recollection of negative experiences, we conducted a pilot study (Study 1) with 158 undergraduate students. Each student was randomly assigned to two experimental conditions—low self-relevance and high self-relevance. In both conditions, participants were asked to hold a plastic bag full of ice cubes for 120 seconds. This activity was chosen as a manipulation for two reasons. First it is a non-invasive pain-induction procedure (Chapman, 1976). Second, it is unambiguously negative experience.

In the high self-relevance condition, participants read a mock article from a medicine journal, right after the ice cube task. This mock article reported high correlations between immune system strength and cognitive performance. The article also reported that the longer an individual can hold a plastic bag full of ice cubes, the stronger the individual’s immune system. In the low self-relevance condition, participants read a mock medicine article, from the same journal, with the exact same story. However, no link was made between the ability to hold ice cubes and the strength of the immune system in this condition. Consistent with these manipulations, the article was thought to be more relevant in the high vs. low relevance conditions (Mhigh self-relevance=5.02 and Mlow self-relevance=4.20, on a 7-point scale, F(1,156)=11.33, p=0.001).

After the relevance manipulation, participants proceeded with an unrelated filler task for about 7 minutes. Finally, participants were asked to rate how painful the ice cube manipulation was. They did so by marking a point in a straight line, with no markers, anchored by not at all painful and very painful, with somehow painful as the midpoint on this scale. The intensity of remembered pain (our dependent variable) was calculated by measuring the distance to the point that the participant marked on the line-scale from the (left) point of origin of the line.

The ice cube task was remembered as being less painful in the high self-relevance condition than in the low self-relevance condition (Mhigh self-relevance=7.74 and Mlow self-relevance=8.89, on a 15.2 cm scale, F(1,130)=3.89, p=0.05). These results are consistent with our initial predictions. However, they also impose a series of further questions. First, one may argue that holding a plastic bag full of ice cubes is an unusual task, and one that involves physical, rather than emotional distress. As such, one may wonder whether the effects would be obtained in more cognitive tasks. Experiment 2 was designed with this aspect in mind. We also wished to provide additional evidence that people’s memories of negative events are revised through a motivational mechanism by using the tenets of the mood-as-a-resource (cf. Raghunathan & Trope 2002) hypothesis.

**Experiment 2**

According to the mood-as-a-resource hypothesis, positive moods act as a buffer against the affective costs of negative (but useful) information, enabling individuals to better cope with such negative information. On the flip side, the theory holds that negative mood decreases the ability to cope with negative information (Raghunathan & Trope, 2002). As such, we predict that, under positive mood, individuals in the high self-relevance condition will not remember the experience as having been less unpleasant than those in the low self-relevance condition. This is because the positive mood would have provided the buffer necessary to cope with the negative event, and, as such, allowed these participants to accurately remember the intensity of the past negative event. By contrast, we expect that individuals in the negative mood condition would continue to revise their memory of the intensity of the past negative event downwards. In this study, 347 undergraduate students were assigned to one of the 2 (low self-relevance, high self-relevance) x 3 (negative mood, neutral mood, positive mood) between-subjects condition.
The negative task consisted of a problem solving exercise, which was borrowed from Raghunathan and Trope (2002). The task consisted of responding to six multiple choice questions that purportedly measured the participants’ “Lateral Thinking Ability”. After responding to each of the six questions, participants received the same negative feedback (a “below average” score). Subsequent to this, participants in the high self-relevance condition read a paragraph in which they were informed that people with greater lateral thinking ability were better placed in better jobs, perform better at work and earn higher salaries. Participants in the low self-relevance condition were not exposed to this information. Confirming that the manipulation worked, the LTAT was rated more relevant (M_{high self-relevance} = 3.71 and M_{low self-relevance} = 3.05, on a 7-point scale, F(1,345) = 16.56, p<0.01) in the high self-relevance condition.

Following this task, participants’ mood was manipulated using a procedure adapted from Trope and Neter (1994). More specifically, participants described, in details, a situation where they had performed either well (positive mood) or bad (negative mood) in an exam. Participants in the neutral mood condition were asked to describe, in details, their daily routine. Confirming that the mood manipulations worked as intended, participants in the positive mood condition reported significantly less negative (M_{positive condition} = 2.61, M_{neutral condition} = 3.02) and more positive moods (M_{positive condition} = 5.13, M_{neutral condition} = 4.44, on a 7-point scale, F(1,345) = 65.10, p<0.001) and more positive moods (M_{positive condition} = 5.13, M_{neutral condition} = 4.44, on a 7-point scale, F(1,345) = 65.10, p<0.001) and more positive moods (M_{positive condition} = 5.13, M_{neutral condition} = 4.44, on a 7-point scale, F(1,345) = 65.10, p<0.001). After the mood manipulation, participants proceeded with a filler task and, finally, reported their memory for the overall unpleasantness of the LTAT experience, using a 12-point scale, anchored in “not unpleasant at all” and “very unpleasant”.

Consistent with our predictions, initial analyses point to a two-way interaction between relevance and mood (linear) (F(1,321) = 4.21, p=0.04). Under negative mood, individuals in the high self-relevance condition remembered the experience as being less unpleasant than individuals in the low self-relevance condition. However, consistent with our predictions, the results were reversed under positive mood.

Concluding Remarks
This paper sheds light on the accuracy of remembered utility and its antecedents. More specifically, it clarifies the importance and pervasiveness of motivational mechanisms influencing the memory for negative events. More important, the results of our first study contradict the predictions made by the literature focusing on perceptual mechanisms. This literature predicts that individuals would remember negative, self-relevant, events as being more unpleasant than they actually were.

This relationship between self-relevance and remembered utility is further qualified by an interaction. Specifically, the effect of self-relevance on remembered is moderated by mood valence.

References

Marketing Leisure Services to Sensation Seekers: The Relationship between Personality and Emotional Response in Novices Using an Artificial Climbing Wall
Stephen R. McDaniel, University of Maryland, USA
Woo-Young Lee, University of Maryland, USA

Abstract
The market related to so-called extreme sports, such as rock climbing and sky diving, has burgeoned since the 1990s. Consumer behavior research has linked the personality trait of sensation seeking (SS) with involvement in the above sports. However, work on participation in risky sports has not thoroughly examined the influence of personality and subsequent emotional response, on behavioral intentions in this context.

The current study investigated the effects of the SS personality trait, along with demographics, on novice artificial wall climbers’ (n=241) emotional responses (PAD scale: pleasure-arousal-dominance) and related behavioral intentions to climb again. Results suggest participants’ emotions (e.g., arousal) and future intentions to climb are both a significant function of personality and gender.

Theoretical Background
The consumption of risky sports has dramatically increased over the past few years (Shoham, Rose, & Kahle, 1998). For instance, participation in artificial climbing walls has grown by roughly 60% in the three-year period from 1999 to 2001, while participation in some classic team sports, such as baseball, dropped by 6% (Flagg, 2005).

Arousal theory suggests that every individual has a characteristic optimum stimulation level (OSL) and this is the foundation of personality (Raju, 1980; Zuckerman, 1988). Based upon the OSL paradigm, Zuckerman (1979) defined sensation seeking as a trait
characterized by “the seeking of varied, novel, complex, and intense situations and experiences and the willingness to take physical, social and financial risks” (1979, p. 10). Furthermore, research findings have indicated high sensation seekers are more likely to participate in risky sports, such as hang-gliding, and rock climbing (e.g., Jack & Ronan, 1999; Zuckerman, 1983).

Hirschman and Holbrook (1982) suggested that consumers’ multi-sensory and emotive aspects of consumption experiences are crucial motivation for leisure and sport activity. Arnold and Price (1993) also argued that seeking emotional arousal drives sport consumers to participation in risky sports. Further, there have been evidences that enduring personality traits play a significant role in organizing transient emotional states (Eysenck & Eysenck, 1985). Although Shoham, Rose, and Kahle (1998) provided support for the notion that the sensation-seeking trait is related to intentions to participate in risky sports, it is important to note that their study did not include the potential additive effects of emotions on behavioral intentions. Moreover, little empirical research has examined emotional experiences provided by risky sport (e.g., post-consumption emotions) and their relationship to OSL traits and behavioral intentions.

The advent of artificial climbing walls has created the possibilities for extreme sports to be marketed to consumers in urban settings. Moreover, it provides a relatively controlled setting, in which to study this form of hedonic consumption. To date, consumer psychology research on extreme sports has not thoroughly examined the potential additive effects of personality and emotion on participation. Therefore, the focus of the present research is to explore the influence of sensation seeking and consumption-related emotions (Pleasure-Arousal-Dominance) on novice (artificial wall) climbers’ behavioral intentions for using the facility again.

The following hypotheses were created, based on the literature dealing with consumption-related emotions and personality in this context:

H1: Respondents’ climb-related arousal level is a function of age, gender and ImpSS (α<.05).
H2: Respondents’ climb-related level of pleasure is a function of age, gender, ImpSS, arousal and dominance (α<.05).
H3: Respondents’ behavioral intentions for using the artificial climbing wall again are associated with their age, gender, ImpSS, and PAD, after controlling for prior level of climbing experience (α<.05).

Research Methods

Data for this study were collected at the artificial climbing wall facility of a large university in the eastern United States, over a several week period, during “Beginner’s Night.” Novice climbers (n=241) 18 years of age and older were chosen for this study, in an effort to examine how their initial experiences with this activity, along with their OSL, might influence their future usage of the facility (cf., Shoham et al., 1998). In an effort to gauge their experience and expertise (cf. Shoham et al., 1998; Holbrook, Chestnut & Oliva, 1984), respondents were asked to rate their level of climbing experience on a scale from one (inexperienced) to five (experienced). Based on responses to this question, 55 of the 296 climbers queried were excluded from the final analyses as they rated their experience levels higher than two.

Respondents’ Impulsive Sensation Seeking (Zuckerman, 1991) and demographics (e.g., age, gender) were also reported before they ascended the artificial climbing wall. Immediately upon completing their climbs, participants filled out self-reports of their emotional response to their consumption experience, by responding to an abbreviated version of the PAD (Holbrook et al., 1984) and multi-item scaled estimates of their future intentions to use the wall again (at both similar and more difficult grades).

Results

The sample was comprised of 55.6% males (n=131) and 44.4% females (n=110), with a mean age of 26.2 years old (S.D.=10.19). Reliabilities for ImpSS, PAD, and behavioral intentions were .82, .73, and .89 respectively. To check the construct validity of ImpSS, a two-way (age x gender) analysis of variance (ANOVA) procedure was used. The results showed significance differences by both age (F=7.36, p<0.05) and gender (F=4.64, p<0.05), which is in line with research on the above psychobiological trait (Zuckerman, 1994).

The results of multivariate linear regression analysis provided partial support for H1 as gender and ImpSS significantly predicted post-climb levels of arousal (df=3/238, F=7.45, p<.001, R2=.10). The directionality of the beta coefficient for gender indicated that females reported higher levels of the above emotion.

The second hypothesis also received partial support. Regression results indicated that respondents’ gender (being female), post-climb levels of arousal and dominance were significant predictors of post-climb levels of pleasure (df=5/236, F=14.99, p<.001). The model explained 25% of the adjusted variance in the dependent variable.

Multivariate linear regression results for intentions to use the wall again at a similar degree of difficulty (H2) showed that and post-climb levels of Arousal and Pleasure were significant (df=7/234, F=10.76, p<.001). The model accounted for 25% of the adjusted variance explained. Results for predicting intentions to climb at steeper angles showed that age, gender, ImpSS, climbing experience, and post-climb levels of Pleasure and Dominance were significant (df=7/234, F=17.32, p<.001). This model explained 35% of the variance in behavioral intentions.

Discussion

Findings suggest that climb-related emotions and future intentions are significant functions of personality (i.e., sensation seeking) and demographic factors. Furthermore, the more participants experience post-climb arousal and pleasure, the more they are likely to use the wall again. The results of the empirical research support the notion that personality and consumption-related emotions are significant predictors of hedonic consumption (e.g., participation in risky sport) (Holbrook et al., 1984). In addition, this is the first known work to examine the relationship between personality and emotional responses in participation in so-called extreme sports. The research also contributes to the literature for sport marketers in that the use of personality variables might prove useful as a segmentation tool in marketing facilities, like climbing walls, to sensation seekers (Shoham et al., 1998).

References


---

**Lost in Translation: Consumers Difficulty in Estimating Expiration Time with Redemption Caps**

Richard Hanna, Boston College, USA  
Scott Swain, Boston University, USA  
S. Adam Brasel, Boston College, USA

**Extended Abstract**

More and more, firms are using redemption caps as a form of promotional restriction. For example, GM ran a promotion tied in with a television show (the Apprentice) for their new vehicle, the Solstice. The offer was available for the first 1000 callers. The promotion cap was reached within hours of the show ending, yet a large number of consumers called for days after the promotion expired. In another example, a regional health club franchise ran a promotion for membership upgrade good for the first 100 responses. The promotion cap ran out on the second day, yet many members were still trying to redeem the offer weeks later. In this research, we examine how consumers process promotions that have redemption caps.

Prior research on promotional restrictions has focused on concrete and well-defined time limits (e.g., Raghubir, Inman, and Grande 2004). The findings have been mixed. Some studies find that consumers perceive short promotion durations as inconvenient, thus lowering their purchase intentions (Sinha, Chandran, and Srinivasan 1999), while other studies find that shorter durations can increase purchase intentions by increasing perceptions of deal scarcity (Inman, Peter, and Raghubir 1997) or by heightening the anticipated regret associated with not acting (Inman and McAlister 1994; Simonson 1992).

We propose that consumers evaluate redemption cap promotions, in part, by estimating the reach, response rate, and duration of the promotion. The reach of the promotion refers to the number of other consumers exposed to the promotion and the response rate refers to the percentage of exposed consumers who will act on the promotion. We argue that consumers’ estimates of these quantities are anchored off of the redemption cap itself. Thus, the larger the redemption cap size, the larger the estimates of reach, response rate, and duration. However, since the actual promotion duration will be negatively related to the reach and response rate of the promotion, consumers may tend to overestimate how much time they have to redeem. If this reasoning holds, we would expect that providing consumers with the actual reach of a promotion should diminish the anchoring effect.

We conducted an exploratory study using a 3 x 2 between-subjects design with redemption cap size (40, 400, and 4000) and promotion reach (known vs. unknown) as between-subjects factors. Participants were 145 undergraduate business students and were randomly assigned to one of the six experimental conditions. Prior to receiving the stimulus promotions, the participants were provided with a brief scenario asking them to imagine that they had just received a coupon via email from MostlyPosters.com. The stimulus promotions were for a 30% discount off any poster, and contained one of the three redemption cap size treatments. Participants in the known market size conditions were told that the promotion was only sent to the 9000 undergraduate students of their university. Those in the unknown market size condition were not provided with any information regarding the reach of the promotion. Participants evaluated the coupon and were asked a series of questions regarding purchase intent, deal evaluation, promotion reach, and redemption timing.

When the promotional reach was unknown, participants’ estimates of promotional reach (9500, 114000, 128000), response rate (.147, .248, .300), and duration (51.7 hours, 84.3 hours, 161.5 hours) all increased with redemption cap size, respectively. We also scaled the participants’ self-reported redemption timing estimates (e.g., the percent that said they would redeem in 1 minute, the percent that said they would redeem in 1 hour, etc.) to their estimates of promotional reach and response rates. This allowed us to determine actual expiration times in each condition by cumulating the number of responses. We found that in all three redemption cap size conditions, the actual coupon would expire in less than five minutes. Given that the participants’ estimates of response rates may be overestimated, we ran the same