

# Getting a second chance: the role of imagery in the influence of inaction regret on behavioral intent

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**Abstract** Prior research has demonstrated that consumers who take an opportunity and are satisfied (satisfied takers) are likely to avail of a future opportunity when it is presented again but those who forsake an opportunity and experience regret (regretful forsakers) are less likely to do so, exhibiting inaction inertia. In this research we demonstrate *when* and *why* regret for inaction may result in the intent to avail of a future opportunity and compare this intent with that of satisfied consumers. Specifically, we demonstrate in two studies that (1) when consumers forgo an opportunity and experience regret, they are motivated to avail of a similar opportunity when it is presented in the future, and (2) this intent by regretful forsakers may be more intense than that experienced by satisfied customers due to the elicitation of mental imagery regarding the anticipated consumption episode.

**Keywords** Regret · Satisfaction · Affect · Imagery · Behavioral intent · Emotions · Decision making · Consumption

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## Introduction

What happens when a consumer who fails to avail of a purchase opportunity and regrets it is given a second chance? Imagine friends invite you to share in a summer weekend rental of a mountain cabin, but you are unable to go. You hear later that everyone who went had a great time relaxing, eating, and discussing the latest consumer behavior theories. You regret declining the offer. What effect will this have on your inclination to accept when the same offer is extended next summer? Or perhaps there was a shoe sale that you regret missing out on. A month later you see an ad for the same shoes on sale at the mall. What effect will your regret for the previous inaction have on your current purchase decision?

In recent years we have seen an increasing interest in understanding the affective and behavioral consequences of failing to take action (Arkes et al. 2002; Kumar 2004; Tykocinski et al. 1995; Tykocinski and Pittman 1998; Van Dijk and Zeelenberg 2005; Zeelenberg et al. 2006). This prior research suggests that failing to take action often results in feelings of regret for the inaction and shows that those who failed to act remain unlikely to act in the future, exhibiting what is referred to as inaction inertia. Researchers in this domain argue that consumers compare the factual and counterfactual outcomes of forgone opportunities (Van Dijk and Zeelenberg 2005), and that inaction inertia results from the framing of the initial inaction as a loss (Tykocinski et al. 1995). While most published work has so far ascribed a causal role to the feelings of regret (Arkes et al. 2002; Kumar 2004), more recently Zeelenberg et al. (2006) argue that missing an initial opportunity may lead to the devaluation of a later offer, and thus inaction inertia may be a by-product of the devaluation rather than a direct consequence of regret.

Notably, the research on inaction regret has examined the phenomenon in scenarios where a new opportunity available to the respondent is inferior to a previously forgone opportunity. A less explored question, and the focus of this research, is what happens when the new opportunity is as good as the forgone opportunity? This, in fact, may be a more common occurrence. Product offers tend to be repeated or even improved over time, whether in the form of regular sales, permanent price reductions, or product design or feature improvements.

We demonstrate here that under these circumstances consumers experiencing inaction regret do not exhibit inertia but are in fact even more likely to avail of the subsequent opportunity than are consumers who have experienced the opportunity and were satisfied. We theorize that consumers who forgo a desirable consumption opportunity often experience feelings of regret. Drawing on extant literature, we suggest that these feelings of regret are accompanied by counterfactual thoughts that motivate future reparative behavior (Epstude and Roese 2007; Smallman and Roese 2008). We argue that instead of inaction inertia, consumers who forgo an opportunity and experience feelings of regret from inaction are likely to experience heightened desire to avail of the opportunity when it is presented again. We further theorize this is due to the mental imagery consumers construct about the consumption experience. In fact, we suggest that imagery about the anticipated consumption experience leads to an intent to avail of the next opportunity that is *more* intense than that experienced by consumers who availed of the previous opportunity and were satisfied.

In sum, we make two key advances in this research that contribute to the extant literature on inaction regret: (1) if a forgone opportunity leads to feelings of regret and a similar opportunity is presented again, consumers are more motivated to avail of the new opportunity than satisfied takers, and (2) this intent is driven by the mental imagery that is elicited regarding the anticipated consumption episode. From a theoretical perspective, this research illustrates *when* and *why* consumers who forgo a desirable consumption opportunity, and regret it, reveal the intent to avail of a similar future opportunity instead of demonstrating inaction inertia.

### Theoretical overview

Extant research has shown that people who take opportunities and are satisfied are more likely to avail of the opportunity again in the future (Lam et al. 2004; Olsen 2002; Szymanski and Henard 2001), whereas those who fail to take an opportunity and regret it remain unlikely to do so (Arkes et al. 2002), an effect known as inaction

inertia. These findings have been consistently demonstrated in the literature. However, a careful scrutiny of the existing literature reveals an overlooked but important gap: when people who have forgone an opportunity regret it and are then presented with a similar (not inferior) opportunity again.

### Consequences of taking vs. forsaking opportunities for behavioral intent

Previous research has shown that a consumer's attitudes towards objects or events are largely shaped by actual experience and how that experience matches up to expectations (Oliver 1996). If an experience is positive or exceeds expectations, people feel satisfied, but if an experience is negative or does not meet expectations, people feel dissatisfied and often regretful. Other research has investigated the relationship between satisfaction and behavioral intent (Lam et al. 2004; Olsen 2002; Szymanski and Henard 2001) and has consistently found that when a product or service meets or exceeds expectations this translates into an intent to repurchase that product or service.

Extant research has also demonstrated inaction inertia, when forgoing an opportunity results in failing to act in the future. A key assumption in that research is that regret results from the loss of a good deal, causing participants to decline a less attractive new opportunity even though the new opportunity still has a positive absolute value (Tykocinski and Pittman 1998). People compare the factual and counterfactual outcomes of forgone opportunities (Van Dijk and Zeelenberg 2005), and inaction inertia results when the initial inaction is framed as a loss (Tykocinski et al. 1995). However, as pointed out by Arkes et al. (2002), the extent of devaluation is correlated with the degree of difference between the original and new opportunities. In other words, the inaction represents a loss only to the extent that the new opportunity is worse than the original, forsaken opportunity. Indeed, if the new opportunity is only slightly worse than the original, the devaluation will also be slight.

Hence a gap in this literature exists that does not account for behavioral responses when a forgone opportunity results in feelings of regret, but a new opportunity is as good as the forgone one. We argue that the forsaken opportunity should no longer be framed as a loss, and the attractiveness of the forgone opportunity should transfer to the new opportunity. Instead of the regret resulting in inertia, it should motivate sustained pursuit towards the goal.

Prior research has documented that the presence or absence of regret may be distinguishable from satisfaction or dissatisfaction (Tsiros and Mittal 2000). Indeed, these authors illustrate that while dissatisfaction is not self-

relevant and does not involve personal responsibility as does regret, the feelings of regret stemming from unmet expectations may not have an effect on complaint intentions but clearly have an effect on repurchase decisions. Notably, however, while that research focuses on regret for action and the current research focuses on regret for inaction, it is similar to the current research in terms of how regret differs from satisfaction as well as in the role of counterfactuals in driving behavioral action for individuals experiencing feelings of regret.

#### When inaction regret leads to future action

What happens when a consumer misses an opportunity, regrets missing it, and is then given a second chance to avail of a similar opportunity? It would seem logical that this consumer would be motivated to grab the future opportunity enthusiastically.

Regret is defined as “a negative emotion predicated on a self-relevant counterfactual inference” (Roese 2000). It is an unpleasant feeling that highlights something one might have or should have done differently in the past (Van Dijk and Zeelenberg 2005), thus reflecting bad decision outcomes and processes (Pieters and Zeelenberg 2005). Feelings of regret have been linked with self-blame and responsibility for having taken action, in the case of regret for action, or for not having taken action, in the case of inaction regret (Connolly et al. 1997). It is reasonable to expect that having forgone an attractive opportunity, consumers experience feelings of regret because they believe that they would have been satisfied with the experience, or that it would have given them considerable value. If that were not the case, no regret or self-blame would be experienced for the forgone opportunity—it would be judged a good decision not to have made the purchase.

In order to understand the processes that underlie this motivation, we rely on two key theoretical perspectives from the extant literature: (1) counterfactual theory that explains how missing an opportunity results in upward counterfactuals (“If only I had done it,” Roese 1997) that have been linked to feelings of regret (Gleicher et al. 1995; Zeelenberg et al. 1998) and, most importantly, can act as a key driver of behavioral intentions (Epstude and Roese 2007; Smallman and Roese 2008); and (2) the role of mental imagery in intensifying intent to experience an anticipated future opportunity.

*Role of Counterfactuals in Behavioral Intent* Counterfactuals are thoughts about alternatives to past events, i.e., what might have been (Roese 1997). Specifically, better alternatives to what actually occurred are referred to as upward counterfactuals and result in feelings of regret. Indeed, when a desired opportunity is forgone, like a great

sale or a fun party, we expect that consumers generate counterfactuals about what might have been had they availed of the opportunity, accompanied by feelings of regret for the inaction.

Recent research has linked counterfactual thoughts to goals and to behavioral regulation (Epstude and Roese 2007; Johnson and Sherman 1990; Roese and Olson 1997). First, there is substantial evidence that missing opportunities gives rise to feelings of regret and is accompanied by counterfactual thoughts and the wish to undo the situation (If only I had gone to the sale, I would have been able to get a business suit at a great price). Much of this research demonstrates that counterfactual thinking frequently follows failure (Hur 2001; Roese and Olson 1997; Sanna and Turley 1996). Further, counterfactual thoughts are conclusively linked to the formation of a behavioral intention (Smallman and Roese 2008). For example, if the counterfactual is “If only I had gone to the sale, I would have been able to get a business suit at a great price,” then the corresponding behavioral intention would be “I intend to avail of the sale the next time it comes around.” Indeed, several experimental studies in consumer behavior demonstrate the link between counterfactuals and intentions. For instance, Krishnamurthy and Sivaraman 2002 show that counterfactual thinking impacts subsequently encountered advertising in a computer purchase scenario. Page and Colby (2003) demonstrate the favorable influence of generating counterfactuals on smoking cessation.

Thus, given that upward counterfactuals are likely to evoke unpleasant feelings, especially regret (Gleicher et al. 1995; Zeelenberg et al. 1998), we propose that feelings of regret for inaction are likely to result in strong behavioral intentions to avail of a future opportunity when it presents itself again, when that opportunity is equal to the forgone one. But how do these intentions that arise from regret for inaction compare to those that arise from satisfaction with an experience? In order to understand this, we discuss next the motivating role of imagery in intensifying behavioral intent.

*Role of Imagery in Intensifying Behavioral Intent* Based on the expectancy disconfirmation paradigm, it is not surprising that if a product delivers what it promised and the experience was satisfying the consumer is likely to be interested in purchasing the product again (Oliver 1996). In fact, prior research has demonstrated that based on their own past experience satisfied consumers are likely to avail of a purchase opportunity when it is presented again (Lam et al. 2004; Olsen 2002; Szymanski and Henard 2001).

We propose that the behavioral intent experienced by consumers who failed to avail of an earlier opportunity but are presented with it again is more intense than that of

consumers who were satisfied with an actual experience and are presented with it again. We theorize that this is due to the mental imagery generated due to anticipation of the future opportunity.

The power of imagination cannot be lightly dismissed. Prior research shows that imagery-based processing influences consumer choice preferences in the absence of actual product experience (Shiv and Huber 2000). Further, this research suggests that vividly imagined attributes tend to be weighted more heavily when preferences are constructed with an anticipated-satisfaction goal than with a choice goal (Shiv and Huber 2000). Anderson (1983) demonstrated that imagining oneself performing (or not performing) a particular behavior like taking a trip, starting a new job, or donating blood produced corresponding changes in intentions toward that behavior. Simply imagining future outcomes increases their perceived likelihood of occurrence (Carroll 1978; Anderson 1983; Oettingen and Mayer 2002). For example, imagining a political candidate winning the election can increase the perceived likelihood of the candidate's victory (Carroll 1978), and imagining winning the lottery can increase the perceived chance of winning (Gregory et al. 1982).

Newby-Clark and Ross (2003) suggest that people tend to idealize imagined future opportunities when they represent an accomplishment or achievement (e.g., how life will be when one finally gets one's dream car). Such visions of future opportunities not previously experienced are thus more motivating than those stemming from favorable actual experiences.

Van Boven and Ashworth (2007) have in a series of studies demonstrated that individuals report more intense emotions related to anticipated affective events than for similar retrospective events. We thus expect enhanced intent to avail of a future opportunity by regretful forsakers compared to satisfied takers.

## Hypotheses

Based on the above theorizing, we posit that regretful forsakers differ from satisfied takers in how they respond to future opportunities. The extant research suggests that consumers who experience a product and are satisfied exhibit a strong intention to purchase the product again (Olsen 2002). Indeed, based on the expectancy disconfirmation paradigm, it is not surprising that if the product delivers what it promised and the experience was satisfying the consumer is likely to be interested in purchasing the product again (Oliver 1996). We propose that if the future opportunity is similar to the forgone opportunity, both regretful forsakers and satisfied takers are likely to avail of this opportunity, however we argue that the intensity of the

behavioral intent to do so is greater for the former than for the latter. We theorize that while satisfied takers are motivated by their actual experience to avail of the opportunity, regretful forsakers instead construct a mental picture of this future opportunity, and this mental imagery more strongly fuels intent to seize the new opportunity rather than make the same mistake twice, thus also reducing the dissonance between the idealized future opportunity and the previous decision to forsake it. Formally stated, we expect that,

- H1 Regretful forsakers are more likely than satisfied takers to avail of a similar future opportunity when it presents itself again.
- H2 Regretful forsakers are more likely than satisfied takers to generate imagery regarding the future opportunity.
- H3 Imagery mediates the influence of regret for inaction on intent to avail of a similar future opportunity.

## Overview of the empirical investigation

We investigate these hypotheses in two experiments. The protocol of both experiments is similar. Using consumption experiences familiar to the respondents (an amusement park ticket purchase in experiment 1 and a trip to Las Vegas in experiment 2), scenarios were designed to generate expectancy confirmation, eliciting feelings of satisfaction, in one condition and to generate upward counterfactual thinking, eliciting feelings of regret, in the other condition. Experiment 1 was designed to demonstrate the central theses of this research by manipulating satisfaction from availing of the opportunity and regret from forgoing the opportunity to illustrate that regretful forsakers are more likely than satisfied takers to avail of a future opportunity, and that this difference is mediated by the generation of imagery elicited by upward counterfactual thinking in the regret conditions. Also, experiment 1 was designed to rule out satiation as an alternative explanation to the differential effects on intent between the regret and satisfaction conditions. It does so by using a consumption scenario for which satiation is less likely to occur following a satisfactory experience: tickets to a major amusement park located near the participants' community. As the results of the experiment reveal, the majority of the participants had visited the amusement park an average of 11 times in the past 5 years.

Experiment 2 was designed to further investigate the process underlying the impact of inaction regret on purchase intent through the manipulation of cognitive availability. The manipulation constrained the ability of participants to imagine the future consumption opportunity. The rationale for this test of the underlying process is that generation of imagery

requires cognitive resources (Hilgard 1981), and thus constraining these resources should in turn constrain the generation of imagery. In this study we are thus able to more conclusively demonstrate the role of imagery as the driver of future behavioral intent for regretful forsakers.

## Experiment 1

Forty-four undergraduate students at a large West Coast university participated in this study. Participants were randomly assigned to one of two experimental conditions: regret or satisfaction. Participants were presented with a scenario in which they were told that a major amusement park nearby was having a promotion and was selling spring break entrance tickets with a 25% discount. For the satisfaction condition, participants were told that last year they bought the same discounted spring break ticket, went to the park with a group of friends, and had a good time and were very satisfied with the experience. For the regret condition, participants were told that last year they decided not to buy the discounted spring break ticket. They were additionally told that a group of friends had gone to the park and had a good time, and that they wished they had bought the tickets and regretted not doing so.

The scenario informed the participants that the same opportunity would be available this year, and asked them to indicate how likely they were to purchase the discounted ticket this year and how likely they were to take advantage of the 25% discount this year (1 = not at all, 7 = extremely). These two measures were combined into a behavioral intent index ( $r=0.84$ ). Manipulation checks for the two conditions were measured by asking participants to indicate the extent to which they felt regretful and satisfied in response to the following question: How do you feel about your decision (not) to go to [amusement park] last year? (1 = not at all, 7 = a great deal). In order to assess imagery, participants were asked to indicate the extent to which they agreed with the statements: “To what extent can you imagine being at [amusement park]” and “I can picture myself at [amusement park]” (1 = not at all, 7 = a great deal). These were combined to form an imagery index ( $r=0.91$ ). Finally, to assess the frequency of visits to amusement parks amongst this population and to rule out the alternative explanation of satiation for the satisfaction condition, participants were asked “In the past 5 years, how many times have you been to an amusement park (best guess)?” Participants reported a mean of 11 visits to amusement parks in the past 5 years, or an average of more than two visits per year per participant.

## Results

**Manipulation Check** The manipulation of inaction regret and satisfaction was successful. Participants in the regret

condition reported significantly higher feelings of regret than those in the satisfied condition [ $M_{\text{regret}}=4.53$  vs.  $M_{\text{satisfaction}}=2.00$ ,  $F(1,40)=15.96$ ,  $p<0.001$ ]. Participants in the satisfaction condition reported significantly higher satisfaction than those in the regret condition [ $M_{\text{regret}}=2.82$  vs.  $M_{\text{satisfaction}}=6.16$ ,  $F(1,40)=68.45$ ,  $p<0.001$ ]. Both the means for feelings of regret and feelings of satisfaction, for the respective conditions, were significantly different from the scale mean,  $p$ 's $<0.05$ .

**Hypothesized Effects** A one-way ANOVA with the experimental condition as the independent variable and the behavioral intent index as the dependent variable revealed a significant effect [ $M_{\text{regret}}=6.22$  vs.  $M_{\text{satisfaction}}=5.15$ ,  $F(1,42)=4.79$ ,  $p<0.05$ ]. Thus, regretful forsakers were more likely to purchase a park ticket in the future than satisfied takers. This provides support for hypothesis 1.

A similar ANOVA with the imagery index as the dependent variable revealed significant differences [ $M_{\text{regret}}=6.22$  vs.  $M_{\text{satisfaction}}=5.31$ ,  $F(1,42)=5.01$ ,  $p<0.05$ ]. Thus regretful consumers reported greater imagery regarding the park than satisfied consumers. This provides support for hypothesis 2.

Further, mediation analysis revealed that imagery fully mediated the relationship between inaction regret and behavioral intent. Four sets of regressions were conducted. First, manipulated emotions (regret/satisfaction) had a significant influence on intent [ $\beta=0.35$ ,  $F(1,42)=6.03$ ,  $p<0.01$ ]. Second, manipulated emotions had a significant influence on the imagery index [ $\beta=0.43$ ,  $F(1,42)=9.59$ ,  $p<0.01$ ]. Third, the imagery index had a significant influence on intent [ $\beta=0.60$ ,  $F(1,42)=23.38$ ,  $p<0.001$ ]. Finally, with both imagery and manipulated emotions as independent variables and intent as the dependent variable, the overall model was significant [ $F(2, 41)=12.30$ ,  $p<0.001$ ], yet the effect of the manipulated emotions on intent was not significant [ $\beta=0.12$ ,  $t=0.86$ , ns] while imagery remained significant [ $\beta=0.55$ ,  $t=3.98$ ,  $p<0.001$ ]. This provides support for hypothesis 3. Further analysis of the two emotion conditions independently using the manipulation checks for regret/satisfaction as the continuous independent variable revealed that in the regret condition, imagery fully mediated the effects of regret on intent (regret  $\beta=0.14$ ,  $t=0.67$ , ns; imagery  $\beta=0.60$ ,  $t=2.94$ ,  $p<0.01$ ), but that was not the case for the satisfaction condition (satisfaction  $\beta=0.54$ ,  $t=2.10$ ,  $p<0.05$ ; imagery  $\beta=0.13$ ,  $t=0.52$ , ns).

## Discussion

This study provided support for hypotheses 1–3. The results revealed that inaction regret following a forsaken purchase opportunity results in greater intent than satisfaction. Further, the role of imagery in driving this effect was

demonstrated via mediation analysis. Finally, these results were found in a context in which diminished desire following a satisfactory experience (satiation) could be eliminated as an alternate explanation for the effects of regret versus satisfaction on behavioral intent.

The next experiment was designed to further illustrate the role of imagery by manipulating cognitive load. Specifically, with the cognitive load manipulation we restrict the cognitive resources available to imagine the future opportunity. According to our theorizing, regret should only lead to *greater* purchase intent than satisfaction when sufficient cognitive resources are available to engage in upward counterfactual thinking and thus imagery generation regarding future purchase opportunities. We expect that if generation of imagery regarding the future opportunity is the mechanism underlying the effects of inaction regret on behavioral intent, then cognitive resources available to imagine are a key resource. Constraining them may prevent the construction of the idealized future opportunity. This will result in a decrease in intent and imagery generation for those participants who experience regret for inaction but do not have the cognitive resources available to construct an idealized future opportunity. Notably, this represents a situational boundary condition for the phenomenon under study and suggests that cognitive resources are a required resource for inaction regret to translate into behavioral intent towards a future purchase opportunity.

## Experiment 2

Seventy-four undergraduate students participated in this 2 (emotion experienced: inaction regret vs. satisfaction)  $\times$  2 (cognitive load: high vs. low) study. Participants were presented with a scenario in which they were told that a close friend was having a birthday celebration in Las Vegas and that a group of friends had been invited to share several rooms at a resort casino. For the satisfaction condition, participants were told that this friend had held a similar birthday celebration in Las Vegas a couple of years ago which they attended and enjoyed. For the regret condition, participants were told that this friend had held a similar birthday celebration in Las Vegas a couple of years ago which they could not attend and missed out on.

In addition, cognitive resources were manipulated using a memory task (Shiv and Fedorikhin 1999). Respondents in the high cognitive load condition were given a seven-digit number (3072328) and asked to spend a few moments memorizing it. They were told to keep this number constantly in mind while answering the questions and were informed that they would be asked to report the number later in the survey. Respondents in the low cognitive load

condition were given a two-digit number (25) with the same instructions.

Participants were asked to indicate how likely they were to take advantage of their friend's invitation this year and how likely they were to attend their friend's birthday celebration in Las Vegas (1 = not at all, 7 = extremely). These two measures were combined in a behavioral intent index ( $r=0.84$ ). Manipulation checks for the emotion conditions were measured by asking participants to report the intensity of the regret/anticipated regret and anticipated satisfaction/satisfaction experienced if they had not/had gone to Las Vegas the last time (1 = not at all, 7 = extremely). The success of the cognitive load manipulation was assessed by asking participants how hard it was, how stressful it was, and how much effort it took to answer the questions while trying to remember the seven-digit (two-digit) number (1 = not at all, 7 = extremely). The three items were combined in a load manipulation check index ( $\alpha=0.94$ ). In order to assess the extent of imagery about the future experience, two coders blind to the hypotheses and the experimental conditions indicated on a seven-point scale (1 = not at all, 7 = a great deal) the extent of imagery revealed in participants' responses to the open-ended question "Please take a few moments to list the thoughts and feelings you have about the upcoming weekend in Las Vegas with your friends, and describe that below." An index of future imagery was conducted by averaging the two coders' responses ( $r=0.92$ ).

## Results

**Manipulation Checks** Participants in the regret condition were asked to indicate the extent to which they felt regret, and were also asked the extent to which they would have been satisfied in the alternative event that they had gone to Las Vegas. Participants in the satisfied condition were asked to indicate the extent to which they felt satisfied, and were also asked the extent to which they would anticipate being regretful in the alternative event that they had not gone to Las Vegas. A mixed ANOVA was conducted, with the emotion condition as the between-subjects factor, and regret/anticipated satisfaction and satisfaction/anticipated regret as the within-subjects repeated measure. The expected interaction of condition on felt emotion was found, with felt regret higher than anticipated satisfaction in the regret condition, and felt satisfaction higher than anticipated regret in the satisfaction condition [regret condition,  $M_{\text{regretful}}=6.03$  vs.  $M_{\text{anticipated sat.}}=4.68$ ; satisfaction condition,  $M_{\text{satisfied}}=6.00$  vs.  $M_{\text{anticipated regret}}=5.03$ ,  $F(1,72)=44.69$ ,  $p<0.001$ ]. Manipulation checks for cognitive load were also successful. Participants in the high cognitive load condition scored higher on the load manipulation check index compared to those in the low cognitive load

condition [ $M=1.57$  vs.  $M=2.68$ ,  $F(1,72)=12.67$ ,  $p<0.01$ ]. No differences were found for the emotion conditions [ $F(1,72)=0.001$ , ns], as expected.

**Hypothesized Effects** This study tests the key prediction that cognitive resources are required to construct an imagined future opportunity and that this imagery motivates participants who experience inaction regret to avail of the opportunity in the future. A  $2 \times 2$  ANOVA was conducted with emotion condition and cognitive load as the independent variables and the behavioral intent index as the dependent measure. Results revealed the expected interaction of emotion condition  $\times$  cognitive load [ $F(1,70)=4.59$ ,  $p<0.05$ ]. An analysis of the means showed that when participants in the inaction regret condition were under high cognitive load they reported significantly lower intent ( $M=5.91$ ) compared to participants in the inaction regret low load condition ( $M=6.74$ ), as confirmed by a simple effects test [ $F(1,70)=4.64$ ,  $p<0.05$ ]. The intent of participants in the two satisfaction conditions were unaffected by the load manipulation ( $M_{\text{high load}}=6.25$  vs.  $M_{\text{low load}}=6.19$ ), again confirmed by a simple effects test [ $F(1,70)=0.59$ , ns]. These results support hypothesis 1.

Comparing the regret and satisfaction conditions under the low load conditions replicated previous results to reveal that participants in the regret condition were significantly more likely to avail of the future opportunity than satisfied participants [ $M=6.73$  vs.  $M=6.19$ ,  $F(1,33)=5.40$ ,  $p<0.05$ ]. To engender further support for our process explanation, a comparison of means revealed that consistent with hypothesis 2, imagery was significantly higher for the regret condition than for the satisfaction condition [ $M_{\text{regret}}=6.19$  vs.  $M_{\text{satisfaction}}=5.29$ ,  $F(1,42)=9.13$ ,  $p<0.05$ ]. An analysis of means across the four conditions revealed differences between the low and high load conditions for regret and satisfaction [regret:  $M_{\text{high}}=4.75$  vs.  $M_{\text{low}}=5.96$ ,  $F(1,48)=9.84$ ,  $p<0.01$ ; satisfaction:  $M_{\text{high}}=4.46$  vs.  $M_{\text{low}}=5.29$ ,  $F(1,48)=5.23$ ,  $p<0.05$ ]. No differences were found between the emotion conditions when looking at just the high load condition ( $M_{\text{regret}}=4.75$  vs.  $M_{\text{satisfaction}}=4.46$ , ns), as expected due to the cognitive load.

Further, mediation analysis revealed that imagery fully mediated the relationship between inaction regret and behavioral intent. Four sets of regressions were conducted. First, regret had a significant influence on intent [ $\beta=0.42$ ,  $F(1, 42)=9.08$ ,  $p<0.01$ ]. Second, regret had a significant influence on the extent of imagery [ $\beta=0.39$ ,  $F(1,42)=7.63$ ,  $p<0.01$ ]. Third, the imagery index had a significant influence on intent [ $\beta=0.54$ ,  $F(1,42)=17.01$ ,  $p<0.001$ ]. Finally, with both imagery and regret as independent variables and intent as the dependent variable, the overall model was significant [ $F(2, 41)=10.60$ ,  $p<0.01$ ], yet the

effect of felt regret on intent was not significant ( $\beta=0.24$ ,  $t=1.81$ , ns) while imagery remained significant ( $\beta=0.44$ ,  $t=3.19$ ,  $p<0.01$ ). This supports hypothesis 3.

## Discussion

The objective of this study was to further investigate the role of imagery in mediating the effects of inaction regret on behavioral intent. It was predicted that regret for inaction results in a higher intent than that resulting from a satisfactory experience due to the generation of imagery about the missed opportunity that motivated behavioral intent towards a similar future opportunity. This study bears out that prediction. When cognitive resources are constrained, reducing one's ability to generate imagery regarding potential future purchases, inaction regret results in lower behavioral intent than when cognitive resources are not constrained. Further, as expected, the effects of a satisfactory purchase on future purchase intent do not differ across cognitive load conditions. Consistent with our theorizing, this study illustrates that a regretted missed opportunity, as compared to a satisfying purchase experience, elicits imagery for the anticipated future opportunity that intensifies behavioral intent for the future opportunity.

## General discussion

Recent consumer research has focused on the affective and behavioral consequences of consumers' emotional responses to consumption situations (for reviews see Bagozzi et al. 1999; Johnson and Stewart 2004). While the outcomes of satisfaction from consumption have been investigated (Lam et al. 2004; Olsen 2002; Szymanski and Henard 2001), relatively less attention has been paid to the consequences of regretted non-consumption.

In this research, we theorize that when consumers forgo a desirable opportunity they engage in counterfactual thinking and experience feelings of regret. Counterfactual thinking has been shown in the extant literature to facilitate future reparative behavior (Epstude and Roese 2007; Smallman and Roese 2008). Based on this, we propose that instead of inaction inertia, consumers who experience feelings of regret from inaction are likely to avail of the opportunity when it is presented again. Further, we theorize that these regretful forsakers generate imagery about the anticipated consumption experience that motivates them to avail of the future opportunity with greater intensity than that experienced by consumers who availed of the previous opportunity and were satisfied. We present a set of two studies to demonstrate that regretted non-consumption leads to an increased propensity to act when the new opportunity is as good as the forgone opportunity. The first experiment

demonstrated that when an opportunity similar to the one forgone is presented to a consumer, regretful forsakers are more likely to avail of the future opportunity than are satisfied takers. We also demonstrate that regretful forsakers are more likely than satisfied takers to generate imagery regarding the future opportunity, and that this imagery fully mediates the relationship between inaction regret and behavioral intent. The second study replicates these results in an experiment designed to implicate the role of imagery as the mechanism driving the intensity of the intent revealed by regretful forsakers compared to satisfied takers.

Some limitations of the studies should be noted. Company representatives of the amusement park used as the context in study 1 have in personal communication with the authors indicated that 15% of the local population currently holds an annual pass to the amusement park. However, this may not be considered sufficient reason to assert that satiation is fully ruled out as an alternative explanation for the respondents in the satisfaction condition. These respondents also report an average of 11 visits per 5 years to the park but this could be because their visitors and friends insist that they go regardless of their own personal levels of satiation. An alternative explanation for the results of study 2 is that the increased intent in the regret condition was caused by social obligation since the previous birthday celebration invitation was declined. Future research may investigate these alternative explanations.

The findings of this research have implications for business practice. It may be easy for individuals to anticipate satisfaction with an opportunity not yet experienced, because the imagination is not tainted with any suboptimal or negative experiences directly tied to that opportunity. Our findings indicate that this is true of forgone purchase opportunities, and that positive connotations are brought into the imagination when the forgone opportunities are highlighted. Consumers forgo a multitude of purchase opportunities every day, but most promotional efforts focus on future purchase opportunities without considering the forgone opportunities of the past.

The current research indicates that it may sometimes behoove a firm to highlight these forsaken opportunities in new promotions. It may even be possible to specifically target future promotions to these consumers. For instance, a retailer like Neiman Marcus may utilize creative in-store tactics during sales promotions like lucky draws or tagged coupon mailings that specifically identify consumers who attended the sale. Using their InCircle membership base, Neiman Marcus might then be able to identify members who did not attend the sale and target them for future sales, perhaps highlighting some special missed opportunities. In this way, the non-purchasers may experience inaction regret, generate idealized images of the forgone products, and decide to attend the next

sale rather than make the same mistake twice. Another possibility involves designing advertising that highlights forgone purchase opportunities followed up by advertising of an equally good new opportunity.

#### Directions for future investigation

The present findings contribute to a developing literature on the interplay between emotion and cognition (e.g., Shiv and Fedorikhin 1999) to demonstrate how potent a driver emotion can be in eliciting behavior. Importantly, in this case the experience of inaction regret predisposes individuals to avail of future opportunities. In other words, this research has implications for self-regulation, suggesting that individuals experiencing regret for inaction (e.g., from choosing not to eat a “sinful” chocolate cake) are poised towards availing of a future opportunity the next time the opportunity arises. Examining regret for inaction in a self-regulatory context may be a fruitful area for future investigation.

Future research may also focus on when and how people experience inaction regret in varying degrees. We might expect that inaction regret that increases behavioral intent is more likely to follow from certain types of opportunities but not from others. For instance, a price-off promotion may be more likely than promotions involving mail-in rebates to engender regret for inaction. Deep discount promotions may also be more likely than regular discount promotions to elicit feelings of regret. Promotions that elicit smart-shopper feelings (Schindler 1998) and the personal responsibility to obtain discounts are also more likely to generate feelings of regret for missing out on a viable purchase opportunity. In general, acknowledgment of personal responsibility for missing an opportunity may contribute to stronger feelings of regret. Future research may therefore illuminate the differences stemming from missed opportunities that were outside versus within the bounds of personal control.

Gilovich and Medvec (1995) noted that some of people’s greatest regrets in life were over things they failed to do rather than things they did. Future work might involve a longitudinal investigation (see Abendroth and Diehl 2006) to examine the effect of time delay on the results uncovered in the present research. Notably, the issue remains unclear whether an increased time delay since a forgone opportunity allows for more extensive imagery formation, greater idealization of the lost opportunity, and intensified anticipated satisfaction with the next opportunity; or whether the passage of time attenuates the importance of the lost opportunity, decreasing one’s ability to generate imagery, and reducing anticipated satisfaction and behavioral intentions. It might also be that there exists an optimal timeframe for inaction regret to trigger behavioral intent, after which this intent is attenuated.



It may also be worthwhile to examine how unrelated new opportunities could serve as substitutes for the forgone opportunity. Moreover, future research might investigate whether there are certain types of experiences that are more likely to elicit intent stimulated by inaction regret. Are some experiences more amenable to imagery generation, for instance? While some experiences are intrinsically gratifying, the importance of others lies in how they serve different goals. It seems natural that forgone experiences of the former kind are more likely to generate idealized imagery. Perhaps regretted decisions of inaction made for hedonic experiences like vacations, living in a new country, etc., are more prone to imagery generation and to predispose individuals to avail of future opportunities. However, individuals might also be predisposed to avail of functional opportunities having learned from inaction the hard way. For instance, failing to call a plumber when a toilet was leaking slightly might lead to inaction regret when a huge plumbing job was later called for. In this case, it would be adaptive to learn from the regret for inaction and to ensure not to make the same mistake twice. Future research might investigate individuals' behavioral responses to regret for inaction, and the potentially differential processes underlying them, in the context of forgone hedonic versus functional experiences.

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