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The rush of regret:

A longitudinal analysis of naturalistic regrets

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## Abstract

The current research examines *immediate regrets* occurring at the time of a meaningful life outcome to better understand influences on real-life regrets. This research used a longitudinal approach to examine both initial severity and the rate of change in immediate regrets. Initial severity was associated with greater past control over the outcome and lower levels of future ability to attain goals relevant to the regret and correct the regretted situation. Regret decreased over time, but less so if it concerned attainable ongoing goals. These contrasting effects of future opportunity on initial severity and change over time support a *Dynamic Opportunity Principle* of regret. Furthermore, the effects of past opportunity and of actions versus inactions on immediate regrets diverged from past findings about retrospective regrets. Immediate regrets may fundamentally differ from retrospective regrets, and implications for our understanding of regret are discussed.

Keywords: regret, counterfactual thinking, opportunity, emotion

## The rush of regret:

### A longitudinal analysis of change in naturalistic regrets

What do we regret, and why? This simple question has spawned extensive debate (Beike, Markman, Karadogan, 2009; Gilovich & Medvec, 1995a; Gilovich, Medvec, & Kahneman, 1998; Landman, 1993; Roese & Summerville, 2005), which has generally examined retrospective regret at a single moment in time: when people recall a regretted experience, what factors predict its strength? The current research moves beyond this approach to examine *immediate regrets*, those identified at the time of an initial outcome, rather than *retrospective regrets*, those identified in hindsight. Focusing on retrospective regrets has inherent limitations: first, true experimentation is impossible, limiting causal claims about associated factors; second, because retrospective research captures regret at a single moment in time, it is impossible to distinguish between strong regret that has faded and moderate regret that has remained unchanged, despite the clear differences between the two. Furthermore, immediate regrets may be particularly important to mental health outcomes (Torges, Stewart, and Nolen-Hoeksema, 2008). Given that regret is one of the most common emotions (Shimanoff, 1984), understanding the trajectory of immediate regret—how regret forms and changes—is crucial. How does regret immediately following an event change over time, and what affects that pattern of change?

#### **Immediate versus retrospective regret**

This research took a longitudinal approach to examine immediate regret reported immediately following an outcome. Immediately after participants were offered or

denied membership in a sorority (an extremely meaningful outcome on a campus where more than 35% of women belong to sororities), participants were asked about their regret about that outcome. This regret was then tracked over time, allowing an examination of change.

Although some retrospective regrets originate as immediate regrets (e.g., one may always regret being the driver at fault in a serious accident) other retrospective regrets may emerge years after the presumptive “precipitating event” (e.g., one may regret much later in life having spent too little time with one’s young children, despite not identifying this as a regret at the time). Conversely, some immediate regrets may fade into nothingness (e.g., one may bitterly regret a breakup until finding a new, more attractive partner, at which point the former relationship can be dismissed as “just not meant to be.”) Despite both falling under the overarching category of “regret,” retrospective and immediate regrets may nonetheless differ. Longitudinal research on immediate regret therefore represents not only a new approach to studying regret, but a different kind of regret than has been the focus of research on naturalistic life regrets (see Sanna & Turley, 1996, for a parallel discussion of the differences between spontaneous and constructed counterfactuals.) Nevertheless, because research on “what we regret” has largely focused on the predictors of retrospective regret, the retrospective regret literature offers an important starting place for identifying key predictors of retrospective regret, and thus the variables that will be of interest in an initial examination of naturalistic immediate regret.

### **Predictors of retrospective regret**

Existing research has linked levels of retrospective regret to three major constructs of interest: future opportunity, past opportunity, and action versus inaction

focus. The present section reviews these findings, which a subsequent section will then discuss to form hypotheses about how these constructs influence the initial levels and patterns of change in immediate regrets.

**Future opportunity.** Competing principles offer diverging predictions about the role of future opportunity in regret. The Lost Opportunity Principle suggests that regret is strongest when individuals no longer have the chance to fix the regrettable outcome in the future (Beike, Markman, & Karadogan, 2009). However, a different perspective on the influence of future opportunity is driven by a more functional view of regret (Epstude & Roese, 2008). The Future Opportunity Principle argues that regret will be strongest where people have future opportunities relevant to the regret. Regret acts as a warning signal when pursuing ongoing goals, and facilitates both avoiding mistakes and improving outcomes within that domain (Roese & Summerville, 2005). For instance, an individual who regrets that a former relationship ended because of a failure to communicate can benefit in future relationships by using that regret as an impetus to communicate openly with future partners (Smallman & Roese, 2009). Roese and Summerville (2005) argued that “regret *persists* in precisely those situations in which opportunity for positive action remains high” (emphasis mine), suggesting that future opportunity to pursue relevant goals will be particularly important in considering the rate of change in regret.

Conflicting effects thus have been reported for future opportunity. However, “future opportunity” has been defined both as the opportunity to attain valued outcomes in the area of life containing the regret (career, romance, etc.; Roese & Summerville, 2005), and as the potential to correct the regrettable situation (Beike, Markman, &

Karadogan, 2009). It is important to note that these two definitions of “future opportunity” capture fundamentally different psychological constructs. The first focuses on *goal attainability*, the presence of other means of attaining a meaningful goal. In contrast, the second focuses on *outcome mutability*, whether a particular situation can be undone. By way of illustration, these two definitions roughly correspond to the questions “Will you ever date again in the future?” and “Could you get back together with your ex?” respectively. Although previous research has not distinguished between these two forms of “future opportunity,” past findings suggest that they may have contradictory effects, which this research examines directly.

**Past opportunity.** Counterfactual thoughts about “what might have been” are the cognitive underpinning of regret. Norm theory, the foundational account of counterfactual thinking, established that counterfactuals tend to emerge when one can more easily imagine having taken a different path in the past (Kahneman & Miller, 1986). Other researchers have found that counterfactual thoughts are most salient for voluntary and unconstrained acts (Giroto, Legrenzi, & Rizzo, 1991). Moreover, these thoughts focus on the aspects of a situation that the actor can influence (Markman, Gavanski, Sherman, & McMullen, 1995). People thus feel the most regret when they believe that they had *past opportunity* to have made things different (Beike, Markman, & Karadogan, 2009).

**Actions versus Inactions.** Finally, the focus of a regret may influence its initial strength and pattern of change. Specifically, researchers distinguish between regrets focused on *actions*, things someone did that they wish they had not done, (e.g., “I wish I hadn’t gone to that party the night before my exam”) versus *inactions*, things someone

wishes they had done but failed to do (e.g., “I wish I had taken French in college”).

Regrets of action are generally more intense immediately but fade quickly, whereas regrets of inaction linger over time (Gilovich & Medvec, 1995a; but c.f. Gilovich, Medvec, & Kahneman, 1998), in part because of the greater decay of actions relative to inactions in memory over time (Savitsky, Medvec, and Gilovich, 1997).

### **Goals of the present research**

This study examines whether four variables that have been previously studied in retrospective regret (future opportunity: outcome mutability, goal attainability; past opportunity; and action/inaction focus) show the same pattern of influence on immediate regret. On the level of *general regret* about the outcome of the sorority recruitment process (i.e., whether the participant got into a sorority, and if so which one), it examines perceptions of control and influence over the outcome (*past opportunity*), as well as future opportunity to achieve the goals that led one to join a sorority (*goal attainability*). On the level of a *specific regret* about a particular incident during the recruitment process, it examines the extent to which the individual feels she could have changed the outcome at the time the situation occurred (*past opportunity*), and could still correct the situation (*outcome mutability*). It also examines the influence of whether that regret focused on an *action* (“I wish I hadn’t...”) versus an *inaction* (“I wish I had...”).

Given the differences between these two types of regret, it is entirely possible that immediate regret could show different relationships to predictors of retrospective regret than have been found in previous research. Immediate emotions will tend to fade over time, particularly negative emotions (Taylor, 1991). Moreover, biases about past experiences suggest that retrospective regrets will incorporate factors other than those felt

at the time of initial regret. For instance, people see themselves as generally worse in the distant rather than recent past (Escobedo & Adolphs, 2010; Wilson & Ross, 2001). This research is the first to examine the extent to which past future opportunity (outcome mutability and goal attainability), past opportunity, and the focus (action/inaction) of regret play the same role in immediate regret as they have been shown to play in retrospective regret.

**Future opportunity.** Competing predictions emerge for the two forms of future opportunity. *Outcome mutability* should have a negative association with initial levels of regret (Beike, Markman, & Karadogan, 2009). Conversely, Roese and Summerville (2005) found that greater *goal attainability* was associated with greater regret. However, these authors implied that goal attainability primarily had an effect on the change in regret, rather than initial levels of regret. Goal attainability therefore may be less relevant to initial levels of regret. Instead, although regret should generally decrease over time (Taylor, 1991), increased goal attainability should be associated with less decrease in regret (flatter slope). Given the null effect of future outcome mutability found by Beike, Markman, and Karadogan (2009), this slope effect may not emerge for outcome mutability.

These contrasting effects suggest a *Dynamic Opportunity Principle* of regret, in which future opportunity plays a different role in initial levels of regret and its change over time. Outcome mutability should be negatively associated with initial levels of regret, with less opportunity to correct an outcome predicting greater initial levels of regret, whereas goal attainability should be positively associated with slope, so that greater ability to attain relevant goals leads to greater persistence of regret over time.



This principle reflects both that regret results when individuals cannot reverse or alter a negative outcome despite the previous potential for a better outcome (Beike, Markman, & Karadogan, 2009; Zeelenberg & Pieters, 2007), and that regret has a learning function that leads to its persistence in cases in which it may be useful (Epstude & Roese, 2008, Roese & Summerville, 2005).

**Past opportunity.** Given the predictions of Norm Theory (Kahneman & Miller, 1986) and the findings of the Lost Opportunity Principle (Beike, Markman, & Karadogan, 2009), initial levels of regret should be positively associated with past opportunity, such that feeling more control over the outcome would lead to more severe initial levels of regret. However, past research offers no clear hypothesis for how past opportunity might relate to how regret changes over time.

**Actions versus inactions.** Based on previous work on the time course of action and inaction regrets, action regrets should show stronger initial levels of regret than inaction regrets. However, inactions should be associated with less decrease over time than actions (Gilovich & Medvec, 1995a).

### **Method**

Eight hundred twenty-six women participating in the second of two weeks of a university's sorority recruitment ("rush") were invited via email to participate in a paid web-based study of "how people evaluate their decisions." 233 participants completed the initial questionnaire within the first three days after sorority invitations were issued at the end of the recruitment process ("Bid Day").

After providing informed consent, participants rated the strength of their feelings of *general regret* about "how Bid Day turned out" (5 items,  $\alpha = .79$ ) and how much

control and influence they had over this outcome (*past opportunity*; 2 items,  $r = .68$ ,  $p < .001$ )<sup>1</sup> (See supplemental online materials for items). All ratings were made on 7-point Likert scales. They then indicated their top 3 reasons for wishing to join a sorority (e.g., follow family tradition; improve their social standing), whether they could meet those goals (*goal attainability*; 3 items for each of 3 goals, 9 items total,  $\alpha = .92$ ) and the importance of each goal (3 items,  $\alpha = .61$ ).

Participants were also asked to recall a specific thought about how something from the recruitment process might have been better, using instructions modified from Roese and Summerville (2005). This *specific regret* was coded for whether it contained an action or inaction by two trained coders,  $\kappa = .64$ ; disputes were resolved by the author. Participants rated the amount and strength of regret they felt about this event (2 items,  $r = .82$ ,  $p < .001$ ), the extent to which they could have acted differently or influenced the situation when it happened (*past opportunity*; 2 items,  $r = .19$ ,  $p = .004$ ), and whether they could still correct this situation (*outcome mutability*; 2 items,  $r = .21$ ,  $p = .001$ ).

Participants were asked to return to the website 1 week, 1 month, 2 months, and 3 months later to complete follow-up questionnaires, and were reminded of each via email. In these questionnaires, participants re-rated both general and specific regret. The event description provided after Bid Day was displayed in each questionnaire before participants made the specific regret rating. Participants also re-rated all of the measures of past opportunity, future outcome mutability, and goal attainability.

## Results

Of the 233 initial participants, 143 participants completed at least 3 of the 4 follow up sessions (50 completed only the initial survey, 26 completed one follow up,

and 14 completed 2). Mean ratings of each variable within each survey are shown in Table 1. Initial regret was not associated with the number of surveys completed (for general regret,  $r = -.10$ ,  $p = .10$ ; for specific regret,  $r = -.07$ ,  $p = .28$ ). Missing time points are therefore considered missing at random, and all available data points are included in these analyses.

### **Analytic approach**

In order to account for the presence of multiple measurement points for each individual and allow individual variation in initial regret and the degree of change, a multilevel modeling approach was used, using HLM software (Raudenbush, Bryk, & Congdon, 2007). Each measurement of regret was represented at the first level of the model as a function of the number of days since Bid Day. For each person, the initial amount of regret on Bid Day was represented by an intercept term, and the rate of change in regret over time was represented by a slope term.<sup>2</sup> For instance:

*L1: Day Level*

$$\text{Regret}_{ij} = \pi_{0i} + \pi_{1i}(\text{Days since Bid Day})_{ij} + \varepsilon_{ij}$$

*L2: Person Level*

$$\text{Intercept: } \pi_{0i} = \gamma_{00} + \gamma_{01}(\text{Past Opportunity})_i + \gamma_{02}(\text{Future Outcome Mutability})_i + \zeta_{0i}$$

$$\text{Slope: } \pi_{1i} = \gamma_{10} + \gamma_{11}(\text{Past Opportunity})_i + \gamma_{12}(\text{Future Outcome Mutability})_i + \zeta_{1i}$$

### **Initial Model Fitting**

**Baseline model.** The intraclass correlations in an intercept-only baseline model were  $\rho = .72$  and  $\rho = .79$  for general and specific regret, respectively, supporting the value of person-level predictors. Including a linear slope term significantly improved the model fit relative to this baseline model,  $\chi^2(2) = 48.22$ ,  $p < .001$ , and  $\chi^2(2) = 89.05$ ,  $p <$

.001, for general and specific regret, respectively. Additionally, the best-fitting models discussed below (i.e., models including only the significant predictors) likewise improved model fit significantly beyond the linear slope model,  $\chi^2(1) = 132.94, p < .001$  and  $\chi^2(1) = 16.77, p < .001$ , for general and specific regret, respectively.

**Random effects.** For linear slope models of both dependent measures of regret, both the intercept (general regret:  $\zeta_{0j} = 1.35, \chi^2(166) = 1223.41, p < .001$ ; specific regret:  $\zeta_{0j} = 1.71, \chi^2(166) = 1623.00, p < .001$ ) and slope (general regret:  $\zeta_{1j} = 0.01, \chi^2(166) = 332.40, p < .001$ ; specific regret:  $\zeta_{1j} = 0.01, \chi^2(166) = 336.33, p < .001$ ) showed significant variance. The presence of random effects in these parameters supports the development of models with level-two predictors, discussed below.

### General regret

**Initial levels of regret.** Both past opportunity ( $\gamma_i = -1.03, t(204) = 4.39, p < .001$ ) and goal attainability ( $\gamma_i = -1.30, t(204) = 9.06, p < .001$ ) were negatively associated with initial levels of regret, contrary to predictions. The more participants believed they could have changed the outcome of Bid Day or could still meet their goals, the less regret they felt on Bid Day. Additionally, this effect was qualified by an interaction ( $\gamma_i = 0.14, t(204) = 3.81, p < .001$ ). The greatest initial regret resulted from lower levels of both past opportunity and future goal attainability (Figure 1). Separate analysis revealed that these two variables were significantly positively associated,  $r = .36, p < .001$ .

Although goal importance and goal attainability were correlated ( $r = .32, p < .001$ ), goal importance was not a significant predictor of regret ( $\gamma_i = 0.73, t(204) = 1.59, p = .11$ ) suggesting that it is the *ability* to meet a goal, and not the goal's *importance*, that drives this effect (Roese & Summerville, 2005).

**Change in regret.** Overall, regret decreased over time, as predicted ( $\gamma_i = -0.005$ ,  $t(208) = 4.41$ ,  $p < .001$ ). Goal attainability was positively associated with slope ( $\gamma_i = 0.004$ ,  $t(206) = 3.60$ ,  $p = .001$ ). As predicted, as participants reported greater perceptions of future ability to meet their goals, they showed less decrease in regret over time (i.e., a flatter slope). Neither past opportunity ( $\gamma_i = 0.001$ ,  $t(205) = 1.42$ ,  $p = .16$ ) nor goal importance ( $\gamma_i = 0.001$ ,  $t(205) = 0.58$ ,  $p = .56$ ) were related to the change in regret.

### Specific regret

Specific regret was strongly associated with general regret ( $r = .70$ ,  $p < .001$ ). However, it showed a distinct pattern of predictors.

**Initial levels of regret.** Outcome mutability was negatively associated with initial regret ( $\gamma_i = -0.26$ ,  $t(215) = 4.58$ ,  $p < .001$ ; see Figure 2). Participants who believed they had more opportunity to correct the regrettable outcome in the future felt less initial levels of regret. Contrary to predictions, however, past opportunity had no effect on initial regret ( $\gamma_i = -0.02$ ,  $t(214) = 0.30$ ,  $p = .77$ ). Separate analysis revealed that past opportunity and outcome mutability were unrelated,  $r = .09$ ,  $p = .17$ .

**Change in regret.** Specific regret also had a negative slope, decreasing over time ( $\gamma_i = -0.007$ ,  $t(216) = 4.63$ ,  $p < .001$ ). However, neither past opportunity ( $\gamma_i = -0.0006$ ,  $t(215) = 0.60$ ,  $p = .55$ ) nor outcome mutability<sup>3</sup> ( $\gamma_i = 0.002$ ,  $t(215) = 1.88$ ,  $p = .06$ ) was significantly associated with slope. Specific regret decreased equally whether or not individuals felt they could have changed the outcome of the event when it occurred or could still do so.

**Actions and inactions.** Of the 233 events described by participants, 191 (82%) could be coded as personal actions or inactions. Of these, 39.9% focused on actions,

somewhat less than the even split reported by Gilovich and Medvec (1995a). Contrary to predictions, whether a regret concerned an action or inaction did not affect initial levels of regret ( $\gamma_i = 0.21$ ,  $t(175) = 1.00$ ,  $p = .32$ ) or slope ( $\gamma_i = 0.003$ ,  $t(175) = 0.99$ ,  $p = .33$ ), nor did this factor interact with either type of opportunity in predicting either initial levels of regret (past opportunity:  $\gamma_i = 0.11$ ,  $t(175) = 0.76$ ,  $p = .45$ ; outcome mutability:  $\gamma_i = -0.06$ ,  $t(175) = 0.44$ ,  $p = .65$ ) or the change in regret (past opportunity:  $\gamma_i = 0.0007$ ,  $t(175) = 0.35$ ,  $p = .72$ ; outcome mutability:  $\gamma_i = 0.0005$ ,  $t(175) = 0.29$ ,  $p = .77$ ).

### **Discussion**

This research examined predictors of initial levels and change in immediate regrets. Greater outcome mutability and goal attainability, and lower past opportunity (for general regret), predicted milder initial levels of regret. Goal attainability was associated with greater persistence of regret over time. Immediate regret thus follows some of the same patterns as retrospective regret, yet also diverges substantially. Moreover, these results clarify conflicting results about the role of future opportunity and point to the need for a new perspective on this predictor, the Dynamic Opportunity Principle.

### **Future Opportunity**

Lower levels of outcome mutability and goal attainability were associated with greater initial levels of regret, consistent with the Lost Opportunity Principle (Beike, Markman, & Karadogan, 2009). This result mirrors findings in the goals literature: blocking a goal has less impact when multiple possible means of attaining a goal exist than when the blocked means was only path to goal attainment (Fishbach, Shah, Kruglanski, 2004; Kruglanski et al., 2002). Women who wished to develop leadership

can join other organizations and will feel less regret than women who hoped to carry on a family tradition of membership in a particular sorority and have lost the only opportunity to do so.

The prediction that regret persists in contexts of future goal attainability (the Future Opportunity Principle; Roese & Summerville, 2005) was also supported, as increased goal attainability was associated with less decrease (i.e., greater persistence) in regret over time. This pattern did not attain significance for outcome mutability (consistent with the null results in Beike, Markman, & Karadogan, 2009).

These results, supporting both of the seemingly incompatible theories of Lost Opportunity and Future Opportunity, may seem paradoxical. However, these results support the *Dynamic Opportunity Principle*: at first, we will feel the most regret when we cannot correct an outcome or meet our goals, but over time we will continue to regret those things related to the goals we can still meet. That is, greater initial levels of regret will be associated with low outcome mutability and goal attainability (per the Lost Opportunity Principle), but greater persistence over time will be associated with greater goal attainability (per the Future Opportunity Principle).

### **Past Opportunity**

In contrast to predictions that regret requires high past opportunity, greater past opportunity was associated with lower initial levels of general regret, and unassociated with specific regret. Two of the regret regulation strategies noted by Zeelenberg and Pieters (2007) could explain this inverse association: denying responsibility for the decision, and reappraising the quality of alternatives. Because the present data examines whether participants *report* past opportunity to control the outcome, participants could

deny responsibility for negative outcomes (e.g., “I didn’t get in because this process is rigged/biased against people like me”), leading to a negative correlation.

In line with the second strategy, reappraisal, participants may have used perceptions of past opportunity as a heuristic to appraise ambiguous outcomes. Getting into a third-choice sorority could be a negative outcome (not getting into the first choice), or a positive one (getting into a relatively preferred sorority when many women fail to match with any). The extent to which individuals feel they had the opportunity to control this outcome may lead to different construals of valence. For specific regret, however, soliciting a notable regret could identify an event with less ambiguous valence, thus eliminating the need to use other cues. In line with this suggestion, participants reported significantly more regret about the specific event than about the outcome of Bid Day in general,  $t(220) = 2.06, p = .04$ .

Why do retrospective but not immediate regrets show a positive association of past opportunity and regret? Retrospection may foster a sense of opportunity. The counterfactual thoughts underlying regret can create the perception of control (McMullen, Markman, & Gavanski, 1995; Nasco & Marsh, 1999). Moreover, individuals retrospectively inflate the feasibility of actions (Gilovich, Kerr, & Medvec, 1993; Gilovich & Medvec, 1995b), so this perception of opportunity will be further amplified in hindsight. In fact, within the short time span of the present research, participants reported increasing perceptions of past opportunity to influence “how bid day turned out,”  $\gamma = 0.006, t(204) = 4.58, p < .001$ . There was not a significant change for past opportunity to alter the specific event,  $\gamma = -0.002, t(204) = 1.16, p = .26$ , suggesting that individuals inflate past opportunity in hindsight for broad regrets with many possible causes (“I wish



I had a better career”; “I wish I had gotten into a sorority”) but not regrets focused on specific situations (“I wish I hadn’t overslept for that interview”; “I wish I had worn a different outfit to that party.”) Although regret definitionally includes a focus on personal control (Gilovich & Medvec, 1995b; Kahneman & Miller, 1986), these data suggest that this perception need not be veridical, just as the experience of envy requires only that we *believe* that another person is better off than us, not that they actually are. Instead, engaging in counterfactual thinking about the past may lead us to perceive more opportunity in hindsight than we felt at the time, leading to an association of past opportunity and regret for retrospective but not immediate regrets.

### **Actions versus inactions**

Neither initial levels of regret nor change over time were associated with whether the regret concerned an action versus an inaction. Why do actions and inactions differ in both initial level and change over time for retrospective regrets, but not immediate regrets? One possible explanation for this divergence involves a distinction between two types of inaction: “wistful” regrets that are mild but long-lived, and “despairing” regrets that are both severe and persistent (Gilovich, Medvec, & Kahneman, 1998). If the reported inactions of current participants were a combination of “wistful” and “despairing” regrets, the null effect could in fact reflect two opposing patterns of inaction that led to an overall lack of association. Without an *a priori* way to identify whether an inaction is despairing or wistful, however, this distinction cannot be tested empirically.

A second explanation is that the inaction effect is a property of the act of retrospection and does not extend to immediate regrets. I suggest that immediate regrets of actions and inactions both fade substantially over time, as documented here, but that

inactions emerge as a source of new retrospective regret as time passes (e.g., “I didn’t regret it then, but I now regret not studying a language in college”). In contrast, action regrets will not increase over time, since the set of past actions is fixed. Individuals decrease attention to situational constraints on their behavior in attributions for distant (versus recent) experiences (Moore, Sherrod, Liu, & Underwood, 1979; Peterson, 1980). Likewise, past opportunity is inflated in hindsight (Gilovich, Kerr, & Medvec, 1993; Gilovich & Medvec, 1995b). Ignoring real situational constraints will make inactions more plausible as time passes (e.g., regretting not traveling after college ignores the constraints of finances and parental pressures facing new graduates). In contrast, the number of available actions cannot increase, and instead fade from memory (Savitsky, Medvec, & Gilovich, 1997). Even with equal rates of decrease in immediate action and inaction regrets, the relative proportion of action regrets (relative to inaction regrets) therefore will decrease over time in retrospective regrets because inactions but not actions can be replenished in retrospection. Distinctions between actions and inactions in recent versus distant regrets (Medvec & Gilovich, 1995a) may therefore represent a function of retrospection, rather than a causal temporal pattern.

### **Conclusions**

This research offered an initial examination of immediate naturalistic regrets and their change over time, finding widely different patterns of influence by opportunity and action (versus inaction) regrets compared to previous findings for retrospective life regret. These results suggest that immediate regrets may involve different processes than emerge in the retrospective life-regret literature. Past opportunity, in particular, appears to be less central to immediate regret than retrospective regret, whereas the ability to

correct an outcome and the relevance of the outcome to attainable goals may be of critical importance to the initial severity and the pattern of change in immediate regrets.

Although the question of what we regret and why remains a complex issue, the current research resolves a seemingly intractable debate (whether regret results from lost versus future opportunity) by introducing the Dynamic Opportunity Principle, which disambiguates the forces that magnify an initial regret (low outcome mutability and low goal attainability) from those that shape its change across time (high goal attainability). Moreover, it offers an important distinction between immediate and retrospective regret that should prove valuable to future attempts to understand this important emotion. Hopefully, future research will extend this inquiry to other populations and domains to continue to understand the relationship of these related yet distinct types of regret.

Notes:

<sup>1</sup> The recruitment process used a multiple-round matching procedure whereby candidates submitted subsets of preferred sororities and sororities submitted lists of preferred candidates, with candidates remaining eligible only for mutual matches. In addition to impression management during recruitment events, candidates also could engage in strategy in selecting which sororities to include on their lists.

<sup>2</sup> Modeling regret at time N+1 as a function of predictors at time N showed the same pattern of results as the intercept terms in these models, so these lagged models are not discussed further.

<sup>3</sup> Although this effect is marginally significant, it remains non-significant even as the only predictor of slope,  $\gamma_i = 0.001$ ,  $t(215) = 1.81$   $p = .07$ . Additionally, including outcome mutability as a predictor of both slope and intercept, as opposed to intercept alone, substantially worsens the model's fit,  $\chi^2(1) = 7.46$ ,  $p < .01$ .

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Table 1: Mean ratings within each survey

	Initial	1 week	1 month	2 months	3 months
General regret	2.86	2.62	2.41	2.29	2.23
Past opportunity	4.20	4.46	4.72	4.80	4.91
Goal attainability	5.69	5.76	6.03	5.99	6.03
Specific Regret	3.14	2.56	2.37	2.10	2.26
Past opportunity	4.30	3.99	3.85	3.82	3.95
Outcome mutability	3.07	3.29	3.51	3.45	3.43

Figure 1  
 Predicted values from best-fitting model for general regret

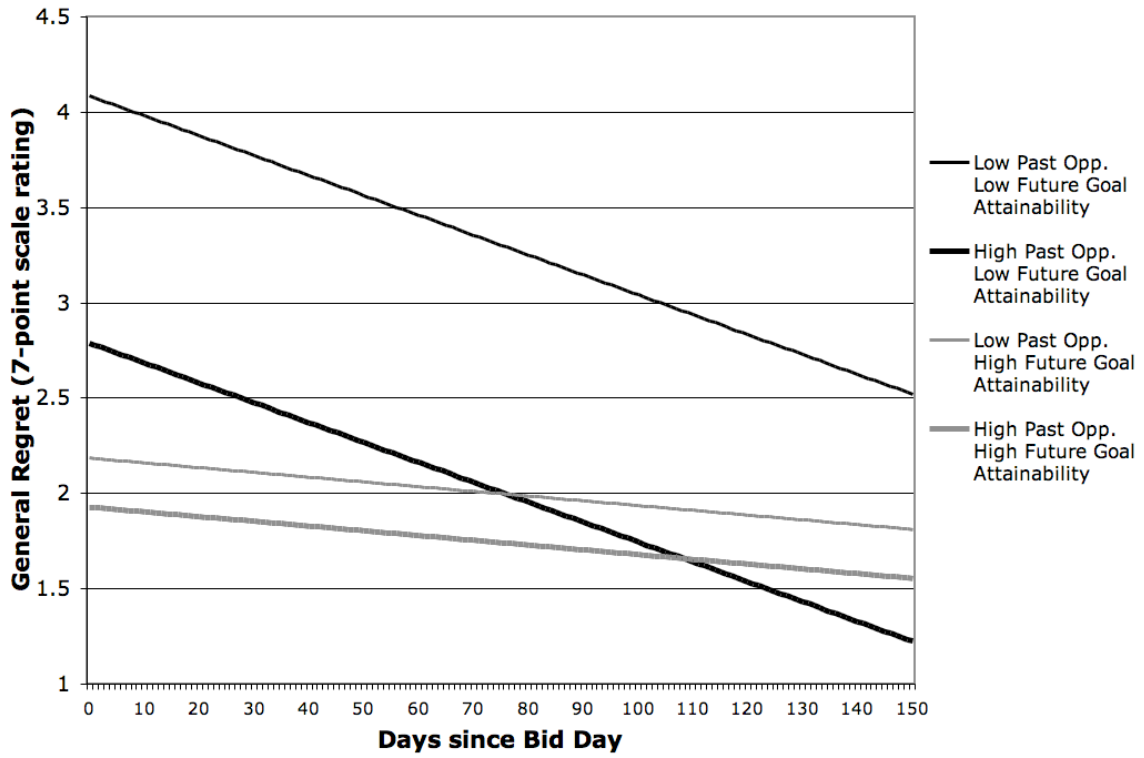


Figure 2  
Predicted values from best-fitting model for specific regret

