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When to Fire: Anticipatory versus Post-Event Reconstruction of Uncontrollable Events

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Abstract

Three studies examined the conditions under which people engage in anticipatory construal before an evaluative event versus reconstruction after the event. Computer software informed college students that there was a 1.5%, 12%, 88%, or 98.5% chance that an opposite sex student would pick them for a hypothetical date. When people had extreme expectations (1.5% or 98.5%) they changed their view of the student to be consistent with their expectations, before learning the outcome (anticipatory reconstruction). When people had moderate expectations (12% or 88%) they formed relatively unbiased impressions beforehand but reconstructed after learning the outcome of the dating game (post-event reconstruction). Either strategy can ameliorate the pain of a negative event in ways that people do not anticipate. Forecasters predicted that losing would make them feel worse than it did, and selected a higher dose of a drug to cope with an anticipated loss than did people who actually lost.

Keywords: coping, construal, expectations, rationalization, affective forecasting

Suppose an employee learns that due to an economic downturn her company will be laying off 10% of its staff in the next month. Because she has been hired recently she believes that she will lose her job, though she will not know for certain for another few weeks. How will she respond to the news?

The literature on coping suggests a number of effective strategies. If the employee believes the negative outcome is under her control she could engage in proactive coping, whereby she gathers resources to deal with the problem and develops strategies to prevent it from happening (Aspinwall, 1997; Aspinwall & Taylor, 1997; Lazarus & Folkman, 1984; Taylor & Pham, 1996). However, people are often faced with uncertain events that they cannot control. Upper management might already have decided who to lay off before announcing their decision. Similarly, the outcomes of national sporting events, political elections, and lotteries are uncontrollable and uncertain. Coping strategies that focus on changing the outcome of negative events are not viable in cases such as these.

The present research is concerned with two strategies people might use to cope with uncontrollable, uncertain events. One is anticipatory reconstrual, whereby people get a head start on reinterpreting it in their favor (e.g., “there was no future for me in this company anyway and it will probably go bankrupt soon”), even though the event (e.g., losing one’s job) is not yet certain to occur. The other is post-event reconstrual, whereby people avoid “spinning” the facts before the event, waiting until after the outcome is known and then quickly reconstruing it in their favor. The present studies investigated the conditions under which people use these different strategies when they expect a negative or positive outcome, the consequences of these strategies for people’s affective reactions once the event does or does not occur, and people’s ability to predict their affective reactions when faced with uncertain events.

There is a large literature on the ways in which people prepare themselves for an anticipated negative event by changing their cognitions (e.g., Breznitz, 1983; Folkman & Lazarus, 1985). One strategy is to devalue a negative event before it occurs, to avoid disappointment (e.g. Carlsmith, 1962; Carlsmith & Aronson, 1963; Kay, Jimenez, & Jost, 2002; McGuire, 1960; Pyszczynski, 1982). In a study by Pyszczynski (1982), for example, people who believed that they had a low probability of winning a prize rated the prize as less attractive than did people who believed that they had a high probability of winning.

Anticipatory reconstrual is a useful strategy if the expected outcome does in fact occur, because people will be less disappointed if the event is negative and happier if the event is positive (Shepperd & McNulty, 2002). If people in the low probability condition of Pyszczynski's study did not, as expected, win the prize, they presumably would not feel too bad, because they had already devalued it. Anticipatory reconstrual can backfire, however, if the anticipated outcome does not materialize. If people in Pyszczynski's study unexpectedly won the prize they might be less happy, because they would have won something that had devalued in advance. Similarly, if people spend six months belittling their company because they think they are going to be laid off, only to learn that they have been promoted to vice president, they have rained on their own parades. The same risk applies to the reconstrual of an anticipated positive event. If people are certain that they will be promoted they might put a positive spin on this event in advance, deciding that the company is a wonderful place to work with a great future. If they are laid off instead they are likely to be more devastated, because they failed to achieve something they had inflated in their minds.

Few studies of anticipatory reconstrual have measured people's actual affective reactions after the anticipated event does or does not materialize (e.g., Pyszczynski, 1982, did not measure

people's affect after the lottery was conducted). One purpose of the present studies was to examine the costs and benefits of anticipatory reconstrual, by examining people's affective reactions after the anticipated event does or does not occur.

In order to avoid the risk of committing oneself too soon to a particular construal of an event, people could wait until the event occurs and then decide what spin to put on it. Before hearing whether she has lost her job the employee could gather information in a relatively unbiased fashion, making note of the positive and negative aspects of the company without engaging in much anticipatory reconstrual. As soon she learns her fate at the company she can engage in dissonance reduction (if she loses her job) or in positive reconstrual (if she keeps it). The advantage of this strategy is that people do not commit themselves too soon to an outcome that fails to materialize. The disadvantage is that people do not get a head start on the reconstrual and are forced to make the best of an event after it occurs.

The large literature on cognitive dissonance and positive reconstrual suggests that people are generally skilled at spinning events in their favor after they occur (e.g., Festinger, 1957; Taylor, 1991). The exact nature of this post-event reconstrual could take several forms. People could focus on and selectively recall information about the event that is most consistent with the outcome (e.g., the employee could focus on positive attributes of the company if she keeps her job and negative attributes if she loses it). People could reinterpret ambiguous information (e.g., view the company's aggressive growth in a negative light if she loses her job and a positive light if she keeps it), or alter their view of the importance of the event in a direction that is consistent with the outcome. Consistent with the literature on dissonance reduction, there are several ways in which people deal cognitively with negative events in order to make themselves feel better (e.g., Festinger, 1957, Simon, Greenberg, & Brehm, 1995). Similarly, there are several ways to

reconstrue or enhance the importance of positive events in order to maximize the pleasure one gets from them.

For our purposes the main point is that post-event reconstrual involves a “wait-and-see” approach, whereby people gather information about an event in a relatively unbiased fashion before it occurs, and then rapidly spin it in their favor after it occurs. In contrast, people who engage in anticipatory reconstrual get a head start by spinning the event in the direction they think it will occur, before knowing for sure what the outcome will be. These strategies are not mutually exclusive, of course. People who engage in anticipatory reconstrual can also work to transform the event cognitively after it occurs. Our point is that under some conditions people will engage in relatively little reconstrual in advance, whereas under others they will begin the reconstrual process earlier. We hypothesized that people would engage primarily in post-event reconstrual when they were only moderately certain that a positive or negative event would occur and anticipatory reconstrual when they were very certain that a positive or negative event would occur.

Participants took part in a simulated “dating game” in which they believed that a student of the opposite gender (the “date”) would choose them or another student for a hypothetical date. In Study 1 people were given moderately strong expectations that the date would or would not select them and then had the opportunity to focus on positive and negative information about the date, before learning his or her actual choice. Given that people’s expectations were only moderately strong, we hypothesized that they would adopt the “wait-and-see” strategy, viewing the information about the date in a relatively unbiased fashion before learning the outcome, and then engaging in post-event reconstrual as soon as they found out whether they won or lost the dating game. That is, because the outcome of the dating game was not a sure thing, people were

expected to hedge their bets and avoid anticipatory reconstrual. In Study 2 we manipulated the strength of people's expectations, with the hypothesis that when people were virtually certain that a negative or positive outcome would occur they would engage in anticipatory reconstrual, but when less certain, would engage in post-event reconstrual.

Another purpose of Study 1 was to see how accurately people could predict their affective reactions to losing or winning the dating game. As noted by Gilbert, Pinel, Wilson, Blumberg, and Wheatley (1998), people often do not realize how much they will reconstrue an event when predicting how they will feel about it. An impact bias results, whereby people overestimate the intensity and/or duration of their future negative feelings (by failing to anticipate the extent to which they will reconstrue the event in order to ameliorate its emotional impact; see Wilson & Gilbert, 2003). Similarly, we expected that participants would not anticipate the extent to which they would engage in rapid reconstrual of the dating game if they lost, and thus overestimate how badly such an outcome would make them feel. Given that people are motivated more to rationalize negative than positive outcomes, we expected to find the impact bias more when people predicted their reactions to a loss than a win (Gilbert et al., 1998). To test these hypotheses we included predictor participants who took part in the dating game and predicted how happy they would be if they won and if they lost.

Study 1

Method

Overview. A computer program informed participants that there was a moderately low or high probability that an opposite sex student would choose them over another student for a hypothetical date. After participants had communicated with the date, but before they knew his or her choice, the amount of time they viewed his/her good and bad qualities was. Predictors

rated how happy they would be if the date selected them or the other contestant, whereas experiencers learned that the date had selected them or the other contestant and rated their happiness. We hypothesized that people would not selectively look at positive or negative information before learning whether they were chosen for the date. Consistent with the post-outcome reconstrual hypothesis, we expected them to adopt a “wait and see” approach in which they waited until they knew the outcome and then reconstrued the event in their favor. Because they would not anticipate that they would engage in such reconstrual, predictors were expected to overestimate how unhappy they would be if they lost.

Participants. Participants were 274 students from the University of Virginia (126 males, 148 females) who received course credit in a psychology course. Because losing the dating game might be particularly upsetting to people who were depressed, people who scored above 10 on the Beck Depression Inventory (BDI), taken at the beginning of the session, were not run through the experiment ($n = 29$).¹ Six others were excluded because they recognized the person in a photograph who was ostensibly the date, six because of computer error, four because at the end of the study they checked that they should not be included in the analyses (an example given to participants for why they should check this box was if they were not attracted to members of the opposite sex), and two because they did not complete the main dependent measure of mood. Finally, preliminary analyses revealed that participants’ perceptions of the study was associated with their race. African American participants ($n = 26$) seemed to have a different experience than participants of other races, perhaps because the opposite-sex, potential date was European American. African Americans predicted that winning the date would be significantly less positive than other racial groups. In fact, the mean prediction of how happy they would be after winning the game was $-.86$ points ($SD = 2.02$) below their baseline happiness. Therefore,

African Americans were excluded from the analyses. No differences between other racial groups emerged. The final participant count was 201 participants (106 females and 95 males).

Procedure. People participated individually but were led to believe that an opposite sex participant would choose them or another same sex participant for a hypothetical date. Participants first completed the Beck Depression Inventory (BDI) and a questionnaire that included several questions about the participant's likelihood of using a computer dating service (to bolster the cover story) and two questions, answered on 9-point scales, about their current mood: "How positive or negative is your mood right now?" ($1 = \textit{extremely negative}$, $9 = \textit{extremely positive}$) and "How happy do you feel right now?" ($1 = \textit{not at all happy}$ and $9 = \textit{extremely happy}$).

Participants were told that the purpose of the study was to test new computer dating software that analyzes how compatible people are and supposedly has a high agreement between its matches and people's actual choices of dates. The experimenter took a Polaroid picture of the participant, appeared to scan it into the computer (so that the software could compare it to pictures of the date and the other contestant), and left the room. Participants then answered 25 multiple choice questions about themselves on the computer (e.g., "How extroverted do you consider yourself to be?"). While the computer program ostensibly analyzed this information, participants were asked to send some additional information about themselves to the date. Nine boxes were displayed on the computer screen with labels such as, "Major/Minor," "Annoying Habits," and "Good Habits." Participants were instructed to open each box and fill in the relevant information. The experimenter then returned and asked the participant to click on an icon labeled "Send To Date".

Expectation manipulation. The experimenter left the room, at which point the computer

program indicated that it had analyzed the participant's responses and photograph and that there was either a 12% or 88% "probability that the participant wants to pick you." The experimenter was unaware of people's expectation condition.

Measure of anticipatory reconstrual. Participants were told that while the date was deciding which contestant to pick, they could see how the date had responded to the same questions they had answered, by clicking on boxes with neutral, negative, and positive labels (e.g., "Major/Minor," "Annoying Habits," and "Good Habits"). Participants could also open boxes to examine information that the date's roommates had supposedly provided about his or her good and annoying habits. The experimenter handed the participant the date's photograph (an attractive opposite-sex European American) and left him or her to view the date's information for 5 minutes. As a measure of anticipatory reconstrual, the computer recorded which boxes the participant opened and the amount of time each box remained open.

Win/lose manipulation. If the participant was in the experiencer condition, an instant messaging box appeared on the computer screen and the date appeared to be typing a message (including a typing error that was corrected). The message said either that "If I had to pick someone, I would pick" either "Contestant A" (the participant) or "Contestant B" (the other participant). The experimenter was unaware of whether participants were in the win or lose condition. A predictor condition was included as well, in which participants did not learn whether they had won or lost.

Predicted vs. actual happiness. Experiencers rated their current happiness on the same two scales they had completed at the beginning of the experiment. Predictors, who had not learned the date's decision, were asked to predict on the same scales how happy they would be if they were chosen by the date and if they were not chosen by the date, in counterbalanced order.

Reconstrual measure. Participants answered two reconstrual questions, "How important was it to you to be chosen for the date?" and "How attracted were you to the participant assigned as the date?", each on 7-point scales ($1 = \textit{not at all}$ and $7 = \textit{very much}$).

Recall measure. Participants were instructed to recall the information about the date that they had read in the boxes earlier in the experiment. After writing down what they could remember, participants were asked to rate the valence of each item that they had recalled on the following 7-point scale: "To what extent does this habit or trait make you like the person less/more?", with $1 = \textit{like much less}$ and $7 = \textit{like much more}$.

Order of measures. The order of the happiness and recall measures was counterbalanced for experiencers so that we could see if it took time for participants to engage in reconstrual. It is possible, for example, that people who were not chosen and then completed the recall measure would be happier than people who completed the happiness measure first, because they had more time to engage in reconstrual. Predictor participants completed the happiness, recall, and reconstrual measures in one of four counterbalanced orders. The first two orders were the same as for experiencers (happiness/ recall/ reconstrual or recall/ happiness/ reconstrual). The other two orders were reconstrual/ recall/happiness and reconstrual/ happiness/recall.

Manipulation Checks. All but the first 44 participants were asked to recall what percentage the computer program had given them and to rate how much they had expected to win the dating game, before finding out the date's decision ($1 = \textit{not at all}$, $7 = \textit{very much}$).

Results and Discussion

Manipulation Checks. All participants accurately recalled the percentage (12% or 88%) that the computer assigned them. A 2 (Expectation) x 3 (Outcome) x 2 (Gender) ANOVA on how much participants expected to win the date revealed the predicted main effect of expectation, $F(1, 147) = 41.07, p < .001$. Those told that there was a 12% chance had lower expectations, $M = 3.21, SD = 1.22$, than those told there was an 88% chance, $M = 4.39, SD = 1.10$. Thus, the expectation manipulation appears to have been effective.

Anticipatory reconstrual. Before participants learned whether they had won or lost the dating game, they were given an opportunity to examine positive, negative, and neutral information about the date. The expectation manipulation did not influence the likelihood that people examined positive (e.g., “Proudest Moment”) versus negative (e.g., “Least Proud Moment”) information; in fact, all participants opened all of the nine available boxes of information. The amount of time people spent examining the boxes was analyzed with a 2 (Expectation) x 2 (Gender) x 3 (Valence of Information: positive, negative, neutral) between-within ANOVA, with the last factor treated as repeated measures. The data were log transformed to stabilize the variances; the means we report are the untransformed times in seconds. There was a significant main effect of Valence, $F(2, 394) = 78.82, p < .001$, reflecting the fact that participants looked the longest at negative information, $M = 9.72 (SD = 4.85)$, second longest at positive information, $M = 8.95 (SD = 3.70)$ and the least at neutral information, $M = 6.99 (SD = 3.10)$. No other effects in this ANOVA were significant, $F_s < 1.69$. For example, the interaction between Expectation and Valence of Information was not significant, $F(2, 394) = 1.09, ns$. Thus, there was no evidence that before learning whether they won or lost the dating game, people with low expectations examined information about the date

any differently than did people with high expectations.

Participants in the predictor condition, it should be recalled, completed all the dependent measures without knowing whether they had won or lost the dating game. We could thus test the anticipatory reconstrual hypothesis by seeing whether predictors with low expectations had more negative responses on the reconstrual or recall measures than those with high expectations. The two reconstrual questions about how important it was to be chosen and how attracted people were to the date were moderately correlated, $r(199) = .34, p < .001$, thus we averaged the two ratings. A 2 (Expectations, low vs. high) x 2 (Gender) x 4 (Order of Dependent Measures) ANOVA on predictor participants' ratings did not reveal any significant effects, $F_s < 1.19, ns$. People with low expectations actually had slightly higher scores on the reconstrual index than people with high expectations, $M_s = 4.44$ vs. 4.25 ($SD_s = 1.22, 1.08$). Thus, there was no evidence that people with low versus high expectations altered their view of the date before learning whether they had won.

Similarly, there was no evidence that predictors who expected to lose engaged in selective recall. A 2 (Expectations, low vs. high) x 2 (Gender) x 4 (Order of Dependent Measures) x 3 (Valence of Recalled Item) on the number of positive, neutral, and negative items people recalled about the date yielded only a significant main effect of the Valence, $F(2, 154) = 78.57, p < .001$, reflecting the fact that people recalled positive facts the most, followed by negative and then neutral facts, $M_s = 5.90, 3.73, 1.46$ ($SD_s = 2.87, 2.19, 1.12$). There were no significant effects involving the expectation manipulation, $F_s < 2.44, ns$.

Post-Outcome Reconstrual Measures. Consistent with the idea that they would reconstrue the event after knowing whether they had won or lost, experiencers who lost had the most negative ratings on the reconstrual index $M = 3.18$ ($SD = 1.14$) and those who won had the most

positive ratings, $M = 3.93$ ($SD = 1.24$). Predictors, who did not know if they had won or lost, had intermediate scores, $M = 3.45$ ($SD = 1.06$). A 2 (Expectation: high vs. low) x 3 (Outcome: Win, Lose, Predictor) x 2 (Gender) ANOVA revealed a significant effect of Outcome, $F(2, 189) = 6.47$, $p = .002$.

Recall Measures. There were no significant differences in the total number of items that winners, losers, and predictors recalled, $F(2, 200) = 2.11$, $p = .12$. There was a significant Valence by Outcome interaction, $F(4, 390) = 4.03$, $p = .003$, reflecting the fact that losers were less likely to recall positive information about the date than winners or predictors, $F(2, 198) = 5.05$, $p = .007$, whereas outcome had no significant effect on recall of negative or neutral information, $F_s(2, 198) < 1.80$, $p > .16$. Thus, one way losers appear to have coped with the negative outcome is to selectively recall less positive information about the date.

Actual vs. Predicted Happiness. We averaged the two happiness questions ($r = .86$). Initial analyses revealed that there were no significant differences between conditions in baseline happiness, $F_s(1, 189) < 2.24$, $p > .13$, therefore we subtracted people's baseline happiness ratings from actual or predicted happiness ratings. The hypothesized Predictor/Experiencer x Win/Lose interaction was significant, $F(1, 185) = 11.62$, $p = .001$. As expected, predictors forecasted that they would be significantly less happy if they lost than experiencers reported in the lose condition, $M_s = -1.63$ versus $-.08$ ($SD_s = 1.34, .96$), $F(1, 197) = 43.21$, $p < .001$. The difference in forecasted versus actual happiness for winning the date was not significant, $M_s = .12$ versus $.50$ ($SD_s = 1.55, .83$), $F(1, 197) = 2.59$, $p = .11$. Experiencers were reliably less happy after losing than winning, $F(1, 197) = 5.98$, $p = .02$, but this difference was not nearly as large as predictors anticipated, $F(1, 197) = 54.88$, $p < .001$.

We examined how quickly people engaged in post-event reconstrual by comparing

experiencers who reported their happiness immediately after learning whether they had won or lost the dating game with those who performed the recall task first. We hypothesized that experiencers would succeed in making themselves feel better by reconstruing the facts as soon as they learned they had lost, and would not require much time to accomplish this reconstrual. This hypothesis was confirmed; the order manipulation had no effect on people's happiness reports, $F_s(1, 92) < 1, ns$. For example, losers who reported their happiness first were no less happy than losers who reported their happiness after the recall task; in fact, the means were in the opposite direction, $M_s = .07$ vs. $-.25$ ($SD_s = .96, .94$), albeit nonsignificantly, $t(50) = 1.21, ns$.

Predictors of Post-Outcome Affect. We conducted multiple regression analyses to test the hypothesis that the changes in reconstrual predicted people's happiness after learning whether they won or lost the date. Specifically, we regressed whether people won or lost (dummy coded -1 and 1), their standardized responses on the measure of anticipatory reconstrual (the difference in time people spent examining positive versus negative information about the date prior to learning whether they had won or lost), their standardized responses on the post-outcome reconstrual measure, and the interaction of these variables on people's happiness after learning the date's decision.

Not surprisingly, there was a significant main effect of whether people won the date, $\beta = .26$, ($SE = .09$), $t(100) = 2.96, p = .003$, reflecting the fact that people who won were in a better mood than people who lost. As hypothesized, however, this main effect was qualified by a significant Win/Lose x Post-Outcome Reconstrual interaction, $\beta = .34$ ($SE = .09$), $t(100) = 3.88, p = .0002$. As seen in Figure 1, this interaction reflects the fact that the more winners said it was important to be chosen by the date and viewed the date as attractive, the happier they were. In contrast, the more losers said that it was important to be chosen and the date was

attractive, the less happy they were. Also as predicted, there were no significant effects of anticipatory reconstrual. For example, the main effect of anticipatory reconstrual was small, $\beta = .07$ ($SE = .09$), $t(100) < 1$, as was the win/lose x anticipatory reconstrual interaction, $\beta = .04$ ($SE = .09$), $t < 1$. Thus, there was evidence that winning or losing the date changed people's construal of the dating game and the date's attractiveness, and that this reconstrual was related to how happy they were.

To summarize, before they knew whether they had won the dating game, people who expected to win, compared to people who expected to lose, (a) spent as much time looking at the positive and negative information as people who expected to win, (b) did not rate the importance of the game or the date's attractiveness any differently on the construal index (in the predictor conditions), and (c) did not selectively recall less positive or more negative information about the date (in the predictor conditions). In contrast, soon after learning whether they were chosen, those who won construed the date in a positive direction whereas those who lost construed the date in a negative direction, and these post-event reconstruals were related to how happy they were. Because most people who lost succeeded in reconstruing the date in a negative direction they were not very unhappy about losing, in fact, they were significantly happier than forecasters predicted.

Study 2 had two main purposes: to test a condition under which people might opt to engage in anticipatory reconstrual rather than post-event reconstrual, and to rule out an alternative explanation of Study 1. The conclusion that people did not engage in anticipatory reconstrual in Study 1 was based on null findings, and it is possible that the expectation manipulation was too weak or that our measures of anticipatory reconstrual too insensitive. Contrary to this interpretation, there was evidence that at least some of the measures of anticipatory reconstrual

were sensitive. Before knowing whether they had won or lost the date, predictor participants with low expectations did not differ from those with high expectations in their ratings of the importance of the game or the attractiveness of the date. When experiencers found out whether they had won or lost, however, they used these very same measures to rationalize; those who won rated the game as more important and the date as more attractive than those who lost. Thus, it seems unlikely that the measures were too insensitive to detect anticipatory reconstrual, given that they detected post-outcome reconstrual.

Nonetheless, it would be reassuring to find that the other measures of anticipatory reconstrual, such as the time people spent looking at positive and negative information about the date, were sensitive enough to pick up possible differences between people with high versus low expectations of winning. We conducted a partial replication of Study 1, added conditions in which people were given more extreme expectations that they would win or lose, and predicted that these people would engage in anticipatory reconstrual. If the odds of a future negative or positive outcome are very high, then it makes sense to engage in anticipatory reconstrual to prepare oneself for the event. If the outcome is not a sure thing, however, as in Study 1, then people are better off avoiding anticipatory reconstrual and engaging in rapid reconstrual, once the outcome is known.

Study 2

Method

Participants. Participants were 65 nondepressed students (those who scored 10 or below on the BDI) who were not African American (see explanation for Study 1). During debriefing 12 participants expressed considerable skepticism about whether the dating software was real; they were eliminated from the analyses. The final sample consisted of 29 women and 24 men.

Procedure. The procedure was identical to Study 1 except for these changes: Experiencers only were run and all participants discovered that they had lost the dating game. We added two extreme expectation conditions in which the computer program indicated that the participants' chances of being selected by the date were either 1.5% (extreme negative expectation) or 98.5% (extreme positive expectation). The design was thus a 2 (Valence: expect to win vs. lose) x 2 (Extremity: moderate vs. extreme probability). We also added new measures of anticipatory and post-event reconstrual. After people were given the opportunity to examine information about the date, but before they learned whether he or she had selected them, they rated how important it was for them to be chosen by the date, how attracted they were to the date, and how well their personality fit with the date's, all on 9-point scales. After learning that they had lost the dating game and rating their happiness, people answered five post-outcome reconstrual questions: The extent to which people would find the date appealing; how well the date got along with his or her roommates, how well the date got with people in general, how physically attractive the date was, and how intelligent the date was, all on 7-point scales.

Results and Discussion

Manipulation Checks. All participants accurately recalled the percentage likelihood of winning the dating game that the computer had assigned them. When asked how much they had expected to be chosen by the date, those in the 1.5%, 12%, 88%, and 98.5% conditions responded with means of 2.85, 3.14, 3.62, and 4.83, respectively ($SDs = 1.82, 1.07, 1.47, 1.40$). A linear trend on these means was significant, $F(1, 49) = 10.41, p = .002$ (as was a contrast in which the contrast weights were based on the exact probabilities in each condition). Initial analyses also revealed that men were happier than women at the baseline and post-outcome measures of happiness, $F(1, 45) = 4.92, p = .03$, but that gender did not interact significantly with

any of the independent variables in any analysis.

Anticipatory Reappraisal. Almost every participant looked at all of the available information about the date; 51 of the 53 participants opened all nine boxes, one opened 8 of 9, and one opened 7 of 9. The amount of time people spent examining the information (log transformed) was analyzed with a 2 (Valence of Expectation: expect to win versus lose) x 2 (Extremity: moderate vs. extreme probability) x 2 (Gender) x 3 (Valence of Information: positive, negative, neutral) between-within ANOVA, with the last factor treated as a repeated measure. As hypothesized, people with moderate expectations (12% vs. 88%) did not differ in the relative amounts of times they examined positive versus negative information, replicating Study 1 (see Table 1). People with extreme negative expectations (1.5%), however, looked more at negative than positive information. A contrast that assigned a weight of -3 to the 1.5% group and +1 to the other three was significant, $F(1, 43) = 5.69, p = .02$. The Valence of Expectation x Extremity x Valence of Information interaction was nearly significant, $F(2, 42) = 2.80, p = .07$.

Unlike in Study 1, people were asked three anticipatory reappraisal questions before knowing the outcome of the game: How attracted they were to the date, how well their personality fit with the date, and how important it was for them to be chosen by the date. Answers to the first two questions were highly correlated, $r = .60$, whereas the question about importance did not correlate as highly with the other two, average $r = .38$. Therefore, we created an anticipatory reappraisal index by averaging people's responses to the questions about attraction and personality fit ($\alpha = .75$; similar, though somewhat weaker results were found when all three variables were averaged).

As predicted, people with moderate expectations did not differ much in their pre-event evaluation of the date; if anything people with low expectations (12%) evaluated the date more

positively than those with high expectations (88%), though this difference was not significant, $F(1, 50) = 1.11, p = .30$ (see Table 1). Also as hypothesized, people with extreme expectations appear to have engaged in anticipatory reconstrual: Those with low expectations evaluated the date more negatively than those with high expectations, $F(1, 50) = 8.99, p = .004$. The Extremity x Valence interaction was significant, $F(1, 45) = 8.22, p = .006$.

Post-Outcome Reconstrual. The two most highly correlated post-construal items were the ones about physical attractiveness and how appealing others would find the date, $r = .75$; the average of the correlations between all of the other items was .32. We thus averaged people's answers to the two aforementioned items (very similar results were found when all five questions were averaged). Once they learned they had lost, people with moderately low and high expectations (12% and 88%) were expected to rationalize by deciding that the date was not very attractive or appealing to others. People with extreme negative expectations (1.5%) should also find the date unattractive; in fact, as just seen, they already had reached this conclusion before knowing the outcome of the game. The people with extreme positive expectations (98.5%) should find it most difficult to denigrate the date after the fact, because they had already reconstrued him or her in a positive direction. As seen in Table 1, these predictions were confirmed. People in the extreme positive (98.5%) condition still found the date to be relatively attractive after learning they had lost, whereas people in the other three conditions found the date to be less attractive. A contrast that weighted the mean in the extreme positive condition +3 and the means in the other conditions -1 was nearly significant, $F(1, 45) = 3.64, p = .06$.

Happiness Ratings. Initial analyses revealed that there were no significant differences across conditions in baseline happiness, $F_s(1, 45) < 2.84, p_s \leq .13$, therefore we subtracted people's baseline happiness ratings from actual or predicted happiness ratings. A 2 (Valence:

expect to win versus lose) x 2 (Extremity: moderate vs. extreme probability) x 2 (Gender)

ANOVA revealed a significant effect of Extremity, $F(1, 45) = 6.96, p = .01$. As seen in Table 1, when people had moderate expectations (12% or 88%), their happiness was unaffected by losing the game, similar to the results of Study 1. In fact, they were slightly happier than they were at the beginning of the study, though not significantly so, $F(1, 51) = 1.93, p = .17$. When people had extreme expectations (1.5% or 98.5%) they were somewhat less happy after learning they had lost than they were at the beginning of the study, $F(1, 51) = 3.07, p = .09$.

As expected, people with moderate expectations seem to have done an effective job of rapid reconstrual, in that their mood did not suffer as a result of losing the dating game. They did so not by attending selectively to negative information in advance, but by reconstruing the date after learning they had lost. Also as expected, there was a cost to people in the 98.5% condition of focusing too much on positive information in advance. Doing so appears to have interfered with their ability to engage in reconstrual after the fact (see the earlier results on the post-outcome reconstrual index), leading to lowered happiness after finding out that they had lost.

The one surprise was that people in the 1.5% condition were also relatively unhappy after losing the dating game. The fact that they engaged in anticipatory reconstrual, focusing the most on negative information about the date and evaluating him or her negatively, would seem to protect them from the negative effects of losing. Compared to the people in the other conditions, however, they received two pieces of bad news: a well-validated computer program concluded that it was extremely unlikely that an attractive member of the opposite sex would pick them, and in fact, the opposite sex person did not pick them. This double dose of bad news might have been difficult to rationalize away entirely successfully.

Recall Measures. A 2 (Valence: expect to win versus lose) x 2 (Extremity: moderate vs. extreme probability) x 2 (Gender) x 3 (positive, neutral, negative items) between-within ANOVA on the information people correctly recalled about the date did not reveal any significant effects, $F_s < 1.33$, $p_s > .28$. The main finding in Study 1, that losers were less likely to recall positive information than winners, could not be tested in Study 2 because only losers were run. It seemed possible that people with extreme positive expectations might find it more difficult to “forget” positive information about the date, but this hypothesis was not confirmed.

Studies 1 and 2 suggest that people are flexible in the coping strategies they adopt. When people were virtually certain that they would win or lose the dating game (in the extreme expectation conditions), they engaged in anticipatory reconstrual. When there was some uncertainty about whether they would win or lose the date (in the moderate expectation conditions of Studies 1 and 2), they engaged in little or no anticipatory reconstrual, waiting until the outcome was known and then engaging in reconstrual.

Study 3 addressed another alternative explanation of the findings, namely that experiencers felt worse about losing the date than they were willing to admit. Perhaps predictors in Study 1 were correct that it would hurt to lose, and experiencers were too embarrassed to report this hurt when they did, in fact lose. This possibility seems unlikely, given that seconds before learning the outcome, predictors were quite willing to say that they would feel unhappy if they lost. Further, Study 2 found that people with extreme expectations reported feeling less happy than people with moderate expectations, suggesting that the mood measures had some validity. It is still possible, however, that the actual experience of losing is more embarrassing than its anticipation, and the actual hurt is more likely to trigger the desire to keep a stiff upper lip. We attempted to rule out this alternative explanation in Study 3 by including an unobtrusive

behavioral measure of people's predicted and experienced affect, the dosage of a mood enhancing herbal substance they thought they would need to return their mood to baseline levels, as well as a self-report measure.

Study 3

Method

Participants. Participants were 44 students (27 females, 17 males) who participated in exchange for partial course credit. One participant recognized the person in the photograph of the "date" and was therefore excluded from the analyses. Five participants were excluded because they did not believe the cover story about the drug. As in the previous study, participants who scored above 10 on the BDI did not take part in the study. African American participants were included, but were shown a photograph of an African American date, such that all participants believed that the date was the same race as they. The final participant count was 38 participants (25 females, 13 males).

Procedure. We replicated Study 1 except for the following changes. Participants completed a general health questionnaire that asked about their overall health, how much they exercised, and their diets. Two questions asked about their experience with and attitudes toward herbal remedies: Whether they had ever tried remedies such as ginseng, kava kava, echinacea, and St. John's wort ($1 = \text{yes}$, $2 = \text{no}$) and how open they were to trying herbal remedies (on a 9-point scale, $1 = \text{not at all willing to try}$ and $9 = \text{very open to trying}$). All participants were given 2 instead of 5 minutes to examine the date's photograph and information on the computer (in Study 1, no participant took longer than 2 minutes to examine this information). In addition, we included experiencers and predictors only in the moderately high expectation (88%) condition, and all experiencers found out that they lost the dating game.

Right before learning the date's choice (in the experiencer condition) or predicting their happiness (in the predictor condition), the experimenter mentioned that the present study had been randomly selected to be part of a pilot program by the (fictitious) Experimental Review Committee (ERC). She read a letter from the ERC explaining that they wanted to ensure that participants left psychology studies in the same frame of mind as when they first arrived. To this end, the ERC was offering participants in randomly-selected studies a mild herbal mood enhancer called Gingerin. The letter explained that the ingredients in this pill "are found in everyday foods such as soy beans and broccoli and have been ingested for literally thousands of years," and that the "natural mood enhancer has been shown to produce a mild sense of well-being without side effects such as headache or nausea." To avoid conveying that the ERC expected the dating game study to produce negative moods, the letter explained that studies were randomly selected for the pilot program because it is hard to predict in advance which studies will influence people's moods and because different people react very differently to the same study. Participants were told that they would be offered a choice of dosages of the herb, including a placebo, and that, "If you feel that you do not need to take the herbal pill (e.g., you do not feel that the experiment altered your mood in any way), please select the placebo pill . . . In this way, the experimenter will not know if you took the placebo or the herbal mood enhancer."

Predictor condition. For predictor participants the cover story then provided a rationale for why they had to choose a dosage of the pill in advance of learning the date's decision. The experimenter explained that if the participant selected a pill now, she would not have to come into the room and explain the pill study right after people learned the date's decision, and the administration of the pill could be better timed. She said that she would come back into the

room 2 minutes after the participant found out the date's decision, give the participant a glass of water, and ask them to take the pill. Participants were further told that the ERC wanted to be sure that people who have different experiences in psychology studies take the pill and that therefore, some were being randomly assigned to take a pill if they lost the game and others to take a pill if they won the game. Predictors were asked to pick a slip of paper from a cup, half of which supposedly said "win condition" and half "lose condition." In actuality, all of the slips said "lose condition: Select the pill you want if the date does NOT select you." The experimenter asked the participant not to show her the slip of paper, "because I am not supposed to know in which pill condition you are in" (this minimized a possible demand to pick a pill dosage that participants thought the experimenter wanted them to take). The experimenter explained that if the actual date's choice was opposite to the condition to which they had been assigned, that they could discard the pill they chose.

Predictors were then left with a written description of each dose of the pill, that ranged from 0 mg ("placebo [sugar] pill. No influence on mood") to 2.5 mg ("significant increase in positive mood. Most people feel a large increase in positive mood and their sense of well-being"), in .5 mg increments. There were five plastic pill containers, each labeled with one of the dosages. Each container held 40 pills, all of which actually contained ascorbic acid (Vitamin C). Participants were told to select one pill, place it in a paper cup to take later, and then call the experimenter. When the experimenter returned she said that the date had still not made up his or her mind. Predictor participants then completed the same dependent measures as in Study 1.

Experiencer Condition. After reading the letter about the pill from the ERC participants learned that the date had not selected them in the same manner as in Studies 1 and 2. When the experimenter returned, she gave people the written description of each dose of the herbal mood

enhancer and the same instructions as in the predictor condition (e.g., to select the dosage they needed to get back to how they felt before the study.) She left the room while people selected a pill, saying that she would return with a glass of water so that people could take the pill. About 2 minutes elapsed between the time experiencers learned the date's decision and selected a pill, which was identical to the point at which predictor participants expected to take the pill.

The experimenter returned and said with some embarrassment that she had just realized that the participant was in a condition that was supposed to take the pill in about 20 minutes, at the end of the experiment. She asked participants to put their pill aside while they completed some questionnaires, which contained the same dependent measures as in Study 1. At the conclusion of the study all participants were questioned carefully about any suspicions they had, and then fully debriefed. No participant actually took a pill. The dose participants selected was ascertained by counting the number of pills left in each of the containers.

Results and Discussion

Baseline Happiness. A 2 (experiencer vs. predictor) x 2 (female vs. male) ANOVA revealed a main effect of gender, $F(1, 34) = 4.32, p = .045$, reflecting the fact that men began the study somewhat happier than women, $M_s = 6.85$ vs. 5.96 , respectively ($SD_s = .85, 1.35$). Neither the main effect of Experiencer/Predictor nor the interaction were significant, $F_s < 2.08, p_s > .15$. As in previous study we subtracted people's baseline happiness from their later experienced or predicted happiness, to control for individual differences.

Drug Dosage. As hypothesized, when asked to select the dose of the mood enhancing drug they would want to take if they lost the dating game, predictors selected a significantly higher dose than did experiencers who actually lost, $M_s = 1.29$ mg vs. $.64$ mg ($SD_s = .95, .94$), $F(1, 34) = 5.27, p = .03$. Neither the main effect of Gender nor the Gender x Experiencer/Predictor

interaction was significant, $F(1, 34) < 1$. People's openness to trying herbal remedies, rated at the beginning of the experiment, was correlated with the dosage they later selected, $r(36) = .32, p = .05$. When this variable was added as a covariate in the ANOVA, the main effect of Experiencer/Predictor was somewhat stronger, $F(1, 32) = 7.54, p = .01$.

Predicted vs. Actual Happiness. As hypothesized, predictors said that they would be significantly less happy following a loss than experiencers actually were, $M_s = -1.68$ vs. $-.24$ ($SD_s = 2.14, 1.10$), $F(1, 31) = 5.54, p = .025$, replicating the results of Study 1. The higher people's happiness ratings the lower the dosage of the mood-enhancing drug they chose, $r(33) = -.42, p = .01$.²

Reconstrual. The two measures of reconstrual ("How important to you was being chosen?" and, "How attracted were you to the date?") were moderately correlated, $r(36) = .45, p = .005$, and we averaged them to form a reconstrual index. As in Study 1 experiencers achieved lower scores on this index than predictors, $M_s = 3.21$ vs. 3.92 ($SD_s = 1.20, 1.34$), $F(1, 34) = 5.56, p = .02$. Unexpectedly, there was a significant Experiencer/Predictor x Gender interaction, $F(1, 34) = 4.88, p = .03$, reflecting the fact that the experiencer/predictor difference was more evident in males, $M_s = 2.86$ vs. 4.75 ($SD_s = 1.07, 1.29$), than females, $M_s = 3.39$ vs. 3.45 ($SD_s = 1.26, 1.17$).

The fact that experiencers selected a lower dosage of the mood enhancing drug than predictors, privately and anonymous, suggests that they were not, in fact, in as bad a mood as predictors forecasted. Self-presentational interpretations are notoriously difficult to rule out definitively, and we would not argue that we have nailed the lid completely on such an interpretation. It is possible, for example, that predictors suspected that losing the dating game would not make them feel all that badly, but chose an especially high dosage of the drug just in

case they were wrong (figuring that it was better to err on the side of too much mood enhancement than too little). In both Studies 1 and 3, however, predictors also forecasted that losing would make them feel quite unhappy, more so than experiencers reported feeling. Thus, predictors forecasted that they would feel sad if they lost and selected a larger dosage of a drug designed to offset this sadness. On balance, the evidence against a self-presentational interpretation of these results is reasonably strong.

General Discussion

The present studies examined the strategies people use when faced with negative and positive events that they can not control. When people believed the events were probable but not certain (the 12% and 88% conditions in Studies 1 and 2), they engaged in post-event reconstrual. Compared to people with more extreme expectations (in Study 2), they engaged in little or no reconstrual of the event in advance. Instead, they adopted more of a wait-and-see strategy. Once they knew whether they had won or lost the dating game they rapidly reconstrued the information they had gathered, in a positive direction if they had won and in a negative direction if they had lost. Evidence that this reconstrual happened quickly comes from Study 1, in which we varied the order of the dependent measures. Experiencers who found out they had lost and were asked seconds later to rate their happiness were no less happy than experiencers who found out they had lost and first completed the recall measures, suggesting that it took little time for people to make themselves feel better by changing their construals of the date.

When people were virtually certain that a negative or positive outcome would occur (in the 1.5% and 98.5% conditions of Study 2) they engaged in anticipatory reconstrual: In advance of finding out for sure whether they won or lost, people in the 1.5% condition looked longer at negative than positive information and rated the date more negatively, and those in the 98.5%

condition rated the date more positively. Given how extreme the probabilities were, anticipatory reconstrual would seem to be a reasonable strategy to adopt. Because all people lost the dating game, however, this strategy turned out to be costly for people who expected to win (in the 98.5% condition). By putting a positive spin on the date in advance they were less able to rationalize their loss after the fact, and as a result they were relatively unhappy after losing.

We do not mean to imply that there is something fixed about the levels of probability that we used, such that people will always use the anticipatory reconstrual strategy when the probability of an event occurring is 88% and rapid post-event reconstrual when the probability is 98.5%. Kay et al. (2000), for example, found evidence of anticipatory rationalization when students believed that there was an 80% probability that their tuition would be increased or decreased substantially in the near future. It is difficult to compare objective probabilities across studies, because the way in which participants interpret them depends on their perceptions of the validity of the sources of the probabilities (i.e., a computer program in our study, the university board of trustees in the Kay et al. study). To further complicate matters, one way people can engage in anticipatory coping is to increase their subjective probability that a negative event will occur, to avoid unpleasant surprises (Shepperd, Findley-Klein, Kwavnick, Wlaker, & Perez, 2000). Nonetheless, our results show that when a positive or negative event is virtually certain to occur people engaged in anticipatory reconstrual, but when it was only somewhat less probable engage in less anticipatory reconstrual, seeming to wait to see what happened before reconstruing the event.

Almost all previous research on anticipatory reconstrual has examined the conditions under which people rationalize expected negative events. We and Kay et al. (2002) are among the few who have looked at reconstrual of expected positive events as well. In Study 1, people who

found out that they had won the dating game rapidly reconstructed the date in a positive direction, compared to people who did not yet know if they had won or lost. In Study 2, people who believed that there was a near certainty that they would win rated the date more favorably, in advance of finding out whether they had actually won. In addition to minimizing the impact of negative events by denigrating them, people appear to enhance the impact of positive events by viewing them in a more positive light.

A question for further research is what people gain by engaging in anticipatory reconstruction versus post-event reconstruction. Given that there is a risk to committing oneself to the wrong reconstruction too soon (as in the 98.5% condition in Study 2), and given how effective the post-event reconstruction strategy seemed to be (e.g., in the moderate expectation conditions of Studies 1 and 2), perhaps people should always strive to hedge their bets and avoid premature reconstruction. However, there are costs to uncertainty about whether a positive or negative event will occur. If people are virtually certain that they will lose their job, but hedge their bets due to the small chance that it will turn out otherwise, they might engage in unnecessary worry and perseveration, and be better off initiating the reconstruction process.

Another unanswered question is how consciously and deliberately people chose the anticipatory reconstruction versus post-outcome reconstruction strategies. Did people weigh the odds of winning or losing the dating game carefully and make a conscious choice of which strategy to adopt? Given the evidence that the psychological immune system operates largely outside of conscious awareness (Gilbert et al., 1998), we suspect that people's choice of strategy was automatic and nonconscious. Consistent with this view, the predictor participants in Studies 1 and 3 overestimated how badly they would feel after losing the dating game, possibly because they did not anticipate the coping processes that would automatically be invoked in the actual

situation. People probably cannot deliberately turn on one or the other strategy to suit their purposes. Nonetheless, people seemed adept at using the strategy best-suited the probabilities of positive and negative events occurring.

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Footnotes

¹ People who score less than 10 on the Beck inventory are typically classified as experiencing “none or minimal depression” (Beck, Steer, & Garbin, 1988, p. 79).

² Most predictors first predicted how they would feel if they lost the date, then how they would feel if they won. A few participants inadvertently received a questionnaire in which they made the predictions in the opposite order. Collapsing across Studies 1 and 3, the order in which people made their predictions did not significantly influence their forecasts about a loss or a win, $t_s(104) < 1.07, ns$.

Table 1: Effects of Extremity and Valence of Expectation on Anticipatory Reconstrual, Post-Outcome Reconstrual, and Affect

	Condition			
	Moderate		Extreme	
	Low (12%)	High (88%)	Low (1.5%)	High (98.5%)
Looking Times (secs),				
Positive - Negative				
M	2.17	1.33	-3.00	1.82
SD	(3.25)	(7.68)	(8.98)	(9.31)
Anticipatory Reconstrual				
Index ^a				
M	4.14	3.60	3.12	4.67
SD	(1.11)	(1.49)	(1.50)	(.81)
Post-Outcome				
Reconstrual Index ^b				
M	5.00	5.07	4.69	5.58
SD	(.82)	(1.10)	(1.07)	(.63)
Change in Happiness				
M	.36	.38	-.46	-.54
SD	(1.73)	(1.57)	(1.45)	(1.01)

^aAssessed on 9-point scales.

^bAssessed on 7-point scales.

Figure Caption

Figure 1. Study 1: Win/Lose x Reconstrial interaction. Predicted happiness scores plotted at one standard deviation below the mean on the reconstrial (construal) index, the mean, and one standard deviation above the mean.

Figure 1

