
The Dissatisfaction of Having Your First Offer Accepted: The Role of Counterfactual Thinking in Negotiations

Adam D. Galinsky
University of Utah

Vanessa L. Seiden
Northwestern University

Peter H. Kim
University of Southern California

Victoria Husted Medvec
Northwestern University

In this article, the authors explore the role of individuals' counterfactual thoughts in determining their satisfaction with negotiated outcomes. When negotiators' first offers are immediately accepted, negotiators are more likely to generate counterfactual thoughts about how they could have done better and therefore are less likely to be satisfied with the agreement than are negotiators whose offers are not accepted immediately. This reduction in satisfaction emerged even when the objective outcomes of negotiators whose first offers were immediately accepted were equal to or better than the outcomes of negotiators whose first offers were not immediately accepted. Evidence for a disconnect between objective outcomes and evaluations emerged in two scenario experiments and a simulated negotiation. The final experiment explored the functional and dysfunctional consequences of counterfactual activation following the immediate acceptance of first offers. Upward counterfactual thoughts were positively related to the amount of preparation for a subsequent negotiation; on the other hand, upward counterfactual thoughts were negatively correlated with the likelihood of making future first offers.

You are walking down the street and an Oriental rug in the window of a store catches your eye. You go inside and look over the rug. You like the rug but it has no price tag. The storeowner comes from the back of the store and you ask about the price. The storeowner tells you to make him an offer. You offer \$500. He quickly says the rug is yours.

How do you feel? Are you thrilled by your bargain or tortured by thoughts such as "I could have paid less"?

From an objective negotiation perspective, you should feel great. You have just purchased the rug close to your aspiration point. You bought the rug for less than you may have expected to pay, yet you may be frustrated by the thought that you could have gotten a better deal.

We hypothesize that individuals' evaluations of success and satisfaction in a negotiation are affected by the counterfactual thoughts that are generated following the negotiation. Counterfactual thoughts are the "alternative possible worlds" (Markman, Gavanski, Sherman, & McMullen, 1993) that are considered following an outcome; individuals compare their objective reality to these post hoc alternatives of "what might have been." The way in which reality compares to these alternatives influences people's reaction to events (Kahneman & Miller, 1986; Markman et al., 1993; Medvec, Madey, & Gilovich, 1995; Tversky & Kahneman, 1982).

Despite substantial research suggesting that counterfactual thinking affects people's feelings of satisfaction with situations and events, there has not yet been an effort to explore the role that counterfactual thinking

Authors' Note: We would like to thank Mathew Harris, Jennifer Gerard, Stephanie Mihalas, and Allison Walwyn for their assistance in collecting the data and especially Mark Little for serving as the confederate in Experiment 3. Portions of this research were presented at the annual conference of the International Association of Conflict Management, San Sebastian, Spain, June 1999 and the annual conference of the Academy of Management, Toronto, August 2000. Correspondence should be addressed to Victoria Husted Medvec, Management and Organizations, Kellogg School of Management, Northwestern University, Evanston, IL 60208; e-mail: vhm@northwestern.edu.

PSPB, Vol. 28 No. 2, February 2002 271-283

© 2002 by the Society for Personality and Social Psychology, Inc.

plays in determining negotiators' satisfaction. In the following experiments, we demonstrate that counterfactual thinking affects people's evaluations of negotiated outcomes. Specifically, we show that the upward counterfactual thoughts that follow the immediate acceptance of one's first offer reduce negotiator satisfaction. We also demonstrate that within the context of negotiations, the activation of counterfactual thoughts and the resulting decrease in satisfaction can occur independent of the objective value of the negotiated agreement. Furthermore, we show that the impact of counterfactual thoughts extends beyond evaluations of the current negotiation; counterfactual thoughts significantly affect negotiators' preparation and plans for subsequent negotiations. Our results suggest that the link between a current negotiation outcome and future negotiator behavior can result more from the amount of counterfactual activation produced by the current negotiation than from the level of satisfaction with the negotiated outcome.

COUNTERFACTUAL THINKING

Counterfactual thoughts are typically expressed as conditional propositions that link an antecedent and a consequent (Roese, 1994). Counterfactual thoughts are often activated when an event nearly occurred (Kahneman & Varey, 1990; Miller & McFarland, 1986) or when antecedents to that event were exceptional in some way (Kahneman & Miller, 1986; Kahneman & Tversky, 1982). In addition, surprising outcomes (e.g., ones that violate expectancies) and negative events tend to activate counterfactual thoughts about better possible scenarios (Roese & Hur, 1997; Roese & Olson, 1997; Sanna & Turley, 1996). Counterfactual thinking has been shown to affect a wide variety of judgments—from causal judgments (Wells & Gavanski, 1989) to victim compensation awards (Miller & McFarland, 1986) to exacerbations of the hindsight bias (Roese & Olson, 1996). However, no published research has investigated how counterfactual thinking affects people's reactions to negotiated agreements or how these counterfactual thoughts might influence subsequent negotiating behavior.

Medvec et al. (1995) found that counterfactual thoughts can lead those who perform objectively better to feel worse than those whom they outperform. In a study of Olympic athletes, it was found that athletes who won silver medals were rated as appearing less satisfied than athletes who won the bronze, despite the better objective finish for the silver medallists. Medvec et al. explained this effect by noting that for silver medallists, the salient counterfactual alternative is winning a gold medal, whereas the salient counterfactual alternative for

bronze medallists is not receiving any medal at all. This finding suggests that counterfactual thoughts are a critical determinant of feelings of satisfaction and that satisfaction may not mirror objective outcomes.

The Medvec et al. finding also highlights the distinction between upward and downward counterfactual thoughts. In the literature, counterfactuals are classified according to the direction of comparison. Upward counterfactual thoughts occur when an individual compares the current reality to a better possible world (e.g., the silver medallists). Upward counterfactuals tend to reduce people's satisfaction (Markman et al., 1993; Medvec et al., 1995; Medvec & Savitsky, 1997). On the other hand, downward counterfactual thoughts occur when an individual compares his or her own outcome to a worse possible alternative (e.g., the bronze medallists). Downward counterfactuals tend to boost satisfaction and produce emotions ranging from increased joy to a sense of relief because one avoided the alternative outcome (Medvec & Savitsky, 1997; Roese, 1994).¹

The experiments reported here extend the Medvec et al. (1995) research by demonstrating a counterfactual-induced disconnect between objective outcomes and evaluations of those outcomes in negotiations. By *disconnect*, we mean that counterfactual activation can cause objective outcomes and satisfaction to be independent of each other (Kahneman & Varey, 1991). The literature on negotiations tends to focus on objective outcomes in economic terms. Economic measures such as the rate of agreement, whether the outcomes are pareto optimal, and whether individual utility is maximized are common (Thompson, 1990). Subjective concerns, on the other hand, are frequently overlooked. Psychologists have long recognized that subjective states may not always reflect objective reality. Thibaut and Kelley's (1959) discussion of comparison level and Helson's (1964) theory of adaptation level both recognized that perceptions of a stimulus are dependent on the context in which the stimulus is perceived. In addition, Asch (1955) and Sherif (1936) demonstrated that social norms can determine perception and evaluation, and Lewin (1935) noted that the same stimulus can have different personal meaning to different individuals and that an understanding of the subjective meaning takes precedence over the physical facts of the object.

We demonstrate a disconnect between objective outcomes and evaluations with a different type of counterfactual than the one explored by Medvec et al. (1995). Kahneman and Miller (1986) recognized that counterfactual thoughts can be produced by two different aspects of an event: closeness, in space or time, between an outcome and an imagined alternative and abnormality, or atypicality, of an event (e.g., acts of com-

mission, violations of routine). Close counterfactuals (Kahneman & Varey, 1990) are not phrased as propositional statements (“I could have done better *if*”) but simply refer to the alternative outcome (“I almost did better”), and they refer to alternatives that were objectively close to having become reality (a silver medallist is only one slot away from the gold). Whereas Medvec et al. demonstrated a disconnect between outcomes and evaluations with close counterfactuals, the experiments presented here find that abnormal counterfactuals—counterfactual thoughts produced by atypical sequences—create a similar disconnect.

The sequence of events leading to an outcome, and not just the closeness of the outcome to an alternative one, can determine individuals’ satisfaction with their results. Kahneman and Miller (1986) showed that atypicality also affects satisfaction; however, in their scenarios, typicality was constructed intrapersonally; for example, greater regret was presumed when an individual has an accident after going home a different way from work or going to a different convenience store than the usual ones. In our studies, the atypicality occurs interpersonally, with the counterfactual thoughts being generated by the actions of another individual. Our work extends the role of typicality to complex social interactions. We find that an atypical negotiation sequence—having your first offer immediately accepted—generates more upward counterfactual thoughts and leaves negotiators more dissatisfied than a typical negotiating sequence, even when the atypical negotiation sequence produces a superior objective outcome. The experiments presented here also examine the impact of these counterfactual thoughts on preparations for subsequent negotiations.

EVALUATIONS OF NEGOTIATED OUTCOMES

Previous research investigating the evaluations of negotiated outcomes has primarily looked at how a negotiated agreement compares to a prenegotiation expectation (Oliver, Balakrishnan, & Barry, 1994; Thompson, 1995). Generally, when an outcome is better than expected, negotiators are more satisfied than when an outcome is worse than expected. Negotiators also use the affect displayed by their opponent to evaluate the quality of their outcomes (Thompson, Valley, & Kramer, 1995)—if a negotiator’s opponent appears happy, then that negotiator feels less successful than if the opponent appears dissatisfied. They propose that a negotiator’s own affect tends to be inversely related to the affect displayed by the negotiator’s opponent.

Although previous research investigating evaluations of negotiated outcomes has not directly tested the effects of counterfactual thinking on individuals’ feelings of sat-

isfaction, we can reinterpret previous findings through a counterfactual lens. For example, Thompson et al.’s (1995) findings might be due to the activation of upward counterfactual thoughts when the opponent appears satisfied. Counterfactual thoughts are activated whenever alternatives come to mind—these alternatives can spring from the opponent’s affect, market information, the well-meaning suggestion of alternatives by a friend, or when elements of the negotiation are atypical in some way.

FIRST OFFERS

Prior research has examined the pattern of concessions that generally follows from first offers, and the general impact of first offers on negotiated outcomes has been examined (Liebert, Smith, Hill, & Keiffer, 1968; Neale & Bazerman, 1991; Yukl, 1974). Making a first offer can improve negotiated outcomes. In extending a first offer, we often anchor the negotiation at a point that is favorable to our side (Galinsky & Mussweiler, 2001; Huber & Neale, 1986; Northcraft & Neale, 1987). Galinsky and Mussweiler manipulated whether the buyer or the seller made a first offer and found that when buyers made a first offer, they bought the item for a significantly lower price than buyers who did not make the first offer; a parallel effect occurred for sellers. Generally, there is an anchoring advantage to making the first offer. But what if we make an initial offer and the other party immediately accepts it? How will we feel? Consider the rug example described at the outset of the article. One might expect that a negotiator should be happy with this outcome because the agreement is equal to his or her asking price and thus it should match, or be better than, his or her aspiration level. However, the research on counterfactual thinking suggests that despite approaching one’s aspiration level, a negotiator may not be satisfied when a first offer is immediately accepted. We may be much more satisfied paying \$25,000 for a new car after a lengthy negotiation than we would be if our initial offer of \$25,000—or even \$23,000—had been accepted. In addition, our thoughts about “what might have been” had we negotiated differently may affect the way we prepare for, and strategically approach, future negotiations.

EXPERIMENT 1

In Experiment 1, we examined the reactions that result when one’s first offer is immediately accepted. We hypothesize that when first offers are immediately accepted, negotiators construct more upward counterfactual thoughts than when their first offers are not accepted and the outcome is produced through a

pattern of negotiated concessions. We also included a delayed acceptance condition to test whether it is the immediate acceptance of first offers, not just the absence of multiple-round negotiations, that prompts upward comparisons to a better possible outcome. We further predict that the activation of upward counterfactual thoughts will result in negotiators being less satisfied with their negotiated outcomes.

Finding decreased satisfaction for the immediate acceptance of a first offer would appear to be consistent with previous discussions of the “winner’s curse” (Bazermann & Samuelson, 1983; Neale & Bazermann, 1991; Samuelson & Bazermann, 1985; Thaler, 1992). The central mechanism behind the “winner’s curse” is asymmetric information (Bazermann & Neale, 1992; Neale & Bazermann, 1991). It is because the seller knows the value of the item and the buyer does not that the buyer is destined to be cursed—hence, the colloquial phrase “buyer’s remorse.” To provide a test that the results are due to counterfactual activation independent of asymmetric information, we manipulated whether it was the seller’s or the buyer’s first offer that was immediately accepted.

Method

Participants and design. Participants were 66 undergraduates at a Midwestern university. The design of the study was a 3 (experimental condition: immediate acceptance/delayed acceptance/negotiated acceptance) \times 2 (negotiator role: buyer/seller) factorial design.

Procedure and stimulus materials. Participants were told that the experiment involved their perceptions of a negotiation. They were asked to read a scenario that described the purchase of a Persian rug. This scenario asked participants to imagine themselves as either potential buyers or potential sellers of this rug and then described the ensuing negotiation. A different version of this scenario was developed for each of the three experimental conditions in this study, but the final purchase price was held constant. The three conditions were (a) a transaction in which the first offer was immediately accepted; (b) a transaction in which the first offer was accepted, but only after a delay in which the opponent makes a number of calculations and discusses the issue with a partner; and (c) a transaction in which three rounds of negotiation were required before an agreement was reached. The final agreement price (\$500) was held constant across all of the experimental conditions.

At the end of the scenario, participants were asked to rate their perceived satisfaction with the transaction on a 7-point scale ranging from *not satisfied* (1) to *very satisfied* (7). After making these ratings, participants were asked to write what their thoughts would be at the end of the

negotiation. Eight lines were provided for them to describe their thoughts.

Results

To assess the degree of counterfactual activation, participant paragraphs were coded by three independent raters who were unaware of the various experimental conditions.² Specifically, the raters were asked to rate the extent to which the participant focused on the thought, “I could have done better.” The raters used a 7-point scale, anchored at *very little* (1) and *very much* (7). This assessment of counterfactual generation was modeled on those used by Medvec et al. (1995) and Medvec and Savitsky (1997).³ Because interrater reliability was quite high ($\alpha = 0.85$), the ratings of the three coders were averaged into one index. Satisfaction and counterfactual activation were negatively correlated, $r(63) = -.66$, $p < .001$.

We predicted that the immediate acceptance of a first offer would decrease satisfaction and increase counterfactual activation. A 3 (condition: immediate acceptance vs. delayed acceptance vs. negotiated acceptance) \times 2 (role: seller vs. buyer) \times 2 (measure: satisfaction vs. counterfactual) mixed-model ANOVA with repeated measure on the final factor was conducted. The predicted interaction between condition and type of dependent measure was significant, $F(2, 57) = 9.6$, $p < .001$. Experimental condition did not interact with role, suggesting that asymmetric information cannot account for the differential effect of the experimental conditions on satisfaction and counterfactual thinking.⁴ Univariate analyses for the dependent measures are presented below.

The immediate acceptance of one’s first offer decreased satisfaction with the negotiated outcome. Perceived satisfaction was found to be significantly affected by experimental condition, $F(2, 61) = 7.3$, $p < .01$. Planned comparisons revealed that participants felt significantly less satisfied after an immediate acceptance ($M = 3.9$) than after a delayed acceptance of their first offer ($M = 5.2$), $t(61) = 3.3$, $p < .01$, or when their offer was accepted after a three-round negotiation ($M = 5.1$), $t(61) = 3.3$, $p < .01$. The negotiated and delayed acceptance conditions did not differ from each other, $t < 1$. Immediate acceptance of a first offer led to increased generation of upward counterfactual thoughts, $F(2, 60) = 6.1$, $p < .01$. Planned comparisons revealed that participants expressed significantly more upward counterfactual thoughts after an immediate acceptance ($M = 4.8$) than after a delayed acceptance of their first offer ($M = 3.6$), $t(60) = 2.4$, $p < .02$, or when their offer was accepted after a three-round negotiation ($M = 3.1$), $t(60) = 3.4$, $p < .01$. The negotiated and delayed acceptance conditions did not differ from each other, $t < 1$.

We also explored whether counterfactual thoughts mediated the effects of the satisfaction ratings. According to Baron and Kenny (1986) and Judd (1999), the mediating variable must still predict the outcome while controlling for experimental condition and, finally, the effect of experimental condition must be reduced when controlling for the effect of the mediator. When both experimental condition and amount of upward counterfactual activation were simultaneously entered into a regression equation predicting satisfaction,⁵ amount of upward counterfactual activation still reliably predicted level of satisfaction, $\beta = -.56$, $t(61) = 5.6$, $p < .001$. Although the effect of experimental condition was still significant, $\beta = .25$, $t(60) = 2.4$, $p = .02$, a test using the corrected procedure originally specified in Kenny, Kashy, and Bolger (1998) of whether the effect of condition was significantly reduced in the presence of the counterfactual variable was significant, $z = 3.4$, $p < .01$, demonstrating partial mediation of counterfactual thoughts on satisfaction ratings. These results suggest that having one's first offer immediately accepted produces thoughts of how one "could have done better" and that these counterfactual thoughts reduce feelings of satisfaction.

DISCUSSION

Why did the immediate acceptance of one's first offer activate counterfactual thoughts and produce dissatisfaction? Kahneman and Miller's (1986) norm theory suggested that when an outcome is produced by an "abnormal" cause—one that is exceptional rather than routine—counterfactual alternatives are more available. If we construe immediate acceptance of first offers as violating the script of a typical negotiation and being exceptional, then the fact that negotiators were dissatisfied despite the outcomes' presumed proximity to their aspiration level is not surprising. This exceptionality—the absence of a systematic pattern of concessions—prompts upward counterfactual thoughts, leading participants to feel dissatisfied with their outcome.

To determine if the immediate acceptance of one's first offer was indeed considered to be an atypical negotiation sequence, we had 86 participants rate the typicality of the three buyer negotiation scenarios from Experiment 1. After reading the scenarios, they were asked the following two questions: (a) How typical was the process of this negotiation? and (b) If you think about the negotiation above as a division of a pie, what portion of the pie did the dealer get? The typicality question used a scale that was anchored at *not at all typical* (1) and *very typical* (7). The pie distribution question was anchored at *I got all the pie* (0%) and *the dealer got all the pie* (100%).

Judgments of the typicality were significantly affected by the experimental conditions, $F(2, 83) = 13.4$, $p < .01$.

The immediate acceptance condition ($M = 3.5$) was considered the least typical followed by the delayed acceptance condition ($M = 4.4$) and the negotiation condition ($M = 5.7$). Each of the means was significantly different from each other, all $t_s(83) > 2.0$, all $p_s < .05$. Judgments of the division of the pie also were significantly affected by the experimental conditions, $F(2, 83) = 4.8$, $p = .01$. The dealer was presumed to have gotten the largest piece of the pie in the immediate acceptance condition ($M = 74.5\%$) followed by the negotiation condition ($M = 65\%$) and the delayed acceptance condition ($M = 59.5\%$). The immediate acceptance condition was significantly different, both $t_s(83) > 2.0$, $p_s < .05$, from the other two conditions, which did not differ from each other.

Why did the delayed acceptance condition—with its absence of multiple-round negotiation—produce the same level of satisfaction and counterfactual activation as the negotiation condition in Experiment 1, despite being rated as less typical of a negotiation than the negotiation condition? One possibility is that the delayed acceptance of one's first offer in which the opponent ponders and grapples with the offer suggests that the opponent is conflicted over the value of the offer. We would therefore expect this scenario to activate an inverse affect process wherein the negotiator, perceiving the opponent to be psychologically conflicted, feels satisfied with the ensuing outcome (Thompson et al., 1995). The fact that the dealer was perceived to have received significantly less of the pie in this condition than in the immediate acceptance condition suggests that this may be true. To test whether the delayed acceptance condition increased perceptions that the dealer was experiencing conflict over the offer, we had an independent sample of 61 participants rate how conflicted the dealer seemed during the negotiation: "How conflicted was the dealer over the price you agreed upon?" The scale was anchored at *not at all conflicted* (1) and *very conflicted* (7). Judgments of how conflicted the dealer was were significantly affected by the experimental conditions, $F(2, 58) = 32.0$, $p < .01$. The dealer was presumed to be the most conflicted in the delayed acceptance condition ($M = 4.2$) followed by the negotiation condition ($M = 3.2$) and the immediate acceptance condition ($M = 1.7$). Each of the means was significantly different from each other, all $t_s(58) > 2.3$, all $p_s < .03$.

These results suggest that the typicality of the negotiation sequence and the direction of the opponent's affect can both determine the level of counterfactual activation. Participants in the immediate acceptance condition of Experiment 1 presumably generated upward counterfactual thoughts because of the atypicality of having their first offer immediately accepted without any evidence of conflict in the dealer.

EXPERIMENT 2

The first experiment found evidence supporting our contention that the immediate acceptance of one's first offer would evoke counterfactual thoughts and thus reduce satisfaction with the outcome. One alternative explanation for our results is that having participants rate their level of satisfaction first may have actually caused them to generate counterfactuals. This alternative explanation would be consistent with work by McMullen (1997) and McMullen and Markman (2000), which suggests that the mere measurement of satisfaction can produce affective contrast because such a measure implicitly requires one to evaluate the present reality in light of a presumed imagined alternative. To support our contention that counterfactual thinking led to decrements in satisfaction, we conducted a second experiment in which we counterbalanced the order of the two dependent measures—the satisfaction and the counterfactual activation measures.

Method

Participants and design. Participants were 106 undergraduate and master of business administration (MBA) students. The design of the study was a 2 (condition: immediate acceptance/negotiation) \times 2 (order: satisfaction measure first vs. satisfaction measure second) between-subjects factorial design.

Procedure and stimulus materials. Participants were asked to read the buyer scenario from Experiment 1. The order of the dependent measures was counterbalanced. Half of the participants were asked to rate their perceived satisfaction with the transaction on a 7-point scale ranging from *not satisfied* (1) to *very satisfied* (7). On the next page, these participants were asked to write what their thoughts would be at the end of the negotiation. For the other half of the participants, the order of these measures was reversed.

Results and Discussion

The thoughts participants described following the negotiation were coded by two independent raters who were unaware of the various experimental conditions or the experimental hypotheses. Ratings of the degree of upward counterfactual expression were quite reliable ($\alpha = 0.86$) and therefore the ratings of the two coders were averaged into one index. Satisfaction and counterfactual activation were negatively correlated, $r(106) = -.64, p < .001$.

A 2 (condition: immediate acceptance vs. negotiated acceptance) \times 2 (order: satisfaction measure first vs. satisfaction measure second) \times 2 (measure: satisfaction vs. counterfactual) mixed-model ANOVA with repeated measure on the final factor was conducted. The pre-

dicted interaction between condition and type of dependent measure was significant, $F(1, 102) = 40.1, p < .001$. The immediate acceptance of one's first offer decreased satisfaction with the negotiated outcome, $F(1, 104) = 28.1, p < .001$. Participants who read that a first offer was immediately accepted were less satisfied ($M = 3.0$) than participants who negotiated the final purchase price ($M = 4.6$).⁶ The immediate acceptance condition also increased the generation of upward counterfactual thoughts ($M = 5.4$) compared to the delayed acceptance condition ($M = 3.4$), $F(1, 104) = 35.1, p < .001$.

In addition, there was a marginally significant interaction between order and type of dependent measure, $F(1, 102) = 3.5, p = .065$, demonstrating that when counterfactual assessment came first, counterfactuals were increased and satisfaction was decreased. This effect helps rule out the alternative explanation that the satisfaction measure caused the generation of counterfactual thoughts in Experiment 1: In Experiment 2, when the satisfaction measure came first, the level of counterfactual generation actually decreased. Finally, condition did not interact with order, $F_s < 1.1$.

We again explored whether counterfactual thoughts mediated the effects of the satisfaction ratings. When both experimental condition and amount of upward counterfactual activation were simultaneously entered into a regression equation predicting satisfaction, amount of upward counterfactual activation still reliably predicted level of satisfaction, $\beta = -.58, t(103) = 7.1, p < .001$. Although the effect of experimental condition was still significant, $\beta = .25, t(103) = 2.2, p = .03$, a test of whether the effect of condition was significantly reduced in the presence of the counterfactual variable was significant, $z = 4.2, p < .01$, demonstrating partial mediation of counterfactual thoughts on the satisfaction ratings.

Experiment 2 replicated the effects of Experiment 1 and ruled out the alternative explanation that the results of Experiment 1 were due to a methodological artifact of question order.

EXPERIMENT 3

The first two experiments revealed that individuals predict that they will be less satisfied with their outcome and will experience more upward counterfactual thoughts if their first offer in a negotiation is immediately accepted than if the outcome is achieved through a series of counteroffers. Experiment 3 explores whether the same results emerge if we examine the satisfaction and counterfactual thoughts of actual negotiators rather than focusing on the predicted reactions of individuals reading negotiation scenarios. It is important to test whether the reactions of observers and actual negotiators converge because there exists a diversity of social psychological effects in which the judgments of pre-

dicted and actual reactions diverge (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Jones & Nisbett, 1987). In each case of judgmental divergence, observers and predictors fail to take into account situational forces that actually predict behavior. In the case of counterfactuals, we think that the situation will not be ignored precisely because the situation is such an inherent part of the constructed counterfactuals: Counterfactuals evoke their own context and alternatives.

To examine this proposition, participants negotiated with another party over the purchase of a house. The other party in this negotiation was actually a confederate whose responses were predetermined depending on the participant's randomly assigned condition. The confederate either immediately accepted the participant's first offer or the confederate carried out three rounds of a concession-based negotiation. Because participants whose first offers are immediately accepted are not required to make any concessions, these participants should obtain objectively better outcomes than those participants in the negotiation condition. Yet, we predict that they will be less satisfied with their outcomes than will those participants with objectively worse outcomes that have been negotiated through a series of concessions from both parties.

There have been discussions over both the functional (Markman et al., 1993; Roese, 1994) and dysfunctional (Miller & Taylor, 1995) aspects of engaging in upward counterfactual thought. Roese (1994) found that instructions to engage in upward counterfactual thinking following an initial anagram task increased behavioral intentions to engage in success-facilitating behaviors and actually increased performance on a subsequent anagram task. In addition, foreknowledge that a task is going to be repeated increases the production of upward counterfactual thoughts (Markman et al., 1993). These prior studies suggest that upward counterfactuals serve a preparative function—upward counterfactuals result in and are the result of a desire to improve performance. Based on this information, we would expect that the upward counterfactual thoughts activated by the immediate acceptance of one's first offer would motivate participants to better prepare for a subsequent negotiation. This potential increase in pre-negotiation preparation should lead to better negotiated outcomes in the future (Raiffa, 1982).

On the other hand, some prior research has documented the dark side of counterfactual thinking (Sherman & McConnell, 1995). Counterfactual thinking can increase blame (Miller & Gunasegaram, 1990), increase suspiciousness (Miller, Turnbull, & McFarland, 1989), and lead to intense and persistent negative affect (Davis, Lehman, Wortman, Silver, & Thompson, 1995). In addition, upward counterfactual thinking can lead

individuals to avoid anticipated regret (Miller & Taylor, 1995). Miller and Taylor presented both theoretical arguments and data that supported the notion that counterfactual thinking and superstitious beliefs are sometimes related. Events producing upward counterfactual thoughts become more available in memory. Participants may avoid activities, sequences, or events in which an alternative reality, even one quite rare and improbable, is highly available in memory. The biasing of memory and avoidance of anticipated regret work in tandem to create superstitious beliefs leading individuals to avoid activities that have easily imagined negative alternatives. This suggests that when a negotiator's first offer is immediately accepted, the resulting counterfactual thoughts will make the episode more available in memory. Negotiators who feel dissatisfied with the results of having made a first offer (despite the objective advantage of having done so) may adopt a negative impression of making first offers. Thus, these negotiators may avoid making first offers in the future. Avoiding making a first offer, however, may preclude these negotiators from gaining an anchoring advantage and maximizing their negotiated outcomes in the future (Galinsky & Mussweiler, *in press*).⁷

The second experiment was designed to explore the consequences of having one's first offer immediately accepted on future negotiation behavior. Some recent research suggests that regret can affect future behavior. Zeelenberg and Beattie (1997) had individuals make a first offer in an ultimatum game in which they were to divide 100 Dutch Guilders (if the other participant accepted the division, each participant would get to keep their division of the money, but if the second person rejected the division, then neither participant would get any money). Participants, who were told that they could have offered substantially less without their proposed division being rejected, experienced more regret and became less generous in the second ultimatum game. In the Zeelenberg and Beattie study, it is difficult to know whether offering substantially less in the subsequent ultimatum game was functional or dysfunctional. If the second responder accepts the lower offer, then the proposer would get a higher proportion of the prize. However, the second responder could have rejected the proposed division and the proposer would have gotten nothing.

In our next experiment, we wanted to explicitly test whether upward counterfactual thinking following a negotiation would lead to future functional or dysfunctional behavior. We told participants that they were going to engage in a number of negotiations with different participants. After they completed a negotiation over the purchase of a house, they were given time to prepare for a subsequent job offer negotiation. To test the pre-

parative function of upward counterfactual thoughts, we measured the length of time participants spent preparing for the next negotiation. To examine whether there might be any dysfunctional effects, participants also were asked how likely they would be to make a first offer in the next negotiation.

Method

Participants and design. Participants were 26 undergraduate students from a Midwestern university. Individuals were paid \$7 for participating in the study. The design of the study was a single-factor, between-participants design with two levels of the manipulated variable (immediate acceptance/negotiation).

Procedure and stimulus materials. Participants arrived at the laboratory and were told that they would be participating in a number of negotiations with other participants. Participants were told they would first play the role of a buyer in a housing purchase negotiation. They were told that their negotiating opponent was seated in a separate room and that they would each have an opportunity to read instructions and receive relevant information before negotiating. Participants read approximately two pages worth of information about the house and the context of the negotiation. They were told that they had looked at a number of houses, none of which met their needs. Through a mutual friend, they had come in contact with owners who were considering selling their house now that their kids had gone off to college but that they had not given it much thought yet. The house was described as meeting many, but not all, of the criteria that the buyers wanted in a house. When the potential buyers approached the owners about purchasing the house, the owners responded by stating that because the house was not officially on the market, they had not yet determined a selling price. The owners told the potential buyers to make them an offer.

Participants were told that cash prizes would be given to the buyers and sellers who had the three best outcomes for their respective roles in the negotiation. To encourage participants to make a reasonable offer for the house, a number of constraints were added to the task—this was also done to simulate the reality of this type of negotiation more effectively. Participants were told that the seller's instructions required the seller to reject very low offers outright and refuse to engage in further negotiations. Participants were told that the seller's refusal to negotiate would automatically eliminate them from receiving a cash prize. No participants were excluded.

In reality, the negotiating opponent was a confederate who manipulated his responses to the participant's first offer according to the participant's experimental condition. Although the confederate was aware of the

experimental conditions, the confederate was unaware of the experimental hypotheses. In the immediate accept condition, the confederate immediately accepted the participant's first offer to buy the house. In the negotiation condition, the confederate countered with a price that was \$70,000 more than the first offer made by the participant. After the participant made a counter offer, the confederate countered with an offer that was \$10,000 more than the participant's second offer. After a third offer by the participant, the confederate agreed on a purchase price. In both conditions, the participant and confederate signed a contract that recorded the agreed-on purchase price of the house. Great care was taken to ensure that the demeanor of the confederate was held constant across the experimental conditions. The confederate was instructed that in both conditions, he should not express any outward emotion, either positive or negative, when accepting the offer. After participants had purchased the house, they were asked to rate their satisfaction with the transaction and were then asked to write their thoughts about the negotiation.

After recording their thoughts about the negotiation, participants were told that they were going to engage in a job offer negotiation in which they would play the role of the recruiter. The negotiation was to involve eight issues ranging from salary to health benefits. Participants were given the role information for the negotiation and asked to prepare for the negotiation. The amount of time each participant spent preparing for the negotiation was recorded. In addition, participants were asked how likely they would be to make the first offer in the next negotiation. The scale was anchored at *not at all likely* (1) to *very likely* (7). Once participants had finished preparing, they were told to inform the experimenter that they were ready for the negotiation. At this point, the experimenter stopped the clock and informed the participant that the experiment was over. Thus, participants never engaged in the second negotiation—we were exclusively interested in their pattern of preparation. Participants were then thoroughly debriefed.

Results and Discussion

The thoughts participants described following the first negotiation were coded by two independent raters who were unaware of the various experimental conditions or the experimental hypotheses. Ratings of the degree of upward counterfactual expression were quite reliable ($\alpha = 0.91$); therefore, the ratings of the two coders were averaged into one index. Overall, satisfaction and counterfactuals were negatively correlated, $r(26) = -.56$, $p < .01$. Purchase price was not correlated either with satisfaction, $r(26) = -.27$, $p = .18$, or with counterfactuals, $r(26) = .05$, $p = .82$.

Participants whose first offers were immediately accepted achieved better outcomes but were less satisfied with these outcomes than participants who negotiated for the final price. To compare the objective outcome and the evaluations of that outcome, the purchase price, satisfaction ratings, and counterfactuals were each transformed into z scores. Because a lower purchase price represented a better outcome for the buyer, the z scores for purchase price were multiplied by -1 so that a higher number would represent a better outcome. The transformed z scores were submitted to a 2 (condition: immediate acceptance vs. negotiate) \times 3 (measure: purchase price vs. satisfaction vs. counterfactual) mixed-model ANOVA with repeated measure on the second factor. The predicted Condition \times Repeated Factor interaction was significant, $F(1, 23) = 9.2, p < .001$. Immediate acceptance of one's first offer ($M = \$310,333$) produced a marginally lower purchase price and, thus, a better outcome than that achieved through a negotiation ($M = \$344,929$), $F(1, 24) = 3.8, p = .06$. Participants whose first offers were immediately accepted, however, were significantly less satisfied with the transaction ($M = 4.6$) than participants who negotiated the final purchase price ($M = 5.6$), $F(1, 24) = 5.7, p = .03$. Finally, the immediate acceptance condition increased the generation of upward counterfactual thoughts ($M = 4.3$) compared to the negotiation condition ($M = 2.2$), $F(1, 24) = 7.5, p = .01$.

We again explored whether counterfactual thoughts mediated the effects of the experimental condition on the satisfaction ratings. When both experimental condition and amount of upward counterfactual activation were simultaneously entered into the regression equation predicting satisfaction, amount of upward counterfactual activation still reliably predicted level of satisfaction, $\beta = -.45, t(23) = 2.4, p = .03$, but the effect of experimental condition was reduced to nonsignificance, $\beta = .22, t(23) = 1.1, p = .27$. A test of whether the effect of condition was reduced in the presence of the counterfactual variable was marginally significant, $z = 1.77, p < .08$.

Likelihood of making first offer and time spent preparing for the second negotiation. There was a significant effect of experimental condition on the reported likelihood of making first offers in the next negotiation, $F(1, 24) = 4.2, p = .05$. Participants indicated that they would be less likely to make a first offer in the next negotiation when their first offer had been immediately accepted in the previous negotiation ($M = 4.0$) than when their offer was accepted after a negotiation ($M = 4.7$). There was no significant difference between the two conditions in the amount of time spent preparing for the second negotiation, $F < 1$.

Roese (1997) and Roese and Hur (1997) have suggested that negative affect is the primary driver of counterfactual thinking and that event normality affects the content but not the activation of counterfactual thoughts. In the Roese and Hur experiments, outcome valence (i.e., success or failure) was a stronger predictor of counterfactual generation than event normality. Roese (1997) has suggested that negative affect (although not necessarily dissatisfaction) is the engine that activates counterfactual thinking in the first place— affect precedes counterfactuals. Experiment 2 demonstrated that when the counterfactual dependent measure came first, counterfactual generation was higher and satisfaction was lower, suggesting that counterfactuals may sometimes precede satisfaction. One way of comparing the relative strength of counterfactual activation and satisfaction is to explore which of these variables is a stronger predictor of the likelihood of making a future first offer and the amount of time preparing for a subsequent negotiation. Our hypothesis was that engaging in upward counterfactual thinking would produce both an aversion to making first offers and greater preparation for future negotiations that was over and above the variance accounted for by the level of satisfaction.

To test this notion, two separate regressions were run for each of the preparation measures. The first pair of regressions predicted likelihood of making a first offer from satisfaction and upward counterfactuals. The first equation entered satisfaction on Step 1, which showed a nonsignificant tendency for satisfaction to predict the likelihood of making a subsequent first offer, $\beta = .29, t(24) = 1.5, p = .15$. Entering upward counterfactual thoughts resulted in a marginally significant change in r^2 from Step 1 to Step 2, $\Delta r^2 = .13, p = .06$, suggesting that upward counterfactual thoughts predicted the likelihood of making a subsequent first offer over and above the predictive effect of the ratings of satisfaction. The second equation entered upward counterfactual thoughts on Step 1, which showed that upward counterfactual thoughts significantly predicted the likelihood of making a first offer, $\beta = -.46, t(24) = 2.6, p = .02$. Entering satisfaction did not produce any significant change in r^2 from Step 1 to Step 2, $\Delta r^2 = .001, p = .85$. The combination of the two regressions suggest that the avoidance of making subsequent first offers was driven by the activation of counterfactual thoughts and not by decreased satisfaction.⁸

The second pair of regressions predicted the amount of time preparing for the subsequent negotiation from satisfaction and upward counterfactuals. The first equation entered satisfaction on Step 1, which showed that satisfaction was a significant predictor of the amount of time spent preparing for the subsequent negotiation, $\beta =$

-.40, $t(22) = 2.0$, $p = .05$. Entering upward counterfactual thoughts resulted in a significant change in r^2 from Step 1 to Step 2, $\Delta r^2 = .19$, $p = .02$. The second equation entered upward counterfactual thoughts on Step 1, which showed that upward counterfactual thoughts significantly predicted the amount of time spent preparing for the subsequent negotiation, $\beta = .58$, $t(22) = 3.3$, $p < .01$. Entering satisfaction did not produce any significant change in r^2 from Step 1 to Step 2, $\Delta r^2 = .01$, $p = .61$. The combination of the two regressions demonstrates that the amount of preparation was driven by the activation of upward counterfactual thoughts rather than satisfaction.⁹

Negotiated agreements produced by the immediate acceptance of first offers resulted in positive objective outcomes but negative evaluations compared to agreements that emerged from a back-and-forth negotiation. The immediate accept condition also produced greater counterfactual activation than the negotiation condition. In addition, counterfactual activation was implicated in reducing the rate of making first offers and increasing the amount of time spent preparing for a subsequent negotiation. The consequences of counterfactual activation in this negotiation context have both an immediate effect of lowering satisfaction and an enduring effect of motivating participants to prepare more for subsequent negotiations (which will benefit them in the future) while simultaneously leading them to avoid making first offers in the future (which will cost them the anchoring advantage) (Galinsky & Mussweiler, in press).

GENERAL DISCUSSION

In two scenario experiments and an actual negotiation, counterfactual thoughts were demonstrated to be a critical determinant of postnegotiation satisfaction. Immediate acceptance of one's first offer increased the activation of counterfactual thoughts, which led to a decrease in satisfaction with the negotiated agreement. The results from actual negotiators mirrored the results of the scenario experiments. Unlike a host of other social psychological phenomena (Gilbert et al., 1998), with counterfactual thinking, the divergence between predicted and actual reactions appears to disappear. Counterfactuals bring the context to the fore, leading to a convergence of predicted and actual reactions to mutable events.

One reason why the immediate acceptance of one's first offer increases counterfactual thinking and decreases satisfaction is that in the world of negotiations, immediate acceptance of a first offer represents an exceptional event. The availability of a more typical alternative reality prompted counterfactual comparisons that reduced satisfaction. In addition, there was evi-

dence that counterfactual thoughts mediated the experimental effects on satisfaction. Reductions in satisfaction were dependent on the differential activation of counterfactual thinking in the separate experimental conditions. In addition, counterfactual activation was a stronger predictor than satisfaction of both the functional (e.g., preparation time) and dysfunctional (e.g., likelihood of making first offers) postnegotiation behavior of participants.

Disconnecting Evaluations and Objective Outcomes

Across the experiments, evidence was found for a systematic disconnect between evaluations and objective outcomes. In the scenario experiment, the decrease in satisfaction occurred even though the objective outcome was held constant across the experimental conditions. In the actual negotiation, participants whose first offers were immediately accepted achieved better outcomes on average than those who negotiated, yet they were still less satisfied. This counterintuitive finding is consistent with the now-documented phenomenon of doing better and feeling worse (Boles & Messick, 1995; Galinsky, Mussweiler, & Medvec, 2000; Medvec et al., 1995; Medvec & Savitsky, 1997). The experiments reported here extend the work of Medvec et al. and Medvec and Savitsky by showing that this disconnect is not dependent on close counterfactuals. Counterfactuals produced by atypical sequences also can lead to reductions of satisfaction, even in the face of objectively superior outcomes. Boles and Messick found that both social comparison and reference point alternatives could lead to objectively better outcomes being judged less satisfying than objectively inferior outcomes. The research reported in this article differs from the Boles and Messick experiments because in their experiments, the alternative reference point that provoked dissatisfaction was known before the decision was made. In the current experiments, dissatisfaction emerged from the atypicality of the negotiation sequence without any prior expectancy or comparison point. The research on procedural and distributive justice has found a similar disconnect between evaluations and objective outcomes (Lind & Tyler, 1988; Tyler, 1990). Conditions that bring to mind alternatives, whether they are social comparisons, reference point comparisons, or atypical sequences, can lead objectively superior outcomes to be evaluated more negatively than objectively worse outcomes.

The Functional and Dysfunctional Consequences of Counterfactual Activation

Counterfactual activation predicted both the amount of preparation and the likelihood of making a first offer in a subsequent negotiation. The fact that increases in

counterfactual thinking increased the amount of time spent preparing for future negotiations provides further evidence that counterfactual thinking serves a preparative function. Roese (1994) found that upward counterfactual generation led to increased behavioral intentions and subsequent improvements in performance. In the Roese experiments, participants were instructed to construct counterfactuals. The research presented here extends the work on the preparative functions of counterfactuals by demonstrating the preparative function with naturally occurring, spontaneously generated counterfactuals. Given that preparation is vital to procuring beneficial negotiated outcomes (Raiffa, 1982), we would expect that counterfactual activation would not only motivate participants to expend more effort but would produce more positive outcomes in future negotiations.

Counterfactual activation, however, may not be a sure path to future success. In addition to increasing preparation time, counterfactual thinking also reduced the likelihood of making a future first offer. In this sense, upward counterfactual activation appears to motivate participants to avoid the possibility of future regret, apparently taking protective measures to prevent its reoccurrence (Larrick & Boles, 1995; Zeelenberg, Beattie, van der Plight, & de Vries, 1996). Negotiators often benefit from making the first offer because they have the opportunity to anchor the negotiation in their favor (Galinsky & Mussweiler, in press). In fact, it is in situations when the negotiator is well prepared with some knowledge of the bargaining zone that making a first offer is most advantageous. Despite increasing preparation, upward counterfactual activation may leave negotiators with worse outcomes in subsequent negotiations by leading them to avoid putting the first offer on the table. Thus, it seems that activation of counterfactuals may both enable and hinder future negotiation performance.

Across three experiments, counterfactual activation was an important predictor of satisfaction. Although the final experiment demonstrated that participants engaging in a simulated negotiation will demonstrate a counterfactual-induced disconnect between the objective value of a negotiated outcome and satisfaction with that outcome, future research should explore whether this relationship holds when the item to be negotiated has more consequential value for the negotiator. In addition, future research should explore whether it is the functional or the dysfunctional consequences of counterfactual activation that has a greater effect on the actual outcomes of subsequent negotiations: Does counterfactual activation lead to an advantage or disadvantage for the negotiator? One way to explore this question is to activate counterfactual thoughts in a

nonnegotiation context and observe its effect on subsequent negotiator behavior (see Galinsky & Moskowitz, 2000; Galinsky, Moskowitz, & Skurnik, 2000). Counterfactual activation appears to have immediate and subsequent impact on the evaluations and behavior of negotiators and its role in negotiations will continue to be a useful avenue for research.

NOTES

1. This distinction between upward and downward counterfactuals was adapted from the social comparison literature (Taylor, Buunk, & Aspinwall, 1990; Willis, 1981) in which the self is compared to better and worse-off others.

2. To ensure that the coders' ratings were unaffected by the participants' responses on the satisfaction measure, the written thoughts were separated from the satisfaction question.

3. It should be noted that other researchers have used the sheer incidence or number of counterfactual thoughts as evidence of counterfactual generation (Galinsky & Moskowitz, 2000; Markman, Gavanski, Sherman, & McMullen, 1993; Roese & Olson, 1995). We chose to use the rating scale because it is able to capture the intensity of the counterfactual thoughts, the strength with which counterfactuals are experienced and expressed (Sanna & Turley-Ames, 2000), whereas a coding scheme that relies on incidence is less sensitive to the intensity of the counterfactual thoughts expressed. This use of a rating scale was also empirically justified. Although, the correlation between the ratings of counterfactuals and the incidence of counterfactuals was high, $r(64) = .57$, our use of a rating scale to code counterfactuals was a somewhat more sensitive measure than the sheer incidence of counterfactuals; the effect of experimental condition on counterfactual thoughts was reduced and only marginally significant when the incidence of counterfactuals was used, $F(2, 62) = 2.7, p = .08$.

4. There was also a significant Role \times Dependent Measure interaction, $F(1, 57) = 6.3, p = .02$. Overall, sellers ($M = 4.9$) tended to be more satisfied than buyers ($M = 4.4$), and sellers ($M = 3.3$) tended to produce fewer counterfactual thoughts than did buyers ($M = 4.4$).

5. The regression analysis was conducted by giving the immediate acceptance condition a dummy code of -1 and giving both the delayed acceptance and negotiation conditions a dummy code of $+1$.

6. Using a multiple-item measure of satisfaction (satisfied, pleased, disappointed, unhappy) revealed an identical pattern of results.

7. The social comparison literature also has explored the differential positive and negative effects of upward comparisons; upward comparisons can decrease motivation by decreasing assessments of success, but they also can provide information on how to succeed (Taylor & Lobel, 1989).

8. One concern that may surface over these analyses is that the counterfactual activation measure, which is instantiated through the use of two coders, is more reliable than the single-item satisfaction measure. To quell any concerns over the differential reliability of these two constructs, we conducted the regression analyses separately for each coder; the pattern of results is very similar to those in which the composite measure of counterfactual activation is used.

9. It should be noted that McMullen and Markman (2000) found that negative affect predicted future investment decisions even after controlling for a counterfactual manipulation. However, the investment decisions that participants were asked to make were directly relevant to the information that produced their negative affect. Our analyses were concerned with the effects of counterfactuals and satisfaction on a second, separate task.

REFERENCES

- Asch, S. E. (1955). Opinions and social pressure. *Scientific American*, 193, 31-35.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, stra-

- tegitic, and statistical considerations. *Journal of Personality & Social Psychology*, 51, 1173-1182.
- Bazerman, M. H., & Neale, M. A. (1992). *Negotiating rationally*. New York: Free Press.
- Bazerman, M. H., & Samuelson, W. F. (1983). I won the auction but don't want the prize. *Journal of Conflict Resolution*, 27, 618-634.
- Boles, T. L., & Messick, D. M. (1995). A reverse outcome bias: The influence of multiple reference points on the evaluation of outcomes and decisions. *Organizational Behavior and Human Decision Processes*, 61, 262-275.
- Davis, C. G., Lehman, D. R., Wortman, C. B., Silver, R. C., & Thompson, S. C. (1995). The undoing of traumatic life events. *Personality and Social Psychology Bulletin*, 21, 109-124.
- Galinsky, A. D., & Moskowitz, G. B. (2000). Counterfactuals as behavioral primes: Priming the simulation heuristic and the consideration of alternatives. *Journal of Experimental Social Psychology*.
- Galinsky, A. D., Moskowitz, G. B., & Skurnik, I. W. (2000). Counterfactuals as self-generated primes: The effect of prior counterfactual activation on person perception judgments. *Social Cognition*, 18, 252-280.
- Galinsky, A. D., & Mussweiler, T. (in press). First offers as anchors: The role of perspective taking and negotiator focus. *Journal of Personality & Social Psychology*.
- Galinsky, A. D., Mussweiler, T., & Medvec, V. H. (2000). *Disconnecting subjective and objective utility: The role of negotiator focus*. Unpublished manuscript.
- Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. P. (1998). Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality & Social Psychology*, 75, 617-638.
- Helson, H. (1964). *Adaptation level theory*. New York: Harper & Row.
- Huber, V., & Neale, M. (1986). Effects of cognitive heuristics and goals on negotiator performance and subsequent goal setting. *Organizational Behavior and Human Decision Processes*, 38, 342-365.
- Jones, E. E., & Nisbett, R. E. (1987). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones (Ed.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Hillsdale, NJ: Lawrence Erlbaum.
- Judd, C. M. (1999). *The mediation of treatment effects*. Paper presented at the American Psychological Society, Denver, Colorado.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, 93, 136-153.
- Kahneman, D., & Tversky, A. (1982). The simulation heuristic. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases* (pp. 201-208). New York: Cambridge University Press.
- Kahneman, D., & Varey, C. (1991). Notes on the psychology of utility. In J. R. Elster (Ed.), *Interpersonal comparisons of well-being: Studies in rationality and social change* (pp. 127-163). Cambridge, MA: Cambridge University Press.
- Kahneman, D., & Varey, C. A. (1990). Propensities and counterfactuals: The loser that almost won. *Journal of Personality & Social Psychology*, 59(6), 1101-1110.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 1, 4th ed., pp. 233-265). Boston: McGraw-Hill.
- Larrick, R. P., & Boles, T. L. (1995). Avoiding regret in decisions with feedback: A negotiation example. *Organizational Behavior & Human Decision Processes*, 63, 87-97.
- Lewin, K. (1935). *A dynamic theory of personality*. New York: McGraw-Hill.
- Liebert, R. M., Smith, W. P., Hill, J. H., & Keiffer, M. (1968). The effects of information and magnitude of initial offer on interpersonal negotiation. *Journal of Experimental Social Psychology*, 4, 431-441.
- Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum.
- Markman, K. D., Gavanski, I., Sherman, S. J., & McMullen, M. N. (1993). The mental simulation of better and worse possible worlds. *Journal of Experimental Social Psychology*, 29, 87-109.
- McMullen, M. N. (1997). Affective contrast and assimilation in counterfactual thinking. *Journal of Experimental Social Psychology*, 33, 77-100.
- McMullen, M. N., & Markman, K. D. (2000). Downward counterfactuals and motivation: The wake-up call and the Pangloss effect. *Personality and Social Psychology Bulletin*, 26, 575-584.
- Medvec, V. H., Madey, S., & Gilovich, T. D. (1995). When less is more: Counterfactual thinking among Olympic medallists. *Journal of Personality and Social Psychology*, 69, 603-610.
- Medvec, V. H., & Savitsky, K. (1997). When doing better means feeling worse: The effects of categorical cutoff points on counterfactual thinking and satisfaction. *Journal of Personality and Social Psychology*, 72, 1284-1296.
- Miller, D. T., & Gunasegaram, S. (1990). Temporal order and the perceived mutability of events: Implications for blame assignment. *Journal of Personality & Social Psychology*, 59, 1111-1118.
- Miller, D. T., & McFarland, C. (1986). Counterfactual thinking and victim compensation: A test of norm theory. *Personality and Social Psychology Bulletin*, 12, 513-519.
- Miller, D. T., & Taylor, B. R. (1995). Counterfactual thought, regret, and superstition: How to avoid kicking yourself. In N. J. Roese & J. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 305-331). Mahwah, NJ: Lawrence Erlbaum.
- Miller, D. T., Turnbull, W., & McFarland, C. (1989). When a coincidence is suspicious: The role of mental simulation. *Journal of Personality & Social Psychology*, 57, 581-589.
- Neale, M. A., & Bazerman, M. H. (1991). *Cognition and rationality in negotiation*. New York: Free Press.
- Northcraft, G. B., & Neale, M. A. (1987). Experts, amateurs, and real estate: An anchoring-and-adjustment perspective on property pricing decisions. *Organizational Behavior and Human Decision Processes*, 39, 84-97.
- Oliver, R. L., Balakrishnan, P. V., & Barry, B. (1994). Outcome satisfaction in negotiation: A test of expectancy disconfirmation. *Organizational Behavior and Human Decision Processes*, 60, 252-275.
- Raiffa, H. (1982). *The art and science of negotiation*. Cambridge, MA: Harvard University Press.
- Roese, N. J. (1994). The functional basis of counterfactual thinking. *Journal of Personality and Social Psychology*, 66, 805-818.
- Roese, N. J. (1997). Counterfactual thinking. *Psychological Bulletin*, 121, 133-148.
- Roese, N. J., & Hur, T. (1997). Affective determinants of counterfactual thinking. *Social Cognition*, 15, 274-290.
- Roese, N. J., & Olson, J. M. (1995). Outcome controllability and counterfactual thinking. *Personality and Social Psychology Bulletin*, 21, 620-628.
- Roese, N. J., & Olson, J. M. (1996). Counterfactuals, causal attributions, and the hindsight bias: A conceptual integration. *Journal of Experimental Social Psychology*, 32, 197-227.
- Roese, N. J., & Olson, J. M. (1997). Counterfactual thinking: The intersection of affect and function. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29, pp. 1-59). New York: Academic Press.
- Samuelson, W. F., & Bazerman, M. H. (1985). Negotiation under the winner's curse. In V. Smith (Ed.), *Research in experimental economics* (Vol. 3). Greenwich, CT: JAI.
- Sanna, L. J., & Turley, K. J. (1996). Antecedents to spontaneous counterfactual thinking: Effects of expectancy violation and outcome valence. *Personality and Social Psychology Bulletin*, 22, 906-919.
- Sanna, L. J., & Turley-Ames, K. J. (2000). Counterfactual intensity. *European Journal of Social Psychology*, 30, 273-296.
- Sherif, M. (1936). *The psychology of social norms*. New York: Harper & Row.
- Sherman, S. J., & McConnell, A. R. (1995). Dysfunctional implications of counterfactual thinking: When alternatives to reality fail us. In N. J. Roese & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 199-231). Hillsdale, NJ: Lawrence Erlbaum.

- Taylor, S. E., Buunk, B. P., & Aspinwall, L. G. (1990). Social comparison, stress, and coping. *Personality and Social Psychology Bulletin, 16*, 74-89.
- Taylor, S. E., & Lobel, M. (1989). Social comparison activity under threat: Downward evaluations and upward contacts. *Psychological Review, 96*, 569-575.
- Thaler, R. H. (1992). *The winner's curse: Paradoxes and anomalies of economic life*. New York: Free Press.
- Thibaut, J., & Kelley, H. (1959). *The social psychology of groups*. New York: John Wiley.
- Thompson, L. (1990). Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin, 108*, 515-532.
- Thompson, L. (1995). The impact of minimum goals and aspirations on judgments of success in negotiations. *Group Decision Making and Negotiation, 4*, 513-524.
- Thompson, L., Valley, K. L., & Kramer, R. M. (1995). The bittersweet feeling of success: An examination of social perception in negotiation. *Journal of Experimental and Social Psychology, 31*, 367-392.
- Tversky, A., & Kahneman, D. (1982). Judgment under uncertainty: Heuristics and biases. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases*. Cambridge, UK: Cambridge University Press.
- Tyler, T. R. (1990). *Why people obey the law*. New Haven, CT: Yale University Press.
- Wells, G. L., & Gavanski, I. (1989). Mental simulation of causality. *Journal of Personality and Social Psychology, 56*, 161-169.
- Willis, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin, 90*, 245-271.
- Yukl, G. A. (1974). Effects of situational variables and opponent concessions on a bargainer's perception, aspirations, and concessions. *Journal of Personality and Social Psychology, 29*, 227-236.
- Zeelenberg, M., & Beattie, J. (1997). Consequences of regret aversion 2: Additional evidence for effects of feedback on decision making. *Organizational Behavior and Human Decision Processes, 72*, 63-78.
- Zeelenberg, M., Beattie, J., van der Pligt, J., & de Vries, N. K. (1996). Consequences of regret aversion: Effects of expected feedback on risky decision making. *Organizational Behavior & Human Decision Processes, 65*, 148-158.

Received April 24, 2000

Revision accepted July 3, 2001