Goal Fulfillment and Goal Targets in Sequential Choice

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This article examines the effect of goal fulfillment on choices made in the context of an ongoing sequence of experiences. We find that a good first experience produces an upward shift in the target level of goal achievement. When a higher level of goal attainment is offered by a risky option, that option will be preferred more following a good experience than following a bad experience. Several studies show that this pattern applies only to risk related to the content of the active goal and only to risk that offers the possibility of a higher level of goal achievement than a riskless option.

I magine a consumer who has just finished an entrée and is choosing between two desserts, one that is consistently good and another that might be much better or worse than the consistent dessert. Would this consumer prefer the variable dessert more after an entrée that was enjoyable or an entrée that was unenjoyable? Given that most consumer choices are made as part of a sequence of related decisions, it is somewhat surprising how little attention has been directed at consumer choices between certain and variable options in the context of an ongoing sequence.

Often a choice and the experiences preceding that choice serve the same underlying goal (e.g. activities on a vacation, volunteer work; see Dhar and Simonson [1999] for more discussion). An emerging literature in decision making has highlighted the importance of goals in consumer choice (Markman and Brendl 2000). The present research examines another point of contact between research on goals and decision theory. We propose that the manner in which a sequence of outcomes unfolds can activate different target levels of goal achievement for a specific content goal (hereafter, goal targets) that are then pursued through subsequent choices. These goal targets can lead to different sensitivity to the upside and downside of goal-related risky alternatives. Risky alternatives from the point of view of the consumer can arise from new brands, lack of familiarity with the product category, variability in service, or even a dispersion in expert opinions.

Building on the literature on goals and decision making, we identify the conditions under which and processes by which consumers' preference for an option with greater variability is influenced by the outcome of an earlier experience. We propose that a positive initial outcome causes an upward shift in one's goal target causing one to seek a higher level of goal attainment. If a risky option best serves the higher goal target, then this risky option may be preferred over a more conservative option. Alternatively, if the first outcome is negative, a lower goal target may make the conservative option more preferred to the risky option. Consistent with our theory, these preferences are attenuated when the experience and the subsequent choice options serve different content goals or when the variable option is not useful for achieving a higher goal target.

CONCEPTUAL BACKGROUND

There are two domains of research that may shed some light on preferences embedded in a sequence of related experiences. Behavioral decision theory provides a cognitive approach to choice based primarily on prospect theory and the notion that values are assessed relative to a reference point (Kahneman and Tversky 1979). A second body of research looks at the role of motivation in decision making. We discuss these two areas of research below and explain how our theory builds on this work.

Prospect Theory and Sequential Choice

Research in behavioral decision theory suggests that the mere fact that an outcome is embedded in a sequence might create a frame of reference that can influence subsequent preferences. For example, in prospect theory, preferences can depend on whether the current state is perceived to be above or below a reference point (Kahneman and Tversky 1979). Much of prospect theory and related theories have been developed and tested using stated dollar outcomes that

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allow for the type of computation necessary for these theories to make sharp predictions. Our focus is on more complex stimuli that do not readily line up on a one-dimensional quantitative scale with a clear reference point, so it is not clear which predictions prospect theory would suggest.

In spite of these limitations, prospect theory has been used to predict nonmonetary choices by making assumptions about the location of the reference point. Suppose that the individual who had a good entrée has exceeded the reference level of enjoyment and is in the domain of gains. This person would have a locally concave "value function." Conversely, the individual who had the bad entrée might be assumed to be below a salient reference level of enjoyment and therefore have a locally convex value function. With these assumptions, we may predict that the individual who had the bad entrée will be relatively more sensitive to the potential upside of the variable dessert than the downside, while the good entrée will lead the individual to be relatively more sensitive to the downside as compared to the upside. In our opening example, this analysis predicts that the individual who had the bad entrée would be more likely to choose the variable dessert.

However, prospect theory does not predict how sequences of outcomes are segregated or integrated by the decision maker, and this degree of freedom has been used to make the opposite predictions for choices in the context of multiple outcomes (see Thaler and Johnson 1990). The message from the behavioral decision analysis of our choice within an unfolding sequence is that predictions can be made using variants of prospect theory. However, it is not always clear how to apply these theories, and they can be used to make opposing predictions for our situation of interest.

Motivational Theories and Sequential Choice

Some research focusing on motivation has examined the effects of positive and negative outcomes on subsequent tasks. Early research in this area focused on achievement tasks and implicated self-beliefs as the driver of choice. For example, one study showed that following success on an achievement task, individuals chose more difficult tasks than they did following failure (Lewin et al. 1944). This behavior was explained by the relationship between performance and self-esteem. Following success on an achievement task, an individual chooses a harder task, because success on that task allows a stronger inference about one's own ability than success on an easier task. More recently, Higgins and his colleagues have proposed the notion of regulatory focus that might shed light on shifts in preferences following positive or negative outcomes (Higgins 1998, 2002). Higgins proposes two self-regulatory systems known as prevention and promotion that guide goal pursuit. Specifically, the promotion system regulates needs and motives related to approaching positive outcomes whereas the prevention system regulates needs related to avoiding negative outcomes. Like Lewin, this research often focuses on achievement settings and self-beliefs are a key driver of goal pursuit.

In our sequences the outcome of the initial experience is not likely to be attributed to the consumer's self, therefore self-beliefs are unlikely to be the main driver of choices. Additionally, regulatory focus research has not examined how goal pursuit can be influenced by prior outcomes. Brendl and Higgins (1996, 114–15) discuss this possibility, but no evidence is provided. Perhaps this evidence has not been found because the effects of prior outcomes are limited to the specific content of the goal activated during the prior experience. Higgins and his colleagues typically focus on general goal orientation, not on specific content goals. This orientation is hypothesized to carry over across domains to whichever specific goals are active. Therefore predictions about goal effects in this framework should generalize across goals at a given point in time. Below we propose a modified theory of goal choice. In our framework, the effects of prior outcomes on goal pursuit are specific to the content of the goal activated during the prior experience. Our theory also avoids any reliance on self-beliefs making it more relevant for consumption, as opposed to performance contexts.

Goals Targets and Sequential Choice

Central to psychological/motivational theories is the notion that consumers pursue choice options that assist them in attaining certain goals (Atkinson 1957). Early research into the dynamic effects of goals suggests that expectations about an individual's level of goal achievement can shift upward following success and downward following failure (Atkinson 1964). To develop a prediction for our situation of interest, we draw on this motivational research in addition to more recent research on the role of specific content goals in choice. This latter research has demonstrated that goals are often activated or constructed during an experience, either consciously or nonconsciously (Bargh and Chartrand 1999). Once a specific goal is activated, it influences the choice of subsequent actions in a manner that helps achieve the goal (Markman and Brendl 2000).

We propose that choices made as part of an ongoing sequence can be affected by earlier experiences in that sequence via the specific goal that is activated by the earlier experiences. Suppose that experiences not only activate a specific goal but that they also activate a specific goal target that an individual will seek at a particular point in time. By goal target, we are referring to a desired level of achievement for a specific content goal. Different specific goals can have different target levels at the same point in time. Similarly, the same goal can have different targets levels across time. Note that unlike regulatory focus theory, we are proposing a mechanism that is specific to the content of the goal active during the prior experience. Enjoying an entrée, for example, may raise one's target level of enjoyment for the meal, but it need not have any effect on other promotion goals for that individual.

Combining the notion of shifting goal targets with goal-driven choice, we can make predictions about the choice of dessert following a good or bad entrée. Returning to our opening example, the content goal that is most likely to be activated during a meal at a restaurant pertains to enjoying

that meal. We propose that the outcome of the first item is likely to influence the goal target of the individual. An individual who just had a good entrée compared to someone who had a bad entrée will have a higher goal target. During a restaurant meal, a higher goal target would drive the dessert choice toward an item that fulfills this higher target. When the dessert that has the highest possible enjoyment happens to be a variable option then that variable option will be more preferred by someone who had an enjoyable entrée compared to someone who did not. In contrast, the individual who had the bad entrée will be more likely to choose the consistent dessert to be assured of reaching a lower goal target.

Note that our prediction that a consumer with a good first experience will subsequently choose a variable option has two conditions. First, the choice must be related to the specific goal that is activated during the first experience. A higher goal target can not be reached by choosing a variable music CD following an extremely healthy meal, if these two experiences relate to different goals. Second, the variable option will be less attractive following a good first experience if the consistent option offers the highest level of goal attainment. In this situation, pursuit of a high goal target would lead those who had a good first experience to prefer the consistent option. Thus, goal targets are not expected to produce a general risk preference; risk is sought when it helps pursuit of a particular goal target, but risk will be avoided when the riskless option provides the best pursuit of the goal target.

Two other theories can be used as a starting point for predicting a risky choice following a good initial outcome. If we suppose that participants anticipate that consumers' moods will differ following good versus bad experiences, and we further assume that consumers' intuit a relationship between mood and risk tolerance similar to the effect shown with actual mood (Isen and Patrick 1983), then anticipated mood rather than goals might be driving preferences. Other research has found that subjective likelihoods can shift following good versus bad outcomes (Tversky, Vallone, and Gilovich 1985). Although this research examined sequences where the successive uncertainty was resolved by the same mechanism (e.g., the same basketball player shooting successive foul shots), this idea could be extended to situations where the same consumer receives successive outcomes that arise from different sources. Building on this research, individuals may intuit that a good experience will raise the subjective probability that subsequent uncertainty will be resolved positively. When choosing between desserts, one might suppose that a consumer has a hot hand following a good entrée and is therefore more likely to have the risky dessert turn out well than a consumer who had a bad entrée. It is important to note that these theories do not include the boundaries of goal-based predictions outlined in the previous paragraph.

In sum, previous research in decision making and motivation suggests a variety of factors that may influence risk preferences in an ongoing sequence. We propose a framework that combines the effects of goal activation and goal targets to identify the conditions under which a more variable option is preferred. We test our framework in five studies. Our analysis suggests that the variable option will be more preferred following a positive experience that raises the target for the active goal as compared to following a negative experience that does not raise the goal target (study 1). Only a goal-based theory predicts that this tendency to choose the variable option will be limited to situations where the variability relates to the content goal active during the earlier experience (study 2) and when the variable option provides the means to reach the higher goal target (study 4). We also directly measure subjective likelihood and goal targets, and we find that goal targets, but not likelihood judgments, track observed preferences (study 3). Lastly, we provide evidence that our results obtained from hypothetical choices obtain in real sequences of events (study 5).

PRESENT STUDIES

Study 1a: Test for Sequential Effects on Choice

Our first study tests the effect of the first item in an ongoing sequence on preferences for a subsequent item. Specifically, we hypothesize that individuals faced with a choice between an item that is consistently moderate and an item that is variable (i.e., sometimes better and sometimes worse than the consistent item) will be more likely to choose the item that offers the higher level of goal fulfillment (in this case, the variable option) when the sequence is going well than when the sequence is going badly.

Method

Thirty-five graduate students at a large university were recruited to fill out a short questionnaire in exchange for a candy bar. In the first sequence, participants were told that a hypothetical consumer, Mr. G, dines out once every month, and that after the main course, he sometimes finishes his meal with a glass of wine. They were told to consider the following two occasions: one where Mr. G likes his dinner a lot and one where Mr. G does not like his dinner very much. Mr. G faces a choice of two wines on each occasion: wine A he enjoys each time he orders it, while wine B is more variable, sometimes Mr. G likes it much more than wine A and sometimes he likes it much less. Participants are then asked on which occasion they think Mr. G would be more likely to order the variable wine B. Another group of 34 graduate students responded to a sequence where the consumer has a good or bad time at an amusement park and then faced a choice of a consistent or variable spa.

Results and Discussion

Consistent with our hypothesis, in the first sequence, 66% of the participants thought Mr. G would choose the variable wine after a good dinner, which reliably exceeded the proportion (23%) who thought he would choose the variable

wine after a bad dinner ($\chi^2(1) = 7.3, p < .01, n = 31$; 11% of the respondents thought he was equally likely to choose variable wine after either dinner). Similarly, in the other sequence, more participants (62%) thought the variable spa would be chosen after a good time at the amusement park than thought the variable spa would be chosen after the bad experience (21%, $\chi^2(1) = 7.0, p < .01, n = 28$; 18% of the respondents thought he was equally likely to choose the variable spa after either experience). In this and some of the studies that follow, we reversed the question and asked some participants who is more likely to choose the consistent option. The phrasing of the question had no impact on the results, so we discuss all results in terms of choice of the variable option for clarity of presentation.

These results provide evidence that when a sequence of consumption is going well, consumers' high goal target favors items that have a high upside. In contrast, when a consumption sequence is going badly, consumers' target shifts down and favors items that have a small downside. This increases the preference for a consistent moderate item as it is likely to guarantee the achievement of a more modest goal target.

Study 1b: Generalize Sequential Effects to Goals Other than Pleasure

We suggested that the first experience in study 1a is activating a goal and that the quality of the first experience in particular is driving participants toward either a higher or lower goal target. If the choices in our first study are indeed driven by activation of a goal, it should be possible to replicate our findings with choices related to goals other than pleasure. In our next study, we replicated our findings with sequences of experiences where the goal was not hedonic.

Method

Participants in this study were 60 undergraduates who saw all three of the following scenarios embedded in a large questionnaire that they completed in exchange for course credit. In the first sequence, participants are asked to imagine a hypothetical consumer who has either been eating healthy meals or unhealthy meals. This consumer then faces a choice between two physical therapy clinics, one whose benefits are variable and one whose benefits are consistent. Participants are asked on which occasion this consumer is more likely to choose the variable option. The next sequence involved a commuting goal. In the commuting sequence, participants are told about an individual who faces a choice of highways to get home from work (consistent and variable) after traversing a bridge either quickly or slowly. The third sequence activated a helping goal. In that sequence, an individual was described as feeling very helpful or not helpful teaching immigrants English and then faced a choice of homeless shelters to visit and help prepare meals. One shelter consistently made her feel helpful, while the other one

sometimes made her feel very helpful and sometimes not so helpful.

Results and Discussion

The results are analogous to the hedonic sequences in study 1a. In the first sequence, 70% of participants thought that the target individual would choose the variable clinic after healthy meals, while only 17% thought he would choose the variable clinic after unhealthy meals ($\chi^2(1) = 19.7, p < .001, n = 52$; 13% thought the first experience would not affect the choice). Similar results were obtained for the second sequence. A majority of participants thought the target individual would be more likely to take the variable highway after getting across the bridge quickly (62% thought he would choose the variable highway after the fast day on the bridge vs. 20% after the slow day on the bridge, $\chi^2(1) = 12.8, p < .001, n = 49$; 18% thought the first experience would not affect the choice). In the third sequence, a majority of participants (53%) thought the individual would chose the more variable homeless shelter after feeling helpful in the first experience, while 32% thought she would choose the more consistent shelter after feeling helpful ($\chi^2(1) = 3.3, p < .07, n = 51$; 15% thought the first experience would not affect the choice). The generalization of the sequence preference to several nonhedonic goals provides more evidence that this preference is a function of the level of attainment of activated goals.

Study 2: Test for General Risk-Seeking Rather than Goal-Related Effects

Since our theoretical account is based on goal activation, we predict that the effect observed in our studies extends only to choices that are goal related. If the choice options vary on a dimension that is irrelevant to achievement of the goal activated by the earlier experience, then our predictions will not apply. The two alternative accounts described in the introduction could potentially generate the prediction that having a good experience leads to general risk seeking across domains. That is, a belief in a hot hand or anticipation of mood effects would predict effects on subsequent choice regardless of whether or not that choice is related to the active goal.

To test whether nongoal explanations could potentially account for our results we modified our sequences to include consecutive events that were likely to be associated with different goals. We predicted that if the goals associated with the two experiences were different, the influence of the first experience on the choice of the second experience would be attenuated. In a pretest, 75 undergraduates read brief descriptions of sequences of two experiences and were asked to rate how related the two items are on a seven-point related/unrelated scale. The pretest identified several sequences that were rated as significantly less related than the sequences we had used in earlier studies and also fell near the unrelated endpoint of the scale. One such sequence consisted of going to a good/bad play followed by a choice of

restaurants that varied on a dimension unrelated to the active goal (i.e., health). When the restaurants varied on the goal-relevant (hedonic) dimension, the sequence was rated as highly related. These two sequences form the basis of study 2. In addition, we examined another sequence that is presented in the discussion section of study 2.

Method

Participants in study 2 were 179 undergraduates who completed a large questionnaire for course credit in which the present study was embedded. This study resembled study 1, except that the scenario was varied between participants to include either a goal-related choice or a goal-unrelated choice. Half of the participants saw a goal-related choice involving a choice of restaurants varying on hedonic dimensions following a good or bad hedonic experience (i.e., a good or bad play). The other participants saw the same scenario with one modification. The two restaurants are equally enjoyable and only vary on the healthiness of the meals. Participants are then asked on which occasion the hypothetical consumer is more likely to go to the variable versus the consistent restaurant.

Results and Discussion

The results of study 2 show the predicted effect of goal relatedness on choice of the variable option. When the second item in the sequence varied on the goal-related dimension (enjoyment), we found the usual effect: 70% chose the variable option following the good experience, while 11% chose the variable option following the bad experience (19% were equally likely to chose the variable option in either case). However, when the restaurants varied on a goal-unrelated dimension (health), only 38% chose the variable option following the good experience, while 35% chose the variable option following the bad experience (27% were equally likely to chose the variable option in either case). A chi-square test for independence confirms that the ratio of participants choosing the variable option following the good versus bad experience was significantly different between the two conditions ($\chi^2(1) = 18.9$, $p < .001$, $n = 138$).

We also examined another sequence of goal-unrelated choices by presenting that sequence to 74 undergraduates at a large university who were recruited without compensation to fill out a very short questionnaire. This sequence contained an enjoyable or unenjoyable time at a town fair followed by a choice of salon for a haircut. One salon gave consistently good haircuts, while the other sometimes gave better haircuts and sometimes gave worse haircuts. In that sequence, 31% of participants thought the variable salon would be chosen after a good time at a town fair, while 24% thought the variable salon would be chosen after a bad time at the fair ($\chi^2(1) = .61$, NS, $n = 41$). In this case, the "no difference" response was the modal response (45%).

Since the sequence preference was attenuated when the options for the second item did not differ on goal-relevant

dimensions, explanations that do not rely on goal activation are less likely to account for our results. In particular, a hot hand or an anticipated mood theory would predict the same effects in this study as in our earlier studies. The fair/haircut sequence also casts doubt on an explanation that relies solely on regulatory focus. Both the fair and the haircut likely involve promotion goals, yet they did not produce the usual choice effect. This suggests that a general goal orientation is not behind the effect, but rather the choice effect seems to be specific to the content of the goal activated by the first experience.

Study 3: Direct Ratings of Goal Targets

While study 2 provides some evidence that goal targets are responsible for the observed choices, in study 3 we directly measure perceived goal targets to provide further evidence that this is really driving choice behavior. We hypothesized that a positive outcome induces a higher goal target and that this target is responsible for the preference for the variable option. So, in this study, we have participants rate the goal targets following the good initial experience versus the bad initial experience. If our model of shifting goal targets is driving preferences, then this rating should track preference for the variable option. We also measured participants' beliefs about serial correlation (i.e., "hot hand"; Tversky et al. 1985). If shifts in subjective likelihoods are responsible for the observed choices, then this measure should track preferences rather than the goal target measure.

Method

Participants in study 3 were 198 adults who filled out a large Web-based questionnaire in exchange for entry into a raffle. Study 3 had a 2 (Choice: related/unrelated) × 2 (Rating: goal target/subjective likelihood) between participant design. Similar to study 2, participants read about a goal-related or a goal-unrelated restaurant choice following an enjoyable versus unenjoyable play. All participants made one rating on an 11-point scale following their choice. Half of the participants presented with each scenario were asked to rate who is more interested in pursuing a higher level of enjoyment/healthiness (0 = [the person with the bad first experience] is more interested in pursuing a higher level of enjoyment/healthiness, 10 = [the person with the good first experience] is more interested in pursuing a higher level of enjoyment/healthiness). The remaining participants were asked to rate who is more likely to think that the meal at the variable restaurant will be more enjoyable/healthier than the meal at the consistent restaurant (0 = [the person with the bad first experience] thinks it is more likely, 10 = [the person with the good first experience] thinks it is more likely).

Results and Discussion

The pattern of choices is the same as study 2: those who saw a goal-related choice were most likely to choose the

variable option following the good experience (57% vs. 21%, with 21% indifferent), while those who saw the unrelated choice were not (35% vs. 14%, with 51% indifferent).

To compute the relationship between the two ratings and choice, we assigned the three possible choice options three values: +1 = variable option following good experience, 0 = equally likely to choose variable option, −1 = variable option following bad experience. We then computed Pearson correlations between this choice variable and participants' ratings as a measure of the predictive power of two different constructs for the choice. As predicted by our theory, ratings of goal targets reliably predicted choice when the choice was along the goal dimension ($r = .274$, $p < .05$). That is, the higher the goal target rating, the more participants favored the variable option following the good experience (an analysis excluding the middle response category produced marginally significant results due to reduced power, $p = .088$). When the choice was unrelated to the goal dimension, ratings of the goal target did not relate to choice ($r = .050$, NS). That is, ratings of goal targets seemed to explain choices related to the goal dimension, but not choices unrelated to the goal dimension.

We also examined whether the perceived likelihood ratings can predict choice. There was no reliable relationship between likelihood ratings and choice for the goal-related choices ($r = .118$, NS). For the goal-unrelated choices, where the choice was not affected by the preceding experience, likelihood ratings had a somewhat higher, but still nonsignificant correlation ($r = .190$, NS) That is, participants thoughts about the likelihood of the variable option turning out well did not relate to which option was chosen, particularly in the situation where the preceding experience affected the choice.

The results of this study provide further evidence that goal targets are driving our results. These results do not support an explanation based on shifts in perceived likelihood following a good versus bad experience. Goal target ratings were predictive of goal-related choices, while likelihood ratings were not.

Study 4: Test for Goal Target Effects Rather than Risk-Seeking on the Goal Dimension

In the previous two studies, we showed that variability that is irrelevant to pursuit of the active goal target is not sought following a positive outcome. In study 4, we examine a situation where the variability potentially undermines the achievement of a high goal target. In this situation, consumers should actually show less preference for variability following a positive outcome as compared to a negative outcome. To test this prediction, study 4 utilizes two types of sequences. In one sequence, the risky option provides an opportunity for higher goal attainment than the consistent option much like the studies reported above. The second sequence is the same as the first, except, the variable option varies between being as good as and being worse than the

consistent option on the goal dimension. When the variable option can be worse but no better than the consistent option, the consistent option provides the best opportunity to reach a high goal target. If goal targets are driving consumers' choices in these situations, then this type of consistent option should be preferred in the sequences with a positive first outcome. When the person has an initial unsuccessful outcome, the goal target is lower and hence this person does not have the same strong preference for the consistent option. Therefore, contrary to earlier studies, a positive first outcome should induce a preference for the consistent option, when this option offers the highest level of goal attainment. If our results are simply reflecting risk seeking on the goal dimension when consumers have had a good experience, then consumers should have the same pattern of preferences in this setting as they did in study 1. That is, consumers should be more likely to choose the variable option after a good first experience. To make the variable option attractive, since it is inferior to the consistent option on the goal-relevant dimension, we made it superior to the consistent option on another dimension.

Method

Participants for this study were 74 undergraduates who completed this study as part of a larger questionnaire. In this study, a sequence was used in two versions in a between-participants design. Both versions had a good versus a bad dinner for the first experience followed by a choice between two movies. One group of participants were presented with a sequence where critics agreed that one movie was very good, while they disagreed about whether the other movie was much better or much worse than the first movie. The remaining participants received another version of the sequence where critics still agreed that the first movie was very good, but they disagreed about whether the other movie was as good as or much worse than the first movie. And in this version, the second movie was better than the first movie on a goal-irrelevant dimension, namely, it was a much shorter drive to get to the theater.

Results and Discussion

For the first version of the sequence, the effect reported in our first study was replicated; 68% percent of participants prefer the variable option when the sequence is going well, while 11% prefer the variable option when the sequence is not going well (21% reported no preference). More important, this pattern was reversed when the variable option could be as good as or worse than the consistent option on the goal-relevant dimension. In this version, only 33% preferred the variable option when the sequence was going well, while 53% preferred the variable option when the sequence was going badly (14% reported no preference). The difference between the two versions of the sequence was statistically significant ($\chi^2(1) = 14.9$, $p < .001$, $n = 61$).

The results of this design provide further evidence that the preference reported in the earlier studies was driven by

goal targets. As in previous studies, when the risky option provided the only opportunity for reaching a high target, that option was preferred following a good experience. However, when the consistent option guaranteed the same high level of goal achievement, and the risky option only had a chance of providing that level, the consistent option was preferred following a good experience. Consumers seem willing to sacrifice on other dimensions to guarantee high goal achievement when the sequence is going well.

Study 5: Real Experiences Followed by Real Choices

A possible limitation of our studies is that they all involved hypothetical choices that may not reflect consumer responses when faced with consequential choices in the marketplace. Although we believe that with hypothetical situations participants generally indicate how they would act, we conducted an additional study where we tested three predictions. First, we seek to replicate the choice of the variable option following the good experience in a situation where participants have a real experience that is good or bad followed by a real choice between two options, one of which could be better or worse than the other. Second, we wanted to show that our observed boundary condition from study 2 would be observed in a real sequence. Specifically, we examined whether the effect of prior outcomes is limited to choices that are related to the specific goal active during the prior experience. Third, we wanted to test this effect in a situation where each participant was exposed to a single experience with no comparison present.

The third point above is important because in our previous studies, the choice elicitation encourages participants to compare two situations: one where the sequence is going well and one where the sequence is going poorly. Although this design is often used in vignette studies (Dhar and Simonson 1999; Thaler and Johnson 1990), a limitation of this design is that it forces participants to consider the contrast between different possible outcomes of the first experience that may then form a salient input into the subsequent decision. In reality, when consumers experience a successful or an unsuccessful outcome, they make choices based on that sequence without being prompted to consider how they would choose if the sequence had unfolded differently. Therefore the explicit comparison of two sequences in our studies may induce consumers to attend to a distinctive feature of the situation (i.e., how well the first experience went) that is not attended to in the more natural context of a single sequence of experiences. Our theoretical framework does not require an explicit comparison sequence. If goal activation is responsible for our effects, then a single sequence without any comparison sequence should be sufficient to activate the goal target and produce an effect on choice.

Method

Participants were 71 undergraduates recruited individually in their dorms to complete a short study in exchange for compensation. This study followed a 2 (Experience: Good/Bad) × 2 (Choice: Related/Unrelated) design. In this study all participants first filled out a questionnaire not related to this study and were told they would be given a bag of jellybeans in appreciation of their participation. Each participant tasted one jellybean and rated how much they liked it on a 10-point scale. Half the participants were randomly assigned to receive a watermelon jellybean, and half were assigned a licorice jellybean. Previous research (Novemsky and Ratner 2003) has shown that watermelon jellybeans are rated as favorable and licorice jellybeans are rated as unfavorable. They were told that they would be taking a bag of the flavor they tasted with them as compensation for participating in the study. After tasting and rating the jellybean, participants were given a choice between two items that they would also receive for participating in this study. Half the participants, those in the related choice condition, chose between two chocolates. One chocolate was described as being liked by everyone. The other was described as being more variable, some people love it and some do not like it. Other participants, those in the unrelated choice condition, had a choice between two boxes of greeting cards. Paralleling the chocolates, one set of greeting cards was described as being liked by everyone and the other set was more variable, some love it and some do not like it. The chocolates varied on their hedonic quality, just like the jellybeans, while the greeting cards varied on how attractive they were, which relates to different specific goals than the jellybeans. Therefore, we predicted that there would be an effect of the quality of the jellybeans on the chocolate choice but not on the greeting card choice.

Results and Discussion

As expected the watermelon jellybeans were rated as more enjoyable than the licorice jellybeans (6.82 vs. 4.36, $t(69) = 4.25$, $p < .001$). The results of this study replicated our results with hypothetical sequences. A 2 × 2 ANOVA conducted on arcsin transformed choice proportions revealed a significant interaction between the quality of the first experience and the relatedness of the choice to the experience $(F(1, 100) = 8.5$, $p < .005)$. When the choice was in a domain related to the first experience, participants preferred the variable option more following the good experience (87%) than following the bad experience (47%, $\chi^2(1) = 5.40$, $p < .05$, $n = 30$). When the choice was in a domain unrelated to the experience, there was no reliable difference between the two conditions (52% chose the variable option following the good experience, 61% following the bad experience, $\chi^2(1) = .327$, $p = .58$, $n = 41$).

GENERAL DISCUSSION

Although many consumer choices are made as part of an ongoing sequence of related consumption, most research has examined consumer choice in isolation. In this article, we examined the effects of preceding experiences on consumer choice. We observed how shifts in consumers' goal targets due to the outcomes of preceding experiences influence later choices. We found that as a sequence of experiences unfolds, the early outcomes affect later decisions through their effects on goal targets. Specifically, following a positive outcome, consumers choose the option that can provide a higher level of goal fulfillment, even if that option involves risk. We found that this risk-taking behavior did not generalize to variability on dimensions that did not relate to the active goal. We measured potential drivers of our effects and found that goal targets, rather than changes in subjective likelihood, track preferences. We also found that preference for the consistent option prevailed following a positive outcome if this option matched the upside of the variable option on the goal-related dimension.

Our investigation extends previous research on risk preferences, which focused primarily on isolated decisions. By considering the effects of preceding experiences, we can determine exactly which risky options are attractive and when they will be unattractive. We find that positive preceding experiences make risky options most attractive when the risk includes an opportunity to reach a higher goal target. Risks whose best outcome can be matched on the goal dimension with a certain option are made relatively unattractive by a positive preceding experience because of the same pursuit of a high goal target. In this case, the certain option guarantees the highest goal fulfillment, while the risky option only offers a chance at such an experience.

While recent research in decision making has begun to make use of goal targets, these targets are often assumed to be static (March and Shapira 1992) or imposed by the experimenter. By contrast, consumers spontaneously pursue goal targets that often shift in response to ongoing experience. When a consumer experiences success in attempts to attain a particular goal, that consumer will systematically strive to achieve higher target levels of that goal. This leads to preferences that could not easily be predicted by a static model of goals as discussed in our introduction.

In some sequences of experiences, variable options may differ from consistent options on dimensions other than their variability. For example, consumers may have less knowledge about the variable option because it is new or has never been tried. We have some preliminary data that suggests that our effects are unchanged in situations where the variable option is also a new option. However, future research could fruitfully explore whether other differences between variable and consistent options such as being less expensive, more unique, or having a higher status image could moderate our effect.

Our studies were designed such that the relationship between the goal activated by the initial experience and the goal activated by the choice was clear. Future research might examine what happens when multiple goals are activated during a sequence. For example, going to the library can be associated with goals of studying and socializing with friends, and it is not clear how these two goals will affect subsequent choices. Further research might also explore exactly how much individuals are willing to risk in pursuit of a high goal target. In our studies preferences shifted toward the variable option when the sequence was going well, but this does not imply that consumers will pursue a higher target at any cost.

Our studies activated a goal and a goal target using a preceding goal-related experience. Future research could implement other methods of activating goals and goal targets with or without reference to preceding experiences to examine if the same pattern of risk preferences is obtained. For example, goals can also be determined externally by the task driving the consumption experience. A professional movie critic may have a unique task in seeing a movie and may not see consumption of the popcorn and consumption of the movie as related because quality of movie may be primarily related to a professional goal of assessment.

Future research could also examine whether some goal targets do not shift upward following a positive outcome. For example, while one may want a business dinner with a boss or a new client to be enjoyable, it is not clear that one wants to choose items with downside risks in order to achieve an excellent dinner if the dinner is already going well. In this example higher order goals (e.g., relationship goals) may keep individuals from pursuing a higher target for the goal of having an enjoyable dinner. Our pattern of preferences occurred in various settings for a variety of goals including pleasure, health, altruism, and even getting home quickly from work. Future research might uncover interesting boundaries between goals where a positive first outcome favors a higher goal target and those where it does not. A related question concerns why goal targets shift upward following a positive experience. Perhaps consumers seek out a peak goal-related experience when past experiences have gone well, but future research could directly test this and other mechanisms for the goal target shift.

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