When Choosing Is Not Deciding: The Effect of Perceived Responsibility on Satisfaction

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Prior research has found differences in satisfaction for choosers and non-choosers of the same outcome. Two studies show that differentiability of the choice-set options moderates this effect. When options are more differentiable, choosers enhance consumer satisfaction with positive and qualitative satisfaction with negative outcomes, whereas options are less differentiated, whereas experience the same level of satisfaction as non-choosers, regardless of the option valence. We test the hypothesis that the effect of outcome differentiability is due to differences in perceived responsibility and subsequent self-credit and self-blame for the decision outcome. A third study separates the effects of differentiability from various choice issues.

Modern marketing practices often rely on the provision of choice as a means to increase consumer satisfaction; stores frequently offer shoppers the opportunity to customize products; educational institutions are progressively switching from fixed-requirement to elective-based curricula; and a growing number of companies let employees select the health care and pension plans in which to enroll, instead of deciding on their behalf. Implicit in this strategy is the belief that consumers will be more satisfied with personally chosen alternatives than with alternatives that are assigned to them. In some cases, however, consumers may not have the information needed to distinguish among the choice options and identify the preferred one. For example, employees may find it difficult to compare across EPO, PPO, POS, and HMO health-care plans when selecting the best medical coverage. In these cases, would the struggling, perplexed decision makers still experience higher satisfaction through the exercise of choice, or would they be just as happy with an option that has been chosen for them? To answer this question, we explore the psychological process underlying the effect of personal versus other-made choice on satisfaction, and in so doing, identify conditions in which this effect is weakened.

CONCEPTUAL FRAMEWORK

A common finding of research on control and freedom of choice is that personally made choices, relative to choices imposed by others or by fate, lead to more positive consequences such as improved task enjoyment, affect, and outcome evaluation (Lepper 1975; Langer and Rodin 1976; Taylor and Todd 1988). These results have been attributed to choosers' greater ability to match their preferences to the available alternatives and to subjective bolstering of personally chosen outcomes (Brown 1967, Brehm 1966; Festinger 1957; Payne, Bettman, and Johnson 1993). In addition, recent research has proposed that higher engagement causes choosers' evaluation of the outcome to be more extreme than that of non-choosers (Botti and Iyengar 2004). One implication of this explanation is that, contrary to previous theory and findings, choosers may detrimentally influence outcome evaluations: when confronted by attractive options, choosers orient more pleasant thoughts than non-choosers.

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resulting in greater liking of the outcome; however, when presented with undesirable options, choosers contemplate more unpleasant thoughts, aggravating their dislike of the aversive outcome.

This article explores a potentially important methodological limitation in prior research, specifically, that the act of choosing might have been confounded with the perception of personal responsibility—and in so doing, traces the detrimental effects of choice more to the latter than the former. Prior research has underscored the association between the act of choosing and feelings of responsibility: for example, research on control, which finds that the perception that a choice was self-made and not externally dictated increases feelings of personal causation (de Charms 1968); on cognitive dissonance, which posits that responsibility stems from the perception that an action was freely undertaken and not constrained by the environment (Festinger 1957); and on regret, which reveals higher responsibility to be associated with greater perceived agency (Ordeniz and Connelly 2000; Zohar, Van Dijk, and Manstead 2006). In the present research, however, we attempt to highlight the distinction between the act of choosing, that is, pointing out one alternative from a choice set, and the sense that by having evaluated the relative merits and elements of the alternatives, choosers become meaningful agents in what they will experience. Hence, we define responsibility as the extent to which decision makers feel a sense of ownership of the outcome and so may credit themselves for good and blame themselves for bad outcomes.

The attempt to separate the concept of choice from that of personal responsibility is theoretically important because it helps us understand whether enhanced positive or negative outcome evaluations found in prior studies result from the act of choosing or whether they depend on the psychological correlates of responsibility. Indeed, greater perceived responsibility has been found to accentuate the emotional impact of events (Winer 1980). For example, good outcomes are experienced more positively, and bad outcomes more negatively, when following actions rather than inactions because of the stronger association between action and responsibility (Gilovich, Medvec, and Chen 1995; Kahne- man and Tversky 1982; Landman 1987;Rotv and Baren 1992).

On these findings, we hypothesize that choosers, perceptions of themselves as responsible for a decision outcome magnify their affective evaluation of that outcome, namely, the extent to which it is liked and enjoyed. We refer to this affective evaluation as "outcome satisfaction" and propose that, relative to nonchoosers, responsibility may enhance choosers' satisfaction with a desirable outcome, because it allows for self-creating, and choosers' dissatisfaction with an undesirable outcome, because it exacerbates distressing judgments of self-blame. However, if perceived responsibility were weakened, choosers would have less of a basis on which to congratulate or blame themselves, resulting in a smaller difference between their outcome satisfaction and that of nonchoosers with both pleasant and unpleasant outcomes.

In this research we manipulate personal responsibility by varying the extent to which the available information allows decision makers to appreciate the different quality of the choice options and identify the more preferred one. Choosers might feel little responsibility if all the alternatives seem very much alike. In this case, the quality of the outcome is mostly derived from the choice set itself, with little value added in the act of choosing. By contrast, choosers may feel greatly responsible for what they ultimately experience if the alternatives are appreciably different because the identification of a more preferred option leads them to feel as if they affected the outcome. Prior findings support this relationship between option differentiability and perceived responsibility. Research has in fact shown that choosers are less willing to commit to a choice in the absence of a dominating option or ideal point (Chernev 2003; Stahel, Simonen, and Tversky 1993) or when the alternatives are similar (Dhar 1997). In addition, increased similarity across the alternatives has been found to reduce the amount of cognitive dissonance, lowering the tendency to change the relative desirability of the chosen option (Brehm 1916).

Hence, when the available information prevents decision makers from meaningfully distinguishing among the alternatives, the act of choosing contributes less to the ultimate experience than when differences among the alternatives are readily appreciated, influencing choosers' sense of responsibility for the outcome. As a result, when selecting from more differentiated alternatives, choosers may experience the illusion of self-creating for a desirable outcome or the sorrow of self-blaming for an undesirable outcome, leading to differences in outcome satisfaction between choosers and nonchoosers. When confronted with less differentiated alternatives, however, both choosers and nonchoosers may be weakened, resulting in a smaller difference between choosers and nonchoosers' outcome satisfaction.

Hi1: In a positively valenced context, when the options are more differentiated, choosers' outcome satisfaction is greater than that of nonchoosers.

Hii: In a negatively valenced context, when the options are more similar, the outcome satisfaction of choosers is lower than that of nonchoosers.

A related question is whether or not consumers still want to choose when the alternatives are less differentiated. Building on prior research showing that people's preference for personal choosing may not be sensitive to the same factors that influence outcome satisfaction (Bittner and Younger 2004), we hypothesize that responsibility does not affect the desire for choosing. Further, although research on mood maintenance indicates that people try to avoid negative tasks such as choosing among unpleasant alternatives (see Isen [1993] for discussion), participants in our studies are presented with...
an ever more distressing prospect than just avoiding a choice, specifically, relinquishing control to someone else. Because giving up control has been associated with negative mood states (Langer and Rodin 1976; Seligman 1975; Taylor and Brown 1988), people may prefer to retain choice for themselves, even when confronted with unattractive alternatives. We therefore predict that continuers’ preference for making their own choices does not vary as a function of option differentiability both in positively and in negatively valenced choice contexts.

H2: People prefer making a personal choice over having this choice imposed, regardless of whether the options are more or less differentialed.

Studies 1 and 2 test these hypotheses in, respectively, a positive (coffee blends) and negative (fool odors) choice context. Study 3, which again involves a choice among delectable alternatives (chocolates), distinguishes between a choice from poorly differentialed options and a random choice. A discussion about theoretical and manipulative implications concludes the article.

STUDY I

Participants and Design

Participants in this 2 (choice condition: choice vs. no choice) × 2 (option differentiability: high vs. low) between-subjects experiment were 96 paid students at a midwestern university.

Experimental Material, Procedures, and Dependent Variables

Seventy-six students at the same university were paid to participate in two pretests. The first pretest identified one of the more economic (coffee blends) and three less diagnostic (floral, fruity, and fermented notes) attributes of coffee blend quality to describe the blends in the main experiment. The second pretest ensured that the blend descriptions allowed for different levels of self-crediting. Participants were provided with a scale in which four coffee blends were rated as “high,” “low,” or “medium” on each of the previously selected attributes. In the high-differentiability condition, only one of the blends (labeled 1) scored “high” on the more diagnostic attribute, while the other three scored “low.” In contrast, in the low-differentiability condition, all the blends were rated as “medium smoothness,” making it more difficult for participants to identify the better-tasting blend. The ratings for the less diagnostic attributes were in trade-off, so that, for each blend option, “high” ratings in one attribute were compensated by “low” ratings in another attribute. In addition, these ratings for the less diagnostic attributes did not vary across the two differentiability conditions. Next, participants answered a questionnaire using nine-point scales (1 = not at all; 9 = extremely). Results show that, relative to low-differentiability participants, high-differentiability participants could form a clearer sense of what the chosen blend might taste like as compared to the other blends (M_no-choice = 3.54, M_choos = 4.23; F(1, 74) = 3.83, p < .05) and were more able to credit themselves for the decision outcome (M_no-choice = 5.49, M_choos = 4.38; F(1, 74) = 4.37, p < .05). As predicted, when choosing among highly distinguishable, pleasant options, choosers felt more ownership of the choice and were more willing to credit themselves for its desirable consequences.

In the main study, participants sat at a table displaying four identical coffee samples labeled from one to four. After a brief explanation of the study procedures, participants were presented with an information sheet showing the ratings for each blend on the four attributes in either the high- or low-differentiability condition. Next, choice participants were told to select a blend to drink, whereas no-choice participants were assigned a blend by the experimenter, allegedly at random. In reality, a yoga procedure ensured that each nonchooser was given a blend previously selected by a chooser (Iyengar and Lepper 2000). Finally, the experimenter poured a half cup of coffee for participants to drink before answering a questionnaire. In spite of the different descriptions, all participants drank the same blend (Intelligentsia Columbia). Outcome satisfaction was measured by asking participants their level of enjoyment and satisfaction with the coffee. Preference for choosing was assessed by measuring participants’ liking for their choice condition. Answers were given on nine-point scales (1 = not at all; 9 = extremely).

Results

Manipulation Check: To test for option differentiability, a chi-square test was conducted on binary choice selection. In the high-differentiability condition, 61.9% of choosers selected blend 1, 28.7% blend 2, 9.5% blend 4, and none chose blend 3, indicating that preferences varied significantly across the attributes (χ^2 = 8.86, p < .01). In contrast, in the low-differentiability condition, 10% selected blend 1, 14% blend 2, 32% blend 3, and 44% blend 4. These results confirm that differences in the more diagnostic attribute generate greater differentiation among the options and facilitate the selection of the better-tasting blend.

Outcome Satisfaction: A composite measure labeled “outcome satisfaction” was created by averaging the two outcome-satisfaction items (α = .86, p < .001). Means for this measure are shown in tables 1 and figure 1. A 2 (choice condition: choice vs. no choice) × 2 (option differentiability: high vs. low) ANOVA conducted on this measure yielded a significant main effect for choice (F(1, 92) = 8.45, p < .005). Consistent with previous research, participants who chose the blend (M = 5.81) experienced a higher outcome satisfaction than participants who did not choose (M = 4.91). The main effect for differentiability, however, was not significant (M_no-choice = 3.56, M_choos = 3.23; F(1, 92) = 1.30, NS). This analysis also yielded
TABLE 1

<table>
<thead>
<tr>
<th>Study 1 (coffee)</th>
<th>Study 2 (mild)</th>
<th>Self- blame</th>
<th>Study 3 (chocolate)</th>
<th>Blame credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome satisfaction</td>
<td>Outcome satisfaction</td>
<td>1.65</td>
<td>Low</td>
<td>Random</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>5.40</td>
<td>6.52</td>
<td>5.06</td>
<td>4.76</td>
<td>6.69</td>
</tr>
</tbody>
</table>

the expected choice x differentiability interaction (F1, 92) = 3.87, p < .05). Confirming hypothesis 1a, the difference in outcome satisfaction between participants in the high-differentiability condition who choose the blend and those who were assigned a blend was greater than that in the low-differentiability condition (high differentiability: MBlend = 6.52, MAssigned = 4.76; F1, 92) = 11.36, p < .001; low differentiability: MBlend = 5.40, MAssigned = 3.90; F1, 92) = 0.46, NS).

Preference for Choosing: To test consumers' preference for choosing, a 2 (choice condition: choice vs. no choice) x 2 (option differentiability: high vs. low) ANOVA was conducted on participants' liking of their experimental condition compared to the other condition. Consistent with hypothesis 2, participants who chose a blend liked their condition better than those who did not choose it (MBlend = 7.26, MAssigned = 6.64; F1, 92) = 78.63, p < .001), whereas the main effect for differentiability (MBlend = 5.30, MAssigned = 5.44; F1, 92) = 0.06, NS) and the choice x differentiability interaction were not significant (F1, 92) = 0.07, NS).

Discussion

Results of study 1 support the hypothesis that when the choice options are low, rather than more, differentiated choosers' affective response to the choice outcome becomes more similar to that of nonchoosers. Indeed, when choosing among options that are all desirable but relatively indistinguishable, choosers may feel less compelled to take credit for the positive outcomes of their decisions, thereby failing to experience the magnifying effect of choice on satisfaction documented in previous research. Nevertheless, results show that participants preferred choosing even when a choice imposed across the two differentiability conditions, indicating that choice preference—relative outcome satisfaction—was not sensitive to option differentiability. This result is consistent with prior research showing that people associate the act of choosing with greater control over the decision outcomes, even though these outcomes are purely fortuitous (Langer 1975).

STUDY 2

Participants and Design

Participants in this 2 (choice condition: choice vs. no choice) x 2 (option differentiability: high vs. low) between-subjects experiment were 124 paid students at a midwestern university.

Experimental Materials, Procedures, and Dependent Measures

Participants were seated at a table displaying four transparent plastic drums labeled from one to four. Each drum contained the same 3 in a tall plastic doll called The Master Blaster, which releases a foul odor. The drums were disguised by wrapping them in white paper pads to make participants believe that the odors had been created by soaking the pads in four different chemicals solutions. Participants were then given a sheet of paper describing the allegedly different odors along four attributes, one more diagnostic (rotten egg) but three less diagnostic (sweat, bitter, and disgusting), which were selected in a pretest. In the high-differentiability condition odor 3 scored "low" or rotten egg, while the other three odors scored "high" on this attribute, making odor 3 the least pleasant option. In contrast, in the low-differentiability condition all the odors scored "medium" on rotten egg, so that it was more difficult in this condition to judge the odor.

FIGURE 1

STUDY: INTERACTION BETWEEN CHOICE AND OPTION DIFFERENTIABILITY ON OUTCOME SATISFACTION WITH PLEASANT COFFEE BLENDS
relative unpleasantness. As in study 1, the trade-offs between the ratings of the less diagnostic attributes did not vary across the high- and low-differentiability conditions. After going over the descriptions, participants either were asked to choose or were assigned an odor to smell following a yoking procedure. Next, participants inhaling the odor before filling out a questionnaire.

Participants rated the level of outcome satisfaction on unpleasantness, disliking, and dissatisfaction scales. Preference for making a choice versus having a choice imposed was measured as in study 1. Levels of perceived responsibility and subsequent self-blame were gauged, respectively, by asking participants how responsible, accountable, and in control they felt for the decision outcome and the extent to which they felt disappointed with themselves for it. All of these questions were answered on a nine-point scale (1 = not at all; 9 = extremely).

Results

Manipulation Check. Option differentiability was again assessed by analyzing choices’ odor selection. In the high-differentiability condition, odor 3 was selected by 73.53% of choosers, while 5.88% selected odor 1, 8.82% odor 2, and 11.76% odor 4. A chi-square analysis revealed that, as expected, choosers’ preferences varied across the options (χ²(3) = 42.94, p < .0001), and that option 3 was the most preferred. Conversely, in the low-differentiability condition, 17.65% of choosers select odor 1, 26.47% odor 2, 23.53% odor 3, and 32.35% odor 4 (χ²(3) = 1.53, NS), supporting the hypothesis that, when the information is less diagnostic of the options’ relative quality, choosers’ preferences are more uniformly distributed among the options.

Outcome Satisfaction. Scores for the three outcome satisfaction items (α = .89) were reversed and combined into an overall measure of outcome satisfaction (see Table 1 and Fig. 2). A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: high vs. low) ANOVA conducted on this measure yielded no effect for differentiability (Mchoice = 5.16, Mnochoice = 5.67, F(1, 120) = 1.71, NS), while the main effect for choice (F(1, 120) = 4.67, p < .05) and the choice x differentiability interaction (F(1, 120) = 4.87, p < .05) were significant. Choosing from among unattractive options generated lower satisfaction in choosers (M = 5.10) than non-choosers (M = 5.78). Consistent with hypothesis H3, however, choosers were less satisfied than non-choosers only in the high-differentiability condition (Mchoice = 4.52, Mnochoice = 5.93, F(1, 120) = 8.68, p < .05), while choosers and non-choosers’ satisfaction did not differ in the low-differentiability condition (Mchoice = 5.69, Mnochoice = 5.63, F(1, 120) = 0.02, NS).

Personal Responsibility and Self-Blame. The three items corresponding to choosers’ perceived responsibilities for the outcome were combined into an overall measure of personal responsibility (α = .95). A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: high vs. low) ANOVA conducted on this measure yielded a main effect for choice (F(1, 120) = 32.25, p < .0001), while that for differentiability was not significant (Mchoice = 4.56, Mnochoice = 4.07, F(1, 120) = 2.27, NS). As predicted, choosers (M = 6.28) felt more responsible for the outcome than non-choosers (M = 1.94). This main effect was qualified by a significant choice x differentiability interaction (F(1, 120) = 5.05, p < .05), revealing that, consistent with the theory presented in this article, choosers perceived higher responsibility in the high- than in the low-differentiability condition (Mchoice = 6.82, Mnochoice = 5.73, F(1, 120) = 7.81, p < .01), while non-choosers did not perceive different levels of responsibility in the high- and low-differentiability conditions (Mchoice = 1.83, Mnochoice = 2.05, F(1, 120) = 0.25, NS). Similarly, a 2 (choice condition: choice vs. no choice) x 2 (option differentiability: high vs. low) ANOVA conducted on the self-blame measure, specifically, how disappointed participants felt with themselves for the outcome, yielded a main effect for choice (F(1, 120) = 8.66, p < .005), a marginal main effect for differentiability (F(1, 120) = 2.88, p < .1), and a choice x differentiability interaction (F(1, 120) = 4.19, p < .05). Consistent with the findings that choosers felt greater responsibility than non-choosers for the decision consequences, they also felt more disappointed with themselves (Mchoice = 2.03, Mnochoice = 1.45). In addition, high-differentiability participants felt marginally more disappointed than low-differentiability ones (Mchoice = 1.95, Mnochoice = 1.56). As predicted, choosers experienced greater disappointment than non-choosers when the choice options were more distinguishable (Mchoice = 2.41, Mnochoice = 1.39, F(1, 120) = 12.45, p < .001), when the options were least distinguishable, however, choosers and non-choosers felt the same level of self-disappointment (Mchoice = 1.65, Mnochoice = 1.46, F(1, 120) = 0.40, NS). In addition, choosers felt more self-disappointment in the high- than in the low-differentiability condition (Mchoice =

![Figure 2: Study 2 Interaction between Choice and Option Differentiability on Outcome Satisfaction with Unpleasant Odors](image-url)

**FIGURE 2: STUDY 2: INTERACTION BETWEEN CHOICE AND OPTION DIFFERENTIABILITY ON OUTCOME SATISFACTION WITH UNPLEASANT ODORS**
Prepore for Choosing. As in study 1, a 2 choice condition: choice vs. no choice = 2 (option differentiability: high vs. low) ANOVA conducted on participants' liking of their choice condition revealed an effect for choice (M_{choice} = 6.72; M_{no-choice} = 6.52; F(1, 120) = 40.24, p < .0001) but no effects for differentiability (M_{high} = 5.56; M_{low} = 7.71; F(1, 120) = 0.13, NS) and choice x differentiability (F(1, 120) = 0.03, NS).

Discussion

Findings for study 1 were replicated in a negatively valenced choice context by showing that option differentiability influenced outcome satisfaction but not participants' preference for choosing. The difference in satisfaction for choosers and nonchoosers was significant in the high but not the low differentiability condition; in this case, however, choosers were less satisfied than nonchoosers. Study 2 also shows that high differentiability choosers experienced a higher level of responsibility and subsequent self-blame than either choosers, in the low or nonchoosers in the high differentiability conditions. These results therefore support the hypothesis that, when aversive options are more, as compared to low, differentiated, choosers' dissatisfaction is aggravated by the idea that the unpleasant outcome was self-inflicted. Inversely, people appear to prefer personally over other-styled choices, even when choice freedom causes discontent.

Although the results of studies 1 and 2 support our contention regarding the process by which outcome differentiability moderates the effects of choice on satisfaction, further support for our hypotheses would be to show a mediating effect of self-criticism and self-blame on outcome satisfaction. This ten of mediation, however, requires recognition that choice is likely to produce feelings of both self-criticism and self-blame, regardless of outcome valence. Prior research has shown that choosing usually produces a mix of psychological advantages and disadvantages in comparing alternatives and deciding which ones should be forsaken, thus supporting a sense of conflicting self-attitude feelings induced by decisions responsibility (Brenner, Rotenreisch, and Sood 1999; Canevan, Wertenbroch, and Zeelenberg 2003; Hsee and Zauberman 1998; Kahnean and Tversky 1982; Luce 1998). For example, in positive choices, choosers may predominantly credit themselves for the positive outcome but also blame themselves for leaving behind the attractive characteristics of the rejected items. Conversely, in negative choices, choosers may mostly blame themselves for the negative outcome but also credit them selves for avoiding the bad characteristics of the rejected alternatives. By measuring only self-credit or self-blame, we may have overlooked simplifications participants' reaction. In study 3, we therefore measure the amount of both self-credit and self-blame as an enriched measure of responsibility and investigate whether the interaction of these contradictory feelings mediates outcome satisfaction.

Study 3 also addresses a potential limitation in prior manipulations of option differentiability. We propose that in the low-, as compared to the high-differentiability, condition choosers feel less responsibility because of their inability to make a meaningful choice. It might be argued, however, that choosers confronted by a set of look-alike alternatives will ultimately make a random choice (Dhar 1997). If this is the case, then the lack of difference between choosers and nonchoosers in the low-differentiability condition might be explained by the similarity between random choice and lack of choice. To investigate this possibility, study 3 involves a positively valued choice among chocolates in which low differentiability was manipulated separately from random choice whereas low differentiability participants were given no choice information. In addition, participants were provided with no information about the alternatives. If a low-differentiated choice context amounts to a random-choice situation, then we should observe no difference between choosers and nonchoosers across these two conditions. If they are conceptually dissimilar as we predict, however, then choosers and nonchoosers in the random condition may differ in their satisfaction.

Specifically, we anticipate that random choosers will be less satisfied than their no-choice counterparts. This prediction is based on the previous evidence that choosers' responses are a mix of self-credit and self-blame: Choosers in the low differentiability condition are likely to experience low levels of both self-credit and self-blame, which produces a level of satisfaction similar to that of nonchoosers. In particular, the lack of differentiability provides scant basis on which to take credit for the positive outcome, but the similarity of the alternatives also lessens any feelings of self-blame for the rejected items. By contrast, random choosers may grant themselves little credit for a positive outcome, given the lack of alternative. They could have a choice, but they may also harbor misgivings that however tasty their chosen chocolate, they may have inadvertently rejected a superior alternative. Hence, random choosers' self-blame may overcome self-credit, lowering their satisfaction with the chosen option relative to nonchoosers.

STUDY 3

Participants, Design, Experimental Procedures, and Dependent Measures

A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: low vs. random) between-subjects study was conducted on 77 paid students at a midwestern university. Participants were assigned across four transparent plastic bins labeled from one to four, which contained same-size pieces of Rupell's truffle chocolate wrapped in foil. As in the previous two studies, in the low differentiability condition the chocolates were described as "averagely" on the more diagnostic attribute (flavor), whereas "average,"
"good," or "poor" rates for the less diagnostic attributes (confectionery and confectioners) were in trade-off. Random-choice participants were not given any information about the identical-looking chocolates in the set. Again, participants either chose or were given a chocolate at random. Next, using nine-point scales (1 = not at all; 9 = extremely), participants rated, before tasting, the extent to which they could distinguish the allegedly different chocolates from one another and, after tasting, their liking and enjoyment of the selected chocolates, as well as how much they blamed and congratulated themselves for it.

Results

Manipulation Checks. Choosers' preferences for the options did not vary across the two conditions: in low differentiability, 10% of choosers selected chocolate 1, 30% chocolate 2, 20% chocolate 3, and 40% chocolate 4 ($\chi^2 (8) = 4.00$, NS), whereas in the random condition, 11.11% picked chocolate 1, 33.33% chocolate 2, 14.44% chocolate 3, and 33.33% chocolate 4 ($\chi^2 (8) = 6.00$, NS).

Participants' perception of option differentiability varied, however. A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: low vs. random) ANOVA yielded no effect for choice ($M_{\text{choice}} = 3.66$, $M_{\text{no-choice}} = 4.02$; $F(1, 72) = 0.88$, NS) but a main effect for differentiability: random-choice participants ($M = 2.53$) rated the options as less distinguishable than low-differentiability participants ($M = 5.03$; $F(1, 72) = 28.11$, $p < 0.001$). A choice x differentiability interaction ($F(1, 72) = 8.77$, $p < 0.005$) revealed that random choosers considered the options to be less distinguishable than random non-choosers ($M_{\text{choice}} = 1.61$, $M_{\text{no-choice}} = 3.45$; $F(1, 72) = 7.20$, $p < 0.03$), whereas no difference was found between low-differentiability choosers and non-choosers ($M_{\text{choice}} = 5.59$, $M_{\text{no-choice}} = 4.55$; $F(1, 72) = 2.15$, NS).

Outcome Satisfaction. A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: low vs. random) ANOVA conducted on the outcome-satisfaction measure created by overlapping the two satisfaction items ($r = .93$, $p < 0.001$) showed no effects for choice ($M_{\text{choice}} = 4.99$, $M_{\text{no-choice}} = 5.43$; $F(1, 72) = 0.88$, NS) and differentiability ($M_{\text{low}} = 5.27$, $M_{\text{random}} = 5.15$; $F(1, 72) = 0.07$, NS) but an interaction of the two ($F(1, 72) = 3.86$, $p < 0.05$; see table 1 and fig. 3). As in studies 1 and 2, low-differentiability choosers and non-choosers were equally satisfied, ($M_{\text{choice}} = 5.22$, $M_{\text{no-choice}} = 5.00$; $F(1, 72) = 0.34$, NS), but, as predicted, random choosers were less satisfied than random non-choosers ($M_{\text{choice}} = 4.38$, $M_{\text{no-choice}} = 5.87$; $F(1, 72) = 4.10$, $p < 0.05$).

Self-Credit and Self-Blame. Self-credit and self-blame were positively correlated ($r = 0.46$, $p < 0.001$), consistent with the notion that choice often involves a degree of conflict. Hence, we created a conflict by dividing self-blame by self-credit to capture their relative impact on satisfaction. A 2 (choice condition: choice vs. no choice) x 2 (option differentiability: low vs. random) ANOVA conducted on this ratio revealed no main effects for choice ($M_{\text{choice}} = 1.23$, $M_{\text{no-choice}} = 1.25$; $F(1, 71) = 0.00$, NS) and differentiability ($M_{\text{low}} = 1.23$, $M_{\text{random}} = 1.26$; $F(1, 71) = 0.02$, NS) but a significant interaction ($F(1, 71) = 5.49$, $p < 0.05$). The low-differentiability choosers' ratio was directionally lower than that of non-choosers ($M_{\text{choice}} = 0.86$, $M_{\text{no-choice}} = 1.59$; $F(1, 71) = 2.77$, NS), suggesting relatively higher self-credit among choosers. In contrast, the random choosers' ratio was directionally greater than that of non-choosers ($M_{\text{choice}} = 1.64$, $M_{\text{no-choice}} = 0.89$; $F(1, 71) = 2.72$, NS), indicating, as predicted, relatively higher self-blame. These results do not entirely parallel results for satisfaction, where differences between choosers and non-choosers were significant in the low-differentiability but not the random condition.

A mediation analysis (Baron and Kenny 1986) re-vealed, however, that the blame-to-credit ratio explains satisfaction: (1) a regression for the ratio showed that the coefficients for choice ($b = 0.01$; $t(1, 71) = 0.03$, NS) and differentiability ($b = -0.02$; $t(1, 72) = -0.13$, NS) were not significant, while the choice x differentiability coefficient was significant ($b = -0.07$; $t(1, 71) = -2.34$, $p < 0.05$); (2) the two coefficients in the regression for satisfaction was significant ($b = -0.57$; $t(1, 74) = -3.39$, $p < 0.001$), and (3) a regression for satisfaction yielded nonsignificant coefficients for choice ($b = 0.24$; $t(1, 72) = -0.94$, NS) and differentiability ($b = 0.07$; $t(1, 72) = 0.26$, NS) but a significant choice x differentiability interaction ($b = 0.50$; $t(1, 71) = 1.96$, $p < 0.05$). With the inclusion of the ratio as the covariate, the coefficient for the interaction became not significant ($b = 0.34$; $t(1, 71) = -1.22$, NS), while both the ratio remained significant ($b = -0.51$; $t(1, 71) = -2.83$, $p < 0.01$). Goodman test: $r = 1.88$, $p < 0.06$. Thus, while the pattern of across for the blame-to-credit ratio is not entirely consistent with that of satisfaction, the relative impact of these feelings mediates satisfaction.
Discussion

Results of study 3 show that outcome satisfaction following a choice among less differentiated options is not equivalent to that following a random choice. Consistent with studies 1 and 2, when the available information was nondiagnostic of the options' relative quality, choices experienced the same satisfaction as nonchoices, but when no information about the options was provided, choices were less satisfied than nonchoices. The mediation of relative blame and credit on satisfaction and the manipulation check on perceived differentiation support our explanation for random choices' lower satisfaction: having no information about the relative quality of the choice-set options, random choices not only were unable to create themselves for the decision outcome but they were also greatly handicapped by the thought of having made a completely wrong choice. Interestingly, the result that providing nondiagnostic information may not lead to the same satisfaction as providing no information at all parallels differences in the use of base rate information, depending on whether people are given worthless or no information (Kahneahsen and Tversky 1973).

At face value, choices' lower satisfaction with a random choice is at odds with the illusion of control effect, which suggests that choices increased sense of control over chance outcomes raises the value assigned to these outcomes (Langer 1975). This effect, however, is enhanced by factors, such as stimulus familiarity or the ease with which the choice can be rationalized, that increase people's perception of their being skillful choosers. Hence, it might be argued that our experimental stimuli—numbers from one to four—were not able to trigger a perception of control, preventing participants from bolstering the value of the chosen outcome.

GENERAL DISCUSSION

This article contributes to a growing body of literature challenging the assumption that choice is always beneficial to well-being, by proposing that option differentiation moderates the effects of choice on satisfaction (e.g., Bemardi and Thaler 2002; Botti and Iyengar 2004; Chernov 2003; Iyengar and Lepper 2000; Schwartz 2008). In studies 1 and 3, choosers' satisfaction differed only when the options were more differentiated, but when the options were less differentiated, choices were as satisfied as nonchoices. Nonetheless, participants preferred a personally made over an externally made choice, regardless of the level of choice differentiation, consistent with people's beliefs that choosing leads to greater satisfaction. This belief, rather than the actual factors influencing satisfaction, appeared as a preference for a sense of choice.

We explain the results for satisfaction by proposing that the possibility to meaningfully differentiate among the alternatives caused choosers to perceive a greater sense of ownership of the decision consequences, leading to relatively greater self-crediting for an attractive outcome and self-blaming for an unattractive outcome. The inability to effectively tease apart the options, however, made choosers feel less responsible, preventing them from either indulging in self-congratulation or suffering from self-blame, resulting in no difference between choices and nonchoices' satisfaction. Study 3 findings reveal that the effect of outcome differentiation does not result from a perceived equivalence of low-differentiability and random choice.

Interestingly, the greater dissatisfaction experienced by high-differentiability choosers confirmed by exploring options does not result from their inability as decision makers, in that most choosers correctly selected the dominating option. Hence, sometimes there may be a chance between making the right choice and feeling good about it. This result also seemingly contradicts the findings that cognitive disadvantage causes choosers to bolster the outcome attractiveness (Festinger 1957). However, an important element for experiencing disadvantage is the perception that an unsatisfactory outcome was the chooser's, whereas in our study the aversive choice had to be made. Disadvantage might therefore have been mitigated by the recognition that if they were truly free to decide, choosers would have probably not chosen as all (Lazar 1997; Luce 1998).

This research provides evidence for the process by which choice affects satisfaction: choosers' greater tendency to self-credit and self-blame was supported by findings from, respectively, the study 1 protest and study 2. The reduction performed in study 3 suggests that it is the relationship between self-blame and self-credit, rather than credit or blame separately, that explains choosers' and nonchoosers' differences in satisfaction. The pattern of means for the blame-to-credit ratio, however, did not parallel the findings for satisfaction in the random-choice condition, which limits confidence in our conclusions about the intervening process.

In conclusion, however, other research linking choice to satisfaction, notably research on regret, has yet to establish a clear meditational path (for discussion, see Ordouz and Connelly 2000; Zeichsberg et al. 2000). We examined two different psychological dimensions of choice by showing that the approach-to-avoidance manipulation affects an option and the perceived responsibility that it entails lead to different affective evaluations of the same outcome. Prior research has investigated advantages of choice. For instance, research on learned helplessness (Seigman 1974) showed that choice leading to noncontingent outcomes may cause psychological distress. In addition, it has been found that in some cases the choice for option on well-being can be attributed to lower outcome uncertainty (Shafir 1976). Finally, behavioral decision research addressed the relationship between choice and accountability toward both others, which implies choosing for a decision, and oneself, which involves confidence in having made the right choice (Shafir et al. 1993). The degree to which these choice dimensions—action, responsibility, contingency, uncertainty, and accountability—differ from and relate to one another needs to be investigated further. This research is also relevant to marketing practitioners. As opposition for personal choice have been growing in modern societies, marketers seem to share with consumers