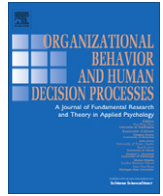


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# Organizational Behavior and Human Decision Processes

journal homepage: [www.elsevier.com/locate/obhdp](http://www.elsevier.com/locate/obhdp)

## Asymmetric option effects on ease of choice criticism and defense

Thomas Kramer<sup>a</sup>, Michal Maimaran<sup>b,\*</sup>, Itamar Simonson<sup>c</sup><sup>a</sup> Moore School of Business, University of South Carolina, 1705 College Street, Columbia, SC 29208, United States<sup>b</sup> Kellogg School of Management, Northwestern University, Evanston, IL 60208, United States<sup>c</sup> Graduate School of Business, Stanford University, Stanford, CA 94305, United States

### ARTICLE INFO

#### Article history:

Received 13 April 2009

Accepted 31 October 2011

Available online 23 November 2011

Accepted by William Bottom

#### Keywords:

Reason-based choice

Ease

Criticism

Defense

### ABSTRACT

Individuals often criticize others' choices and seek to defend their own. In theory, the ease of criticizing a particular choice should correspond to the ease of defending it. However, we demonstrate that differences in the types of arguments put forth in choice criticism and defense result in a systematic discrepancy in the ease with which these tasks are performed. Specifically, criticism arguments tend to be based on norms or conventions, and defense arguments on idiosyncratic tastes or circumstances; accordingly, whether the chosen option is perceived as un/conventional has a significantly greater effect on the ease of choice criticism than on the ease of choice defense. Furthermore, assessing the ease of choice defense increases the choice share of unconventional options, whereas judging the ease of choice criticism has only a small impact on choice. We discuss the implications of our findings with respect to research on reason-based choice in socially-intensive environments.

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### Introduction

Many of our decisions are made in public and hence potentially subject to the scrutiny of others, who see the meals we order in restaurants, the groceries we put in our shopping cart, or the cars we drive. Current technology, such as Internet blogs, chat rooms, and consumer-to-consumer recommendation websites, has only increased the actual and virtual presence of others. That is, the current environment has further enhanced the importance of the social context of decision-making, often making people more sensitive to potential criticisms of candidate options and to the ability to defend or explain their decisions. These trends call for a more nuanced analysis of social influence on public decision-making. In the present research, we propose that an important distinction needs to be made between concerns about potential criticisms of one's choices as opposed to assessments of one's ability to defend choices. Specifically, we argue that it is the nature of the selected option that largely determines the susceptibility to criticism and the ease of defense. Moreover, a decision-maker concerned about potential criticisms may make systematically different choices than one inclined to consider the ease of defending particular choices.

Our analysis is premised on the notion that in most situations, choice criticism and defense can be seen as two sides of the same coin: the option that is easier to criticize should also be more difficult to defend. However, building on a distinction between arguments that are based on what one wants to choose versus what one should choose, we expect that there are systematic differences in the types of arguments used to criticize choices and those used to defend choices between conventional options (which are norm-consistent and chosen by the majority of people) and unconventional options (which are norm-inconsistent and chosen by a minority). We propose that this asymmetry in argument type will not only result in differential levels of ease with which arguments for choice criticism and defense can be brought to mind, but as we discuss subsequently, is also likely to have downstream consequences with respect to choice behavior.

A series of studies using a variety of conventional and unconventional options supports our analysis and predictions. The first two studies find that criticizing others' choices of unconventional, as compared to conventional, options is judged to be easier; in contrast, the nature of the chosen option has a smaller effect on judgments of choice defense. Study 3 replicates this effect for actual choice criticism and defense; in addition, it evinces the predicted differences in the frequency and type of arguments used to criticize or defend conventional and unconventional options. Next, study 4 demonstrates that the effect of the option's nature on predicted ease of choice criticism is attenuated when critics first elicit potential reasons for choice. Our final study shows that option type determines judgments of ease of criticism and defense, which in turn drive subsequent choices.

\* Corresponding author.

E-mail addresses: [Thomas.Kramer@moore.sc.edu](mailto:Thomas.Kramer@moore.sc.edu) (T. Kramer), [m-maimaran@kellogg.northwestern.edu](mailto:m-maimaran@kellogg.northwestern.edu) (M. Maimaran), [Simonson.Itamar@gsb.stanford.edu](mailto:Simonson.Itamar@gsb.stanford.edu) (I. Simonson).

## Theoretical background

Intuitively, options for which criticism arguments can be brought to mind easily should correspondingly be more difficult to defend: if choice of a blue shirt over a purple one is easier to criticize, then, by the same token, it should be more difficult to think of arguments to defend the choice of the blue shirt. However, as we discuss next, the ease of choice criticism and defense may systematically diverge for options that differ in their nature; that is, when choice of one option represents more conventional, norm-consistent behavior and choice of the other option represents more unconventional, norm-inconsistent behavior.

### *The nature of chosen options*

Consistent with previous research (Simonson & Nowlis, 2000; Simonson, Kramer, & Young, 2004; Maimaran & Simonson, 2011), we classify options based on whether they are consistent with prevailing norms or are typically chosen by the majority of people (i.e., conventional), or whether they are inconsistent with prevailing norms or are chosen by a minority (i.e., unconventional). The options we investigate here are categorized as conventional or unconventional based on their level of risk, position in the choice set, and utilitarian versus hedonic dimensions.

Specifically, Simonson and Nowlis (2000) found that the majority of study participants rated the selection of a sure thing option over a gamble as the conventional choice. Further, in choices between gambles that differ in their level of risk, individuals tend to select the lower-risk or safe options by default (Simonson et al., 2004). People also tend to prefer lower- to higher-risk options unless they anticipate the possibility of regret for choosing wrong (Simonson, 1992).

Similarly, an option's relative position in a choice set can determine its conventional versus unconventional nature. Specifically, choice of a compromise (versus an extreme, non-compromise) option is perceived to be the conventional choice (Simonson & Nowlis, 2000) because its selection reduces the conflict associated with giving up one attribute for another and it is less susceptible to criticism (Simonson, 1989, 1992; Kivetz, Netzer, & Srinivasan, 2004). As well, an option is chosen by relatively more individuals after it becomes the compromise, middle option in a set (Simonson, 1989), often making it the option with the greatest choice share (i.e., it is chosen by the majority of individuals).

Finally, options can be classified as conventional or unconventional based on their predominant utilitarian versus hedonic dimensions. Utilitarian (versus hedonic) options tend to satisfy lower-level needs (Maslow, 1970), evoke less guilt (Keinan & Kivetz, 2008; Kivetz & Zheng, 2006), and cause a lower pain of paying (Prelec & Loewenstein, 1998). As such, they are more likely to be perceived as conventional choices consistent with social norms.

### *Argument types and choice criticism versus defense*

Research in the area of reason-based choice has demonstrated the consequences of actual and expected justification of one's choices to others or to oneself (Shafir, Simonson, & Tversky, 1993), and of being held accountable for one's choices in general (Lerner & Tetlock, 1999). For example, decision-makers who are asked to provide reasons before choosing among options tend to select alternatives that are easier to justify and less likely to be criticized (Simonson, 1989). Increasing accountability by asking respondents to choose publicly (versus privately) also increases preferences for conventional, lower-risk options (Tetlock & Boettger, 1994). Furthermore, Shafir (1993) demonstrated that choosing and rejecting unconventional (i.e., "mixed," enriched)

options over conventional (i.e., "all-average," impoverished) options was easier to justify. Finally, Prelec and Loewenstein (1998) have argued that it would be easier to construct reasons for utilitarian (regarded as conventional) versus hedonic (regarded as unconventional) consumption. Thus, research has focused mainly on the influence of eliciting reasons prior to or at the time of choice, and less on understanding post-choice justifications (i.e., choice defense), choice criticism (which can be regarded as the converse of choice defense), and the effect of an option's conventional or unconventional nature on these two tasks.

To investigate the effect of option type on choice criticism and defense, one can classify criticism and defense arguments as those relating to what one wants to choose based on idiosyncratic preferences or circumstances (i.e., taste arguments) and those relating to what one should choose based on generally accepted standards (i.e., norm arguments). We expect the type of arguments put forth to depend on whether individuals are engaged in choice defense or choice criticism. In particular, there is an almost unlimited repertoire of arguments to defend a chosen option. People have different tastes, and choosing on that basis is usually acceptable (Stigler & Becker, 1977; "De Gustibus Non Est Disputandum"). For example, one may choose school supplies over a foot massage because the school supplies are a necessity and thus normatively "should" be chosen. Alternatively, one may choose the school supplies because of more idiosyncratic factors such as being too ticklish to enjoy a foot massage or simply not liking to have one's feet touched by strangers. Similarly, one can defend choice of the foot massage by arguing that one already has plenty of school supplies on hand or is deserving of a reward after being on one's feet all day long working as a restaurant server. In fact, in most cultures, one is expected to choose based on personal tastes and preferences and may be criticized if one fails to do so (Savani, Markus, & Conner, 2008). More generally, because one's tastes, goals, and circumstances are usually legitimate and appropriate bases for both conventional and unconventional options, there are numerous ways to defend one's choice without resorting to the "doing the right thing" principle, which is just another (acceptable) basis for choice.

In contrast, criticism of others' choices is constrained by the amount of information available to critics, and hence relies on a more limited set – most notably, norm-based arguments. That is, due to critics' inability to know or support evaluations based on the choosers' idiosyncratic preferences or circumstances, the arguments put forth for criticizing choices are more limited. Unlike taste-based choice defense, criticism based on generic norms does not require any specific insights or private information.

Furthermore, the use of norm-based arguments will depend on the chosen option. Specifically, although choice of unconventional options (e.g., risky, extreme, or hedonic options) can be criticized relatively easily based on the general norm that one should play it safe, avoid extremes, or make necessities a priority, it is more difficult to rely on norms to criticize conventional choices, such as safe, compromise, or utilitarian options. Thus, when attempting to criticize conventional choices, individuals will have to retrieve or construct new arguments for their criticism. For example, when criticizing the choice of school supplies (i.e., the conventional option) over a foot massage (i.e. the unconventional option), individuals may refer in their criticism to the fact that others should reward themselves occasionally for achieving an important goal.

In turn, differences in the type of argument used are likely to influence the ease of choice criticism and defense. As discussed above, when defending choices, a seemingly endless number of idiosyncratic taste-based arguments can be put forth regardless of whether options are conventional or unconventional. On the other hand, when criticizing conventional options, critics need to search for appropriate taste-based arguments, since norm-based arguments cannot be applied as easily. Deviating from the default

strategy of using norm-based arguments requires effort and hence will make criticism of conventional as compared to unconventional options relatively more difficult, leading to an overall asymmetry in the ease of choice criticism versus defense. Thus, we hypothesize that the ease of choice defense will be relatively insensitive to the nature of the chosen option, whereas the ease of choice criticism will depend on the nature of the chosen option. This asymmetry, whereby options that are relatively easier to criticize may not be more difficult to defend, is consistent with [Simonson \(1989\)](#), who found that choice of a compromise (i.e., conventional) versus an extreme (i.e., unconventional) option was less likely to be criticized but not easier to justify.

Finally, we expect that difference in the ease of choice criticism versus defense will affect subsequent choices. That is, compared to a control condition in which, by definition, the majority of people tend to prefer the conventional option, choices should systematically shift towards the option that is judged to be easier to defend or more difficult to criticize.

To summarize, we test the following predictions: The nature of a chosen option has a greater effect on the expected and actual ease of choice criticism than of choice defense, such that unconventional options are easier to criticize, but not easier to defend, than conventional ones (studies 1, 2, and 3). Further, choice criticism tends to rely on norm-based arguments, whereas choice defense tends to reflect taste-based arguments (study 3). Additionally, access to potential reasons for choice attenuates the effect of option type on ease of choice criticism (study 4). Lastly, judging the ease of defending conventional and unconventional choices has a greater effect on the subsequent choice of unconventional options, as compared to judging the ease of choice criticism on the subsequent choice of conventional options (study 5).

### Pilot study

The purpose of the pilot study was to test whether the conventional and unconventional options used in our studies were indeed majority and minority choices, respectively. We followed the procedure used by [Simonson and Nowlis \(2000\)](#), presenting participants with various choices sets and asking them to identify which option they thought had been chosen by the majority of participants in a supposed previous study.

### Method

Ninety-three respondents from a national pool participated in an online study in exchange for a chance to win a \$25 gift certificate for a major online retailer. Respondents were told that we had previously conducted a study with 100 participants, who had been shown a series of choice problems: two involved choosing between a safe and a risky bet option, two between compromise and extreme options, and two between utilitarian and hedonic options (see examples in the Appendix). Respondents were then asked to try to identify which of the options in each of the problems had been chosen by the majority of the 100 students in the previous study.

### Results

Across all three problem types, respondents identified the conventional option as the one chosen by the majority of participants in the supposed previous study. In particular, 74% ( $\chi^2 = 21.7$ ,  $p < .01$ ) and 76% ( $\chi^2 = 25.8$ ,  $p < .01$ ) of respondents identified the safe options as the majority-preferred options, 74% ( $\chi^2 = 21.7$ ,  $p < .01$ ) and 60% ( $\chi^2 = 3.1$ ,  $p < .08$ ) identified the compromise options as such, and 69% ( $\chi^2 = 13.2$ ,  $p < .05$ ) and 62% ( $\chi^2 = 5.7$ ,

$p < .05$ ) designated the utilitarian options as the majority-preferred. These results support our designation of the safe, compromise, and utilitarian options as the conventional, majority-preferred ones and the risky, extreme, and hedonic options as the unconventional, minority-preferred ones used in the subsequent studies that investigate the differential effect of the conventional versus unconventional nature of the chosen option on the ease of choice defense and choice criticism.

### Study 1

The purpose of study 1 was to test if the nature of the chosen option has a greater impact on the ease of criticizing than on the ease of defending choices. In particular, respondents rated how easy it would be for them to criticize others' choices or to defend their own choices of conventional and unconventional options in three problem types: safe versus risky bet options, compromise versus extreme options, and utilitarian versus hedonic options. Building on the above theoretical analysis, we expected that the nature of the chosen option would interact with the performed task, such that the ease of choice criticism would largely depend on option type, but that the ease of defending choices would be less sensitive to option type.

### Method

Forty-nine students from an East-coast university participated in a study on decision-making in exchange for class credit. Depending on random experimental assignment, the instructions informed respondents either that their task was to evaluate how easy it would be for them to criticize others' choices or to evaluate how easy it would be for them to respond to others' criticism of their own choices. Respondents were then presented with the nine problem sets shown in the Appendix, each consisting of choices between a conventional and an unconventional option.

The study employed a 2 (task: criticize versus defend)  $\times$  2 (option type: conventional versus unconventional) mixed-subject design. The first factor was manipulated between-subjects. In particular, in the criticize condition, respondents were asked to rate on a 10-point scale (where 1 = not at all and 10 = very) how easy it would be for them to criticize another student's choice (e.g., the risky bet option), and how easy it would be for them to disapprove of another student's choice. In the defense condition, participants rated how easy it would be for them to respond to another student's criticism of their choice (e.g., the risky bet option), and how easy it would be for them to respond to another student's disapproval of their choice. The second factor was manipulated within-subject, such that each participant provided ratings for both the conventional and unconventional options. In all studies, the presentation of options was counterbalanced. No effects for order were found in any of our studies; thus this factor is not discussed further.

### Results

The two criticism measures (criticizing and disapproving) and the two defense measures (responding to criticism and to disapproval) were highly correlated ( $r > .52$  and  $.50$ , respectively) and were thus averaged to form two single criticism and defense measures for each option. We then conducted a mixed ANOVA on the average scores with option type (conventional versus unconventional) as the within factor and task (criticize versus defend) as the between factor.

As expected, results showed a main effect of task. In particular, respondents rated choice criticism to be significantly more difficult

than choice defense for all problem types; safe-risky:  $M_{\text{criticize}} = 5.04$ ,  $M_{\text{defend}} = 6.48$ ;  $F(1,47) = 8.38$ ,  $p < .01$ ,  $\eta^2 = .15$ ; compromise-extreme:  $M_{\text{criticize}} = 5.03$ ,  $M_{\text{defend}} = 7.11$ ;  $F(1,47) = 18.26$ ,  $p < .001$ ,  $\eta^2 = .28$ ; and utilitarian-hedonic:  $M_{\text{criticize}} = 4.63$ ,  $M_{\text{defend}} = 6.90$ ;  $F(1,47) = 23.11$ ,  $p < .001$ ,  $\eta^2 = .33$ . Importantly, as shown in Fig. 1, across all problem types we find support for our hypothesis that the conventional versus unconventional nature of the chosen option has a greater impact on the ease of choice criticism than defense.

In particular, the interaction between task and option type was significant in the safe-risky choice problems,  $F(1,47) = 13.71$ ,  $p < .005$ ,  $\eta^2 = 0.226$ . The average ease of criticizing the risky option was 6.05 ( $SD = 2.42$ ), compared to 4.04 ( $SD = 2.77$ ) of the safe option,  $F(1,47) = 9.23$ ,  $p < .005$ ,  $\eta^2 = 0.16$ . The difference in the ease of defending the risky option ( $M = 5.74$ ,  $SD = 2.11$ ) versus the safe option ( $M = 7.23$ ,  $SD = 2.22$ ) was also significant, albeit significantly smaller,  $F(1,47) = 4.87$ ,  $p < .05$ ,  $\eta^2 = 0.09$ .

Similarly, the interaction between task and option type was significant in the compromise-extreme choice problems,  $F(1,47) = 15.03$ ,  $p < .001$ ,  $\eta^2 = 0.24$ . The average ease of criticizing an extreme option was 5.89 ( $SD = 2.11$ ), compared to 4.17 ( $SD = 1.79$ ) for the compromise option,  $F(1,47) = 19.48$ ,  $p < .001$ ,  $\eta^2 = 0.29$ . In contrast, the difference between the ease of defending an extreme ( $M = 6.89$ ,  $SD = 2.02$ ) versus a compromise option ( $M = 7.34$ ,  $SD = 1.83$ ) was not significant,  $F(1,47) = 1.28$ ,  $p > .25$ ,  $\eta^2 = 0.03$ .

Finally, a similar interaction emerged for the utilitarian-hedonic choice problems,  $F(1,47) = 10.41$ ,  $p < .005$ ,  $\eta^2 = 0.18$ . The average ease of criticizing the hedonic option was 5.82 ( $SD = 2.16$ ), compared to 3.44 ( $SD = 2.42$ ) for the utilitarian option,  $F(1,47) = 18.87$ ,  $p < .001$ ,  $\eta^2 = 0.25$ . In contrast, the difference be-

tween the ease of defending the hedonic ( $M = 6.75$ ,  $SD = 2.14$ ) versus the utilitarian option ( $M = 7.12$ ,  $SD = 2.24$ ) was not significant,  $F(1,47) = 0.38$ ,  $p > .5$ ,  $\eta^2 = 0.008$ .

## Discussion

Results of study 1 show that respondents judge choice defense to be easier than choice criticism. More importantly, we find support for our hypothesis that the conventional versus unconventional nature of the chosen option has a greater impact when judging the ease of criticizing, as compared to defending, choices. This effect appears robust across three different operationalizations of option type.

A possible limitation of study 1 was that the task performer (criticizer versus defender) was confounded with the task target (others' choices versus own choices). In particular, in choice criticism respondents judged the ease of criticizing others' choices, while in choice defense they judged the ease of defending their own choices. Thus, an alternative explanation of our results might argue that our findings were a result of a mismatch between the task performer (i.e., the criticizer) and the task target (i.e., others' choices) in choice criticism, and a match between the task performer (i.e., the defender) and the task target (i.e., own choices) in choice defense. To address this limitation we ran the study described next.

## Study 2

The objective of study 2 was to test whether the results of our previous study were indeed driven by the nature of the task (criticism versus defense) or by the difference in the targets of choice criticism and defense. To tease these two factors apart, in study 2 we manipulated whether participants rated how easy it would be for *them* or how easy it would be for *another student* to criticize versus defend choices. Specifically, half the participants rated how easy it would be for another student to criticize or defend others' choices. Thus, for these participants there was always a match between the task performer and the task target as it was another student in both cases. For the remaining participants there was a match between the task performer and task target in the defense condition but a mismatch in the criticize condition, as in study 1.

If differences in ease of defending versus criticizing are obtained because the task performer mismatches the target, then the effect should be reduced or eliminated when the task performer matches the target. However, we expected that the match between the task performer and task target will not alter the differential role that the nature of the chosen option plays when judging ease of choice criticism and defense.

## Method

One hundred and sixteen students from an East Coast university participated in a study on decision-making in exchange for class credit and were shown six choice sets: three representing choices between compromise and extreme options and three representing choices between utilitarian and hedonic options.

The study employed a 2 (task performer: self versus other)  $\times$  2 (task: criticize versus defend)  $\times$  2 (option type: conventional versus unconventional) mixed-subject design, where the first two factors were manipulated between-subject and the third factor within-subject. The 'task performer: self' conditions were identical to those in study 1, as respondents rated how easy it would be for them to criticize others' choices or defend their own choices, thereby creating a match between the target and the task performer in choice defense, but a mismatch in choice criticism.

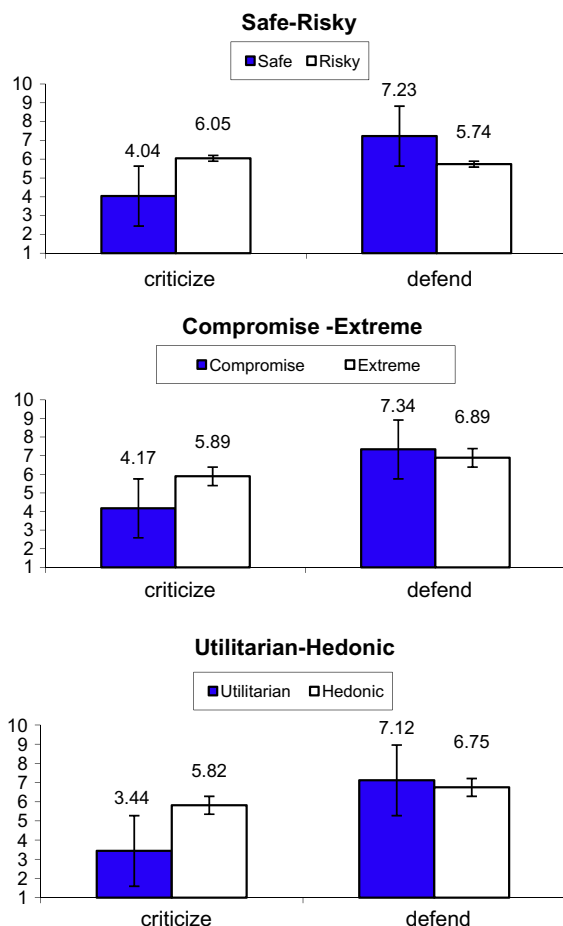


Fig. 1. Mean predicted ease of criticizing and defending choices as a function of option type and task (study 1).

In the ‘task performer: other’ conditions, respondents judged how easy it would be for another student to criticize or defend another student’s choices, thus matching the target to the task performer for both criticism and defense.

Specifically, in the ‘other’ conditions, the instructions informed respondents that their task would be to evaluate the decisions other participants had made in a previous study we had conducted. Respondents were told that in that previous study we had shown the participants different choice problems and asked them which option they would choose. Ostensibly, for the current study at hand, we selected a few participants from that previous study, and presented the alternative options they had considered and the choices they had made to the respondents. In reality, there were no previous participants, and the chosen options presented to respondents were manipulated by the experimenters. In all conditions respondents used the same scales as in study 1 (i.e., criticize and disapprove of other’s choices, or respond to criticism and disapproval of choices).

### Results and discussion

As in study 1, we averaged the rating of the two measures (criticizing and disapproving in the ‘criticism’ condition,  $r$ 's > .52; and responding to criticism and to disapproval in the ‘defense’ condition,  $r$ 's > .45) across the different replications of each problem type. We then conducted a mixed-ANOVA on the averaged scores with option type (conventional versus unconventional) as the within factor and task (criticize versus defend) and task performer (self versus other) as the between factors.

If the differences in ease of criticizing versus defending found in study 1 were obtained because of a mismatch (match) between the task performer and task target in the criticism (defense) condition and not because of the task itself (defending versus criticizing), then the effect should be reduced or eliminated when task performer and task target matched, such that respondents are asked to project how easy it would be for another student to criticize or defend another student’s choices. In contrast, we expected that even when predicting how easy it would be for another student to perform the two tasks, respondents would differentially rely on norm- and taste-based arguments as if they were predicting how easy it would be for themselves. Results supported our hypothesis and were inconsistent with the alternative explanation based on differences in the match between the task performer and task target. That is, across the two problem types we replicated the basic effect in the ‘task performer: self’ conditions and also obtained it in the ‘task performer: other’ conditions (see Fig. 2).

Specifically, for the compromise problems, the 2-way interactions between task and option type was significant for the ‘self’ condition,  $F(1, 56) = 14.44, p < .001, \eta^2 = 0.2$ , and for the ‘other’ condition,  $F(1, 56) = 10.12, p < .005, \eta^2 = 0.15$ , and these interactions were not qualified by a significant task  $\times$  option type  $\times$  task-performer 3-way interaction ( $F < 1$ ). In the ‘self’ conditions, we replicate the results of study 1, such that the average ease of criticizing an extreme option ( $M = 5.52, SD = 1.66$ ) was significantly greater than criticizing a compromise option ( $M = 4.17, SD = 1.48$ ),  $F(1, 112) = 17.851, p < .001, \eta^2 = 0.137$ . In contrast, the difference between the average ease of defending an extreme option ( $M = 6.74, SD = 1.28$ ) and a compromise option ( $M = 7.09, SD = 1.46$ ) was not significant,  $F(1, 112) = 1.19, p > .25, \eta^2 = 0.01$ . Importantly, the difference between predicted ease with which another student would criticize choice of an extreme option ( $M = 5.63, SD = 1.43$ ) versus a compromise option ( $M = 4.65, SD = 1.14$ ) was significant,  $F(1, 112) = 9.15, p < .005, \eta^2 = 0.076$ , but the difference between predicted ease in which another student would defend choice of an extreme option ( $M = 6.11, SD = 1.86$ ) versus a compro-

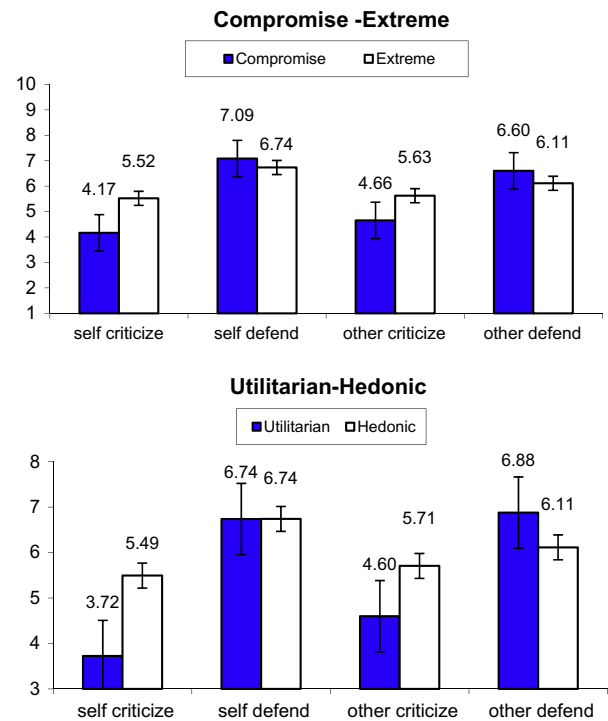


Fig. 2. Mean ease of criticizing and defending choices as a function of option type, task, and task performer (study 2).

mise option ( $M = 6.60, SD = 1.64$ ) was not significant,  $F(1, 112) = 2.3, p > .13, \eta^2 = 0.02$ .

Similarly, in the utilitarian-hedonic problems the interaction between task and option type was significant regardless of whether the task performer was the self or another student, ‘self’:  $F(1, 56) = 7.126, p < .05, \eta^2 = 0.113$ ; ‘other’:  $F(1, 56) = 9.55, p < .005, \eta^2 = 0.146$ ; further, the task  $\times$  option type  $\times$  task-performer interaction was not significant ( $F < 1$ ). As before, we found significant differences in ease of criticizing in the ‘self’ conditions (hedonic:  $M = 5.49, SD = 2.24$ ; utilitarian:  $M = 3.72, SD = 2.12$ ),  $F(1, 112) = 17.14, p < .001, \eta^2 = 0.133$ ; and in the ‘other’ conditions (hedonic:  $M = 5.71, SD = 1.63$ ; utilitarian:  $M = 4.79, SD = 1.35$ ),  $F(1, 112) = 4.50, p < .05, \eta^2 = 0.04$ . Additionally, there were no significant differences in ease of defending in the ‘self’ conditions (hedonic:  $M = 6.74, SD = 1.39$ ; utilitarian:  $M = 6.74, SD = 1.52$ ),  $F(1, 112) = 0.00, p = 1, \eta^2 = 0.00$ . Although the difference in ease of defending the conventional versus unconventional option was marginally significant in the ‘other’ conditions (hedonic:  $M = 6.11, SD = 1.64$ ; utilitarian:  $M = 6.88, SD = 1.86$ ),  $F(1, 112) = 3.19, p = .077, \eta^2 = 0.028$ , it was smaller than the difference in the other-criticize condition.

This study thus replicated our previous findings and, more importantly, demonstrated that the conventional versus unconventional nature of the chosen option had a greater impact in choice criticism than choice defense even when respondents rated how easy it would be for other students to criticize or defend choices. We have therefore found consistent support for our hypotheses across two studies. However, although the second study addressed some of the limitations of study 1, in both studies participants provided ratings of how easy they *expected* it would be to criticize or defend choices, rather than indicating how easy it *actually* was to perform these tasks. Our next study addresses this limitation by asking respondents first to criticize or defend choices of conventional and unconventional options before rating how easy the task was for them.

### Study 3

The objectives of study 3 were twofold. First, we sought to test if the differential effect of option type extends to ease of actual choice criticism and defense, such that the nature of the chosen option has a greater impact on actual ease of criticizing versus defending choices in two problem types (safe versus risky bet options, and utilitarian versus hedonic options). Second, by asking respondents to actually criticize or defend choices, we sought to find support for the differences in argument type underlying the effect. As discussed above, we hypothesize that a relatively greater number of criticism arguments will be norm-based, especially when criticizing unconventional choices, whereas a relatively greater number of defense arguments will be taste-based. Finally, in this study we surveyed a non-student population to increase generalizability of our effects.

#### Method

One hundred and ninety-five respondents from a national pool participated in an online study in exchange for a \$5 gift certificate for a major online retailer. This study followed a similar procedure and design as study 1, with two exceptions. First, prior to evaluating the ease of choice criticism or choice defense (depending on randomly assigned condition), participants were asked to write down their most effective argument to criticize or their most effective argument to defend choice of each of the options. Second, unlike the participants of study 1, who evaluated how easy it *would* be to criticize or defend choices, in this study participants evaluated how easy it *actually had been* to criticize or defend.

#### Results and discussion

**Ease of criticizing and defending.** As in the previous studies, the two criticism measures (criticizing and disapproving) and the two defense measures (responding to criticism and to disapproval) were highly correlated ( $r$ 's > .85) and were thus averaged to form two single criticism and defense measures for each option. We then conducted a mixed ANOVA on the average scores with option type (conventional versus unconventional) as the within factor and task (criticize versus defend) as the between factor.

As expected, results showed a main effect of task, such that respondents rated choice defense to be significantly easier than choice criticism for both problem types; safe-risky: ( $M_{criticize} = 5.74$ ,  $M_{defend} = 8.43$ ),  $F(1, 193) = 110.37$ ,  $p < .001$ ,  $\eta^2 = 0.36$ ; and utilitarian-hedonic: ( $M_{criticize} = 5.3$ ,  $M_{defend} = 8.42$ ),  $F(1, 193) = 122.29$ ,  $p < .001$ ,  $\eta^2 = 0.39$ . Importantly, and demonstrated by the interactions shown in Fig. 3, we find consistent support for our hypothesis that the conventional versus unconventional nature of the chosen option plays a greater role determining ease of criticizing than of defending choices.

In particular, the interaction between task and option type was significant in the safe-risky choice problems,  $F(1, 193) = 69.16$ ,  $p < .001$ ,  $\eta^2 = 0.26$ . The average ease of criticizing the risky bet option was 6.62 ( $SD = 2.27$ ) compared to 4.86 ( $SD = 2.43$ ) for the safe option,  $F(1, 193) = 71.6$ ,  $p < .001$ ,  $\eta^2 = 0.27$ . However, the difference in the ease of defending the risky option ( $M = 8.07$ ,  $SD = 1.83$ ) versus the safe option ( $M = 8.78$ ,  $SD = 1.55$ ), while still significant, was much smaller,  $F(1, 193) = 11.15$ ,  $p < .005$ ,  $\eta^2 = 0.055$ , as shown by the smaller effect size.

A similar interaction emerged for the utilitarian-hedonic choice problems,  $F(1, 193) = 96.9$ ,  $p < .001$ ,  $\eta^2 = 0.33$ . The average ease of criticizing the hedonic option was 6.39 ( $SD = 2.44$ ), compared to 4.20 ( $SD = 2.65$ ) for the utilitarian option,  $F(1, 193) = 110.05$ ,  $p < .001$ ,  $\eta^2 = 0.363$ . The difference in the ease of defending the

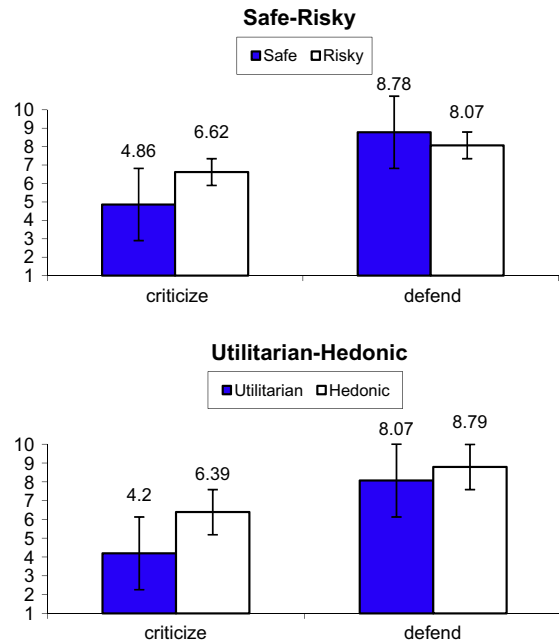


Fig. 3. Mean actual ease of criticizing and defending choices as a function of option type and task (study 3).

hedonic ( $M = 8.07$ ,  $SD = 1.96$ ) versus the utilitarian ( $M = 8.79$ ,  $SD = 1.69$ ) option in contrast was significantly smaller,  $F(1, 193) = 12.17$ ,  $p < .05$ ,  $\eta^2 = 0.059$ .

**Bases of criticism and defense.** Two independent coders ( $r = .77$ ; disagreements were settled with discussions between the coders), blind to the study hypotheses, coded respondents' arguments according to whether they reflected norm-based (e.g., "You should only buy things that are necessary;" "You should live a little sometimes") or taste-based information (e.g., "I feel like indulging myself;" "I'm not a gambler"). Answers that consisted of two distinct arguments (e.g., "I already have plenty of school supplies. My feet are very sore right now and a foot massage is what I need right now") were coded as two arguments. Further, statements that reflected that respondents were unable or unwilling to criticize or defend a particular option (e.g. "The person made the right choice by not taking the gamble;" "In this economy, I can't criticize someone who needs groceries") were coded as "can't defend" or "can't criticize" arguments, respectively. Arguments that were relevant to the problem but that were not norm- or taste-based (e.g., "How much do you have to pay to bet?") were coded as "other." Finally, respondents whose arguments showed they were completing the study carelessly ("insulted;" "who cares") or who did not provide any arguments were eliminated; the number of respondents who were eliminated in each problem ranged from 9 (criticism, utilitarian-hedonic problem 1) to 19 (defense, safe-risky problem 3).

As detailed in Tables 1A and 1B, results confirmed our expectations. For example, as shown in Table 1A, in the safe-risky problem in which participants chose between receiving \$30 for sure or taking a gamble with a 10% chance to win \$750, analysis revealed that the number of norm-based and taste-based criticism arguments differed according to the option's nature ( $\chi^2 = 25.76$ ,  $p < .001$ ). Consistent with our expectations, participants used more norm-based arguments in choice criticism than choice defense ( $\chi^2 = 42.68$ ,  $p < .001$ ), but they used more taste arguments in choice defense than choice criticism ( $\chi^2 = 17.07$ ,  $p < .001$ ). Furthermore, participants put forth more norm-based arguments when criticizing the unconventional (versus conventional) option ( $\chi^2 = 20.51$ ,  $p < .001$ ), but a greater number of taste-based arguments when criticizing the

**Table 1A**  
Count of arguments for the safe-risky problems (Study 3).

Problem 1: \$30 for sure versus 10% chance to win \$750		Overall $\chi^2 = 25.76$			
Criticize		Norms	Taste	"Can't criticize"	Other
Defend	Unconventional	59 <sup>a</sup>	32 <sup>b</sup>	2	3
	Conventional	19 <sup>b</sup>	56 <sup>a</sup>	16	2
Overall $\chi^2 = 0.09$					
		Norms	Taste	"Can't defend"	Other
Defend	Unconventional	8 <sup>a</sup>	75 <sup>b</sup>	3	2
	Conventional	7 <sup>a</sup>	77 <sup>b</sup>	1	5
Overall					
		Norms	Taste		
Overall	Criticize	78 <sup>a</sup>	88 <sup>a</sup>		
	Defend	15 <sup>b</sup>	152 <sup>c</sup>		
Problem 2: \$25 for sure versus 20% chance to win \$250		Overall $\chi^2 = 54.74$			
Criticize		Norms	Taste	"Can't criticize"	Other
Defend	Unconventional	78 <sup>a</sup>	12 <sup>b</sup>	3	5
	Conventional	24 <sup>b</sup>	54 <sup>a</sup>	10	13
Overall $\chi^2 = 3.30$					
		Norms	Taste	"Can't defend"	Other
Defend	Unconventional	17 <sup>a</sup>	64 <sup>b</sup>	3	7
	Conventional	27 <sup>a</sup>	53 <sup>b</sup>	4	4
Overall					
		Norms	Taste		
Overall	Criticize	102 <sup>a</sup>	66 <sup>b</sup>		
	Defend	44 <sup>b</sup>	117 <sup>a</sup>		
Problem 3: \$50 for sure versus 50% chance to win \$300		Overall $\chi^2 = 50.78$			
Criticize		Norms	Taste	"Can't criticize"	Other
Defend	Unconventional	59 <sup>a</sup>	20 <sup>b</sup>	6	8
	Conventional	14 <sup>b</sup>	64 <sup>a</sup>	12	3
Overall $\chi^2 = 3.09$					
		Norms	Taste	"Can't defend"	Other
Defend	Unconventional	3 <sup>a</sup>	74 <sup>b</sup>	3	5
	Conventional	9 <sup>a</sup>	70 <sup>b</sup>	1	7
Overall					
		Norms	Taste		
Overall	Criticize	73 <sup>a</sup>	84 <sup>a</sup>		
	Defend	12 <sup>b</sup>	144 <sup>c</sup>		

Counts with different superscript are different at  $p < .05$ .

conventional (versus unconventional) option ( $\chi^2 = 6.55, p < .05$ ). These results are consistent with our prediction about the differential use of norm- and taste-based arguments when criticizing conventional and unconventional options. Further, while criticism of the unconventional option elicited more norm-based than taste-based arguments ( $\chi^2 = 8.01, p < .05$ ), criticism of the conventional option was associated with a greater number of taste-based than norm-based arguments ( $\chi^2 = 18.25, p < .001$ ).

On the other hand, the number of norm-based and taste-based defense arguments did not differ according to the option's nature

( $\chi^2 < 1, p > .10$ ). Neither the number of norm-based arguments ( $\chi^2 < 1, p > .10$ ) nor the number taste-based arguments differed according to the option's conventional versus unconventional nature ( $\chi^2 < 1, p > .10$ ). Finally, participants put forth more taste-based than norm-based arguments when defending choice of both the unconventional ( $\chi^2 = 54.08, p < .001$ ) and the conventional ( $\chi^2 = 58.33, p < .001$ ) option, which again reflects the insensitivity to option type when defending choices.

Interestingly, the greater difficulty of criticizing choice of the safe option, as compared to the risky option, was also reflected in the number of respondents who stated that they could not or would not criticize this choice. That is, across all three safe-risky problems and despite the study instructions, relatively more respondents did not do so for choice of the conventional, safe option. See results for all problems in Table 1A and examples of relevant arguments in Table 1B.

We find parallel results in the utilitarian-hedonic problems. For example, in the problem in which participants chose between a foot massage (worth \$29.99) and school supplies (worth \$29.99), analysis revealed that the number of norm-based and taste-based criticism arguments differed according to the option's nature ( $\chi^2 = 34.61, p < .001$ ). Consistent with our expectations, participants used more norm-based arguments in choice criticism than choice defense ( $\chi^2 = 45.47, p < .001$ ), but they used more taste arguments in choice defense than choice criticism ( $\chi^2 = 20.97, p < .001$ ). Specifically, as shown in Table 2A, participants put forth more norm-based arguments when criticizing the unconventional (versus conventional) option ( $\chi^2 = 25.82, p < .001$ ), but a greater number of taste-based arguments when criticizing the conventional (versus unconventional) option ( $\chi^2 = 10.65, p < .001$ ). This is again consistent with our prediction about differential use of norm- and taste-based arguments when criticizing conventional and unconventional options. Further, although criticism of the unconventional option elicited more norm-based than taste-based arguments ( $\chi^2 = 22.04, p < .001$ ), criticism of the conventional option was associated with a greater number of taste-based than norm-based arguments ( $\chi^2 = 13.47, p < .001$ ).

On the other hand, the number of norm-based and taste-based defense arguments did not differ according to the option's nature ( $\chi^2 = 2.39, p > .10$ ). Neither the number of norm-based arguments ( $\chi^2 = 2.33, p > .10$ ) nor the number taste-based arguments differed according to the option's conventional versus unconventional nature ( $\chi^2 < 1, p > .10$ ). Finally, participants put forth more taste-based than norm-based arguments when defending choice of both the unconventional ( $\chi^2 = 57.36, p < .001$ ) and the conventional ( $\chi^2 = 39.12, p < .001$ ) option.

Furthermore, we again found that the greater difficulty of criticizing choice of the utilitarian (i.e., conventional) option, as compared to the hedonic option, was reflected in the number of respondents who stated that they could not or would not criticize this choice. See results for all problems in Table 2A and examples of relevant arguments in Table 2B.

**Table 1B**  
Examples of arguments used in the safe-risky problems (study 3).

		Criticize	Defend
Conventional (safe)	Taste-based	– Have you no guts; you have the chance to win \$750 and you are going to settle for \$30 – Why so shy to take any risks? Only boring people choose Option A	– \$25 for sure is a nice amount, I can go get a manicure – I'm not a gambler
	Norm-based	– You should live a little sometimes	– A bird in the hand is worth two in the bush Better safe than sorry
Unconventional (risky)	Taste-based	– The chances of winning are very remote – You are blinded by greed rather than taking the smart or rational way out	– Winning \$750 would have a meaningful impact on my life; winning \$30 would not – I'm lucky when it comes to contests
	Norm-based	– The law of averages says you'll end up with nothing as opposed to a sure bet of winning \$30	– Nothing wagered, nothing gained – Go big or go home

**Table 2A**  
Count of arguments for the utilitarian-hedonic problems (study 3).

Problem 1: School supplies (worth \$29.99) versus foot massage (worth \$29.99)		Overall $\chi^2 = 34.61$			
Criticize		Norms	Taste	"Can't criticize"	Other
Defend	Unconventional	71 <sup>a</sup>	25 <sup>b</sup>	3	4
	Conventional	22 <sup>b</sup>	54 <sup>c</sup>	14	7
Overall $\chi^2 = 2.39$		Norms	Taste	"Can't defend"	Other
Overall	Unconventional	7 <sup>a</sup>	76 <sup>b</sup>	0	3
	Conventional	14 <sup>a</sup>	72 <sup>b</sup>	0	3
Problem 2: \$50 grocery store voucher versus \$50 restaurant voucher		Overall $\chi^2 = 70.24$			
Criticize		Norms	Taste	"Can't criticize"	Other
Defend	Unconventional	63 <sup>a</sup>	14 <sup>b</sup>	8	4
	Conventional	7 <sup>b</sup>	55 <sup>a</sup>	19	6
Overall $\chi^2 = 1.28$		Norms	Taste	"Can't defend"	Other
Overall	Unconventional	4 <sup>a</sup>	72 <sup>b</sup>	0	8
	Conventional	8 <sup>a</sup>	71 <sup>b</sup>	0	7
Overall		Norms	Taste		
Overall	Criticize	70 <sup>a</sup>	71 <sup>a</sup>		
	Defend	12 <sup>b</sup>	143 <sup>c</sup>		

Counts with different superscript are different at  $p < .05$ .

**Table 2B**  
Examples of arguments used in the utilitarian-hedonic problems (study 3).

Criticize		Defend
Conventional (utilitarian)	Taste-based	<ul style="list-style-type: none"> <li>- I am glad I was able to select my daughter's school supplies to show her how we value education and being prepared</li> <li>- I am a practical person and want needed school supplies on hand</li> </ul>
	Norm-based	<ul style="list-style-type: none"> <li>- School supplies are a practical way to spend the money</li> <li>- School supplies are a necessity, foot massage is a luxury</li> </ul>
Unconventional (hedonic)	Taste-based	<ul style="list-style-type: none"> <li>- I am on my feet all day and thought this might help</li> <li>- My boyfriend hates feet so I'll take the massage</li> </ul>
	Norm-based	<ul style="list-style-type: none"> <li>- The restaurant voucher would be like a gift. Sometimes you just have to smell the roses</li> <li>- Going out and having fun is the key to happiness</li> <li>- You need to pamper yourself once in a while</li> </ul>

To summarize, study 3 demonstrated that the nature of the chosen option has a greater effect on the actual ease of criticizing than on the ease of defending choices, thus extending the previous results that examined judgments of ease. Importantly, a content analysis found support for our proposition that choice criticism and defense tend to reflect different types of arguments. That is, respondents relied less on taste-based (and thus more on norm-based) arguments when criticizing unconventional options. However, the difference in argument type reflected in their statements was eliminated when defending choices. These results are consistent with our proposed existence of an information asymmetry and the relatively greater impact of norm-based arguments in choice criticism, and they further suggest that access to the potential idiosyncratic tastes or circumstances on which a choice is

based should reduce choice critics' reliance on general norms relative to idiosyncratic factors. We test this prediction in the next study.

**Study 4**

The purpose of this study was to test whether providing critics with potential reasons for choice decreases their reliance on the option's nature when criticizing. Specifically, if critics have access to potential reasons for choosing the different options, they may use these reasons when judging the ease of criticizing these options. This, in turn, will decrease the difference in ease of criticizing conventional and unconventional options. For example, when a



respondent, who is presented with a choice between a foot massage and school supplies, first thinks about what might have led other participants to choose the unconventional, foot massage option, s/he may rely on these reasons when thinking how easy it is to criticize the otherwise easy-to-criticize unconventional option. This, in turn, may make it harder to criticize choosing this unconventional option, and thus differences in criticizing conventional and unconventional options will be smaller.

To test this prediction, we manipulate the nature of the option (conventional versus unconventional) and access to reasons (asking respondents to list reasons for choice first versus not asking them). Since we predict that listing reasons for choice will attenuate the role of the nature of the chosen option, we test this prediction only when criticizing choices, as the role of the option's nature is already smaller when defending choices.

### Method

Fifty-five students from an East Coast university participated in a study on decision-making in exchange for class credit. They were presented with six choice sets: two represented choices between compromise and extreme options; two between utilitarian and hedonic options; and two between safe and risky bet options.

The study had a 2 (list arguments for choice: yes versus no)  $\times$  2 (option type: conventional versus unconventional) mixed-subject design. Participants in this study rated how easy it would be for other students to criticize and disapprove of the choices another student had made, using the same scales/items and cover story as before. Accessibility of reasons was manipulated between-subjects by asking half of the respondents to list three possible reasons that may have led the other student to have chosen each option, prior to marking the ease of criticizing these choices ('arguments' condition). In the control condition, participants only judged the ease of criticizing these choices as in the previous studies. Option type was again manipulated within subject.

### Results and discussion

We averaged the rating of the two measures (criticizing and disapproving) for each problem type across the two replications of each problem type ( $r$ 's  $> 0.6$ ), as before. We then conducted a mixed-ANOVA on the averaged scores with option type (conventional versus unconventional) as the within factor and arguments (yes versus no) as the between factor.

Across all problem types we once again found a significant effect of the nature of the chosen option on the ease of criticizing choices when participants did not provide potential arguments supporting the choice of the previous respondent. Importantly, however, the effect of option type was reduced when choice critics first generated potential arguments that may have led to the choice, as evidenced by a significant 2-way interaction between option type and the arguments manipulation. Specifically, across all problem types, respondents in the control condition indicated that it was significantly easier to criticize choice of the unconventional option than choice of the conventional option, replicating previous studies; however, this effect was significantly reduced when participants first listed reasons for choice (see Fig. 4).

In particular, when not listing reasons for choice first, respondents indicated that it was significantly easier to criticize choice of an extreme option ( $M = 6.54$ ,  $SD = 2.13$ ) than choice of the compromise option ( $M = 4.71$ ;  $SD = 1.91$ ),  $F(1,53) = 20.36$ ,  $p < .001$ ,  $\eta^2 = 0.278$ . However, when participants first listed reasons for choice, the 2-way interaction between option type and reason was marginally significant,  $F(1,53) = 3.77$ ,  $p < .06$ ,  $\eta^2 = 0.066$ , such that the effect of option type was reduced (extreme:  $M = 5.50$ ,

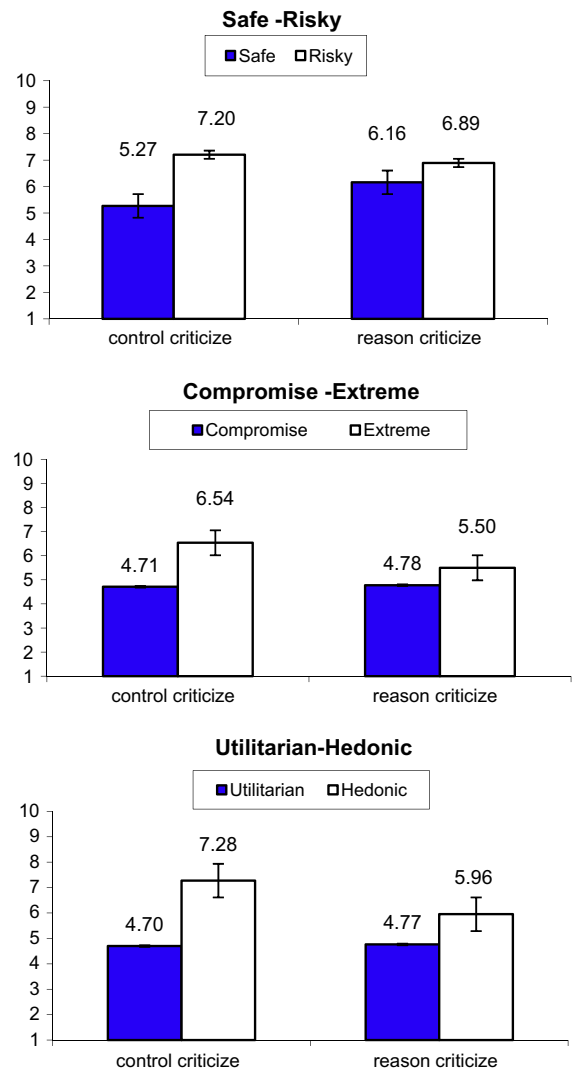


Fig. 4. Mean ease of criticizing and defending choices as a function of option type and accessibility of reasons (study 4).

$SD = 2.14$ ; compromise:  $M = 4.77$ ,  $SD = 2.22$ ),  $F(1,53) = 3.32$ ,  $p = .07$ ,  $\eta^2 = 0.059$ .

Similarly, the 2-way interaction between option type and reasons in the safe-risky problem was marginally significant,  $F(1,53) = 3.69$ ,  $p < .06$ ,  $\eta^2 = 0.065$ , such that without listing reasons the difference between criticizing risky and safe options was significant (risky:  $M = 7.2$ ,  $SD = 1.71$ ; safe:  $M = 5.27$ ,  $SD = 2.28$ ),  $F(1,53) = 18.75$ ,  $p < .001$ ,  $\eta^2 = 0.261$ . However, when generating choice reasons prior to rating criticism ease, the effect of the nature of the chosen option was not significant (risky:  $M = 6.89$ ,  $SD = 1.92$ ; safe:  $M = 6.16$ ,  $SD = 2.16$ ),  $F(1,53) = 2.78$ ,  $p > .1$ ,  $\eta^2 = 0.05$ .

Finally, the 2-way interaction between option type and reasons was significant in the utilitarian-hedonic problems,  $F(1,53) = 5.39$ ,  $p < .05$ ,  $\eta^2 = 0.092$ , such that without listing reasons the difference between criticizing hedonic and utilitarian options was significant (hedonic:  $M = 7.3$ ,  $SD = 1.62$ ; utilitarian:  $M = 4.7$ ,  $SD = 2.22$ ),  $F(1,53) = 36.50$ ,  $p < .001$ ,  $\eta^2 = 0.41$ , but the magnitude of the effect was reduced following the generation of potential reasons (hedonic:  $M = 5.96$ ,  $SD = 2.26$ ; utilitarian:  $M = 4.77$ ,  $SD = 2.42$ ),  $F(1,53) = 8.06$ ,  $p < .01$ ,  $\eta^2 = 0.13$ .

Four studies have now found support for our proposition that the nature of the chosen option has an asymmetric effect both on the predicted and the actual ease of choice criticism and choice de-

fense. Further, as found in study 3, the reason for this asymmetry appears to be differences in the type of arguments decision-makers use when criticizing (i.e., norm-based) versus defending (i.e., taste-based) choices, such that when critics have access to potential reasons for choice the effect of the option's nature on ease of criticizing is attenuated (study 4). However, a question that we have not addressed yet is if the differential ease of choice criticism and defense has any systematic downstream consequences on subsequent decision-making, which is the objective of our final study.

## Study 5

The objective of our final study was to examine the impact of judging the ease of choice criticism and defense on subsequent choice. Specifically, we wanted to test if decision-makers who judge the ease of choice criticism or defense prior to choosing between conventional and unconventional options will make different choices than those who simply choose between these two option types. As we discussed, when choosing between conventional and unconventional options, the majority of people tend to prefer the former (Simonson et al., 2004; Maimaran & Simonson, 2011). Judging the ease of choice defense prior to choosing is likely to create awareness that defending unconventional options is as easy as defending conventional ones, which will increase the subsequent choice likelihood of unconventional options.

Conversely, judging the ease of choice criticism prior to choice is likely to create awareness that criticizing conventional options is more difficult than criticizing unconventional ones, which should be associated with an increase in the choice likelihood of conventional options. However, the conventional option is the default one that tends to be chosen by the majority of decision-makers in the control condition, which is likely to result in a ceiling effect limiting further increases in choice share. This is consistent with Simonson et al.'s (2004) effect propensity hypothesis, which suggests that manipulations of any kind, such as increasing involvement, anticipating regret, or providing reasons, will have a limited impact on conventional options that generally chosen by default. Therefore, relative to a control condition, the effect of judgments of criticism ease on choice of unconventional options is likely to be smaller than the effect of judgments of defense ease on choice of conventional options, resulting in an asymmetric effect of judgments of choice criticism and defense ease on subsequent choice.

## Method

One hundred and forty-one students from an East-coast university participated in a study on decision-making in exchange for class credit. The study employed a 3 (task: control versus criticize versus defend)  $\times$  2 (option type: conventional versus unconventional) mixed design. The study instructions depended on the condition to which participants had been randomly assigned. Specifically, in the control condition, participants were simply asked to choose between two options in three choice problems, where one represented a choice between a safe and a risky bet option (a choice between receiving \$30 for sure versus having a 10% chance to receive \$750 and a 90% chance to receive nothing), one represented a choice between a compromise and extreme options (barbecue grills varying in cooking area and weight); and one represented a choice between utilitarian and hedonic options (a \$100 reward certificate for either a restaurant or a grocery store).

In the criticize condition, respondents first completed the two criticism items to assess how easy it would be for them to criticize another student's choice of both the conventional and unconventional options. Next, they were asked which one of the options they

would choose. Conversely, in the defense condition, participants first completed the two defense items to assess how easy it would be for them to respond to another student's criticism of their choice of each of the two options, and then indicated their choice.

## Results and discussion

**Ease of criticizing and defending.** As before, the two criticism measures (criticizing, disapproving) and the two defense measures (responding to criticism, disapproval) were highly correlated ( $r > .69$  and  $.72$ , respectively), and were thus averaged to form two single criticism and defense measures for each option. We then conducted a mixed ANOVA on the average scores with option type (conventional versus unconventional) as the within factor and task (criticize versus defend) as the between factor.

As expected, and replicating our previous results, the interaction between task and option type was significant in the safe-risky choice problem,  $F(1,93) = 27.33$ ,  $p < .001$ ,  $\eta^2 = 0.23$ . In particular, the average ease of criticizing the risky option was 6.08 ( $SD = 2.53$ ), compared to 3.22 ( $SD = 1.94$ ) of the safe option,  $F(1,93) = 38.72$ ,  $p < .001$ ,  $\eta^2 = 0.29$ . In contrast, there was no difference between the ease of defending the risky ( $M = 6.49$ ,  $SD = 2.47$ ) and the safe options ( $M = 6.99$ ,  $SD = 2.46$ ),  $F(1,93) = .97$ ,  $p > .10$ .

A similar interaction emerged in the compromise-extreme choice problem,  $F(1,93) = 20.63$ ,  $p < .001$ ,  $\eta^2 = 0.18$ . The average ease of criticizing an extreme option was 6.14 ( $SD = 2.43$ ), compared to 3.23 ( $SD = 2.30$ ) for the compromise option,  $F(1,93) = 36.31$ ,  $p < .001$ ,  $\eta^2 = 0.28$ . In contrast, the difference between the ease of defending an extreme ( $M = 6.00$ ,  $SD = 2.45$ ) versus a compromise option ( $M = 6.57$ ,  $SD = 2.44$ ) was not significant,  $F(1,93) = 1.30$ ,  $p > .10$ .

Finally, the task by option type interaction was significant in the utilitarian versus hedonic option problem,  $F(1,93) = 6.90$ ,  $p < .01$ ,  $\eta^2 = 0.07$ . Specifically, the average ease of criticizing the hedonic option was 5.56 ( $SD = 2.76$ ), compared to 3.72 ( $SD = 2.93$ ) of the utilitarian option,  $F(1,93) = 10.07$ ,  $p < .001$ ,  $\eta^2 = 0.10$ . In contrast, the difference in the ease of defending the hedonic ( $M = 6.68$ ,  $SD = 2.24$ ) versus the utilitarian option ( $M = 6.69$ ,  $SD = 2.30$ ) was not significant,  $F(1,93) < 1$ .

**Choice of the conventional option.** We analyzed the data using logistic regressions, where choice of the conventional option was coded 1 and 0 otherwise. As shown in Fig. 5, in the safe-risky choice problem, there was a significant difference in choice share of the safe option between the control and defense conditions (72% versus 51%, respectively;  $\beta = -.444$ , Wald's  $\chi^2 = 4.11$ ,  $p < .05$ ), but not between the control (72%) and criticize (77%) conditions ( $\beta = .281$ , Wald's  $\chi^2 = .352$ ,  $p > .10$ ). In the compromise-extreme problem, there was also a significant difference in choice share of the compromise option between the control and defense conditions (70% versus 49%, respectively;  $\beta = -.435$ , Wald's

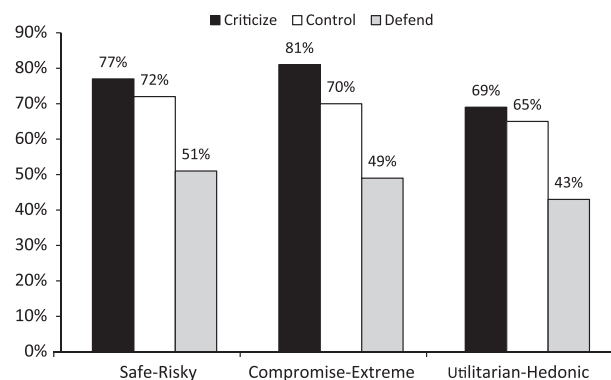


Fig. 5. Choice share of the conventional option (study 5).

$\chi^2 = 4.02, p < .05$ ), but not between the control (70%) and criticize (81%) conditions ( $\beta = .640$ , Wald's  $\chi^2 = 1.71, p > .10$ ). Similarly, there was a significant difference in choice share of the utilitarian option between the control and defense conditions (65% versus 43%, respectively;  $\beta = -.464$ , Wald's  $\chi^2 = 4.72, p < .05$ ), but not between the control (65%) and criticize (69%) conditions ( $\beta = .160$ , Wald's  $\chi^2 = .133, p > .10$ ).

**Mediation Analysis.** To test whether the differential ease of criticism and defense indeed drove actual choices as we had hypothesized, we conducted a mediation analysis. To that end, we created an ease index by subtracting the ease of criticizing or defending the conventional option from the ease of criticizing or defending the unconventional option. Thus, a higher number on the ease index signifies that performing the criticism or defense task was easier with respect to the *unconventional* option. For example, the ease index for choice criticism in the compromise-extreme problem was 2.91, which is significantly higher than the mid-point, 0, based on a one-sample *t*-test,  $t(47) = 4.92, p < .001$ . This confirms that criticizing the extreme, unconventional option, is indeed significantly easier. In contrast, the ease index for choice defense in the compromise-extreme problem was  $-.57$ , which is not statistically different from 0,  $t(46) = -1.18, p > .10$ , showing that the compromise and the extreme options were equally easy to defend (see complete results in Table 3).

We then tested for the process underlying the effect of criticizing versus defending choices on subsequent choice for each problem type using Baron and Kenny's (1986) method. According to Baron and Kenny (1986), mediation is demonstrated when (1) the independent variable has a significant effect on the dependent variable; (2) the independent variable has a significant effect on the hypothesized mediator of the relationship between the dependent and independent variables; and (3) the effect of the independent variable on the dependent variable is reduced to non-significance (or significantly reduced in magnitude) in a regression containing the independent variable and hypothesized mediator, with the mediator remaining significant.

For the sure-risky choice problem, the first of Baron and Kenny's (1986) criteria was satisfied by analyses showing that the independent variable, task (criticizing = 0 versus defending = 1), had a significant effect on the dependent variable, choice of the safe option,  $\beta = -1.170$ , Wald's  $\chi^2 = 6.75, p < .01$ . The negative value of  $\beta$  is consistent with the prediction that choice defense, as opposed to criticism, increases choice of the unconventional option. Next, task also had a significant effect on the proposed mediator, the ease index,  $\beta = -3.365, t(93) = -5.23, p < .001$ , satisfying the second criterion. Further, the ease index had a significant effect on choice of the safe option,  $\beta = .264$ , Wald's  $\chi^2 = 11.85, p < .001$ . Finally, when both task and the ease index were regressed on choice of the safe option, the ease index remained a significant predictor,  $\beta = .230$ , Wald's  $\chi^2 = 7.75, p < .01$ , but task was no longer significant,  $\beta = -.544$ , Wald's  $\chi^2 = 1.15, p > .10$ , satisfying the third of Baron and Kenny's criteria and thereby demonstrating a mediational effect.

Next, for the compromise-extreme choice problem, task had significant effects on choice of the compromise option,

$\beta = -1.509$ , Wald's  $\chi^2 = 10.26, p < .001$ , and on the ease index,  $\beta = -3.481, t(93) = -4.54, p < .001$ . Further, the ease index had a significant effect on choice of the compromise option,  $\beta = .300$ , Wald's  $\chi^2 = 17.99, p < .001$ ; however, when both task and the ease index were regressed on choice of the compromise option, the ease index remained a significant predictor,  $\beta = .264$ , Wald's  $\chi^2 = 13.18, p < .01$ , but task was no longer significant,  $\beta = -.895$ , Wald's  $\chi^2 = 2.80, p > .05$ , demonstrating a mediational effect.

Finally, for the utilitarian-hedonic choice problem, task had significant effects on choice of the utilitarian option,  $\beta = -1.089$ , Wald's  $\chi^2 = 6.44, p < .05$ , and on the ease index,  $\beta = -1.854, t(93) = -2.63, p < .01$ . Further, the ease index had a significant effect on choice of the utilitarian option,  $\beta = .380$ , Wald's  $\chi^2 = 18.22, p < .001$ , but when both task and the ease index were regressed on choice of the utilitarian option, the ease index remained a significant predictor,  $\beta = .353$ , Wald's  $\chi^2 = 15.83, p < .001$ , but task became non-significant,  $\beta = -.699$ , Wald's  $\chi^2 = 2.00, p > .10$ , demonstrating full mediation.

We confirmed our mediation results employing the nonparametric bootstrapping approach to derive confidence intervals using the SPSS-macro syntax developed by Preacher and Hayes (2004) with 5000 resamples, as recommended by Zhao, Lynch, and Chen (2010). As expected, the mean indirect effects were negative and significant with a 95% confidence interval excluding zero for the safe-risky  $\{-1.4660, -.2547\}$ , the compromise-extreme  $\{-1.6405, -.3925\}$ , and the utilitarian-hedonic  $\{-1.3700, -.1574\}$  choice problems (all  $p$ 's  $< .05$ ).

Results of our final study thus demonstrate the effect of judging the ease of choice criticism and defense on actual choice of conventional versus unconventional options. Across three problem types, we found that judging the ease of choice defense before choosing one of the alternatives results in an increase in choice share of the unconventional option, compared to a control condition in which participants simply chose one of the options. Therefore, differences in judgments of the ease of defending choices have significant downstream implications on subsequent choice. As we discuss below, these results are consistent with recent research (e.g., Sela, Berger, & Liu, 2009) that finds that increasing choice difficulty shifts individuals' choices to conventional, virtuous options that are easier to justify, unless reasons for choosing unconventional, vice options are accessible. Furthermore, and consistent with Simonson et al. (2004), judgments of ease of criticizing did not increase the choice share of the conventional option, probably due to a ceiling effect. Importantly, we were able to show that differences in the ease of criticizing versus defending conventional versus unconventional options were driving the shifts in participants' likelihood of choosing the conventional options.

## General discussion

Many decisions today are made in socially-intense environments in which choices are often subject to criticism and/or require defense. In this research, we demonstrated that choice criticism and choice defense systematically differ with respect to their sensitivity to the nature of the chosen option, leading to differences in the ease with which these tasks are performed, and to differences in subsequent choice behavior.

We argued that while defenders are more likely to defend their choices based on taste-related arguments, independent of the option type, critics' use of norm-based arguments is dependent on the conventional versus unconventional nature of the chosen option. In support of this hypothesis, our first study found a differential impact of the nature of the chosen option on choice criticism versus defense. Specifically, while the nature of the chosen option significantly affected judgments of ease of choice criticism, ease

**Table 3**  
Task index and significance levels (study 5).

	Compromise – extreme	Safe – risky	Utilitarian – hedonic
Criticize index	2.91 $t(47) = 4.92^{**}$	2.86 $t(47) = 5.68^{**}$	1.84 $t(47) = 3.22^*$
Defense index	$-0.57$ $t(46) = -1.18, ns$	$-0.5$ $t(46) = -1.26, ns$	$-0.01$ $t(46) = -.26, ns$

ns = not significant; based on a one-sample *t*-test against the mid-point, 0

\*  $p < .01$ .

\*\*  $p < .001$ .

of defending choice was less sensitive to option type. Our second study replicated this effect using scenarios in which individuals criticized or defended their own choices or predicted how others would criticize or defend choices. The third study extended these findings using actual choice criticism and choice defense. Content analysis of the arguments provided in this study confirmed our hypothesis that criticism arguments tend to be more norm-based and defense arguments tend to be more taste-based. Our fourth study demonstrated the role of having access to potential reasons for choice, as we found that when critics first list reasons for choice, criticizing conventional and unconventional options is judged to be of similar ease. Finally, our last study showed that the differential ease of choice criticism and defense drove actual choice, such that judging ease of choice defense significantly increased the choice share of the unconventional options, whereas judging ease of choice criticism led to an insignificant increase in the share of the conventional option, possibly due to a ceiling effect.

The findings reported here add to our understanding of reason-based choice and highlight the distinction between defense arguments and criticism arguments. Specifically, although the nature of an option has a significant effect on the ease in which individuals articulate reasons or justifications *prior* to choice (Sela et al., 2009; Shafir et al., 1993; Simonson, 1989), we demonstrated that when decision makers provide justifications *subsequent* to choice, the distinction between conventional and unconventional options is inconsequential to the ease with which these justifications are formed. That is, intentions to choose hedonic or risky options may be difficult to justify *a priori*, but once chosen, these unconventional options benefit from the unconstrained repertoire of defense arguments. Importantly, having judged how easy it would be to defend their choice of the conventional and unconventional options, respondents became more likely to choose these unconventional options, relative to a control condition. Therefore, generating reasons supporting options yet to be chosen and judging how easy it would be to defend options already chosen appear to have opposite effects on subsequent decisions, with the former task decreasing and the latter task increasing the likelihood of unconventional choices.

In addition, our findings suggest that criticizing and defending are not simply two sides of the same coin but, to a large extent, represent separate dimensions and processes. Specifically, while judging the ease of defending choices significantly increases the share of the unconventional options, predicting ease of criticizing choices does not significantly affect choice. Moreover, choice criticism and defense are based on a different set of arguments that, in turn, lead to differential ease in which these tasks are performed. Ease of criticism and defense should thus be assessed as separate dimensions rather than as opposite ends on a continuum.

Further, findings from our last study, showing that judged ease of criticism and defense represents the underlying process driving subsequent behavior, illustrate the importance of the ease construct. Specifically, if consumers are encouraged to judge ease of criticizing their own or others' choices, they may end up making more conventional choices. This could be applied, for examples, in negotiation situations, such that the mediator of a negotiation can encourage negotiators to think about how their actions will be criticized, which in turn would lead them to make more conventional (i.e., compromise) decisions.

The results of our studies also have implications for research on regret and its influence on subsequent behavior. Josephs, Larrick, Steele, and Nisbett (1992) show that choices of unconventional options, such as taking a long-shot bet with a greater expected value rather than a sure thing that turns out to be a bad choice, are associated with greater regret. Greater anticipated regret may cause decision-makers to shift their choices toward conventional options

(Simonson et al., 2004). Yet, one might expect that if decision-makers generate arguments in defense of their unconventional choice, levels of regret for unconventional versus conventional choices may no longer differ. For example, if individuals can rely on idiosyncratic reasons for having chosen the gamble (e.g., craving the excitement), then choosing this gamble and finding out one has lost may not induce greater regret than choosing the safe option and finding out one would have won the gamble. This, in turn, may imply that the unconventional option is chosen repeatedly. Indeed, findings from our last study suggest that choice share of the unconventional option even increases when decision-makers judge the ease of defending their choices.

Additional research is needed to examine how our findings can be applied to other contexts of conventional and unconventional choices, such as the distinction between actions and inactions (e.g., Gilovich & Medvec, 1994) and choice deferral – the tendency to avoid making a choice even when provided with several alternative options (Dhar, 1997). Since inactions and choice deferral are often the default, conventional behavior, we would expect to find greater differences when assessing ease of criticizing, as opposed to defending inactions and actions. That is, although it should be easier to criticize actions than inactions, actions and inactions should not differ in how easily they can be defended.

Future research might also examine the difference between criticizing and defending choice options that are horizontally differentiated, such as yogurt flavors. We expect that in instances when there is no normative option to choose, both critics and defenders will be equally likely to rely on idiosyncratic preferences and tastes in their arguments. Similarly, when there is a normative option to choose but individuals do not have prior information about the choice set (e.g., choice between environmentally friendly and non-friendly obscure car parts), both critics and defenders will be equally likely to use norms in their arguments.

Finally, research into individuals' motivation to criticize or defend choices in the first place is needed. That is, what drives or influences people to criticize others' choices or to defend their own, and what role does the nature of the option play? For example, it is likely that criticism will more readily be voiced at others' choices of unconventional options, as compared to conventional options. Next, how will the relative difficulty of criticizing conventional choices influence the effectiveness of choice criticism? These are important questions that could provide further insights regarding the differences and implications of choice criticism and defense.

**Acknowledgments**

The authors thank the Associate Editor and three anonymous reviewers for their helpful suggestions. The authors contributed equally and are listed in alphabetical order.

**Appendix A**

Choice problems used in the studies.

Problem type	Conventional option	Unconventional option type
<i>Safe-risky bet</i>		
Gamble 1	\$25 for sure	20% Chance to receive \$250 80% Chance to receive nothing

## Appendix A (continued)

Problem type	Conventional option	Unconventional option
Gamble 2	\$30 for sure	10% Chance to receive \$750 90% Chance to receive nothing
Gamble 3	\$50 for sure	50% Chance to win \$300 50% Chance to lose \$25
<i>Compromise-extreme</i>		
Cell phone	Average size  Average battery life	Small size  Short battery life Large size Long battery life
BBQ grill	Medium cooking area Medium weight	Small cooking area Light weight Large cooking area Heavy weight
Printer	Very good print quality Medium speed (6 min)	Good print quality Fast speed (3 min) Excellent print quality Slow speed (9 min)
<i>Utilitarian-hedonic</i>		
Choice 1	\$50 grocery store voucher	\$50 restaurant voucher
Choice 2	School supplies (worth \$29.99)	Foot massage (worth \$29.99)
Choice 3	\$5 calling card	\$5 box of candy bars

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