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Several studies show that information used to screen alternatives becomes less important than information acquired later in the search process simply because it was used to screen. Experiment 1 shows that the tendency to deemphasize prescreening information leads to systematically different choices for decision makers who screen alternatives compared with decision makers who do not screen alternatives. Additional studies show that screening encourages decision makers to shift their emphasis from prescreening information to postscreening information (Experiment 2). Prescreening information is deemphasized because of the categorization that occurs when people create a consideration set of retained alternatives (Experiments 3 and 4). Together, the results show that a brand's strength of consideration (i.e., how highly an option ranks on screening criteria) may have little influence on the likelihood of it being chosen in a postscreening choice process.

The Neglect of Prescreening Information

When consumers encounter a large number of options, they often use a two-stage decision process (Beach 1993; Bettman and Park 1980; Billings and Marcus 1983; Crow, Olshavsky, and Summers 1980; Payne 1976). In Stage 1, they screen options to create a consideration set. In Stage 2, they compare the remaining options to make a final choice. This decision strategy is popular because it reduces the decision maker's workload by paring down the number of options for examination at the final choice stage. A reduced number of options at choice allows the decision maker to consider more information about each option, which should lead to higher-quality choices (e.g., Alba et al. 1997; Häubl and Trifts 2000; Lynch and Ariely 2000; Roberts and Nedungadi 1995). Thus, decision tools (e.g., Web-based screening tools) that enable consumers to structure and organize their decision environments have been strongly endorsed by both consumer decision researchers and the popular press (e.g., Alba et al. 1997; Diehl, Kornish, and Lynch 2003; Häubl and Trifts 2000; Lynch and Ariely 2000; Widing and Talarzyk 1993).

In contrast to this prevailing sentiment, there may be situations in which screening can lead to lower decision quality (Diehl, Kornish, and Lynch 2003; Van Zee, Paluchowski, and Beach 1992; Wright and Barbour 1977). For example, Diehl, Kornish, and Lynch (2003) show that sorting alternatives on a particular attribute encourages decision makers to retain alternatives that are homogeneous with respect to that attribute. Consequently, postscreening information becomes more important in a choice. If relatively trivial postscreening information is made available, decision quality could suffer. Similarly, Wright and Barbour (1977) show that screeners are usually reluctant to revisit information they used previously in the screening process. Thus, if screening results in a shift in emphasis from prescreening information to postscreening information, as these two findings seem to indicate, a choice that follows screening may differ from a choice that is made without screening.

In this article, we show that the act of screening alternatives encourages a person to deemphasize (emphasize) prescreening (postscreening) information in a subsequent choice (Experiments 1 and 2). We then test two potential sources of the screening effect. First, it may be that the screening effect is a consequence of using a noncompensatory process in the screening stage. To the extent that a noncompensatory screening process encourages a person to view prescreening information as having been already noted, the prescreening information may be deemphasized, even if it is the most diagnostic information. Second, it may be that the act of screening encourages a person to create a category of retained alternatives. Categorization encourages a person to view alternatives within a category as more similar (Goldstone, Lippa, and Shiffrin 2001). As a consequence, the person may deemphasize the prescreening information because of its perceived homogeneity. The data are consistent with the categorization explanation (Experi-

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ments 3 and 4). The series of studies we present herein indicate that screening alternatives on important attributes, such as nutrition, safety, and price, may result in the neglect of these attributes in a subsequent choice.

BACKGROUND

When consumers confront complex decisions (e.g., many alternatives described on many attributes), they often employ simplifying heuristics (Payne 1976; Payne, Bettman, and Johnson 1988). These heuristics can consist of a single decision rule (e.g., elimination by aspects, lexicographic, hierarchical elimination model) or a combination of decision rules applied one after the other. An example of the latter decision strategy is a two-stage decision process (Beach 1993; Bettman and Park 1980; Billings and Marcus 1983; Crow, Olshavsky, and Summers 1980; Payne 1976). In Stage 1, the choice set is reduced using a noncompensatory screening strategy (Billings and Marcus 1983; Johnson and Meyer 1984; Wright and Barbour 1977). In Stage 2, decision makers evaluate the remaining alternatives using a more elaborate, compensatory process (Bettman and Park 1980; Billings and Marcus 1983; Payne 1976).

Screening

"Screening" is defined as the reduction in the number of alternatives available for consideration (e.g., Beach 1993; Levin, Prosansky, and Brunick 2001). Historically, the screening stage of a choice process has been viewed as consisting of a relatively simple act that reduces the number of alternatives for consideration in the subsequent choice stage (e.g., Bettman 1979; Huber and Kline 1991; Johnson and Payne 1985). Research on screening has largely been limited to the descriptive issues of verifying (1) whether consumers screen alternatives when creating consideration sets (e.g., Roberts and Lattin 1991) and (2) the size of these consideration sets (e.g., Hauser and Wernerfelt 1990). This focus on descriptive issues has come largely at the expense of some process-related questions (cf. Hauser 1986; Kahn, Moore, and Glazer 1987). For example, does the act of screening systematically affect information processing at the final choice stage? Consequently, do people who screen process information and make choices differently from those who make their decisions without screening?

Research on multistage decision making indicates that the importance weight attached to an attribute in the later stages of decision making may depend on how that attribute was used in the preceding stages (Nedungadi 1987). Nedungadi (1987) finds that in memory-based choice situations, the attributes used to retrieve a set of brands from memory may not necessarily be the same as the attributes used to evaluate and choose from among these brands. In a similar vein, for stimulus-based choice tasks, there are three pieces of evidence that suggest that screening information can alter the manner in which prescreening information is considered at choice. First, Diehl, Kornish, and Lynch (2003) show that in a two-attribute environment, a screening tool that sorts exclusively on the basis of quality increases sensitivity to price (i.e., a postscreening attribute). They maintain that retained options are more homogeneous on quality than would be the case with a random draw of retained options; thus, consumers become more sensitive to price. Second, Wright and Barbour (1977) show that people are reluctant to reconsider information that they have previously used to reduce the size of a choice set. They argue that screening involving a single attribute "closes" the phase, and consequently the information used in that phase becomes unimportant in a subsequent phase. Third, Van Zee, Paluchowski, and Beach (1992) provide consumers with products that varied the nature of the correlation between the prescreening and the postscreening information and show that product ratings correlate more highly with postscreening information. Together, these studies suggest that screening alternatives to create a consideration set can encourage people to deemphasize prescreening information and emphasize postscreening information. Van Zee, Paluchowski, and Beach refer to this possibility as the "screening effect."

Screening Effect

Although there is evidence that hints at a screening effect, the only explanation that supports the screening effect is that which Diehl, Kornish, and Lynch (2003) offer, namely, that the prescreening attributes become nondiagnostic because of homogeneous values. We propose that there may be two additional reasons that prescreening information is deemphasized when additional information is encountered during postscreening. First, the act of screening is commonly a noncompensatory process. Although Wright and Barbour (1977) do not directly comment on a two-stage, mixed-choice rule process, they argue that engaging in a noncompensatory process encourages a person to treat prescreening information as having been already used. If information is viewed as used, it may have less influence if the person subsequently shifts to a compensatory choice strategy during postscreening.

Second, the process of screening may encourage people to *perceive* the prescreening information as more homogeneous and, thus, less diagnostic during postscreening. Investigations into perceptual categorization suggest that alternatives that are grouped within a category are perceived as more similar as a consequence of the categorization, whereas alternatives that are grouped in different categories are perceived as less similar as a consequence of categorization. For example, Goldstone (1994) shows that categorizing simple figures (e.g., squares) as belonging to the same group decreases a person's ability to discriminate among pairs of the figures using same/different judgments. Livingston, Andrews, and Harnard (1998) find that learning to classify objects (e.g., animal body parts, microorganisms) into categories increases the perceived similarity of objects. Finally, Goldstone, Lippa, and Shiffrin (2001) show that categorizing objects into the same group increases their shared similarity, as determined by their similarity to an unclassified object. These results imply that screening may produce increases not only in the objective similarity of the retained alternatives, as Diehl, Kornish, and Lynch (2003) claim, but also in the subjective similarity of the retained alternatives. These increases in the subjective similarity of the prescreening information may encourage people to deemphasize the prescreening information when they consider it along with postscreening information.

Summary

We hypothesize that screening reduces the emphasis on prescreening information and increases the emphasis on postscreening information. If our hypothesis is correct, we

should be able to observe this influence in an option set in which prescreening and postscreening attributes are negatively correlated. For example, suppose that six brands are described on more differentiating prescreening attributes and less differentiating postscreening attributes. Brands A, C, and E perform best on the prescreening attributes and are most likely to be retained in the event that a decision maker is asked to screen the options. If the three brands exhibit a preference pattern of A > C > E on the prescreening attributes but E > C > A on the postscreening attributes, shifts in the relative amount of emphasis placed on prescreening and postscreening attributes should influence choice shares. If decision makers choose without screening and rely primarily on the more differentiating prescreening attributes to make a choice, they should prefer Brand A. If decision makers initially screen and if screening reduces the emphasis placed on prescreening attributes and increases the emphasis placed on postscreening attributes, they should prefer Brand E. Thus, the act of screening should systematically shift preferences from the brand that performs best on prescreening attributes to the brand that performs best on postscreening attributes.

EXPERIMENT 1

The goal of Experiment 1 was to demonstrate that systematic differences in choice shares can arise when consumers make choices without screening versus with screening. Participants in the control conditions were encouraged to choose a brand from among six brands described on six attributes. Participants in the screening condition were encouraged to reduce the size of the choice set using four prescreening attributes and then to consider the complete set of attribute information when choosing among the remaining brands. We expected that screening-condition participants would deemphasize (emphasize) prescreening (postscreening) attributes during a subsequent choice task.

Method

Stimuli. The stimuli were six brands of microwave popcorn described on six attributes, which we adopted from the work of Zhang and Markman (2001; for a detailed description, see Appendix A). The first two prescreening attributes were cost per serving and level of sodium; these attributes had identical performance levels across the six brands (i.e., they were common attributes). The next two prescreening attributes were alignable attributes. A pretest showed that crunchiness and calories per serving were the two most desirable attributes among a large array of potential attributes (see Zhang and Markman 2001). The brands' performances on these attributes were graded so that the brands' preference rank was likely to be A, C, E, B, D, and F. The final two postscreening attributes for any one brand were nonalignable attributes; thus, the attributes were unique to each brand (i.e., there were 12 additional attributes). These postscreening attributes were assigned to brands to correlate negatively with the top three brands' performance on the prescreening attributes (i.e., we expected that brand preference based only on the postscreening attributes would be E, C, A, B, D, and F).

Design and procedure. The design included two choice groups and a screening group. The partitioned-choice group and screening group followed a three-part procedure that varied only in the screening activity (see Appendix B). At Time 1, participants were seated at a computer and asked to rank the desirability of the best level of each prescreening attribute (e.g., crunchiness lasts 3.5 hours, calories equal to less than a slice of bread) and the 12 postscreening attributes. At Time 2, participants were told that they needed to purchase some microwave popcorn and that *partial* descriptions (i.e., the prescreening attributes) for the six available brands were listed in the middle of the screen. Then, participants in the partitioned-choice group were told the following:

> After you have gone through these descriptions to your satisfaction, we will provide you with more information on these six brands on the next screen. Please do not make up your mind about your final choice yet; simply take a careful look at the information provided to you so far.

Participants in the screening group were told the following:

> After you have gone through these descriptions to your satisfaction, as a first step towards picking a brand of your choice, please *short-list three brands* that you would consider more seriously for purchase. We will provide you with more information on these three brands on the next screen. Please do not make up your mind about your final choice yet; simply select (i.e., short-list) *three* brands that you think warrant further attention by clicking on the appropriate buttons below.

At Time 3, the postscreening attribute information was added to the stimulus array, and participants were asked to make a choice using prescreening and postscreening attribute information. Partitioned-choice-group participants chose from among six brands. Screening-group participants were also presented with six brands, but they were asked to choose only from among the three brands in their consideration set (e.g., "Now, from the three brands that you had short-listed earlier, please choose *one* brand as your final choice by clicking the appropriate button below"). The postscreening attributes were assigned so that a participant's third and fourth most desired attributes (i.e., the two most desired postscreening attributes) were paired with Brand E (i.e., the third most desirable brand on the prescreening attributes), fifth and sixth most desired postscreening attributes were paired with Brand C, and seventh and eighth most desired postscreening attributes were paired with Brand A. The remaining postscreening attributes were assigned to the remaining brands, as we illustrate in Appendix A. Thus, for each participant, the prescreening attributes were negatively correlated with the postscreening attributes for the target brands of interest (i.e., A, C, and E).

The experimental design also included a free-choice group. The free-choice-group participants were asked to rate the desirability of the attributes at Time 1; then, they were given all the information (i.e., all six attributes) about all the brands and were asked to make a choice. We assigned the postscreening attribute information to the brands in the same manner as in the other two conditions. Thus, the free-choice-group participants simply skipped the second part of the procedure, in which only the prescreening attribute information was presented. The free-choice-group participants were meant to experience a more ecologically valid procedure in which consumers review information and make a choice. Note that the free-choice group and the partitioned-choice group are conceptually

equivalent control groups, but the free-choice group is a less internally valid control. The information presentation procedure for the free-choice group (i.e., entire stimulus array at once) varied from the procedure used in the screening condition (i.e., a Time 2 presentation of six brands described on four attributes followed by a Time 3 presentation of six brands described on six attributes). Thus, the free-choice group was our ecologically valid control group, and the partitioned-choice group was our internally valid control group.

Results

One hundred twenty undergraduate students participated in Experiment 1. We expected that participants in the choice groups would prefer Brand A, C, or E and that the majority would prefer Brand A because of its superior performance on the most desirables attributes. The choice shares in the partitioned-choice condition ($\hat{\pi}_A = .610$, $\hat{\pi}_C = .268$, $\hat{\pi}_E = .049$) and the free-choice condition ($\hat{\pi}_A = .590$, $\hat{\pi}_C = .231$, $\hat{\pi}_E = .103$) were consistent with this expectation (see Table 1). We also expected that screening-condition participants would select Brands A, C, and E as their consideration set. All the participants did so. Finally, if screening encourages participants to deemphasize prescreening attributes during the choice task, the choice share should shift from Brand A to Brand E because Brand E has better postscreening attribute performance than Brand A. The choice shares in the screening condition ($\hat{\pi}_A = .350$, $\hat{\pi}_C = .275$, $\hat{\pi}_E = .375$) were consistent with this prediction. The choice share of Brand A was lower in the screening group ($\hat{\pi}_A = .350$) than in the partitioned-choice group ($\hat{\pi}_A = .610$; $z = 2.43$, $p < .05$) and the free-choice group ($\hat{\pi}_A = .590$; $z = 2.20$, $p < .05$).[1] The choice share of Brand E was higher in the screening group ($\hat{\pi}_E = .375$) than in the partitioned-choice group ($\hat{\pi}_E = .049$; $z = 3.90$, $p < .05$) and the free-choice group ($\hat{\pi}_E = .103$; $z = 3.00$, $p < .05$). Choice shares among the partitioned-choice and the free-choice conditions did not differ for Brand A ($z = .18$, $p > .05$) or Brand E ($z = .91$, $p > .05$).

In Experiment 1, both choice-group procedures required participants to select from among six alternatives at choice, whereas the screening-group procedure required respondents to choose from among three alternatives at choice. Therefore, it is possible that more information at choice encouraged choice-group respondents to deemphasize postscreening information and that this masqueraded as a screening effect. To address this alternative hypothesis, we ran a free-choice experiment in which 54 people chose from among six alternatives (i.e., A–F) and 54 people chose from among three alternatives (e.g., A, C, E). The choice shares in the six-alternative condition ($\hat{\pi}_A = .537$, $\hat{\pi}_C = .278$, $\hat{\pi}_E = .185$) did not differ from the choice shares in the three-alternative condition ($\hat{\pi}_A = .593$, $\hat{\pi}_C = .241$, $\hat{\pi}_E = .167$; $z_A = .59$, $p > .05$; $z_B = .44$, $p > .05$; $z_C = .25$, $p > .05$).[2]

Discussion

Experiment 1 shows that screening alternatives makes the prescreening attribute information less important in a subsequent choice. Participants preferred the brand that performed best on the prescreening attributes when they did not engage in screening but were less likely to prefer this brand if they initially screened the brand using these desirable attributes. Preference shifted to a brand that performed better on attributes that were introduced postscreening, even though these postscreening attributes were not as desirable. In general, people seem to ignore the magnitude of the differences between the three surviving brands on the prescreening attributes.

It is important to recognize that the design and stimuli we used in Experiment 1 rule out processes that might masquerade as a screening effect. First, it is not the case that the prescreening information was unimportant and, thus, ignored by the participants in the final choice stage. Participants in the two choice conditions made choices that were consistent with relative brand performance on the prescreening information. Second, it is not the case that a small amount of brand differentiation on the prescreening attributes was overwhelmed by a large amount of brand differentiation on the postscreening attributes. Participants in the choice conditions also saw the postscreening information. These participants preferred the brand that performed best on the prescreening attributes, suggesting that the prescreening attributes had more influence on choice than the postscreening attributes when screening was not required. Third, the shift in choice shares in the screening condition was not a function of an increased salience of the postscreening attributes owing to their introduction just before choice. The partitioned-choice group also had postscreening attributes introduced just before choice, but this group exhibited a pattern of choice shares that differed from the screening group.

There are two alternative hypotheses that cannot be ruled out by the results of Experiment 1. First, it may be that participants became tired or resource depleted because of the screening task (Schmeichel, Vohs, and Baumeister 2003). If participants became resource depleted, they would be less vigilant at choice. As a consequence, resource-depleted participants should be more likely to choose randomly from among the brands in the consideration set. Second, it may be that participants engaged in a two-stage choice process but that the second stage was also a noncompensatory choice process. For example, participants could have used an elimination-by-aspects rule to screen and then used an elimination-by-aspects or a lexicographic rule to choose.

[1]All hypotheses involving choice shares are directional. We used one-tailed z-tests for all comparisons of choice shares.

[2]We thank the guest editor and a reviewer for this suggestion.

Table 1
CHOICE SHARES IN EXPERIMENT 1

Choice Condition	*N*	*Brand A*	*Brand C*	*Brand E*	*Brand B*	*Brand D*	*Brand F*
Partitioned choice	41	.610	.268	.049	.073	.000	.000
Free choice	39	.590	.231	.103	.077	.000	.000
Screening	40	.350	.275	.375	.000	.000	.000

Either of these processes would be inconsistent with our claims that the screening effect occurs because screening participants are deemphasizing prescreening information when they use a compensatory process at choice.

EXPERIMENT 2

The goal of Experiment 2 was to demonstrate that the shift in emphasis from prescreening to postscreening attribute information occurs as a consequence of screening. We used two stimulus sets to support this claim. The first stimulus set had the same structure as the stimulus set we used in Experiment 1. Recall that the postscreening attributes were assigned so that a participant's third and fourth most desired attributes were paired with Brand E, fifth and sixth most desired attributes were paired with Brand C, and seventh and eighth most desired attributes were paired with Brand A. The second stimulus set assigned a more hedonically dispersed set of postscreening attributes to Brands E, C, and A. Postscreening attributes were assigned so that a participant's third and fourth most desired attributes were paired with Brand E, seventh and eighth most desired attributes were paired with Brand C, and eleventh and twelfth most desired attributes were paired with Brand A.

If the screening effect is a consequence of an increased (reduced) emphasis on the postscreening (prescreening) information, increasing the dispersion of brand performance on the postscreening information should increase the share of Brand E. This is a standard prediction of a weighted averaging model. If the screening effect is a consequence of resource depletion, the screening effect should be equivalent across hedonic dispersion conditions because choice should be random in each condition. If the screening effect is a consequence of a noncompensatory process at choice, the screening effect should be equivalent across hedonic dispersion conditions. We assigned the participants' most valued postscreening attributes to Brand E in both hedonic dispersion conditions, so preference for Brand E should not be sensitive to its performance relative to Brands A and C.

Method

Experiment 2 was a 3 (task format: partitioned choice, free choice, screening group) × 2 (hedonic dispersion of postscreening attributes: low, high) between-subjects design. Except for the changes we noted previously, the stimuli were the same as in Experiment 1. In addition, the procedure was identical to the procedure we used in Experiment 1.

Results

Two hundred thirty-nine undergraduate students participated in Experiment 2. When we collapse the results across the preference dispersion factor, they replicate those of Experiment 1 (see Table 2). Participants in the partitioned-choice condition ($\hat{\pi}_A = .530$, $\hat{\pi}_C = .217$, $\hat{\pi}_E = .181$) and the free-choice condition ($\hat{\pi}_A = .577$, $\hat{\pi}_C = .211$, $\hat{\pi}_E = .141$) were more likely to prefer Brand A to Brand C to Brand E. Participants in the screening condition exhibited a shift in preference from Brand A to Brand E ($\hat{\pi}_A = .294$, $\hat{\pi}_C = .224$, $\hat{\pi}_E = .447$). The choice share of Brand A was lower in the screening group ($\hat{\pi}_A = .294$) than in the partitioned-choice group ($\hat{\pi}_A = .530$; $z = 3.20$, $p < .05$) and the free-choice group ($\hat{\pi}_A = .577$; $z = 3.69$, $p < .05$). The choice share of Brand E was higher in the screening group ($\hat{\pi}_E = .447$) than in the partitioned-choice group ($\hat{\pi}_E = .181$; $z = 3.88$, $p < .05$) and the free-choice group ($\hat{\pi}_E = .141$; $z = 4.50$, $p < .05$). Choice shares among the partitioned-choice and free-choice conditions did not differ for Brand A ($z = .59$, $p > .05$) or Brand E ($z = .68$, $p > .05$).

Because of the lack of difference between the partitioned-choice and the free-choice conditions, we collapsed the groups for the hedonic dispersion analysis. The first analysis assessed whether participants were sensitive to the change in the hedonic dispersion of the postscreening attributes. This analysis involved three calculations using the market shares for Brands A and E. First, we tested for a significant shift in the choice shares of the low-hedonic-dispersion conditions. In the choice groups, the share for Brand A was 58.3%, and the share for Brand E was 13.1%. In the screening group, the share for Brand A was 36.7%, and the share for Brand E was 34.7%. Thus, the shift in market share was 43.2% ([58.3 – 13.1] – [36.7 – 34.7] = 43.2) for the low-hedonic-dispersion condition ($\chi^2(2) = 13.03$, $p < .05$). Second, we tested for a significant shift in the choice shares of the high-hedonic-dispersion conditions. In the choice groups, the share for Brand A was 51.4%, and the share for Brand E was 20.0%. In the screening condition, the share for Brand A was 19.4%, and the share for Brand E was 58.3%. Thus, the shift in market share was 70.2% ([51.4 – 20.0] – [19.4 – 58.3] = 70.2) for the high-hedonic-dispersion condition ($\chi^2(2) = 15.78$, $p < .05$). Finally, we tested whether the shifts in choice share in the low- and high-hedonic-dispersion conditions differed. A log-linear test for the three-way interaction was significant ($G^2(7) = 34.96$, $p < .01$). This means that the shift in choice shares in the high-hedonic-dispersion condition (70.2%)

Table 2
CHOICE SHARES IN EXPERIMENT 2

Choice Condition	*N*	*Brand A*	*Brand C*	*Brand E*	*Brand B*	*Brand D*	*Brand F*
All Data							
Partitioned choice	83	.530	.217	.181	.060	.012	.000
Free choice	71	.577	.211	.141	.056	.014	.000
Screening	85	.294	.224	.447	.024	.012	.000
Low Hedonic Dispersion							
Partitioned and free choice	84	.583	.190	.131	.071	.024	.000
Screening	49	.367	.245	.347	.041	.000	.000
High Hedonic Dispersion							
Partitioned and free choice	70	.514	.243	.200	.043	.000	.000
Screening	36	.194	.194	.583	.000	.028	.000

was greater than the shift in choice shares in the low-hedonic-dispersion condition (43.2%).

A second analysis tested whether hedonic dispersion exerted a greater influence in the screening or choice conditions. For screening-condition participants, Brand A was less preferred in the high-hedonic-dispersion condition ($\hat{\pi}_A$ = .194) than in the low-hedonic-dispersion condition ($\hat{\pi}_A$ = .367; z = 1.82, $p < .05$). For the choice participants, Brand A was equally preferred in the high-hedonic-dispersion condition ($\hat{\pi}_A$ = .514) and the low-hedonic-dispersion condition ($\hat{\pi}_A$ = .583; z = .86, $p > .05$). For screening-condition participants, Brand E was more preferred in the high-hedonic-dispersion condition ($\hat{\pi}_A$ = .583) than in the low-hedonic-dispersion condition ($\hat{\pi}_A$ = .347; z = 2.21, $p < .05$). For the choice participants, Brand E was equally preferred in the high-hedonic-dispersion condition ($\hat{\pi}_A$ = .200) and the low-hedonic-dispersion condition ($\hat{\pi}_A$ = .131; z = 1.14, $p > .05$). Thus, the hedonic-dispersion manipulation exerted its influence primarily in the screening conditions.

Discussion

We argue that screening before choice encourages decision makers to put less emphasis on prescreening attributes and more emphasis on postscreening attributes at choice. Experiment 2 provides more direct evidence for the shift in the relative importance of prescreening and postscreening attributes during the choice task by showing that decision makers are sensitive to the hedonic dispersion of the postscreening attribute information. The findings also suggest that the act of screening cannot be attributed to the use of a noncompensatory choice rule or resource depletion. Contrary to the predictions of a noncompensatory choice rule and resource depletion, the choice shares in the high-hedonic-dispersion screening group differed from the choice shares in the low-hedonic-dispersion screening group. Contrary to the predictions of resource depletion, the choice share of Brand E (60%) in the high-hedonic-dispersion screening group was significantly greater than chance (z = 3.25).

EXPERIMENT 3

The results of the first two studies suggest that screening alternatives encourages people to deemphasize (emphasize) prescreening (postscreening) information in the subsequent choice. Previously, we proposed two processes to account for this effect. First, the process of screening may encourage the use of a noncompensatory process in the first stage, which subsequently discourages the consideration of the prescreening information when engaged in a compensatory choice process in the second stage. In effect, using the information in the first stage reduces its importance in the second stage. Second, the process of screening may encourage people to create a category of retained alternatives (i.e., the consideration set). Categorization encourages people to perceive within-group alternatives as more similar and thus put less emphasis on this information when they encounter postscreening information. In Experiment 3, we tried to differentiate between these two potential sources of the screening effect.

The challenge of Experiment 3 was to develop a manipulation that allowed participants to screen the alternatives using a noncompensatory process but not to think of the retained alternatives as a group. To this end, we developed a screen-by-rejection condition, in which participants were asked to remove the alternatives that they did not want in the consideration set. Thus, similar to the screening condition, the screen-by-rejection condition encouraged the use of a noncompensatory screening process but was exclusionary instead of inclusionary. We expected that a consideration set created by rejecting undesirable alternatives would discourage participants from perceiving the remaining alternatives as a group, and thus any screening effect attributable to perceiving retained alternatives as member of a consideration set should be mitigated. This is consistent with findings from prior research that show that choice sets formed under exclusionary instructions tend to (1) be larger, (2) contain more ambiguous items, (3) require less effort, and (4) create more loosely held group perceptions (see, e.g., Levin, Prosansky, and Brunick 2001). In contrast, if the screening effect observed in Experiments 1 and 2 is a consequence of using the prescreening information to engage in a noncompensatory screening process, we should observe a screening effect in both the screen-by-inclusion (i.e., screening) and the screen-by-rejection groups.

Method

Experiment 3 was a four-cell (partitioned choice, free choice, screen by inclusion, and screen by rejection) between-subjects design. The stimuli were the same as those in Experiment 1. The procedure for the partitioned-choice, free-choice, and screen-by-inclusion groups was identical to the procedure we used in Experiment 1. The procedure for the screen-by-rejection group mimicked the procedure of the other groups for the attribute-ranking task performed at Time 1, and we modified the instructions as follows at Time 2:

> After you have gone through these descriptions to your satisfaction, as a first step towards picking a brand of your choice, please *reject three brands* that you would *not* consider more seriously for purchase. We will provide you with more information on the three surviving brands on the next screen. Please do not make up your mind about your final choice yet; simply reject (i.e., throw away) *three* brands that you think do not warrant further attention by clicking on the appropriate buttons below.

The screen-by-rejection group then followed a procedure identical to that of the screen-by-inclusion group.

Results

Two hundred fifty undergraduate students participated in Experiment 3. Choice shares for the four experimental groups appear in Table 3. The results for the partitioned-choice, free-choice, and screen-by-inclusion groups replicated the results of Experiment 1. Participants in the partitioned-choice condition ($\hat{\pi}_A$ = .594, $\hat{\pi}_C$ = .219, $\hat{\pi}_E$ = .125) and the free-choice condition ($\hat{\pi}_A$ = .644, $\hat{\pi}_C$ = .237, $\hat{\pi}_E$ = .102) were more likely to prefer Brand A to Brand C or E. Participants in the screen-by-inclusion condition exhibited a shift in preference from Brand A to Brand E ($\hat{\pi}_A$ = .385, $\hat{\pi}_C$ = .215, $\hat{\pi}_E$ = .338). The choice share of Brand A was lower in the screen-by-inclusion group ($\hat{\pi}_A$ = .385) than in the partitioned-choice group ($\hat{\pi}_A$ = .594; z =

Table 3
CHOICE SHARES IN EXPERIMENT 3

Choice Condition	*N*	*Brand A*	*Brand C*	*Brand E*	*Brand B*	*Brand D*	*Brand F*
Partitioned choice	64	.594	.219	.125	.016	.047	.000
Free choice	59	.644	.237	.102	.017	.000	.000
Screening	65	.385	.215	.338	.000	.046	.015
Screen by rejection	62	.581	.194	.194	.032	.000	.000

2.43, $p < .05$) and the free-choice group ($\hat{\pi}_A = .644$; z = 2.99, $p < .05$). The choice share of Brand E was higher in the screen-by-inclusion group ($\hat{\pi}_E = .338$) than in the partitioned-choice group ($\hat{\pi}_E = .125$; z = 2.97, $p < .05$) and the free-choice group ($\hat{\pi}_E = .102$; z = 3.34, $p < .05$). Choice shares among the partitioned-choice and free-choice conditions did not differ for Brand A (z = .57, $p > .05$) or Brand E (z = .40, $p > .05$).

The critical analysis involved the screen-by-rejection group. Participants in the screen-by-rejection group exhibited choice shares ($\hat{\pi}_A = .581$, $\hat{\pi}_C = .194$, $\hat{\pi}_E = .194$) that were similar to the partitioned-choice and free-choice groups (i.e., showed a lack of a screening effect). The choice share of Brand A in the screen-by-rejection group ($\hat{\pi}_A = .581$) did not differ from the partitioned-choice group ($\hat{\pi}_A = .594$; z = .15, $p > .05$) or the free-choice group ($\hat{\pi}_A = .644$; z = .71, $p > .05$). The choice share of Brand E in the screen-by-rejection group ($\hat{\pi}_E = .194$) did not differ from the partitioned-choice group ($\hat{\pi}_E = .125$; z = 1.06, $p > .05$) or the free-choice group ($\hat{\pi}_E = .102$; z = 1.44, $p > .05$). The choice share of Brand A in the screen-by-rejection group ($\hat{\pi}_A = .581$) was higher than the choice share of Brand A in the screen-by-inclusion group ($\hat{\pi}_A = .385$; z = 2.25, $p < .05$). The choice share of Brand E in the screen-by-rejection group ($\hat{\pi}_E = .194$) was lower than the choice share of Brand E in the screen-by-inclusion group ($\hat{\pi}_E = .338$; z = 1.86, $p < .05$).

We performed one additional analysis. It was possible that the failure to find a screening effect in the screen-by-rejection group was a consequence of fewer members of this group retaining Brand E in their consideration set than members in the screen-by-inclusion group. If this were so, the choice share of Brand E would be artificially suppressed in the screen-by-rejection group. The percentage of participants who included Brand E in their consideration set was equivalent in the screen-by-rejection (73%) and the screen-by-inclusion (71%) groups (z = .02, $p > .05$).

Discussion

The results of Experiment 3 imply that categorization contributes to the screening effect. When people screened alternatives by selecting brands to retain in their consideration set, a screening effect occurred. When people screened alternatives by rejecting brands from retention in their consideration set, a screening effect did not occur. It appears as if the active creation of a consideration set, with an emphasis on the retained alternatives, encourages people to view the prescreening information as less relevant in a subsequent choice. Forming consideration sets in a less active manner, with an emphasis on the rejected alternatives, does not lead to a reduced emphasis on the prescreening information. Thus, using information to categorize actively reduces its importance when additional postscreening information is encountered before a choice.

The results of Experiment 3 suggest that actively categorizing retained alternatives into a group (a consideration set) is a necessary precondition for the screening effect. However, the results do not provide insight into what aspects of this active categorization process are responsible for the screening effect. For example, it may be that inclusionary screening encourages more intensive consideration of the prescreening information that describes the retained alternatives and that exclusionary screening encourages more intensive consideration of the prescreening information that describes the rejected alternatives. In other words, reduced emphasis on the prescreening information may simply be a function of the amount of effort put into its initial consideration, and the act of forming a category may not be critical to obtaining the screening effect. We refer to this as the "greater-consideration-of-information" hypothesis. Alternatively, it may be the case that inclusionary screening leads to the screening effect precisely because it encourages people to create a category of retained alternatives. We refer to this as the "categorization" hypothesis. Experiment 4 addresses these two explanations.

EXPERIMENT 4

The goal of Experiment 4 was to differentiate between the categorization and the greater-degree-of-consideration accounts of the screening effect. To investigate this issue, we used the partitioned-choice, free-choice, and screening groups from Experiment 1 and two additional groups—the screen-and-rate group and the rate-and-screen group. In the screen-and-rate group, participants first went through the screening step, and then they rated the brands using the prescreening information; finally, they chose a brand. In the rate-and-screen group, participants first rated the brands using the prescreening information, and then they went through the screening step; finally, they chose a brand. These two new groups enabled us to test three predictions that could differentiate the categorization account from the greater-consideration-of-information account of the screening effect.

The first prediction pertains to the greater-consideration-of-information hypothesis and the amount of attention devoted to the prescreening information. We expected that participants in the screen-and-rate condition would devote more time to the prescreening information than participants in the rate-and-screen condition.[3] Participants in the screen-

[3]We thank the guest editor for suggesting this analysis.

and-rate condition consider the prescreening information at screening and reconsider the information at rating. The rating task explicitly asks that the two categories created during screening be further differentiated into six individual ratings. Participants in the rate-and-screen condition consider the prescreening information at rating but may be able to neglect the information at screening. Because these participants already ordered their preferences, they could use affect referral (Lichtenstein and Srull 1985; Lynch, Marmorstein, and Weigold 1988) or judgment retrieval (Lingle and Ostrom 1979) to select the three brands to include in the consideration set. Thus, if our expectations about the amount of attention devoted to the prescreening information are correct, the greater-consideration-of-information hypothesis predicts a stronger screening effect in the screen-and-rate condition than in the rate-and-screen condition.

The last two predictions pertain to the perceptual categorization hypothesis. First, recall that the act of categorization tends to increase the perceived similarity of within-group members (Goldstone, Lippa, and Shiffrin 2001). If screening encourages categorization, the ratings of the retained brands should be less dispersed after screening (as in the screen-and-rate group) than before screening (as in the rate-and-screen group). Second, if screening encourages the perception of retained alternatives as a group and if this grouping is responsible for the screening effect, anything that negates the perception of this grouping should remove the screening effect. For example, if screening encourages a person to view retained alternatives as a group and if rating encourages a person to perceive alternatives individually, the rate-and-screen approach should create a screening effect, whereas the screen-and-rate approach should not. Note that the categorization hypothesis predicts the opposite results from the greater-consideration-of-information hypothesis.

Method

Experiment 4 was a five-cell (partitioned-choice, free-choice, screening, screen-and-rate, and rate-and-screen groups) between-subjects design.[4] The stimuli were the same as in Experiment 1. The procedure for the partitioned-choice, free-choice, and screening-groups was identical to the procedure we used in Experiment 1. The procedure for the screen-and-rate and rate-and-screen groups mimicked the procedure of the other groups with respect to the attribute ranking task performed at Time 1; we then modified it as follows: In the screen-and-rate group, respondents were asked to screen using a procedure identical to the screening group and then were told the following:

> You just short-listed three brands (i.e., [*list of brands*]). However, before you make your final choice, we want to understand your evaluation of these three brands relative to the three brands that you did not short-list. Please rate each of the six brands using the following scales. We will provide you with more information on these brands on the next screen. Please do not make up your mind about your final choice yet; simply rate the brands by clicking on the appropriate buttons below.

After rating the six brands on a nine-point scale, the screen-and-rate group moved to the choice step and was told, "Now, from the three brands that you had short-listed earlier, please choose *one* brand as your final choice by clicking the appropriate button below." This instruction was identical to the instruction in the screening group.

The rate-and-screen group followed a similar procedure. The rating task instructions were as follows:

> Before you begin choosing a microwave popcorn, first we want to understand your evaluation of these six brands. Please rate each of the six brands using the following scales. Please do not make up your mind about your final choice yet; simply *rate* the brands by clicking on the appropriate buttons below.

After rating the brands on a nine-point scale with endpoints "extremely unattractive" and "extremely attractive," the rate-and-screen group was asked to screen the alternatives using a procedure similar to that of the screening group. Respondents then received the same choice screen as in the screening and screen-and-rate groups.

Results

Two hundred seventy-two undergraduate students participated in Experiment 4. We used the first analysis to confirm our expectations about the amount of time participants devoted to the screening task and the rating task in the screen-and-rate and the rate-and-screen conditions. As we expected, participants in the screen-and-rate condition ($M_{S\&R}$ = 110 seconds) devoted more time to the tasks than participants in the rate-and-screen condition ($M_{R\&S}$ = 86 seconds; $F(1, 106) = 11.82$, $p < .01$). Follow-up analyses showed that participants in the screen-and-rate condition ($M_{S\&R}$ = 53 seconds) devoted more time to the screening task than participants in the rate-and-screen condition ($M_{R\&S}$ = 35 seconds; $F(1, 106) = 15.60$, $p < .01$). Participants in the screen-and-rate condition ($M_{S\&R}$ = 58 seconds) devoted the same time to the rating task as participants in the rate-and-screen condition ($M_{R\&S}$ = 51 seconds; $F(1, 106) = 1.34$, $p < .01$). Finally, participants in the screening condition (M_S = 49 seconds) and in the screen-and-rate condition ($M_{S\&R}$ = 53 seconds) spent similar amounts of time screening ($F(1, 104) = .32$, $p > .05$).

Choice shares for the five experimental groups appear in Table 4. An analysis of the choice shares in the choice group and screening group replicated the results of Experiments 1–3.[5] The rate-and-screen group ($\hat{\pi}_A = .455$, $\hat{\pi}_C = .200$, $\hat{\pi}_E = .309$) exhibited a screening effect. The choice share of Brand A was lower in the rate-and-screen group ($\hat{\pi}_A = .455$) than in the partitioned-choice group ($\hat{\pi}_A = .585$; $z = 1.36$, $p < .10$) and free-choice group ($\hat{\pi}_A = .621$; $z = 1.79$, $p < .05$). The choice share of Brand E was higher

[4]We also ran a *rating* group to confirm our assumption that rating encourages people to view alternatives individually and thus negates the screening effect. Participants first rated the brands on the prescreening information and then chose a brand from among their top three rated brands. Rating brand shares ($\hat{\pi}_A = .673$, $\hat{\pi}_C = .231$, $\hat{\pi}_E = .096$) did not differ from either choice group (all *p*s > .25), suggesting that there was no screening effect.

[5]This analysis is available from the first author.

Table 4
CHOICE SHARES IN EXPERIMENT 4

Choice Condition	*N*	*Brand A*	*Brand C*	*Brand E*	*Brand B*	*Brand D*	*Brand F*
Partitioned choice	53	.585	.208	.132	.057	.000	.019
Free choice	58	.621	.207	.121	.017	.017	.017
Screening	53	.415	.170	.340	.038	.019	.019
Screen and rate	53	.566	.208	.170	.057	.000	.000
Rate and screen	55	.455	.200	.309	.018	.000	.018

in the rate-and-screen group ($\hat{\pi}_E$ = .309) than in the partitioned-choice group ($\hat{\pi}_E$ = .132; z = 2.28, $p < .05$) and the free-choice group ($\hat{\pi}_E$ = .121; z = 2.49, $p < .05$). The screen-and-rate group ($\hat{\pi}_A$ = .566, $\hat{\pi}_C$ = .208, $\hat{\pi}_E$ = .170) did not exhibit a screening effect. The choice share of Brand A was equivalent in the screen-and-rate group ($\hat{\pi}_A$ = .566), the partitioned-choice group ($\hat{\pi}_A$ = .585; z = .20, $p > .05$), and the free-choice group ($\hat{\pi}_A$ = .621; z = .49, $p > .05$). The choice share of Brand E was equivalent in the screen-and-rate group ($\hat{\pi}_E$ = .170), the partitioned-choice group ($\hat{\pi}_E$ = .132; z = .55, $p > .05$), and the free-choice group ($\hat{\pi}_E$ = .121; z = .73, $p > .05$). These results are consistent with the categorization hypothesis.

To assess whether screening altered perceptions of brand differentiation, we compared the dispersion of the ratings for brands in the consideration set in the screen-and-rate group with the dispersion of the ratings for brands in the consideration set in the rate-and-screen group. We computed the variance in ratings for each participant. The mean variance was lower for the screen-and-rate group (M = 1.69) than for the rate-and-screen group (M = 2.85; F(1, 106) = 6.23, $p < .05$). The mean ratings of the screen-and-rate group (M = 7.27) and the rate-and-screen group (M = 6.96) were equivalent (F(1, 106) = 1.14, $p > .05$), suggesting that the reduction in variance in the screen-and-rate group was not a function of participants assigning all retained brands the highest scale value (i.e., 9 on the nine-point scale). These results are consistent with the categorization hypothesis.

Discussion

There are two critical findings in Experiment 4. First, there was a screening effect in the rate-and-screen condition but not in the screen-and-rate condition. This screening effect occurred even though participants devoted less time to examining the prescreening information in the rate-and-screen condition than in the screen-and-rate condition. Second, participants perceived the retained alternatives as more similar after screening. The data are consistent with the categorization hypothesis but are inconsistent with the greater-consideration-of-information hypothesis.

GENERAL DISCUSSION

Screening options before a choice reduces the importance of prescreening information and increases the importance of postscreening information in a subsequent choice. To the extent that prescreening and postscreening information are negatively correlated, people who screen will make different choices than people who do not screen (Experiment 1). Experiment 2 confirms that screening encourages people to put more emphasis on postscreening information. Experiment 3 shows that people must actively retain alternatives for a screening effect to occur. When people are asked to reject alternatives as unworthy of further consideration, the screening effect is mitigated. The implication is that the screening effect depends on the active categorization of retained alternatives into a consideration set. Experiment 4 provides further evidence that active categorization is necessary for the screening effect to manifest. We observed the screening effect when a rating task preceded the screening task and the choice task but not when we inserted a rating task between the screening task and the choice task.

Managerial Implications

The results have several managerial implications. First, screening alternatives on price can lead to less price sensitivity in the final choice. The reduction in price sensitivity is a consequence of a reduced emphasis on price, as opposed to an increase in the homogeneity of the prices of the retained alternatives (e.g., Diehl, Kornish, and Lynch 2003). There is some support for this prediction. Gilbride and Allenby (2004) use camera stimuli to show that attributes used to form choice sets (e.g., price) had substantially lower partworths in the final choice stage. Second, it may be possible to encourage screening on less valued attribute trade-offs so that more valued attribute trade-offs are emphasized at choice. For example, a retailer could organize merchandise to encourage screening on low-margin attributes, thus encouraging a greater consideration and appreciation of high-margin attributes at choice. In effect, if consideration of mundane attributes can be relegated to the screening stage, value-added attributes will receive a greater emphasis at choice. Similarly, a marketer can encourage screening on attributes for which the brand is considered at par in relation to the competition. A natural consequence is that differentiating features will become more important postscreening.

We also demonstrated that the inclusionary process of categorization (i.e., selecting alternatives to include in the consideration set) leads to a greater degree of perceived similarity among retained alternatives. Increases in the perceived similarity of retained alternatives can lead to several outcomes, especially if no postscreening information is gathered. First, people become more price sensitive when brands become less differentiated (Boulding, Lee, and Staelin 1995; Diehl, Kornish, and Lynch 2003). If screening leads to less perceived differentiation among retained alternatives, people may be less willing to pay a premium price for their preferred brand relative to their second most preferred brand. Second, people become more reluctant to pur-

chase as the perceived difference in the attractiveness of alternatives becomes smaller (Dhar 1997). If screening leads to less perceived differentiation among retained alternatives, people may delay making a purchase decision. Third, people are more likely to search for additional information when current information does not allow for differentiation (Moorthy, Ratchford, and Talukdar 1997). This implies that the act of forming a consideration set may encourage perceptions of brand homogeneity and motivate people to acquire additional information, even though this information is less relevant than the initial prescreening information. Thus, from a managerial perspective, inclusionary screening may encourage several consumer behaviors that discourage sales and limit the extraction of profits by top-performing brands.

Limitations and Further Research

Two limitations of the research are related to issues of robustness and process. With respect to robustness, it is difficult to estimate the percentage of choices that involve a screening stage, the percentage of choice processes that involve postscreening information gathering, and the percentage of multistage choice processes that use a compensatory process in the final stage. Yet we know that there are examples of consumer (e.g., buying a home), managerial (e.g., hiring an assistant professor), and civic (e.g., selecting an Olympic host city) choices that appear to follow a process that is consistent with the procedure used in our studies. We also know that there are effects that appear similar to the screening effect. For example, Monin and Miller (2001) show that the expression of antisexist attitudes in an initial set of judgments encourages men to be more sexist in a subsequent hiring decision. Similarly, Fishbach and Dhar (2005) find that when people believe that they are progressing toward a goal (e.g., weight loss, good health), they are more likely to consume unhealthful food. In each case, the consideration of information at Time 1 reduces the importance of this information in a subsequent decision.

The conceptual challenge is to assess whether the screening effect is part of a broad phenomenon of information neglect in sequential decision making or a limited phenomenon related to consideration set formation. For example, Monin and Miller's (2001), Fishbach and Dhar's (2005), and our results have a common thread in that Time 1 information is used to complete a task (e.g., express a judgment, indicate progress, form a consideration set). To the extent that these Time 1 tasks are completed successfully, the Time 1 information is neglected in subsequent judgments. This neglect of Time 1 information is consistent with the finding that people have less accessibility to goal-relevant information after the goal is completed (Förster, Liberman, and Higgins 2004; Marsh, Hicks, and Bink 1998). Yet it could also be the case that the neglect of prescreening information is a consequence of priming a process goal that emphasizes effortless decision making (Payne, Bettman, and Johnson 1988). The successful creation of a consideration set makes a decision easier, as does the neglect of this prescreening information when postscreening information is subsequently encountered. Because our data and the categorization account are consistent with either one of these processes, further research is needed to offer insight into the specific processes supporting the screening effect.

Policy Issues

Our results should encourage further research into the influence of sequential information consideration and its impact on consumption. For example, consider the case of food consumption. Health professionals encourage consumers to have healthful snacks available in their homes as a means to discourage the consumption of high-calorie, unhealthful snacks. Yet the act of purchasing, stocking, and considering a healthful snack may give consumers the license to eat unhealthful snacks, as Monin and Miller's (2001) results suggest. Because the health dimension is explicitly considered during the purchase of the healthful snacks, it becomes less important in subsequent choices, and therefore people become less likely to say no to an unhealthful snack. The interaction of consumption choices, as evidenced by the change in emphasis placed on certain classes of information (e.g., health, safety, educational value, environmental friendliness), is a relevant policy concern.

Consider also the case of selling products that are complements of a primary purchase. Consumers often spend a considerable amount of time and effort finding the lowest price for a big-ticket item. Yet this price consciousness often does not carry over to the purchase of complementary products. Whether it is peripherals for a digital camera or upgrades on a new home purchase, consumers are often less price sensitive for purchases that are ancillary to the big-ticket item. Such consumer behavior has been known to retailers and policy makers for some time. Retailers strategically price complementary items to compensate for the reduced margins on loss leaders. Policy makers often require disclosures when add-on purchases (e.g., financing) can substantially alter the cost of a product. The challenge is to identify factors that encourage consumers to ignore initial screening information, such as price, in subsequent decisions so that consumers can be advised of their susceptibility to this processing bias.

Appendix A

STIMULUS SET USED IN EXPERIMENTS 1, 3, AND 4

Attribute	*Brand A*	*Brand C*	*Brand E*	*Brand B*	*Brand D*	*Brand F*
Number 1 Common	Low cost per serving	Low cost per serving	Low cost per serving	Low cost per serving	Low cost per serving	Low cost per serving
Number 2 Common	Low level of sodium	Low level of sodium	Low level of sodium	Low level of sodium	Low level of sodium	Low level of sodium
Number 3 Alignable						
Rank	1					
Sample	Crunchiness lasts 3.5 hours	Crunchiness lasts 3 hours	Crunchiness lasts 2.5 hours	Crunchiness lasts 2 hours	Crunchiness lasts 1.5 hours	Crunchiness lasts 1 hour
Number 4 Alignable						
Rank	2					
Sample	Calories equal to less than a slice of bread	Calories equal to a slice of bread	Calories equal to two slices of bread	Calories equal to a pinch of sugar	Calories equal to a spoon of sugar	Calories equal to two spoons of sugar
Number 5 Nonalignable						
Rank	7	5	3	9	11	13
Sample	Not tough	Very crispy and easy to swallow	Few kernels left unpopped	Tastes a bit sweet	Slightly low in corn and grain flavor	Has some citric acid
Number 6 Nonalignable						
Rank	8	6	4	10	12	14
Sample	With waterproof wrapping	Not likely to burn	Does not stick in teeth	Comes in a colorful wrapping	Requires a microwave bowl	Medium-size kernels

Notes: There are 12 nonalignable attributes in the stimulus set. The nonalignable attributes were assigned to brands on the basis of a person's ranking of attribute desirability. The columns in the experimental stimulus matrix were arranged as A, B, C, D, E, F.

Appendix B

EXPERIMENTAL CONDITIONS AND PROCEDURES

Condition	*Time 1*	*Time 2*	*Time 3*
Partitioned choice	Rank desirability of attribute levels	Review six brands, four attributes/brand	See six brands, six attributes/brand Choose 1
Free choice	Rank desirability of attribute levels		See six brands, six attributes/brand Choose 1
Screening	Rank desirability of attribute levels	Review six brands, four attributes/brand Select three for further consideration	See six brands, six attributes/brand Choose one of three selected
Screen and rate	Rank desirability of attribute levels	Review six brands, four attributes/brand Select three for further consideration Rate all six brands	See six brands, six attributes/brand Choose one of three selected
Rate and screen	Rank desirability of attribute levels	Review six brands, four attributes/brand Rate all six brands Select three for further consideration	See six brands, six attributes/brand Choose one of three selected

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