

Fluency of Consumption Imagery and the Backfire Effects of Imagery Appeals

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Existing research and widespread commercial usage suggest that appeals urging consumers to imagine the product experience have powerful effects on product preferences. Three studies examined the mediating role of imagery accessibility and demonstrated that the difficulty of imagery generation can reverse the generally observed positive effects of imagery appeals. When participants were low in imagery abilities or when the product was not presented in a vivid way, imagery appeals were not only ineffective but even had a negative effect on product preferences. Providing evidence for its subjective nature, this imagery fluency effect was more likely for individuals attuned to their internal experiences.

The use of imagery is a widespread practice for influencing consumers' choices. Television and radio commercials induce viewers to immerse themselves in imagined product experiences. Print advertisements include phrases such as "imagine yourself," "visualize yourself here," and "picture how it would be." The existing research indicates that imagery can have powerful effects on product preferences (Escalas 2004; MacInnis and Price 1987). The present investigation, however, reveals circumstances under which asking consumers to imagine their future experience with the product may be not only ineffective but may actually decrease the likelihood of purchasing the product.

Our research follows recent findings showing that judgments are impacted not only by the content of the relevant product information but also by the ease with which one generates or processes this information (Schwarz 2004). Such effects have been demonstrated in regard to ease of retrieval (Wänke, Bohner, and Jurkowsch 1997) and processing fluency (Lee and Labroo 2004). However, previous research has not investigated the effects of accessibility and fluency experiences in regard to the use of imagery in forming product preferences. In an attempt to fill this gap, we tested the possibility that consumers may base their purchase intentions on the ease with which they can imagine their future

experience with the product. We predicted that, because prior imagining can create a readily accessible image of the consumption experience, individuals would be more likely to purchase products that they had previously imagined. However, we also predicted that difficulty to imagine even a positive product experience would lower the likelihood of choosing the product.

In contrast to previous research suggesting that pictures, concrete information, or instructions to imagine increase cognitive elaboration and, subsequently, increase the accessibility of favorable product information (Kisielius and Sternthal 1984, 1986), we focused on the accessibility of consumption imagery as a central underlying variable. Similar to the effects of narrative stories (Green and Brock 2000), imagining the consumption experience transports consumers into a different reality and reduces their elaboration of message arguments (Escalas 2004; Schlosser 2003). Our research aimed to advance these findings by providing new insight into the processes underlying the effects of imagery appeals and revealing the circumstances under which imagery appeals would undermine product preferences.

FLUENCY OF CONSUMPTION IMAGERY GENERATION

Investigations of the effects of imagery on likelihood judgments suggest that individuals tend to use the ease with which they generate a mental script of an event as an indicator of the likelihood of the event (Carroll 1978; Gregory, Cialdini, and Carpenter 1982; Sherman et al. 1985). For example, imagining a disease that had easy-to-imagine symptoms made participants estimate a higher likelihood that they would contract the disease. When the disease had

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difficult-to-imagine symptoms, however, imagining instructions lowered the perceived likelihood of contracting the disease (Sherman et al. 1985). These findings suggest that participants based their likelihood estimates on the accessibility of the mental image of having the disease. However, direct evidence for the mediational role of imagery accessibility has not been provided; nor have these effects been investigated in regard to product preferences. The lack of research in this direction is surprising given the evidence for the effects of ease of retrieval and processing fluency on consumer judgment (Schwarz 2004). Furthermore, despite the extensive research on accessibility and fluency effects, still little is known about the conditions under which these metacognitive experiences play a role in guiding judgments (Schwarz 2004; Tybout et al. 2005).

In three studies, we investigated several factors that can impact the ease with which consumers can imagine the product experience and, consequently, reverse the effects of imagery appeals on product preferences. We first examined the role of dispositional abilities to create vivid mental images (Marks 1972, 1973). Past research has demonstrated that individuals who differ in their imagery abilities are differentially impacted by vivid information (Pham, Meyvis, and Zhou 2001) and imagery-inviting messages (Bone and Ellen 1992). Extending these findings, we tested the possibility that differences in imagery abilities can reverse the positive effects of imagery appeals. In line with this possibility, while such appeals would be expected to enhance product attitudes and purchase intentions among individuals high in imagery abilities, those same appeals would be expected to lower product attitudes and purchase intentions among individuals with low imagery abilities.

H1: Imagery appeals will have a positive effect on brand attitudes and purchase intentions for individuals high in dispositional imagery vividness but a negative effect for individuals low in dispositional imagery vividness.

The present research further examined the vividness of the product depiction as an external factor that can impact imagery accessibility and reverse the effects of imagery appeals. Vivid information has been defined as (1) emotionally interesting, (2) concrete and image provoking, and (3) proximate in a sensory, temporal, or spatial way (Nisbett and Ross 1980). In previous studies, vividness has been manipulated using (1) the presence of pictures (Keller and Block 1997; Kisielius and Sternthal 1984), (2) concrete versus abstract pictures (Babin and Burns 1997), (3) concrete versus abstract words (Rook 1987), or (4) narrative versus statistical information (Keller and Block 1997). Across manipulations, research has demonstrated that because vivid information stimulates greater generation of imagery, it has a positive effect on product preferences. We manipulated the degree to which the product information was vivid either by varying the concreteness of the pictorial product depiction (study 2) or by presenting easy-to-imagine verbal product description versus nonexperiential information such as

numerical ratings (study 3). We expected that when consumers relied on the presented information to generate the consumption imagery without vivid cues, they would experience difficulty generating this image. Because the experience of difficulty would be used as information for product judgments, we expected that it would not only render the imagery appeals ineffective but would lead to more negative product evaluations.

H2: Imagery-inviting appeals will have opposite effects on product preferences depending on the vividness of the product depiction. When the product depiction is high in vividness, imagery appeals will result in stronger product preferences. When the product information is low in vividness, asking individuals to imagine the product experience will lead to weaker product preferences.

Following previous research suggesting that imagery may increase the accessibility of the imagined event and, consequently, impact its perceived likelihood (Sherman et al. 1985), we expected that the predicted effects in hypothesis 2 would occur because individuals would base their purchase intentions on the accessibility of the consumption imagery. However, since previous studies have failed to provide direct evidence for the role of imagery accessibility, in the present research, we aimed to find the first direct mediational evidence for this process.

H3: The interaction effects of vividness and presence of imagery appeals will be mediated by the subjective accessibility of the consumption imagery.

Difficulty constructing the consumption imagery might also arise when the product is depicted with both vivid experiential information and nonexperiential information such as numerical ratings, statistical information, technical specifications, or attribute comparisons. Although such information is often intended to provide additional motivation for purchasing the product, it may usurp cognitive resources necessary to create a mental image of the consumption experience. Such detrimental effects of cognitive load have been demonstrated in a study by Shiv and Huber (2000) in which asking participants to memorize a nine-digit number prevented them from engaging in mental imagery, diminishing the otherwise observed shift in preferences between anticipated-satisfaction judgments and choice. Nonexperiential (numerical) information may have similar effects. By creating cognitive load, such information may occupy necessary resources and consequently undermine the effects of imagery appeals.

H4: Adding nonexperiential information to a vivid product depiction will undermine the effects of the imagining instructions on product choice.

Hypotheses 1–4 were focused on broadening the domains of accessibility and fluency effects by providing evidence

for the ease/difficulty of imagery generation as a type of subjective experience that can reverse the positive effects of imagery appeals. Another goal of this research was to provide insight into the circumstances under which accessibility and fluency effects occur. If these effects are driven by the subjective experience of ease, they should occur only when individuals are focused on these experiences. To test this possibility, we examined the impact of the dispositional tendency to focus on subjective experiences as measured by the private self-consciousness scale (Fenigstein, Scheier, and Buss 1975). We expected accessibility and fluency experiences to impact the judgments of individuals who are high in private self-consciousness; however, we did not expect these experiences to impact the judgments of individuals who are low in private self-consciousness because these individuals are not likely to focus on and take into account their internal experiences.

H5: Imagery fluency will impact product preferences only for individuals focused on their internal experiences.

If confirmed, hypothesis 5 would provide insight into the circumstances under which metacognitive experiences are likely to impact judgments. By revealing the moderating role of internal focus on the imagery fluency effect, however, we also aimed to provide evidence that this effect is driven precisely by individuals' subjective experiences rather than by external factors.

STUDY 1

Study 1 examined the impact of imagery appeals on individuals who differed in their dispositional ability to generate mental images. Since previous research has demonstrated the effects of imagery with products having an experiential component, we examined the effects of imagery fluency in the context of a vacation ad. Two versions of the ad were created. One version contained phrases inviting consumers to imagine their experience at the advertised destination, while the other version did not contain such imagery appeals (app. A, top pair of ads).

Method

At least one week before the experiment, 63 male and 72 female undergraduate students completed the Vividness of Visual Imagery Questionnaire (Marks 1973). During the experiment, participants viewed one of the two versions of the ad and, after a 5 min. distraction task of rating artistic combinations of geometric figures, the participants responded to nine-point semantic differential items assessing brand attitudes (bad/good, unfavorable/favorable, and negative/positive; Cronbach's $\alpha = .91$) and purchase intentions (likelihood of considering the vacation in the future, requesting a brochure with further product information, visiting the Web site shown on the ad, and visiting the advertised destination given that they were to plan such a vacation and had the necessary time and money; $\alpha = .94$). The two sets of items

were presented in a counterbalanced order. No significant effects of order of the questions on attitudes ($F(3, 134) = 1.22, p > .31$) or intentions ($F(3, 134) = 1.40, p > .25$) were found.

Results and Discussion

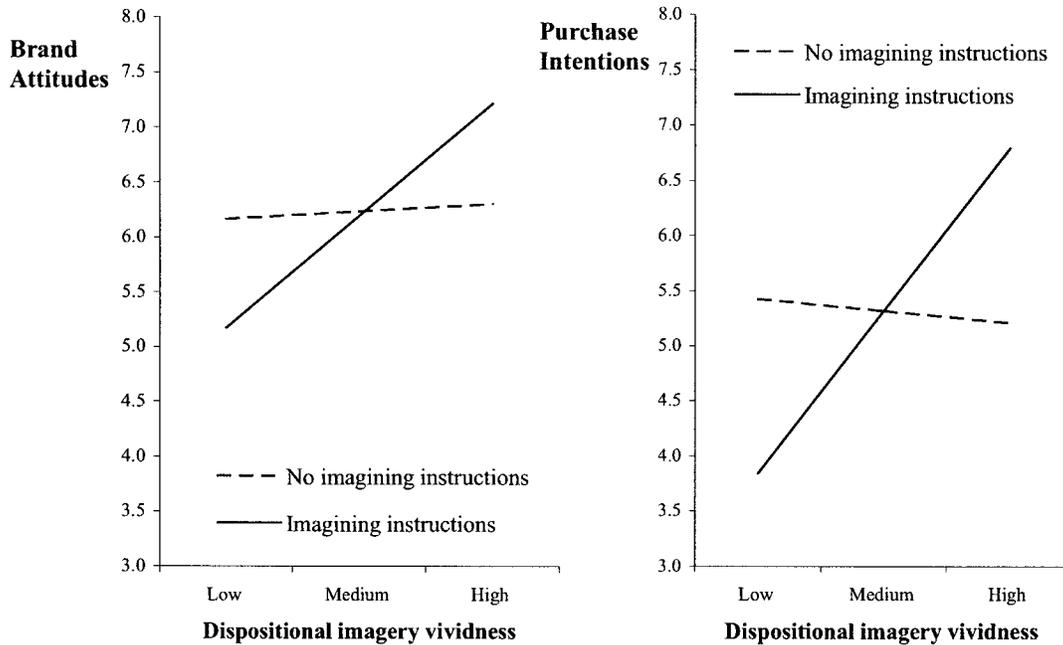
Regression analyses revealed a significant interaction between presence of imagining instructions and dispositional imagery vividness in regard to brand attitudes ($B = .48, SE = .22, p < .03$) and purchase intentions ($B = .79, SE = 2.26, p < .03$). For participants high in dispositional imagery vividness, the ad containing imagery appeals resulted in more positive attitudes and purchase intentions than the ad without imagery appeals. For low imagers, however, the ad with imagery appeals resulted in more negative attitudes and purchase intentions than the ad that lacked such appeals (fig. 1).

Supporting our first hypothesis, these results suggest that participants based their product evaluations on the ease of imagining the consumption experience. However, further support for this conclusion should be obtained by directly manipulating the fluency of imagery generation. We inquired into this possibility in the next two studies.

STUDY 2

Study 2 examined the effects of imagery fluency by varying the vividness of the product depiction. For the high vividness conditions, we used the ads from study 1. For the low vividness conditions, we modified the picture in the ads from study 1 by creating a muted version of the original image (app. A). A pretest indicated that the vivid ads were rated higher than the less vivid ads on a combined measure of six nine-point vividness scales (attention catching, clear, exciting, detailed, concrete, communicating a strong image; $\alpha = .82; M_{\text{high}} = 4.93, M_{\text{low}} = 3.51; F(1, 75) = 18.75, p < .01$). Consistent with the definition of vividness (Nisbett and Ross 1980), participants reported more positive emotions (as measured by the extent to which the ad made them feel good, excited, stressed, elated, bad, interested, unpleasant, sad, happy, bored, pleasant, uninterested, tranquil, flat, positive emotions, or negative emotions, $\alpha = .90$) in response to the ad high in vividness than the ad low in vividness ($M_{\text{high}} = 5.92, M_{\text{low}} = 5.09; F(1, 75) = 8.39, p < .01$). The main effect of imagery appeals and the interaction between vividness and imagining were not significant in regard to affect (F 's < 1), suggesting that the predicted negative effect of the imagining instructions could not be attributed to differences in the emotional response to the message. Participants who saw the ad containing imagery-inviting appeals further reported stronger attempts to visualize themselves in the place presented on the picture than those who saw the ad that lacked imagery-inviting appeals ($M_{\text{imag}} = 5.83, M_{\text{noimag}} = 4.32; F(1, 75) = 7.35, p < .01$). No significant effects of the vividness of the picture (F 's < 1.5), presence of imagery appeals (F 's < 1), or the interaction between these two variables (F 's < 1) were observed in regard

FIGURE 1
STUDY 1: BRAND ATTITUDES AND PURCHASE INTENTIONS



to the ratings of the place in the picture as historical, located in the mountains, or crowded. Finally, the pretest revealed that participants in the high vividness conditions reported a greater number of product-relevant thoughts ($M_{high} = 3.32$, $M_{low} = 2.37$, $F(1, 75) = 5.45$, $p < .02$) and a greater number of product attributes in these thoughts ($M_{high} = 2.95$, $M_{low} = 1.93$, $F(1, 75) = 5.30$, $p < .02$) than participants in the low vividness conditions. These findings are consistent with previous research indicating greater cognitive elaboration in response to vivid information (Kisielius and Sternhal 1984). However, no significant differences were observed between the ads containing and lacking imagery appeals in the number of product-relevant thoughts and the number of product attributes reported in these thoughts. This suggests that in the context of the present study, the imagery appeals did not increase cognitive elaboration. The lack of significant effects in regard to the valence of the product-relevant thoughts further suggests that the manipulations did not impact the favorability of the cognitive responses.

Method

After viewing one of the four versions of the ad, 105 male and 134 female undergraduate students indicated their attitudes ($\alpha = .92$) and purchase intentions ($\alpha = .87$) on the scales used in study 1. To assess the accessibility of the consumption imagery, participants were then asked to visualize the vacation and provide a written description of the mental image. The ease of this subsequent generation of the consumption imagery was assessed with six nine-point

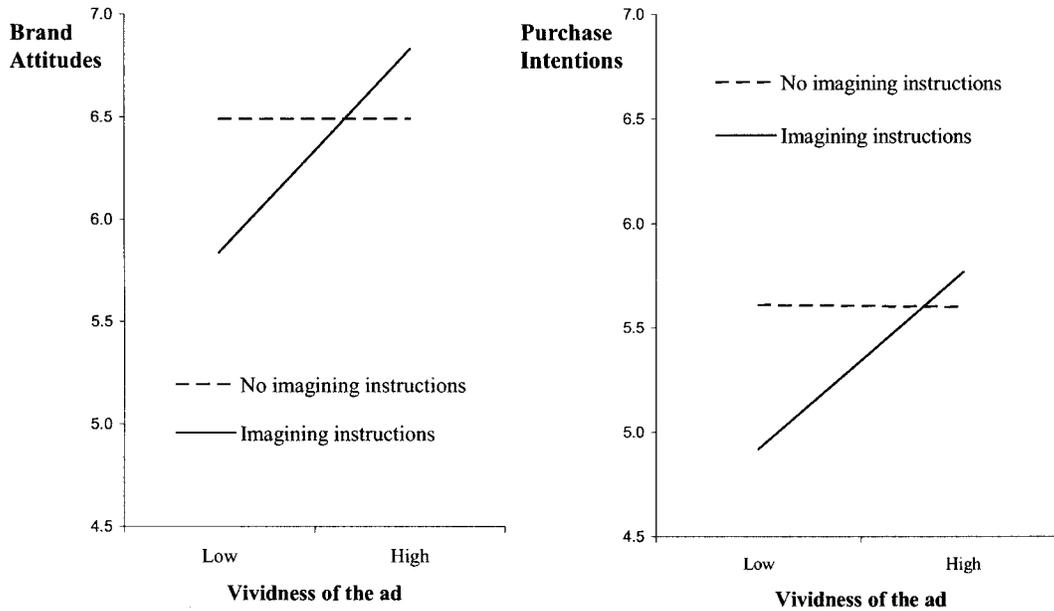
scales ($\alpha = .84$). The first three items assessed (1) whether the participants were able to imagine the vacation, (2) how easy it was for them to imagine the vacation, and (3) how long it took them to create the mental image. With the next three items, participants rated the mental image as (1) vivid and clear versus vague, (2) alive and dynamic versus not dynamic, and (3) detailed versus not detailed.

Results and Discussion

Brand Attitudes and Purchase Intentions. MANOVA analyses confirmed the interaction between vividness of the ad and presence of imagery appeals significant for both brand attitudes ($F(1, 235) = 5.17$, $p < .02$) and purchase intentions ($F(1, 235) = 3.96$, $p < .05$). Imagery appeals had opposite effects depending on the vividness of the ad (fig. 2), thereby supporting hypothesis 2. Importantly, in the absence of imagery appeals, the vividness of the ad did not have significant effects on attitudes ($F < 1.2$) and intentions ($F < 1$). Thus, the differential effect of the imagery appeals could not be attributed to differences in the information provided by the ads high and low in vividness.

Imagery Accessibility. The interaction between vividness and presence of imagery appeals had a significant effect on the accessibility of the consumption imagery ($F(1, 232) = 8.24$, $p < .01$). While inviting imagery increased the perceived ease of subsequent imagery generation in the high vividness condition, it had a negative effect in the low vividness condition (fig. 3).

FIGURE 2
STUDY 2: BRAND ATTITUDES AND PURCHASE INTENTIONS



Following the procedure described by Baron and Kenny (1986), additional analyses showed that imagery accessibility had significant effects on both attitudes ($B = .51$, $SE = .06$, $p < .01$) and intentions ($B = .55$, $SE = .06$, $p < .01$). Furthermore, when controlling for the effect of imagery accessibility, the interaction effect of vividness and imagining was no longer significant for both attitudes ($B = .12$, $SE = .10$, $p > .23$) and intentions ($B = .05$, $SE = .10$, $p > .58$). The mediating role of the imagery accessibility was further indicated by the significant estimate of the mediated effect for attitudes ($B = .16$, $SE = .06$, $p < .01$) as well as intentions ($B = .17$, $SE = .06$, $p < .01$). These results provide support for hypothesis 3.

STUDY 3

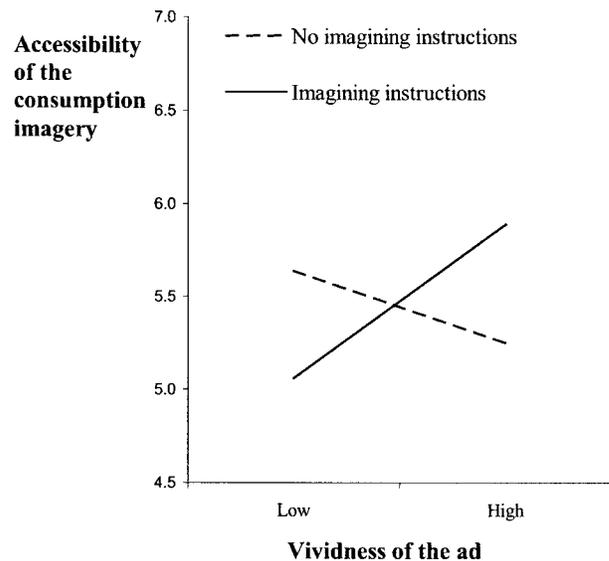
Study 3 replicated and extended the results from the previous two studies in another context, with different manipulations of imagery fluency and with a direct measure of actual product choice. Furthermore, it examined a potential moderator of the observed imagery fluency effect.

Method

We used a restaurant review created by Pham, Meyvis, and Zhou (2001) that was rated as very easy to visualize ($M = 6.09$ of 7), and we varied the original review's vividness in two additional versions. In the second version, the original information was presented in a table with corresponding numerical ratings. In the third version, the original information was presented by including the numerical rat-

ings in parentheses after the vivid description of each of the items (app. B). We employed a previously validated manipulation of processing instructions (Keller and McGill 1994) such that in the imagery processing condition, participants were instructed to rely on their imagination, not to be coldly analytical, to close their eyes, visualize the de-

FIGURE 3
STUDY 2: ACCESSIBILITY OF THE CONSUMPTION IMAGERY



scription, and utilize the power of their imagination to envision it. In the analytical processing condition, participants were told to be careful, to be well reasoned, and not to let their imagination get the better of them. No specific instructions were provided in the third condition.

Two hundred and fifty-eight undergraduate students (145 males and 113 females) participated in the study. For their help with the study, participants were told that their names would be entered in a drawing for a \$30 cash prize. To examine cognitive elaboration, recall, and affect as alternative accounts for the predicted reverse effects of imagery appeals, participants listed their thoughts in response to the review and completed an open-ended recall question. Two independent raters (81% agreement) coded (1) the number of product-relevant thoughts, (2) the valence of these thoughts, (3) the number of product attributes mentioned in the thought listings, and (4) the number of product attributes recalled correctly. Participants further indicated the extent to which the review made them feel good, bad, excited, stressed, happy, pleasant, unpleasant, interested, bored, positive emotions, and negative emotions ($\alpha = .73$). To test the predicted moderating role of internal focus, participants were asked to complete the Private Self-Consciousness Scale (Fenigstein et al. 1975, $\alpha = .65$). The Style of Processing Scale (Childers, Houston, and Heckler 1985; $\alpha = .69$) was included in order to control for differences in preference toward visual versus verbal style of processing. At the end of the experiment, participants were thanked for their participation and were reminded that their names would be entered in the drawing for the \$30 cash prize. Then they were offered the option of winning a \$50 gift certificate from the restaurant described in the study instead of the \$30 prize initially announced. We used their choice of a gift certificate for the restaurant over the monetary prize as a measure of product choice.

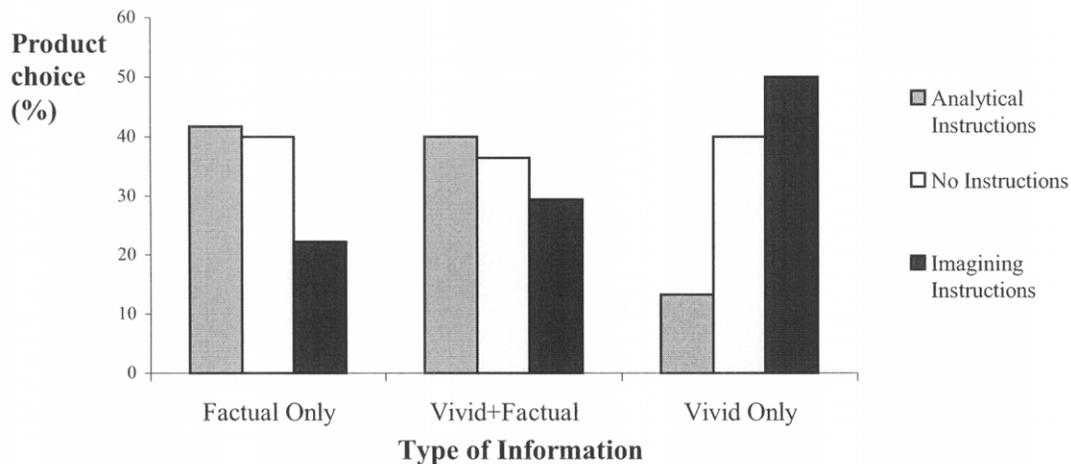
Results and Discussion

Product Choice. Regression analysis was performed with the choice of a gift certificate from the restaurant over the monetary prize as the predicted variable, style of processing as a covariate, and the independent variables (1) type of information, (2) type of processing instructions, and (3) private self-consciousness. The analysis revealed a significant three-way interaction between type of information, type of processing instructions, and private self-consciousness ($B = -.88$, $SE = .41$, $p = .03$). To further examine these effects, we compared participants with scores above and below the median value of 2.0 on the private self-consciousness scale. The analyses of the high private self-consciousness group revealed significant main effects of type of information ($B = 1.48$, $SE = .56$, $p = .01$) and type of processing instructions ($B = 1.74$, $SE = .73$, $p = .02$) on the preference of the gift certificate over the monetary option. These main effects, however, were modified by a significant interaction between type of information and type of processing instructions ($B = -.66$, $SE = .25$, $p = .01$).

For participants high in internal focus, imagining instructions had opposite effects on product preferences depending on the vividness of the product information (fig. 4). When the product was depicted in a vivid way, the imagining instructions increased product choice. However, when in addition to the vivid information the message included numerical ratings, the imagining instructions did not impact product choice. Furthermore, when the product was presented only with numerical ratings, asking participants to imagine the product experience decreased their preferences toward the restaurant. These results supported hypothesis 4. Importantly, they were observed despite the fact that the three types of information were equally effective in the ab-

FIGURE 4

STUDY 3: PRODUCT CHOICE (HIGH INTERNAL FOCUS)



sence of imagining instructions ($B = .01$, $SE = .387$, $p > .98$).

For participants low in internal focus, however, neither the main effects of type of information ($B = -.66$, $SE = .58$, $p > .25$) and type of instructions ($B = -.44$, $SE = .73$, $p > .54$), nor the interaction between the two variables ($B = .17$, $SE = .25$, $p > .50$) were significant. Providing support for hypothesis 5, the interaction effects of type of information and type of instructions were observed only for individuals attuned to their internal experiences.

Additional Analyses. Participants' affective responses revealed only a main effect of type of information ($F(2, 254) = 2.98$, $p < .05$). Although (consistent with the definition of vividness) the vivid description produced more positive affective reactions ($M = 1.93$) than the numerical ratings produced ($M = 1.43$), no significant effects involving type of processing instructions were observed. These results suggest that emotional response to the message is an unlikely mediator of the effects.

Examination of the cognitive responses and recall revealed significant interactions between type of information and type of processing instructions for the number of product-related thoughts ($F(4, 254) = 4.532$, $p < .01$), the number of product attributes mentioned in the thought listings ($F(4, 254) = 3.697$, $p < .01$), and the number of product attributes recalled ($F(4, 254) = 3.386$, $p < .01$). The pattern of these interactions, however, was in a direction different from the earlier-discussed results for product choice. When the restaurant was described with vivid and numerical information simultaneously, the imagining instructions resulted in a greater number of product-related thoughts, and product attributes mentioned in the thoughts or recalled. However, when the product was described solely with either vivid or numerical information, the imagery appeals decreased product-related thoughts, thoughts about specific product attributes, as well as recall (table 1). These results were observed despite the fact that overall more product features were recalled when the product was described with vivid information or a combination of vivid and numerical

information than when the product was described with numerical information only ($F(2, 254) = 7.512$, $p < .01$). These findings are consistent with previous research suggesting that vivid information facilitates memory (Kieras 1978), however, they suggest that in the present study, the effects of the imagining instructions could not be attributed to enhanced cognitive elaboration or recall. The absence of significant effects in regard to the valence of the product-relevant thoughts further suggested that the favorability of the cognitive responses did not mediate the observed effects.

GENERAL DISCUSSION

Overview of the Findings

The role of the subjective experiences accompanying the processing of marketing communications is becoming an increasingly important area of consumer research. The three studies reported herein demonstrated that the generally observed positive effect of imagery appeals can be reversed by conditions that impair the fluency with which consumers imagine experiencing the product. It is noteworthy that the evidence for this retarded fluency effect converged across: (1) different manipulations, (2) different products, (3) embedded imagery appeals versus imagining instructions, (4) immediate and delayed outcome measures, and (5) measures of attitudes, behavioral intentions, and actual product choice. These converging results enhanced our confidence in the validity of the findings.

We focused on two variables related to the fluency of imagery generation—the individual's dispositional ability to create vivid mental images and the vividness of the product depiction. Evidence for the role of dispositional imagery vividness can be seen in the results of study 1, which demonstrated that when participants were low in dispositional imagery vividness, imagery appeals were not only ineffective but reduced the persuasiveness of the ad. Evidence for the role of the vividness of the product information emerged clearly from the results of study 2 and study 3. Both experiments demonstrated that without a vivid product depic-

TABLE 1

STUDY 3: COGNITIVE RESPONSES AND RECALL

	Number of product-related thoughts	Number of product attributes in the thoughts	Number of product attributes recalled
Numerical information only:			
Analytical instructions	2.9	2.2	3.8
No instructions	3.0	2.8	4.0
Imagining instructions	2.2	1.8	2.9
Vivid and numerical information:			
Analytical instructions	2.1	2.4	4.1
No instructions	2.4	2.3	4.0
Vivid information only:			
Analytical instructions	3.4	3.0	5.4
No instructions	2.6	2.4	5.2
Imagining instructions	2.3	2.2	4.8

tion, asking consumers to imagine a positive product experience had a negative effect on product evaluations. Importantly, along with the findings for the negative effect of imagery appeals in the absence of vivid product description, the results of study 3 also revealed that adding non-experiential, numerical information to the vivid description not only failed to increase the persuasiveness of the message but undermined the positive effect of imagery appeals. That is, imagery instructions were effective only when the vivid information was the only information that participants had available. It should be noted that in both study 2 and study 3 the different product depictions were equally effective in the absence of imagining or analytical processing instructions. Thus, the differential effects of imagining instructions could not be attributed simply to the differences in the information provided by the depictions.

In addition to revealing factors that can impact the ease of imagery generation and reverse the effects of imagery appeals, the present research provided evidence that these effects were mediated by the accessibility of the image of experiencing the product. Thus, the fluency of imagery generation impacted product preferences not only immediately after seeing the ad (study 2), but also after a delay created by a distraction task (study 1) or when completing a variety of process measures and personality scales (study 3). By reducing the plausibility of some alternative possibilities, the additional process measures that we assessed provided further confidence in the increased accessibility of the consumption imagery as the underlying process. Since in both study 2 and study 3 participants' affective responses were not impacted by the imagery appeals, the observed effects of imagery appeals on product evaluations could not be attributed to differences in the affective reactions to the message. The lack of significant effects of the imagining instructions on the valence of the cognitive responses in study 2 and study 3 suggests that the effects of the imagining instructions on product preferences could not be attributed to the favorability of the cognitive responses either. Furthermore, in study 3 the positive effect of imagery appeals in the vivid condition was accompanied by a decline in the number of product related thoughts and recall. These results render cognitive elaboration and recall unlikely mediators of the effects of imagery appeals in the present context. They also suggest that when consumers engage in imagery processing, attribute recall may be a poor measure of advertisement effectiveness.

Theoretical Implications

Taken together, the findings from the three studies have implications for several domains. In regard to imagery, this research demonstrated that the generally observed positive effect of imagery appeals may reverse when individuals experience difficulty generating consumption imagery. Extending past research demonstrating that imagery appeals are more effective for individuals high in imagery abilities (Bone and Ellen 1992) or when the product was described in a vivid way (Keller and McGill 1994), the present findings showed

that these variables may not only reduce the effects of the imagery appeals but can result in a qualitative difference that reverses the direction of these effects. Our findings also suggest a complementary account for the effects of imagery. Previous research has highlighted the role of the favorability of the information that the imagery brings to mind (Kisielius and Sternthal 1984, 1986) and the role of transporting consumers away from counter-arguing the presented information (Escalas 2004). The results from this investigation suggest that in addition to these accounts, imagining instructions may be effective because they create a readily accessible mental image of the consumption experience.

The present investigation also extends the existing research on the effects of vivid information. The results of both study 2 and study 3 demonstrated that in the absence of imagery appeals, vividness did not impact product evaluations. This finding is consistent with previous research suggesting that vivid information may be more persuasive only under specific circumstances (Kisielius and Sternthal 1984, 1986). For example, the vividness of the product attributes had an impact on product evaluations when participants relied on their imagination in making the choice but not when they used an analytical strategy (McGill and Anand 1989). We expanded upon this research by showing that, under analytical processing, the vivid information was not only ineffective but even undermined product evaluations.

In a more general framework, our research provides insights into the consequences of a mismatch between the type of product description and type of processing strategy utilized by the audience. When the product was not presented in a vivid way, engaging consumers in imagery processing resulted in more negative product evaluations. Similarly, when the product was depicted in a highly vivid way, analytical processing had a negative effect on product evaluations. These findings suggest that a mismatch between the type of information and the type of processing utilized by the consumer can impact the fluency of processing the product information and hamper the effectiveness of marketing communications.

Another general domain to which the present findings contribute involves the importance of the match between the amount and type of information that consumers are provided and the resources available to them for processing this information. Consistent with the resource-matching perspective (Peraccio and Meyers-Levy 1997), our findings indicate that adding nonexperiential information to a vivid product depiction may redirect cognitive resources, thus interfering with consumers' ability to imagine the product experience. As a result, when consumers engaged in imagery processing, adding favorable nonexperiential information to the message had a detrimental effect on product preferences.

Finally, the present findings advance our knowledge regarding accessibility and fluency effects. Previous research has been focused on examining the impact of subjective experiences such as ease-of-retrieval and processing fluency. Extending these findings to a novel domain, our research

reveals that the effects of such subjective experiences could be found in the use of imagery in processing product information. Our findings further provide a deeper understanding of accessibility and fluency effects by showing that they are likely to impact judgments only when individuals are

attuned to their internal experiences. We examined focus on internal experiences as a dispositional variable. A fruitful direction for future research would be to investigate other factors that can impact internal focus and consequently moderate the impact of metacognitive experiences.

APPENDIX A

STUDY 1 AND STUDY 2 EXPERIMENTAL MATERIALS

High Vividness, Imagery Appeals

EASTERN EUROPE



This different world has just opened its doors.

Visualize yourself here.
Take a moment and imagine yourself
in a unique adventure in a land of beauty and tradition.

For more information visit www.easterneurope.com

High Vividness, No Imagery Appeals

EASTERN EUROPE



This different world has just opened its doors.

Take a closer look at this place.
Make your vacation a unique adventure
in a land of beauty and tradition.

For more information visit www.easterneurope.com

Low Vividness, Imagery Appeals

EASTERN EUROPE



This different world has just opened its doors.

Visualize yourself here.
Take a moment and imagine yourself
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Low Vividness, No Imagery Appeals

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APPENDIX B
STUDY 3 EXPERIMENTAL MATERIALS

VIVID INFORMATION

“This place reminds one of an elegant bistro that would be found in a small city close to Paris. The dining room, with its old wooden floor and peach color walls, basks in a soft gentle light, giving the place a very intimate feeling. The food is very good. The meat is so tender that you can feel it melt on your tongue. The various meat dishes come with distinctive sauces, all smooth and flavorful. The seafood is exceptional, especially the fresh and juicy oysters on the half-shell and the classic steamed mussels in dry vermouth. The service is good, professional and discreet.”

NUMERICAL INFORMATION

RESTAURANT REVIEW WITH RATINGS

Rating scale:						
0-5 very poor	6-10 poor	11-15 passable	16-20 average	21-25 good	25-30 very good	31-35 excellent
		35-40 exceptional				
Criteria		Rate				
Overall		33.5				
Atmosphere		33.0				
Intimacy		36.0				
Elegancy		30.0				
Food		31.5				
Meat dishes		30.0				
Meat sauces		34.0				
Seafood		35.0				
Oysters		36.0				
Mussels		36.0				
Service		30.0				

VIVID AND NUMERICAL INFORMATION COMBINED

“This place reminds one of an elegant bistro that would be found in a small city close to Paris. The atmosphere is excellent (a rating of 33). The dining room, with its old wooden floor and peach color walls, basks in a soft gentle light, giving the place a very intimate feeling. The specific ratings on intimacy and elegancy were 36 (exceptional) and 30 (very good). The food received good ratings (average rating 31.5). Our experts gave the meat dishes a rating of 30 (very good), describing the meat as ‘so tender that you can feel it melt on your tongue.’ The various meat dishes come with distinctive sauces, all smooth and flavorful, rated as excellent (34 points). The seafood is exceptional (a rating of 35), especially the fresh and juicy oysters on the half-shell (rating of 36) and the classic steamed mussels in dry vermouth (rating of 36). The service is good, professional and discreet (rating of 30). This restaurant received an overall rating of 33.5 (excellent).”

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