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Imagery Fluency and Narrative Advertising Effects

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This article identifies important cognitive processes associated with processing narrative ads (comprehending narratives and generating mental imagery of depictions in the narratives) and related subjective experiences (perceptual/conceptual fluency, comprehension, and imagery fluency). In line with the idea that perceptual/conceptual fluency facilitates comprehension fluency and further improves imagery fluency, this study presents a model in which factors influence imagery fluency either indirectly through influences on perceptual/conceptual and comprehension fluency or directly. Findings from two experiments support the model; picture type (narrative versus product picture) and narrative type (highly versus less accessible) indirectly alter imagery fluency through their influence on comprehension fluency, whereas individual characteristics (experiential versus rational processing orientation) directly alter it, which further affects ad and brand attitudes.

Google's "Parisian Love" commercial reveals the typed entries of a protagonist, who searches the website initially for "study abroad opportunities." From his entries and their chronological order, the audience can discern that he goes to Paris, meets a Parisian woman, falls in love, maintains a long-distance relationship, finds a job and resettles in Paris, and finally marries the woman. The well-told story, similar to many other advertisements, uses verbal forms or printed words, but when people consider these stories, they likely generate mental imagery of the events in their heads. That is, viewers may see only the screenshots of Google's search engine, but they likely create internal images of the characters, their interactions, and the major life events they experience. This study explores the ease with which such a narrative ad might generate imagery and the results for its effectiveness.

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Prior research suggests that to form evaluative judgments people rely on various processes and draw on a wide range of information (Winkielman et al. 2003). First, they might develop judgments based on declarative information (e.g., stimuli features) or experiential information (e.g., emotion triggered by the stimulus), which are both feature based. Second, they might use experiential information that does not derive from stimulus features, such as their actual information processing dynamics (Winkielman et al. 2003), including metacognitive experiences (Schwarz 1998, 2004) that accompany reasoning and appear informative. Metacognitive experiences might focus on the ease or difficulty of retrieval (Schwarz et al. 1991), processing (Alter and Oppenheimer 2009), or preference formation (Novemsky et al. 2007), and their influences entail a multiple-step process. First, people experience ease or difficulty in processing; second, they apply naive theories to explain why they sense such ease or difficulty and then make related judgments of the processing targets.

A similar process applies to product evaluations in ad-viewing contexts. Evaluations of products featured in advertising might reflect the product attributes described in the ad, the affective responses that the ad or product triggers (e.g., pleasure in response to aesthetic product designs), or the subjective experience of processing the ad (e.g., difficult to understand). It has been established that consumers assess information about advertised product features and their evaluative implications to arrive at an overall product evaluation (Meyers-Levy and Malaviya 1999). Their affective responses triggered by ad features influence product evaluations too (Brown, Homer, and Inman 1998). However, in an ad-viewing context, product evaluations could be based on experiential information unrelated to the product or ad features—a possibility that has been less explored in prior research. In response, this study considers the role of processing fluency for evaluations of narrative advertising, a popular advertising appeal that appears in 24.5% of commercials aired during prime time in the United States (Chang, 2012a).

Specifically, processing experiences emerge when people are involved in different cognitive tasks, including perceiving information, activating information-related concepts, comprehending information, or generating related imagery (Alter and Oppenheimer 2009). Accordingly, factors that facilitate

perceptual and conceptual fluency also should increase comprehension fluency and result in greater imagery fluency. The reasoning underlying this study suggests that people rely on imagery fluency to determine how much they like the narrative ad, because such imagery fluency—or the subjective experiences a person undergoes during imagery generation—is critical for processing narratives. Therefore, in proposing a coherent model, this study describes (1) factors that facilitate perceptual and conceptual fluency and thus enhance comprehension fluency, which further improves imagery fluency and leads to more favorable ad and brand attitudes, and (2) factors that directly facilitate imagery fluency to result in more favorable ad and brand attitudes.

In turn, the present study extends advertising literature in three main ways. First, it demonstrates the influence of non-feature-based experiential information on ad judgments. Second, it shows that imagery fluency offers important experiential information for processing narrative ads, which influences ad and brand attitudes. Third, the proposed integrated model reveals the direct and indirect processes by which ad, narrative, and consumer characteristics influence imagery fluency and thereby determine ad and brand evaluations.

ADVERTISING NARRATIVES

Definitions of Narrative Advertising

According to Escalas (1998), a narrative ad tells a story by depicting “one or more episodes consisting of actors engaged in actions to achieve goals” in a “sequence initiated by some events and actions result[ing] in outcome(s)” (p. 273). Because narratives comprise series of events over time, structured to support inferences about their causal relationships, their two key structural features are chronology (Polkinghorne 1991) and causality (Escalas 1998). Narrative advertising usually depicts product consumption and its consequences or employs plots associated with what people desire, such as romance, achievement, adventure, or hopes (Chang 2012b).

Comprehending Narrative Advertising

When consumers attempt to understand a narrative advertisement, they map incoming information onto their existing narrative representations, which enables them to determine the goal underlying the events, their possible outcomes, and the inferred causality among elements (Schank and Abelson 1995; Schank and Berman 2002; Wyer 2004). Comprehending narratives relies on existing narrative representations in memory; Wyer, Adaval, and Colcombe (2002; see also Wyer 2004) refer to them as episode models, whereas Pennington and Hastie (1986) call them episode schema. Because social experiences get transmitted through narratives, people tend to acquire multiple cognitive representations of narratives over time, which provide a basis for comprehending new experiences or narratives (Adaval and Wyer 1998), especially those about fictitious characters. In these settings, people are particularly likely to rely on their existing episode models (Wyer, Adaval, and Colcombe 2002).

Mental Simulation in Narrative Advertising

When people process narratives, they not only generate comprehension of the story but also experience mental simulation, defined as “the imitative mental representation of the functioning or process of some event or series of events” (Taylor and Schneider 1989, p. 175). Elder and Krishna (2011, p. 2) define mental simulation as an “automatic form of mental imagery that is initiated by exposure to verbal and visual representations of objects,” which suggests that mental imagery is readily triggered by information processing. Wyer, Hung, and Jiang (2008; see also Adaval and Wyer 1998) further argue that people construct mental images when they encounter spatially and temporally related information about events. Thus, processing narratives likely triggers mental simulation, which produces a mental representation of the characters, their relationships, and the setting (Bower and Morrow 1990). In particular, consumers might form images that reflect the visual perspective of the protagonist to comprehend an ad narrative (Black, Turner, and Bower 1979).

Boller and Olson (1991) postulate that when consumers process narrative ads, they imagine themselves experiencing the described events, as if they were the ad characters. However, advertising research tends to focus more on mental simulation triggered by direct verbal instructions (e.g., “Imagine yourself . . .”; Escalas 2004) or that evoked by pictures (Miniard et al. 1991) than on simulations aroused by narrative appeals, despite their prevalence and importance.

PROCESSING FLUENCY IN JUDGMENTS

Processing Fluency and Evaluative Consequences

Processing fluency has been defined as “the subjective experience of ease with which people process information” (Alter and Oppenheimer 2009, p. 291) and the “conscious experience of processing ease, low effort, high speed” (Winkielman et al. 2003, p. 193). It also plays an important role in human judgments, in that people experience ease or difficulty during processing and then attempt to generate reasonable, parsimonious explanations of their experience. Depending on the judgment context, people apply different naive theories to reach this explanation. For example, they might assume, “I experience fluency and therefore, this information must be . . . true/aesthetic/popular.” In each case, processing fluency influences judgments differently, depending on the domain, including judgments of truth (Reber and Schwarz 1999), aesthetic pleasure (Reber, Schwarz, and Winkielman 2004), or fame (Weisbuch and Mackie 2009). In particular, processing fluency has a substantial impact on evaluations, which represent the focus of this study.

Different explanations arise for why processing fluency enhances evaluations or liking of a processed stimulus. One theory is cognitive in nature; it suggests that processing fluency influences judgments through a two-step process (Winkielman and Cacioppo 2001), whereby people first experience the stimulus as cognitively easy or difficult, then attribute their cognitive experiences to evaluative features (e.g., “I experience fluency

when processing the stimulus and therefore I should like it"). Fluency-attribution models reflect such cognitive accounts (e.g., Bornstein and D'Agostino 1994) and suggest that processing fluency enhances evaluations of the stimulus because people misattribute the fluent experience to liking. That is, processing ease induces favorable evaluative judgments of the target.

The other line of explanations is more affective in nature. It argues that fluency triggers positive affect and thus results in favorable evaluations (Winkielman and Cacioppo 2001; Winkielman et al. 2003). Processing fluency evokes a positive affective response for two main reasons (Winkielman and Cacioppo 2001): it indicates good progress toward the goal of achieving a coherent interpretation of the stimulus, and it implies that people are knowledgeable enough to engage in interpretations. The hedonic-fluency model (Winkielman and Cacioppo 2001; Winkielman et al. 2003) indicates that cognitive experiences are associated with hedonic affective responses, which result in more favorable evaluations. This model features a three-step process: (1) experiencing subjective ease or difficulty processing information, (2) feeling happy about processing fluency, and (3) evaluating the target using how-do-I-feel-about-it heuristics. Both explanations assume that processing fluency affects evaluations, either with or without the mediation of positive affect. This study therefore tests whether the two-step process or the affect-mediated three-step process better applies to narrative advertising.

Fluency Arising from Different Cognitive Processes

Alter and Oppenheimer's (2009) review suggests that fluency varies along many dimensions. This study focuses on four that are important for narrative processing.

Perceptual Fluency

The ease with which a person perceives and identifies the physical characteristics of a stimulus constitutes perceptual fluency (Lee and Labroo 2004). Perceptual processing requires an assessment of the surface features of a stimulus (Winkielman et al. 2003), so perceptual fluency improves with greater exposures, visual contrast clarity, figure-ground contrast, and presentation time (Bornstein and D'Agostino 1994; Reber, Winkielman, and Schwarz 1998).

Variables that facilitate perceptual fluency also enhance evaluations of the objects. For example, a matching visual prime, as opposed to a mismatching one, increases prettiness ratings of a drawing of a neutral object (Reber, Winkielman, and Schwarz 1998) and triggers positive affect (Winkielman and Cacioppo 2001). Circles presented with greater figure-ground contrast (i.e., higher perceptual fluency) also prompt more favorable ratings (Reber, Winkielman, and Schwarz 1998). Longer exposure facilitates perceptual fluency, so presenting a picture for a longer duration evokes more positive affect and results in greater liking (Reber, Winkielman, and Schwarz 1998; Winkielman and Cacioppo 2001).

Most early studies of the effects of perceptual fluency on evaluations focus on single words or simple objects; subsequent investigations extend into advertising and product information to demonstrate the positive effects of perceptual fluency on evaluations of the overall products. For example, consumers process product information better when it appears in an easy-to-read font, which causes them to exhibit less choice deferral (Novemsky et al. 2007). Prior exposures to brand names or product packages enhance fluency and thus result in more favorable product evaluations (Janiszewski 1993). Prior exposures to a storyboard for a product commercial also lead to more favorable evaluations when consumers later evaluate that advertised product (Lee and Labroo 2004).

Conceptual Fluency

Conceptual fluency reflects "the ease of high-level operations concerned primarily with categorization and processing of a stimulus' relation to semantic knowledge structure" (Winkielman et al. 2003, p. 194) or the ease with which instances or associations come to mind (Tversky and Kahneman 1973). Conceptual fluency depends on different variables; thus words embedded in a predictive semantic context (e.g., "stormy sea tossed the *boat*") as opposed to a nonpredictive semantic context (e.g., "He saved up his money and bought a *boat*") can be pronounced more quickly (higher fluency) (Whittlesea 1993). Prototypical stimuli, compared with less prototypical stimuli, also are more easily processed (Winkielman et al. 2006) because they require fewer neural resources (Reber, Stark, and Squire 1998) and constitute the simplest exemplars of a category (Alter and Oppenheimer 2009).

Variables that facilitate conceptual fluency also increase evaluations of the focal objects. For example, words embedded in a predictive semantic context appear more pleasant (Whittlesea 1993). Prototypical stimuli also are more fluently processed, get rated more favorably, and evoke more positive affect (Winkielman et al. 2006). Other studies document the influence of conceptual fluency on product evaluations. Exposures to an advertising storyboard that depicts a prototypical setting (fast-food restaurant) rather than a nonprototypical one (e.g., supermarkets) generate higher subsequent ratings (e.g., of ketchup; Lee and Labroo 2004).

Comprehension Fluency

Comprehension fluency refers to the degree to which people experience ease when attempting to comprehend information. To comprehend a narrative, it is necessary to determine the goals underlying the events, understand their possible outcomes, and infer causality among the events. Relatively little research explores any difficulty people might experience comprehending ad narratives, though Chang (2009) explores the influence of repetition variation strategies on comprehension fluency. According to Chang, to increase variety and reduce boredom, narrative ads in a particular promotion campaign could vary their plots and characters. Consumers have more difficulty comprehending

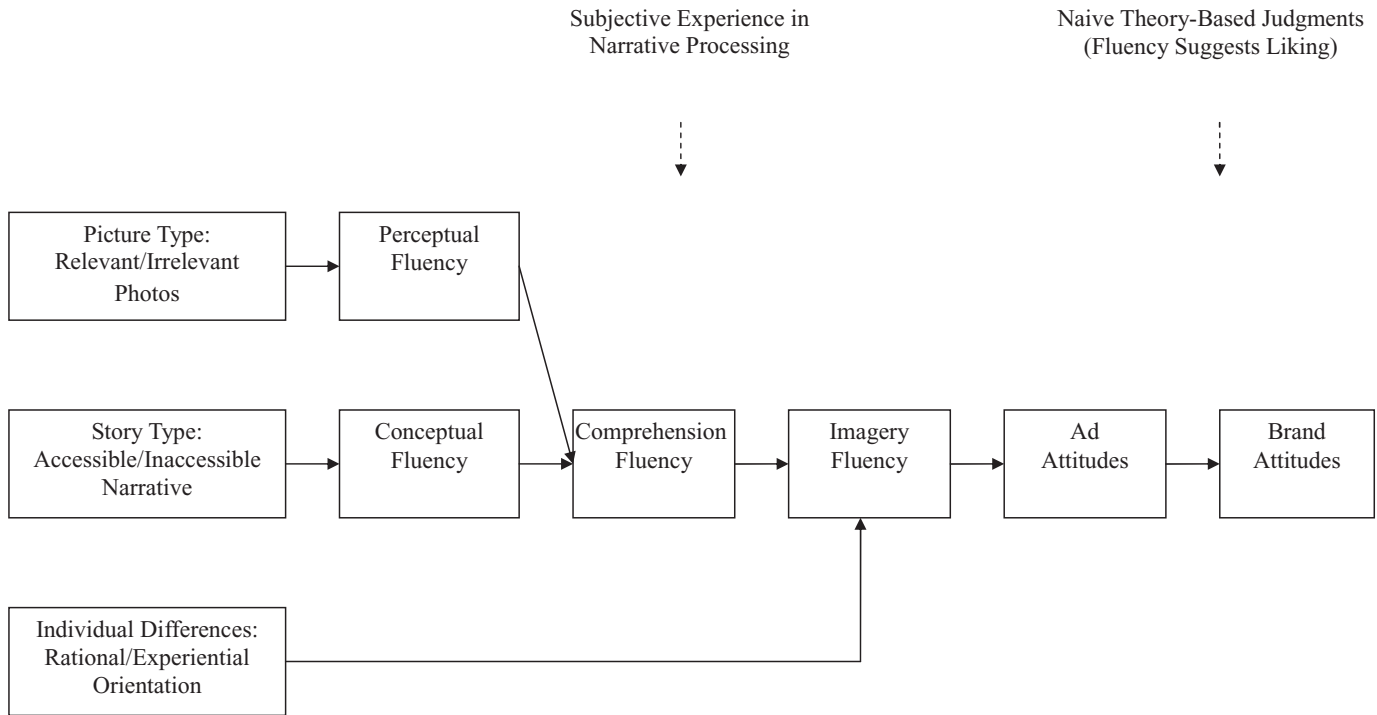


FIG. 1. Proposed model.

ad series that vary in their plots, possibly because when people work to comprehend narratives, they relate the depicted events to their existing narrative representations. Prior exposure to other ads in the campaign might render the representation of a specific plot more accessible, whereas a new ad in the same campaign with a different plot means that activated, highly accessible, existing plot representations interfere with its processing. Finally, Chang's study shows that comprehension fluency affects both ad and brand attitudes.

Imagery Fluency

Fluency of imagery, or the ease with which people generate related imagery when they process information, has attracted only sparse attention. Petrova and Cialdini (2005) suggest a similar idea, fluency of consumption imagery: they asked study participants to read a vacation ad, visualize the vacation, and then rate the ease of their visualization. Their study demonstrates that fluency of consumption imagery is higher when people view an ad that specifically instructs them to imagine (e.g., "Visualize yourself here") and features a vivid picture, compared with ads without such instructions or that feature a less vivid picture. However, the participants in their study received explicit instructions to visualize the vacation after ad exposures, so their ratings of their afterexposure visualization may not reflect their experience while processing. That is, Petrova and Cialdini (2005) likely did not measure processing-triggered imagery fluency, the construct that the current study investigates. In line with processing fluency literature, this study explores

the spontaneous experience of imagery generation fluency as consumers process the narrative ad.

Other studies offer indirect evidence of an influence of imagery fluency in evaluative judgments. Hung and Wyer (2009) show that participants are less likely to imagine themselves as beneficiaries when they adopt a donor perspective while reading a charitable ad, which reduces the ad's effectiveness. Because this perspective may interfere with the ease with which people imagine themselves in the beneficiary's position, it reduces their intention to donate.

PROPOSED MODEL

When processing a narrative ad, people first perceive information and bring to mind related instances. Then they comprehend the narrative and generate related imagery. Therefore, that which facilitates perceptual and conceptual fluency should increase comprehension fluency and result in greater imagery fluency. People next rely on their perceptions of imagery fluency to determine how much they like the narrative ad. The proposed model, in Figure 1, identifies three influences on imagery fluency, two of which relate directly to comprehension fluency and indirectly to imagery fluency and one that pertains directly to imagery fluency.

Picture Type: Visual Priming

As noted previously, visual priming facilitates perceptual fluency (Reber, Winkelman, and Schwarz 1998) such that a matching visual prime facilitates perceptual fluency and results

in more favorable responses (Winkielman and Cacioppo 2001). Ads often feature pictures. These pictures provide visuals that might match the narratives described in ad copy or might be irrelevant. Drawing on prior studies, it is possible to argue that matching a picture to the verbal descriptions of the narrative helps viewers perceive the words in the narrative (perceptual fluency). For example, when viewing a picture of a traveler walking in a forest of pine trees, people may more quickly perceive the word *forests* and *pine trees* in the accompanying narrative. Such perceptual fluency can facilitate narrative comprehension and enable the generation of imagery.

Pictures in particular can facilitate information processing and affect ad evaluations. For example, Hung and Wyer (2009) show that pictures congruent with the imagination task (e.g., imagining oneself as the beneficiary when an ad begins with a picture of a beneficiary) increases ad effectiveness—likely because processing and imagery fluency improve when the picture is congruent. Adaval and Wyer (1998) also reveal that pictures are structurally similar to mental images of consumption, so including pictures in product brochures facilitates narrative processing of product information and leads to more favorable evaluations of the product. However, these studies do not consider the concept of imagery fluency.

The current study predicts specifically that ads featuring narrative-relevant pictures, as opposed to ads without such pictures, enhance perceptual fluency and improve comprehension fluency. This easier comprehension of the narrative facilitates mental simulation and results in imagery fluency. When consumers experience this imagery fluency, they likely attribute the experience to their liking of the ad.

H1: Ads with narrative pictures, as opposed to those without them, increase (1) comprehension fluency, (2) imagery fluency, (3) ad attitudes, and (4) brand attitudes.

H2: Ads with narrative pictures, as opposed to those without them, increase comprehension fluency, which further improves imagery fluency.

H3: Ads with narrative pictures, as opposed to those without them, increase imagery fluency, which further improves ad attitudes.

H4: Comprehension fluency facilitates imagery fluency, which further increases ad attitudes.

In turn, when they must evaluate the product, these viewers should consider their liking of the ad and apply it to their evaluations of the advertised product. In other words:

H5: Ad attitudes mediate the relationship between imagery fluency and brand attitudes.

Narrative Type: Narrative Accessibility

For narrative processing, conceptual fluency refers to the ease with which the meaning and prototypes of the narratives arise in people's minds. Lee and Labroo (2004) thus show that beer is more conceptually fluent if consumers perceive a bar scenario, as opposed to a supermarket scenario. This conceptual fluency also improves attitudes toward the beer, likely because the prototypical product consumption scenario enhances the

conceptual fluency of the products by rendering the products more accessible in memory.

Prior research suggests that the knowledge structures for prototypes are highly accessible, so processing prototypes enjoys conceptual fluency advantages (Winkielman et al. 2006). In a similar vein, when narrative representations come to mind more easily, the meaning of a newly encountered story with similar representations might be grasped more easily, leading to enhanced conceptual fluency and comprehension fluency. In terms of imagery generation, prior research also suggests that people construct mental images of verbal descriptions using episodic models that they have encountered previously and stored in their memories (Wyer, Hung, and Jiang 2008). It is easier for people to form mental images if related representations already are accessible in their memories (Wyer, Hung, and Jiang 2008).

What determines this accessibility? Frequent social experiences can enhance the accessibility of certain episode models (Wyer and Radvansky 1999). Accordingly, people in different cultures who have different social experiences tend to develop unique narratives (Chang 2012a). Because representations of commonly experienced stories are highly accessible, processing those stories produces greater conceptual fluency. In contrast, if a narrative appears unusual, conceptual understanding is more difficult. This study proposes in turn that a highly accessible narrative enhances conceptual fluency and further improves narrative comprehension. To the degree that a narrative is more easily comprehended, it also facilitates mental simulation and enhances imagery fluency, which leads to more favorable evaluations of the ad and brand.

H6: A highly accessible narrative, as opposed to a less accessible narrative, increases (1) comprehension fluency, (2) imagery fluency, (3) ad attitudes, and (4) brand attitudes.

H7: A highly accessible narrative, as opposed to a less accessible narrative, facilitates comprehension fluency, which further increases imagery fluency.

H8: A highly accessible narrative, as opposed to a less accessible narrative, facilitates imagery fluency, which further increases ad attitudes.

Individual Characteristics: Processing Orientation

Although Wyer and Radvansky (1999) assume that people generate mental images when processing narratives, Wyer, Hung, and Jiang (2008) suggest that mental imagery generation may be more likely among people who have a disposition to construct images. In other words, people differ in their processing orientations and thus their tendency to generate mental imagery of the depicted narratives.

The cognitive–experiential self-theory proposed by Epstein (1990) suggests two parallel, interactive information processing systems: a rational system and an experiential system. The former is predominantly analytical and logical and operates within a verbal system that is characterized by the conscious appraisal of events. The latter is more experiential and pleasure oriented; it operates within a holistic and imagistic system that tends to encode reality according to concrete images (Epstein 1994).

People with different orientations also make judgments using different styles. For example, those with an experiential processing orientation tend to generate greater ratio bias than those with a rational processing orientation (e.g., Denes-Raj and Epstein 1994; Kirkpatrick and Epstein 1992). With the knowledge that they would win a prize if they picked a red jelly bean, those with an experiential processing orientation were more likely to draw from a larger tray of 100 (10 red and 90 white) jellybeans than a smaller tray of 10 (1 red and 9 white), even though the chances of winning were the same. These differences occur because people with an experiential processing orientation rely on their subjective experiences (how they feel and what they see) to make judgments, which implies they have greater tendency to engage in imagery generation.

Epstein (1994) also argues that narratives appeal to the experiential system by presenting events in ways that are similar to their emergence in real life. That is, narratives are congruent with how people with experiential systems process information, which makes them intrinsically appealing to experiential processors. Of particular relevance, Thompson and Hamilton (2006) show that imagery fluency increases when processing modes are congruent with ad features. Because imagery generation is a holistic process (MacInnis and Price 1987), it is congruent with experiential processing, operating within a holistic and imagistic system (Epstein 1994). People oriented toward experiential processing then should tend to generate mental imagery, because they attempt to see and feel events. Mental imagery helps them do so, as if the events happened in real life. Their orientation then helps them experience greater imagery fluency, which further enhances their evaluations of the ad and advertised products. Unlike picture or narrative types, experiential processing orientation should affect only imagery fluency, not comprehension fluency, because experiential and rational processors likely do not differ in their ability to comprehend narratives.

H9: When consumers are oriented toward experiential processing, they reveal greater (1) imagery ease, (2) ad attitudes, and (3) brand attitudes.

H10: Imagery fluency mediates the relationship between experiential/rational processing and ad attitudes.

EXPERIMENT 1

Objectives and Design

This experiment explored the hypotheses regarding ad pictures (hypothesis 1 through hypothesis 5) and individual differences (hypotheses 9 and 10). Thus, Experiment 1 featured picture types (narrative versus product picture) as the manipulated factor; participants provided self-ratings of their rational/experiential processing styles.

Stimuli

The experimental ad featured casual shoes, a product commonly purchased by the college student participants of this

study. In a pretest ($N = 20$, male = 45%), 75% of the respondents had purchased casual shoes in the previous 12 months, and no gender difference emerged.

To demonstrate that even in ads with product information the processing dynamics still may exert additional influences on ad and brand evaluations, two ads featured the same product-attribute information. A pretest ($N = 100$) determined the attribute considered most important for shoe purchases: comfort ($M = 6.32$). Thus, a panel in both ads described the special comfort-based design of the shoes and featured a product illustration.

All ads also used the same ad copy, describing summer travels with a comfortable pair of shoes, which increased the enjoyment of the trip. The narrative was pretested to feature several narrative structures: (1) a protagonist (traveler), (2) in a specific setting (countryside), who (3) engages in actions (traveling with a good pair of shoes) that (4) lead to consequences (comfort). Causality also can be inferred from the described events (i.e., a pair of good shoes provides comfort while traveling).

In half of the ads, the matching narrative picture showed a traveler walking in the field, wearing the advertised shoes. Because consumers tend to adopt the protagonists' perspective and may find it difficult to do so if an ad features a protagonist of a different gender, this experiment used two versions of the same narrative picture. Male/female participants viewed an ad with a male/female character. All the other visual content remained the same. The other half of the ads showed participants an enlarged, sketched illustration of the shoes, similar to that in the descriptive panel. The background picture in this condition featured an illustration, because including another type of picture could have introduced confounding influences.

Participants and Procedures

The study was conducted among students of a large university in East Asia. The materials and measures were in Chinese; they had been translated into Chinese following Brislin's (1987) translation and back-translation procedure.

An e-mail invitation sent to all undergraduate students registered with the university stated the purpose of the study (i.e., to understand how people read magazines) and listed the various times and places for all sessions. Those who were interested signed up online. A total of 81 college students (50.6% men) participated and received payment to compensate them for their time. Folders containing experimental stimuli were prepared. An equal number of ads with the male/female protagonist and product ads were randomly sorted into piles for male/female participants. When participants arrived, each of them received a randomly provided folder from the pile that corresponded to his or her biological gender. The folder contained instructions and a magazine segment with one magazine article, one filler ad, and the target ad featuring casual shoes. The instructions also asked participants to read the magazine segment as if they were at home. When they finished reading the ads, they completed a questionnaire that included items about how the ad made them

feel, measures of attitudes toward the ad, attitudes toward the advertised brand, and imagery fluency. Finally, they were asked to “help a psychology professor” by filling out a short survey on their values, lifestyle, and personality, including filler scales and scales for experiential/rational processing. All participants complied with this request.

Independent Variables

The items in these experiments used 7-point Likert scales, except as specified, and the participants’ responses to the scale items were averaged, such that higher ratings indicate a greater degree or higher level.

Picture Type

Participants rated the degree to which they agreed that “the picture depicts the story described in the ad” and “the picture depicts the product consumption scenario described in the story” (Cronbach’s $\alpha = .91$). As expected, participants rated the ad with a narrative picture higher than the one with the product sketch ($F(1, 80) = 28.23, p < .01, \eta_p^2 = .26, M_{\text{narrative}} = 5.13, SD = 1.34; M_{\text{product}} = 3.44, SD = 1.53$).

Rational–Experiential Processing

Participants completed Pacini and Epstein’s (1999) 40-item rational–experiential inventory, which included experiential items such as “I like to rely on my intuitive impression” and “I trust my initial feelings about people” and rational items such as “I am a very analytical thinker” and “I am good at solving problems that require careful logical analysis.” Scale reliability (experiential and reversed rational processing items) was acceptable (Cronbach’s $\alpha = .83$). For the averages of participants’ responses to the experiential items and reversed responses to the rational items, higher scores indicated greater experiential processing.

Dependent Variables

Comprehension Fluency

Participants rated comprehension fluency using one item: “It is easy to understand the story.”

Imagery Fluency

Participants completed Bone and Ellen’s (1992) imagery fluency scale with slightly adjusted wording to fit the study purpose. Therefore, it noted, “When processing ads, people may generate images of what the ad depicts in their mind. Please rate the degree to which you agree that the following three items describe your ad processing experiences: ‘I had difficulty imagining the depicted scene in my head’ [reversed item], ‘I found it difficult to generate mental images as depicted in the ad’ [reversed item], and ‘I quickly generated images of what was depicted in the ad’” (Cronbach’s $\alpha = .90$).

Ad Attitudes

Participants rated their attitudes toward the advertised brand using Chang’s (2005b) scale, which includes likable, favorable, good, interesting, and pleasant measures (Cronbach’s $\alpha = .92$).

Brand Attitudes

Participants rated their attitudes toward the advertised brand using Chang’s (2005a) scale: “I like the product,” “I feel positive toward the product,” “The product is good,” “The product is pleasant,” and “The product is of good quality” (Cronbach’s $\alpha = .86$).

Results

Because individual difference is a continuous variable, the hypotheses tests used multiple regression analyses. To reduce problems with multicollinearity among the continuous variable (experiential–rational processing) and its interaction term with the other variable (picture type), the independent variables were mean centered for the regressions.

This experiment included three types of analyses for each mediation hypothesis, as summarized in Table 1. First, Preacher and Hayes’s (2004) bootstrapping methodology based on 5,000 bootstrap resamples described the confidence intervals (CI) of indirect effects. Second, Baron and Kenny’s (1986) causal-steps procedures provided tests for this mediation (refer to Table 1): (1) the mediator was regressed on the independent variable; (2) the dependent variable was regressed on the independent variable; (3) the dependent variable was regressed on the mediator; and (4) the dependent variable was regressed on the independent and dependent variables. Third, Sobel’s test examined whether a mediator variable significantly carried the influence of an independent variable to a dependent variable.

Hypothesis 1 (Effects of Picture Type)

As predicted in hypothesis 1, participants found it easier to comprehend the narrative ($\beta = .27, p = .02$) and to generate imagery when reading an ad with a narrative picture than with a product sketch ($\beta = .22, p = .04$). Ads with narrative pictures also generated more favorable ad ($\beta = .37, p < .01$) and brand ($\beta = .22, p = .05$) attitudes.

Hypothesis 2 (Picture Type \rightarrow Comprehension Fluency \rightarrow Imagery Fluency)

For causal-step tests that involved four regressions, ads with matching pictures were coded 1, and those with product pictures were coded -1 . The results of the three types of analyses, as shown in Table 1, confirmed hypothesis 2.

Hypothesis 3 (Picture Type \rightarrow Imagery Fluency \rightarrow Ad Attitudes)

As summarized in Table 1, picture type indirectly affected ad attitudes through its influence on imagery fluency, but it also directly affected ad attitudes.

TABLE 1
Mediation Analyses

	Experiment 1				Experiment 2			
	H2: Picture type (IV) → Comprehension fluency (mediator) → Imagery fluency (DV)				H7: Narrative type (IV) → Comprehension fluency (mediator) → Imagery fluency (DV)			
	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV
Picture type	.27* ⁵	.22*	.45**	.12	.20**	.17*	.34**	.10
Comprehension fluency				Narrative type Comprehension fluency				.32**
Sobel tests	Z = 2.17		p = .01		Z = 2.28		p = .01	
Bootstrap results for indirect effects ¹	Lower Limit BCa 95% CI .0556	Upper Limit BCa 95% CI .3660			Lower Limit BCa 95% CI .0280	Upper Limit BCa 95% CI .2045		
H3 and H10: Picture type/EP (IV) → Imagery fluency (mediator) → Ad attitudes (DV)								
	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV
Picture type	.22*	.37**	.44**	.30**	.15*	.17*	.53**	.09
Experiential processing	.31**	.27**		.17				.52**
P × E	.10	-.16		-.19*				
Imagery fluency				.33**				
Sobel tests	H3: Z = 1.88		p = .03		Z = 1.88		p = .03	
	H10: Z = 2.42		p < .01					
Bootstrap results for indirect effects ¹	Lower limit BCa 95% CI H3: .0125 H10: .0669	Upper limit BCa 95% CI .2887 .5546			Lower limit BCa 95% CI .0086	Upper limit BCa 95% CI .1901		

(Continued on next page)

TABLE 1
Mediation Analyses (Continued)

		Experiment 1				Experiment 2			
		H4: Comprehension fluency (IV) → Imagery fluency (mediator) → Ad attitudes (DV)				H4: Comprehension fluency (IV) → Imagery fluency (mediator) → Ad attitudes (DV)			
		DV		DV		DV		DV	
IV		(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV
Comprehension fluency		.45**	.60**	.51**	Comprehension fluency	.32**	.34**	.53**	.18**
Imagery fluency				.21*	Imagery fluency				.47**
Sobel tests		Z = 3.13	p < .01			Z = 3.80			p < .01
Bootstrap results for indirect effects ¹		Lower limit BCa 95% CI .0010	Upper limit BCa 95% CI .1838			Lower limit BCa 95% CI .0712		Upper limit BCa 95% CI .2654	
		H5: Imagery fluency (IV) → Ad attitudes (mediator) → Brand attitudes (DV)				H5: Imagery fluency (IV) → Ad attitudes (mediator) → Brand attitudes (DV)			
		DV		DV		DV		DV	
IV		(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV	(1) ¹ Mediator	(2) ² DV	(3) ³ DV	(4) ⁴ DV
Imagery fluency		.44**	.31**	.77**	Imagery fluency	.53**	.39**	.73**	.01
Ad attitudes					Ad attitudes				.73**
Sobel tests		Z = 4.03	p < .01			Z = 6.87			p < .01
Bootstrap results for indirect effects ¹		Lower limit BCa 95% CI .0854	Upper limit BCa 95% CI .3140			Lower limit BCa 95% CI .1620		Upper limit BCa 95% CI .3261	

Notes: Superscript 1 indicates regressing the mediator on the independent variable (IV); superscript 2 indicates regressing the dependent variable (DV) on the IV; superscript 3 indicates regressing the DV on the mediator; superscript 4 indicates regressing the DV on the mediator and the IV; and superscript 5 indicates standardized coefficients.

*p < .05.

**p < .01.

Hypothesis 4 (Comprehension Fluency → Imagery Fluency → Ad Attitudes)

The findings suggested that comprehension fluency indirectly affected ad attitudes through its influence on imagery fluency, but it also directly affected ad attitudes.

Hypothesis 5 (Imagery Fluency → Ad Attitudes → Brand Attitudes)

The test of hypothesis 5 adopted all three procedures, and the findings supported all its elements.

Hypothesis 9 (Effects of Rational–Experiential Processing)

Participants who had a greater tendency toward experiential processing generated higher imagery fluency ($\beta = .31, p < .01$) and ad attitudes ($\beta = .27, p = .01$). However, experiential tendency did not directly account for variance in brand attitudes ($\beta = .10, p = .37$). Thus, the findings supported hypotheses 9a and 9b but did not support hypothesis 9c. As expected, experiential processing did not exert significant effects on comprehension fluency ($\beta = .16, p = .14$).

Hypothesis 10 (Experiential Processing → Imagery Fluency → Ad Attitudes)

The tests of hypothesis 10 used the same regression as reported for hypothesis 3 and similarly supported the predictions of hypothesis 10.

Two-Step Versus Three-Step Processes

To test whether the two-step process (fluency to evaluation) or the three-step process (fluency to positive affect to evaluation) better explains the influence of imagery fluency on evaluations of narrative ads, this experiment regressed ad-triggered positive affect (“pleased,” “cheerful,” “happy,” “satisfied,” “contented,” and “optimistic”; Cronbach’s alpha = .91; Chang 2006) on picture type, experiential processing, and their interaction. If picture type affects evaluation because enhanced imagery fluency triggers positive affect, a matching picture should generate greater positive affect than a product sketch. The results indicated that picture type did not influence positive affect ($\beta = .13, p = .25$), so picture type triggered a two-step evaluation process, unmediated by positive affect.

Discussion

Experiment 1 demonstrated that narrative pictures, as opposed to product pictures, increased comprehension fluency and imagery fluency, which further affected ad judgments (ad attitudes and brand attitudes) through a two-step, rather than a three-step, process. Moreover, experiential processing tendency directly affected imagery fluency without being mediated by comprehension fluency, which further improved ad attitudes.

EXPERIMENT 2

Objectives, Design, and Stimuli

This experiment assessed the hypotheses pertaining to narrative accessibility (hypothesis 6 through hypothesis 8). The manipulated factor was narrative type (high versus low accessibility). The ad featured sports drinks, another product commonly purchased and consumed by college students, with a fictitious brand name, WaterLock. To confirm the influence of processing dynamics even in the presence of information about product features, the two manipulated ads featured the same product attribute information. A pretest ($N = 59$) revealed which product attributes consumers perceived as important when purchasing sports drinks: good taste ($M = 6.36, SD = .82$), smooth taste ($M = 6.09, SD = 1.28$), and high-quality production process ($M = 5.95, SD = 1.30$).

Because people develop narrative representations according to their life experiences, narratives that they have experienced frequently should be more accessible. A pretest ($N = 40$) identified more and less accessible narratives, such that people in the city from which the participants were recruited commonly or rarely experienced them, respectively. This city is located in a subtropical zone with mountains. Participants in the pretests rated a variety of narratives using three items: “The story is what would happen in my life,” “The story is what people like me would experience,” and “The story is what most of my peer college students usually experience” (Cronbach’s alpha = .87). The results of the pretest suggested “riding to the mountain areas with friends” ($M_{\text{mountain}} = 5.12, SD = 1.06$) as the highly accessible narrative, whereas “playing in the snow with friends” ($M_{\text{snow}} = 3.70, SD = 1.26$) was less accessible ($F(1, 39) = 14.85, p < .01$). Both narratives involved friends because the college student participants often engage in activities with their friends.

The findings from Experiment 1 suggested that the matching pictures enhanced narrative comprehension. Therefore, the two ads featured different background pictures, one with roads to mountains and another with snow. The two background pictures were purchased from an online photo company and pretested as similar in terms of liking. That is, 40 pretest participants rated the two pictures on three items using a 5-point Likert scale: “I like the picture,” “The picture is pleasant,” and “I feel favorable toward the picture” (Cronbach’s alpha = .91). The analysis of variance showed that the two pictures did not differ in their average liking score ($F(1, 39) = .16, p = .70, M_{\text{mountain}} = 4.11, SD = .71, M_{\text{snow}} = 4.03, SD = .62$).

Participants and Procedures

In all, 161 college students (50.3% men) were recruited and were paid for their participation. The other procedures were similar to those in Experiment 1.

Independent Variables

As manipulation checks of narrative accessibility, participants rated the degree to which the three items from the pretest

described their perceptions about the story (Cronbach's alpha = .82). The mountain scenario, rather than the snow scenario, had been experienced more commonly and thus was more accessible ($F(1, 160) = 16.67, p < .01, \eta_p^2 = .10, M_{\text{mountain}} = 4.60, SD = 1.28; M_{\text{snow}} = 3.78, SD = 1.28$).

Dependent Variables

Participants rated comprehension fluency, imagery fluency (Cronbach's alpha = .79), and ad attitudes (Cronbach's alpha = .93), using the same scale as in Experiment 1. Participants rated their brand attitudes using Chang's (2008) scale, with four items: "I like the product," "I feel positive toward the product," "The product is good," and "The product is pleasant" (Cronbach's alpha = .91).

Results

The same three types of analyses as reported in Experiment 1 were conducted to test the mediation hypotheses. In the regression analyses, accessible narrative ads were coded 1 and inaccessible narrative ads were coded -1.

Hypothesis 6 (Effects of Narrative Type)

As expected, participants found it easier to comprehend the narrative ($F(1, 159) = 6.93, p < .01, \eta_p^2 = .04, M_{\text{high}} = 5.76, SD = 1.02; M_{\text{low}} = 5.27, SD = 1.32$) and to generate imagery ($F(1, 159) = 3.76, p = .05, M_{\text{high}} = 5.26, SD = 1.48; M_{\text{low}} = 4.79, SD = 1.56$) when they read an ad that featured an accessible narrative as opposed to a less accessible narrative. Ads with highly accessible narratives also generated more favorable ad attitudes ($F(1, 159) = 4.62, p = .03, M_{\text{high}} = 4.91, SD = 1.14; M_{\text{low}} = 4.52, SD = 1.18$) and brand attitudes ($F(1, 159) = 3.90, p = .05, M_{\text{high}} = 4.99, SD = .97; M_{\text{low}} = 4.70, SD = .93$). The findings thus supported hypotheses 5a, 5b, 5c, and 5d.

Hypothesis 7 (Narrative Type → Comprehension Fluency → Imagery Fluency)

As reported in Table 1, the findings from all three types of analysis approaches confirmed hypothesis 7.

Hypothesis 8 (Narrative Type → Imagery Fluency → Ad Attitudes)

The three tests reported results in support of hypothesis 8.

Replicating Hypothesis 4 (Comprehension Fluency → Imagery Fluency → Ad Attitudes)

To replicate the Experiment 1 findings, hypothesis 4 was tested again. The findings were consistent with those reported in Experiment 1.

Replicating Hypothesis 5 (Imagery Fluency → Ad Attitudes → Brand Attitudes)

To replicate the Experiment 1 findings, hypothesis 5 again was tested. The findings were consistent with expectations.

Testing Two-Step versus Three-Step Processes

To test whether narrative types triggered not only comprehension fluency and imagery fluency but also positive affect, this study regressed positive affect (as in Experiment 1, Cronbach's alpha = .91) on narrative type. The results showed that narrative types did not generate different degrees of positive affect ($\beta = .01, p = .98$), again in support of the two-step process.

Discussion

Experiment 2 thus demonstrates that accessible, as opposed to less accessible, narratives, which were expected to facilitate conceptual fluency, actually increased comprehension fluency and further enhanced imagery fluency. Similar to the findings from Experiment 1, enhanced imagery fluency influenced ad judgments (ad attitudes and brand attitudes) through a two-step, rather than a three-step, process.

GENERAL DISCUSSION

Findings and Contribution

Human judgments reflect not only the content of information but also their subjective experience of processing the information (Schwarz 2004). Extending this line of research, this study has shown the significant influences of subjective experiences on ad evaluations in an ad viewing context. Generating mental images is likely a unique, important process when processing narratives (Wyer, Hung, and Jiang 2008), and imagery fluency, defined as the ease with which people generate mental images of described narratives in ads, significantly influences ad and brand attitudes. Moreover, processing fluency pertains to different types of cognitive processes. This study has demonstrated that elements facilitating perceptual and conceptual fluency also increase comprehension fluency, which further improves imagery fluency.

Different factors affect imagery fluency in relation to narrative processing through two possible routes. The first exerts direct influences on comprehension fluency then indirectly affects imagery fluency. For example, consider picture types and narrative types, respectively. Experiment 1 demonstrates that a matching picture, expected to facilitate perceptual fluency, improves comprehension fluency and also imagery fluency. Experiment 2 also shows that a highly accessible narrative prototype, expected to facilitate conceptual fluency, increases comprehension fluency and thereby enhances imagery fluency too. A second set of factors generates direct influences, including individual differences in rational-experiential processing orientation. Epstein (1994) suggests that narratives appeal to people who engage in more experiential processing, because narratives are consistent with the way they process information. Those who have a tendency to generate imagery thus should find imagery generation easier, as the findings of this study confirm. Experiential processing increases imagery fluency; it does not relate significantly to comprehension fluency though, such that

people who engage in high and low experiential processing do not differ in their comprehension fluency. These findings establish a direct influence process.

Implications for Practitioners

The findings have important implications for advertisers, who often tell stories. Yet advertisers should first ensure that their target audiences can easily comprehend the stories they tell and find it easy to generate mental imagery based on their stories. The findings suggest two ways to enhance comprehension fluency and thus imagery fluency: present a matching picture or video of the described story, or present a story for which the target audience already has readily accessible representations. Unlike viewing a drama or reading magazine articles, reading advertising rarely gets consumers fully involved. Consumers probably find it less interesting and allocate fewer cognitive resources to process a difficult-to-comprehend advertising story. Facilitating comprehension and mental simulation thus appears key to a successful advertisement.

The findings also have important implications for international advertisers, who may attempt to tell a standardized story in all markets. However, if people in various cultures do not share similar experiences, ad effectiveness cannot be globally guaranteed. Only by understanding the narrative ramifications can advertisers maximize the effectiveness of their narrative appeals.

Future Research Directions

Few prior studies, whether they manipulate perceptual or conceptual processing, have conducted manipulation checks (e.g., Reber, Winkelman, and Schwarz 1998), likely because of the difficulty consumers have rating the degree of their perceptual and conceptual fluency. Moreover, perceptual fluency may be associated with conceptual fluency (Lee and Labroo 2004). Therefore, it is not easy to establish whether a matching picture affects perceptual fluency but not conceptual fluency or whether an accessible narrative influences conceptual fluency but not perceptual fluency. Pictures also may directly facilitate imagery fluency (Adaval and Wyer 1998). Further research should try to disentangle the unique influences of picture type and narrative accessibility on perceptual or conceptual fluency, as well as their direct influences on imagery fluency.

This study tests the proposed model with ads that promote a product, but the model also can be extended or altered in two important ways to explain how imagery fluency influences ad-related judgments in other contexts. First, it might be extended to reveal the effects of political or health advertising that uses narrative appeals. Prior research has suggested that good indicators of the effectiveness of health promotion and political advertising include ad persuasiveness (Chang 2003), ad effectiveness (Chang 2011), and ad credibility (Pinkleton 1997). When people try to understand narratives in political and health ads, to the degree that they experience fluency in imagining what is

being depicted in a narrative (e.g., being infected with a disease because they failed to take precautions), they likely rate the ad as more persuasive or credible and the issue as more important. In other words, the proposed imagery fluency-based effect on judgments remains, but the domains of judgments may vary depending on what is being promoted.

Second, the proposed model could help reveal the effects of product advertising, which does not use narrative appeals but can trigger imagery. Prior research suggests that people also generate mental imagery of product consumption when processing ads, even if the advertising does not tell stories. For example, Phillips (1996) shows that consumers generate mental imagery of product consumption, especially if the ads promote novel products (Oliver, Robertson, and Mitchell 1993) or feature vivid pictures (Miniard et al. 1991). When viewing a demonstration or a comparative ad, consumers may generate mental imagery of the depicted benefit (e.g., a cordless vacuum cleaner is easy to use or better than its competitors). If such imagery generation is easy, the ad should be more effective. In other words, for these ad appeals, imagery fluency still may affect judgments, but ad effectiveness indicators, whether ad attitudes, ad persuasiveness, or ad credibility, may vary across different appeals.

In addition to effectiveness-related judgments, such as liking, credibility, and persuasiveness, previous research shows that processing fluency influences judgments of truth, confidence, likelihood, intelligence, and fame (see Alter and Oppenheimer 2009). It would be interesting to determine whether imagery fluency's influence extends to such nonevaluative judgments. In a similar vein, a recent study shows that when consumers are exposed to high imagery ads, as opposed to low imagery ones, they tend to believe that they have experienced the product (Rajagopal and Montgomery 2011), likely because vivid pictures enhance imagery fluency and lead them to form such mistaken beliefs. Advertising research could study processing fluency effects on consumers' confidence that an ad is informative, the popularity of ad characters or brands, and the perceived likelihood that the product will deliver what the ad promises. Processing fluency also might affect processing strategies (Oppenheimer 2008)—another potential research direction.

Although prior research overwhelmingly suggests that processing fluency results in positive evaluations, recent research has demonstrated that in certain situations processing difficulty may improve evaluations of the target. For example, Labroo and Kim (2009) show that when people pursue goals, effort is associated with positive values and signals instrumentality. In such conditions, a sense of difficulty improves evaluations of the target object, if that target object is the means to fulfill the goal. Pocheptsova, Labroo, and Dhar (2010) demonstrate that metacognitive difficulty enhances, rather than reduces, liking of special-occasion goods, because unfamiliarity is valued for such products and experienced difficulty signals uniqueness. Imagery difficulty thus could improve ad judgments in certain situations; additional research should explore this possibility.

Pictures play an important role in narrative comprehension. This study shows that matching the picture with the described narratives improves fluency, but pictures vary in other important characteristics that may influence imagery fluency. For example, the perspectives of the ad characters (Meyers-Levy and Peracchio 1996) and picture vividness (Miniard et al. 1991) influence ad effectiveness; first-person perspectives and vivid pictures also might enhance imagery fluency.

In addition to accessibility, narratives differ in other important characteristics that may affect imagery fluency, such as their fictionality (Argo, Zhu, and Dahl 2008) or verisimilitude (Deighton, Romer, and McQueen 1989). It may be more difficult to comprehend or generate imagery of high fictionality, low verisimilitude narratives. Narrative valence is also an important characteristic; product ads are likely to tell happy stories, but in some contexts, such as health-related ads, sad stories are prominent as well. Because people have an inherent motivation to avoid unpleasant stimuli (Brendl, Markman, and Messner 2005), they may be less motivated to generate related imagery for sad stories, which could make imagery generation more difficult.

People who differ in their experiential processing tendency vary in the fluency with which they generate mental imagery. Other individual differences could be associated with the tendency to generate imagery, such as visual versus verbal processing orientations. People who score higher on visual processing, as opposed to verbal processing, scales tend to rate ad pictures as more effective (Heckler and Houston 1993), exhibit more favorable ad and brand attitudes when instructed to imagine (Burns, Biswas, and Babin, 1993), and express a greater tendency to visualize what they are going to buy when they plan shopping trips (Gould 1990). Petrova and Cialdini (2008) also identify dispositional imagery vividness and internal focus as potential predictors of imagery generation. Further research should examine whether these individual differences predict variation in imagery fluency or moderate the effects of ad content on imagery fluency. In addition to personality traits, people differ in their motives to engage in imagery generation (McFerran et al. 2010), so motives offer another individual difference to explore.

Whereas this study explores the degree of imagery fluency and its influence, it also might be important to determine whether people consider subjective experiences to the same degree when making judgments. Prior research indicates that people differ in their sensitivity to subjective experience, which determines how they weigh those subjective experiences in their evaluations. For example, Danziger, Moran, and Rafaely (2006) show that people with high versus low experiential processing orientations focus more on subjective experiences and are more likely to rely on the ease of retrieval as a judgment input. Chang (2012c) demonstrates that people with a higher experiential processing orientation are more likely to consider consumption imagery when they evaluate advertised products. Therefore, exploring the impacts of individual differences in weighing imagery fluency in judgments is an interesting direction.

Limitations

Findings should be interpreted according to the limitations of this study. First, college students were the participants in both experiments. These respondents may differ from other consumers in terms of their processing orientation, which affects their imagery fluency. Second, the reported studies only asked participants to rate whether it was difficult to understand the story as a measure of comprehension fluency. Single-item scales are limited: they capture less information than multiple-item scales because they might not provide perfect representations of a construct; and they are inherently less reliable because they prevent computations of internal consistency of a set of items or correlations between items (Baumgartner and Homburg 1996; Churchill 1979). Third, in Experiment 1, the conditions that did not feature narrative pictures included enlarged product pictures in the bottom panel. It is more realistic to find ads with product pictures, as opposed to plain backgrounds without any key visual, but such a picture may introduce potential confounds. Fourth, the scales used to measure attitudes toward the ad and the brand contained unique items pertaining to the ad (i.e., interesting) and the advertised product (i.e., of good quality), but they also shared three items, which may lead to an inflated correlation between constructs and thus common method bias (Podsakoff et al. 2003).

Regardless of these limitations, this study offers a clearer picture of how subjective experiences in processing ad narratives influence ad and brand evaluations. Understanding the nuanced influence of processing fluency has critical implications for understanding and improving ad effectiveness.

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