THE IMPACT OF ADVERTISING CREATIVITY ON THE HIERARCHY OF EFFECTS

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ABSTRACT: This study examines how advertising creativity affects consumer processing and response. First, traditional hierarchy-of-effects (HOE) models are reviewed and then augmented with new developments in advertising and persuasion research to identify five major stages: brand awareness, brand learning, accepting/rejecting ad claims, brand liking, and brand intentions. Theoretical links are identified that predict ad creativity will impact 13 key variables in all five HOE stages. An experiment is conducted that manipulates the two major determinants of ad creativity: divergence and relevance. Results confirm the expected divergence-by-relevance interaction effect for 12 of the 13 variables demonstrating the potency of creative ads (and the ineffectiveness of ads with low creativity). In addition, a test is conducted using structural equations modeling (SEM) to see whether all the effects of ad creativity are mediated through each successive HOE stage. Results show that the HOE's assumptions hold up reasonably well, although divergence is powerful enough to exert direct (unmediated) effects on brand awareness and brand liking.

Creativity in advertising has become a major research topic after many years of disinterest and neglect (Zinkhan 1993). While advertising textbooks, trade papers, and practitioners have long understood the importance of ad creativity in a competitive marketplace, academic research has only recently begun to focus on this important topic. Not surprisingly, early efforts to examine ad creativity have used a variety of operational definitions and different research paradigms. Although some studies have found limited or no effects, more systematic studies show powerful effects of ad creativity on attention and ad liking (Smith et al. 2007). The purpose of this research is to examine how ad creativity affects each stage in consumer response using hierarchy-of-effects (HOE) models as a guide.

In traditional HOE models, advertising is seen as taking the consumer through a series of cognitive, affective, and conative stages. We augment this traditional approach by adding some newer models that provide additional information regarding each stage of response. The result is a five-stage model that identifies 13 key dependent variables that can be expected to play a significant role in consumer response to advertising creativity. An experiment is performed to help unravel how and where ad creativity exerts its influence on consumer processing and response. Finally, the proposed HOE model of ad creativity effects is tested by examining both mean level differences in dependent variables (MANOVA; multivariate analysis of variance) and structural associations among them (SEM; structural equations modeling). This is the first study to systematically evaluate how ad creativity impacts the entire HOE sequence.

AD CREATIVITY

Background Literature

Past research has examined the effects of ad creativity on a variety of cognitive, affective, and conative variables. In a conceptual article, Smith and Yang (2004) suggest that creative advertising helps to attract more attention from consumers because divergence creates a contrast with less-creative ads. Adopting MacInnis and Jaworski's (1989) ad-processing model as a guide, Smith and Yang (2004) provide theoretical explanations for how the divergence factors should impact different stages of information processing.

There are also a few empirical studies on the effects of advertising creativity, most of which adopt an outcome perspective. For example, Pick, Sweeney, and Clay (1991) find that distinctive (creative) slogans are more likely to be recalled and recognized in an incidental learning context. Kover, Goldenberg, and James (1995) discuss ad creativity versus ad effectiveness (defined as the ability of a commercial to elicit interest in purchase or use) and support the notion

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that creative advertising impacts consumers' emotional reactions, ad attitudes, and purchase intentions. Also providing supportive results, Goldenberg, Mazursky, and Solomon (1999) found that ads using creative templates were more likely to be recalled. Similarly, Stewart and Furse (1984) analyzed the impact of ad execution factors and concluded that novelty is positively related to recall.

Ang and Low (2000) explore the influence of three creativity dimensions (novelty, meaningfulness, and emotion) on ad attitude, brand attitude, and purchase intention. In a follow-up study, Ang, Lee, and Leong (2007) use a three-component definition of ad creativity (novelty, meaningfulness, and connectedness) and find evidence that creative ads have favorable effects on responses such as recall and brand attitudes. Recently, Till and Baack (2005) concluded that creative ads facilitate unaided recall, but not aided recall, intentions, or attitudes.

On the other hand, there is a lack of research relating ad creativity to processing variables. In one of the few exceptions, Pieters, Warlop, and Wedel (2002) find that original advertisements draw more attention, which improves brand memory. In another study, Smith et al. (2007) examine how ad creativity impacts processing variables such as attention, motivation, and depth of processing, as well as outcome variables such as attitudes and purchase intentions. Yang and Smith (forthcoming, 2009) offers a detailed analysis showing the positive effects of ad creativity on consumer cognitive processing (desire to postpone closure) and emotional reactions (positive affect). More work is needed, however, to comprehensively document how ad creativity achieves its effects.

Table 1 provides an overview of some of the empirical studies on advertising creativity in a persuasion context. This summary is not intended to be exhaustive, but to highlight the limited literature regarding the processes through which creativity achieves its impact.

Defining Ad Creativity as Divergence

Ad creativity has been defined in two major ways in the literature. Some researchers conclude that ad creativity is determined by divergence (e.g., Till and Baack 2005). Divergence refers to the extent to which an ad contains elements that are novel, different, or unusual (Smith and Yang 2004). Smith et al. (2007) examined the divergence factors developed in the pioneering research of Guilford (1950, 1956) and Torrance (1972) and identified five factors that could account for the ways in which divergence could be achieved in advertising: originality, flexibility, elaboration, synthesis, and artistic value. The definitions of the divergence dimensions are:

1. *Originality:* Ads that contain elements that are rare, surprising, or move away from the obvious and commonplace.

2. *Flexibility:* Ads that contain different ideas or switch from one perspective to another.
3. *Elaboration:* Ads that contain unexpected details or finish and extend basic ideas so they become more intricate, complicated, or sophisticated.
4. *Synthesis:* Ads that combine, connect, or blend normally unrelated objects or ideas.
5. *Artistic value:* Ads that contain artistic verbal impressions or attractive colors or shapes.

Defining Ad Creativity as Divergence Plus Relevance

While most researchers agree that divergence is a central determinant of creativity, many argue that the ad also must be relevant (Besemer and O'Quinn 1986; Besemer and Treffinger 1981; Chandy and Tellis 1998; Haberland and Dacin 1992; Jackson and Messick 1965; Smith and Yang 2004; Thorson and Zhao 1997). In marketing, there has been a long interest in the relevance component of ad creativity, so there is a rich background on what makes an ad "personally relevant" to consumers and how this relevance can be expected to influence ad processing and response (see, e.g., MacInnis and Jaworski 1989). Thus, the relevance component of creativity reflects the extent to which ad elements are meaningful, useful, or valuable *to the consumer.* According to Smith et al. (2007, p. 820), it can be achieved in two ways:

1. *Ad-to-consumer relevance:* "Ad-to-consumer relevance" refers to situations where the ad contains execution elements that are meaningful to consumers. For example, using Beatles music in an ad could create a meaningful link to Baby Boomers, thereby making the ad relevant to them.
2. *Brand-to-consumer relevance:* "Brand-to-consumer relevance" refers to situations where the advertised brand (or product category) is relevant to potential buyers. For example, the advertisement could show the brand being used in circumstances familiar to the consumer (Thorson and Zhao 1997).

The Divergence × Relevance (D × R) Interaction Approach to Ad Creativity

Given that divergence and relevance are the conceptual determinants of ad creativity, it is important to understand whether their combination has a linear (additive) or nonlinear (multiplicative) effect on dependent variables. Theoretically, Smith and Yang (2004) reviewed research across different domains and found that most researchers agreed that creativity occurs only when both divergence and relevance are high. This suggests the possibility of a nonlinear relationship, which was empirically tested over a series of studies by Smith et al. (2007). Results

TABLE 1
Empirical Studies on the Effects of Advertising Creativity in a Persuasion Context

Variables investigated	Reference	Major findings	Methodology
Outcome perspective			
Recall/memory	Pick, Sweeney, and Clay 1991; Stewart and Furse 2000; Till and Baack 2005; McQuarrie and Mick 1992; Pieters, Warlop, and Wedel 2002	Creative ads enhance consumers' (unaided) recall of ad ideas.	Experiment; Expert judgment; Survey; Modeling
Recognition	Pick, Sweeney, and Clay 1991	Creative ads enhance consumers' recognition in an incidental learning context.	
Ad attitudes/ liking for the ad	Kover, Goldenberg, and James 1995; Ang and Low 2000; Till and Baack 2005; McQuarrie and Mick 1992; Smith et al. 2007	Creativity facilitates ad attitudes (only when the ad has positive feelings).	Experiment; Survey
Brand attitudes	Goldenberg, Mazursky, and Solomon 1999; Ang and Low 2000; Till and Baack 2005; McQuarrie and Mick 1992; Smith et al. 2007	Creativity facilitates brand attitudes. *Creativity does not enhance brand attitudes.	Experiment
Product evaluation	Peracchio and Meyers-Levy 1994	Ad creativity enhances product evaluation if consumers are sufficiently motivated and the ambiguity does not impede the verification of the ad claims.	Experiment
Purchase intention	Kover, Goldenberg, and James 1995; Smith et al. 2007	Creativity facilitates purchase intention. *Creativity does not enhance purchase intention.	Experiment
Emotional reaction	Kover, Goldenberg, and James 1995	Advertising that provides for personal enhancement is most effective.	Survey
Process perspectives			
Attention	Pieters, Warlop, and Wedel 2002; Till and Baack 2005; Smith et al. 2007	Creative ads draw more attention to the advertised brand.	Modeling; Experiment
Motivation	Smith et al. 2007	Creative ads induce greater motivation to process the information.	Modeling; Experiment
Depth of processing	Smith et al. 2007	Creative ads induce deeper information processing.	Modeling; Experiment

* Conflicting results found in the literature.

showed that although the main effects were often significant, they were qualified by significant D × R interactions across *all* of the dependent variables. This indicates that when meaningful variation exists in both divergence and relevance, a D × R interaction effect can be expected. Because this study follows the D × R paradigm, we (1) predict significant D × R interaction effects in the mean-level hypotheses, and (2) use the D × R interaction term to represent ad creativity in the SEM.

Following the D × R paradigm requires that the stimulus ads vary significantly on both divergence and relevance, thereby creating four ad groups: (1) "Creative" ads are rated by consumers as high in both divergence and relevance (H_{div}/H_{rel}), (2) "divergent-only" ads are rated high in divergence and low in relevance (H_{div}/L_{rel}), (3) "relevant-only" ads are rated low in divergence and high in relevance (L_{div}/H_{rel}), and (4) "low-creative" ads are rated low in both divergence and relevance (L_{div}/L_{rel}). Next, we review traditional HOE models and then discuss why ad creativity can be expected to impact each stage.

HIERARCHY-OF-EFFECTS MODELS

Overview

HOE models describe the stages that consumers go through while forming or changing brand attitudes and purchase intentions. While many different versions of the HOE model have been advanced in marketing and social psychology, they reveal a systematic response process that can be divided into sequential stages for closer examination. In this research, HOE models are summarized and integrated to reveal five critical stages of consumer response. Then we investigate how ad creativity impacts the key variables at each stage. In this examination, we consider mean level changes in the dependent variables as well as the structural associations that exist among them.

Background

In an influential article, Lavdige and Steiner (1961) applied the HOE model directly to advertising. The result was a seven-step model that begins with consumers who are completely unaware of the brand and then go through successive steps of *awareness, knowledge, liking, preference, conviction,* and *purchase.* McGuire (1968) developed an HOE model that focused on the role that cognitive processes play in the persuasion process. He proposed that the persuasive impact of messages could be viewed as the multiplicative product of six information-processing steps: *presentation, attention, comprehension, yielding, retention,* and *behavior.* Thus, while different authors include different steps, HOE models have been generalized as always predicting a sequence of cognition (e.g., attention, learning, yielding) → affect (e.g., attitude) → intentions (e.g., to recommend or purchase the brand). A major advantage of HOE

models is that they identify which variables are important to understanding consumer response.

HYPOTHESES

Stage 1: Building Brand Awareness

In HOE models, the consumer begins with no awareness of the advertised brand. In this situation, the first goal of advertising is to gain the consumer's attention so he or she will orient cognitive resources toward processing the ad and brand (Greenwald and Leavitt 1984). In the best case, the ad will interest the consumer and thereby hold attention (i.e., processing resources) long enough to establish a mental link between the new brand and its product category. When this link is established, the consumer is aware of the brand and will include it in the consideration set during decision making (Smith and Swinyard 1988). Thus, creating brand awareness (via attention and interest) is the first key goal of advertising in HOE models.

Advertising creativity is frequently related to increased attention and interest in past studies (e.g., Pieters, Warlop, and Wedel 2002; Smith et al. 2007; Till and Baack 2005). Specifically, a "contrast effect" is produced by creative ads that makes them stand out in clutter, which causes them to therefore attract more attention (Smith and Yang 2004). This contrast effect is often attributed to the divergence component of creativity, although relevance also can attract attention.

Because this study uses the D × R approach, we expect that combining divergence and relevance will have a nonlinear effect on the dependent variables (Smith et al. 2007). Multiplicative effects can take several forms, but based on past theory and findings, we predict a "fan-shaped" interaction such that creative ads (H_{div}/H_{rel}) are significantly more effective than less-creative ads (H_{div}/L_{rel}, L_{div}/H_{rel}, L_{div}/L_{rel}).

> *H1a: There will be a significant D × R interaction such that creative ads will receive significantly greater attention than less-creative ads.*
>
> *H1b: There will be a significant D × R interaction such that creative ads will receive significantly greater interest than less-creative ads.*
>
> *H1c: There will be a significant D × R interaction such that creative ads will produce significantly greater brand awareness than less-creative ads.*

Stage 2: Learning and Remembering Ad Claims

The next stage of consumer response involves learning and remembering the claims made in the ad. Most ads associate the brand with positively valued traits (e.g., good gas mileage) and/or disassociate the brand with negatively evaluated traits (e.g., high price). As the consumer learns these associations,

they come to be represented in memory as brand-related beliefs. The more the brand is associated with positive traits, the more favorably disposed the consumer will be toward purchase. Thus, traditional HOE models normally include a major stage that involves comprehending or understanding the ad claims. In addition, it is important to learn and remember these associations.

Creative ads are hypothesized above to attract significantly greater levels of attention and interest, which facilitate brand awareness. In addition, the increased attention and interest should facilitate more careful understanding of the ad's claims. This represents an interesting test for ad creativity because textbooks sometimes suggest that increasing creativity can interfere with consumer understanding because cognitive resources are directed to execution elements.

More recent ad models (MacInnis and Jaworski 1989) show that in addition to comprehension, the "depth of consumer processing" also influences the learning and memory of ad claims. Consumers can process message points at a superficial level (minor impact) or a very deep and meaningful level (major impact) (Greenwald and Leavitt 1984). Thus, the learning stage of the model suggests that ad claims will be more memorable when consumers have a clear understanding of the message claims and/or process the message at a deeper level. Accordingly, we hypothesize:

H2a: There will be a significant D × R interaction such that creative ads will receive significantly higher ratings on message comprehension than less-creative ads.

H2b: There will be a significant D × R interaction such that creative ads will receive significantly higher ratings on depth of processing than less-creative ads.

H2c: There will be a significant D × R interaction such that creative ads will receive significantly higher ratings for memorability than less-creative ads.

Stage 3: Accepting/Rejecting Ad Claims

Understanding ad claims (Stage 2) does not assure that consumers will agree with them. Indeed, even during the early stages of development (McGuire 1968), HOE models included an acceptance or "yielding" stage as an important component. This stage is needed because correlations between retention of message content and persuasion are typically low. This caused Greenwald (1968, p. 149) to suggest that consumers' cognitive reactions to the ad message (in the form of primary thoughts) were more fundamental to persuasion than simply learning ad claims.

According to this model, people actively relate information contained in persuasive messages to their existing beliefs and values about the message topic. However, as pointed out in Smith and Swinyard's (1982, 1983, 1988) Integrated Informa-

tion Response Model, cognitive responding to advertising is often negative because consumers are known to discount vested interest sources. Accordingly, exposure to advertising often leads to unfavorable cognitive responding, which produces weakly held brand beliefs. Thus, very limited persuasion is accomplished.

However, ad creativity can play an important role in making cognitive responses more favorable, thereby increasing message acceptance and persuasion. Specifically, research has shown a direct link between ad creativity and the consumer's "need for cognitive closure" (NCC) (Yang and Smith forthcoming, 2009). Need for cognitive closure refers to an individual's desire for a firm answer to a question and an aversion toward ambiguity (Kruglanski and Webster 1996). Persuasion is more likely to be achieved when NCC is low because consumers become more curious and open-minded, preferring to suspend judgment until they have processed all the available information (Kruglanski and Ajzen 1983; Kruglanski and Webster 1996).

Because creative ads are both more ambiguous and more incongruent than less-creative ads, they should trigger the consumer's sense-making equipment (curiosity about the brand) and this is likely to decrease the need for cognitive closure (Berlyne 1971; Heckler and Childers 1992; Lee and Mason 1999; McQuarrie and Mick 1992). At this point, consumers are less resistant to persuasive messages because decreasing NCC causes an increase in curiosity and open-mindedness, and thus a decrease in defensiveness. Although an elaborate examination of NCC is beyond the scope of this paper, we hypothesize that creative ads will make consumers more curious about the brand, more open to changing their minds, and less resistant to persuasion.

H3a: There will be a significant D × R interaction such that consumers exposed to creative ads will be significantly more curious about the brand than consumers exposed to less-creative ads.

H3b: There will be a significant D × R interaction such that consumers exposed to creative ads will be significantly more likely to change their minds in response to the ads than consumers exposed to less-creative ads.

H3c: There will be a significant D × R interaction such that consumers exposed to creative ads are significantly less resistant to the advertising message than consumers exposed to less-creative ads.

Stage 4: Brand Liking

Creating favorable brand attitudes is often seen as a necessary precursor for brand preference to exist. In an advertising context, brand attitudes have been shown to be influenced by affective reactions such as perceived entertainment value and/or affect transferred from more favorable ad attitudes (Yang and Smith forthcoming, 2009).

Entertainment Value

The need for entertainment value in advertising is increasing due to technological advances that allow consumers to skip ads and the increase in message clutter via new media. In addition, past research has shown that affective reactions can play a major role in the persuasion process (Pham 1998; Schwarz 1990; Zuwerink and Devine 1996). Indeed, the goal of many ads is to entertain or amuse consumers in order to attract their attention and keep their interest. It seems clear that creative ads should be significantly more entertaining than less-creative ads because by definition they are more divergent, ambiguous, or incongruent.

> *H4a: There will be a significant D × R interaction such that consumers exposed to creative ads will rate the ads as significantly more entertaining than consumers exposed to less-creative ads.*

Ad Attitudes

Creative ads should lead to more favorable ad attitudes because processing creative ads is deemed as intrinsically pleasing to consumers who possess internal dispositions (e.g., novelty seeking, exploratory drive, incongruity seeking) to appreciate divergent stimuli (Smith and Yang 2004; Yang and Smith forthcoming, 2009). In addition, resolving ambiguity (which is often produced by creative ads due to divergence), brings about positive affect as a result of successful comprehension (Peracchio and Meyers-Levy 1994). Thus, creative ads should gratify the consumer's desire for divergence, resulting in more favorable ad evaluations.

> *H4b: There will be a significant D × R interaction such that consumers exposed to creative ads will report significantly more favorable ad attitudes than consumers exposed to less-creative ads.*

Brand Attitudes

Creative ads should lead to more favorable brand attitudes for two reasons. First, attitude models that include cognitive components (i.e., the expectancy-value model; Fishbein and Ajzen 1975) and the dual mediation model (MacKenzie, Lutz, and Belch 1986) suggest that attitudes will be determined, in part, by ad-related thoughts or cognitions. It has been hypothesized above that the creative ads will produce more favorable cognitive impact, and if these effects are strong enough, they should carry through to brand attitudes. Second, if creative ads are more entertaining and more favorably evaluated, the positive affect should transfer to the brand. Together, these effects should produce significantly more favorable brand attitudes when ad creativity is high.

> *H4c: There will be a significant D × R interaction such that consumers exposed to creative ads will report significantly*

more favorable brand attitudes than consumers exposed to less-creative ads.

Stage 5: Brand Intentions

The final stage in HOE models is usually the conation or intention stage. At this point, the consumer moves past mere liking of the product and establishes it as a preference. As a preferred object, the brand now creates approach behaviors from the consumer. In this study, intentions were measured at the brand level and included the consumer's intent to recommend the advertised brand and the intent to purchase the brand. If ad creativity has the favorable effects hypothesized above, then both the cognitive and affective antecedents of intentions would produce more favorable conative responses. For example, if creative ads produce more curiosity (H3a), the resulting knowledge gap could be eliminated by a trial purchase of the brand, thereby increasing purchase intentions (Smith and Swinyard 1983, 1988).

> *H5: There will be a significant D × R interaction such that consumers exposed to creative ads will report significantly higher intentions to recommend/purchase the brand than consumers exposed to less-creative ads.*

Structural Analysis of the HOE Model

Assumption of Sequential Effects

The HOE model implies that there is an order to the stages of consumer response as shown in Figure 1A. Specifically, the key stages are presented in the order of cognition → affect → conation. However, some studies have shown that persuasion does not always follow this order, and that affect can precede cognition when consumer involvement is low (Krugman 1965) or when cognition is "hot" (Kunda 1990) and that conation can precede affect when attitudes are "self-inferred" (Bem 1972). Other studies report data that are consistent with the HOE's proposed sequence of cognition → affect → conation, especially under "central route" or "systematic" processing conditions (Petty and Cacioppo 1986). Because this study does not create conditions where low involvement, hot cognition, or self-perceptions are likely to operate, it seems reasonable to expect the HOE's assumption of sequence to hold.

Unmediated Effects

Another structural issue is that the HOE implies that the influence of early variables (e.g., ad exposure, attention) on later variables (e.g., attitudes, brand intentions) is fully mediated rather than direct. Specifically, as normally presented, HOE models do not have alternative paths representing direct effects from ad exposure to each processing stage (or from early

FIGURE 1
HOE Structural Models

A: Traditional Structural Relationships – Mediated Paths (HOE 1 – HOE 5)

Cognitive Stages   *Affective Stage*   *Conative Stage*

Ad Exposure —HOE 1→ Brand Awareness —HOE 2→ Learning Ad Claims —HOE 3→ Message Acceptance —HOE 4→ Brand Liking —HOE 5→ Brand Intentions
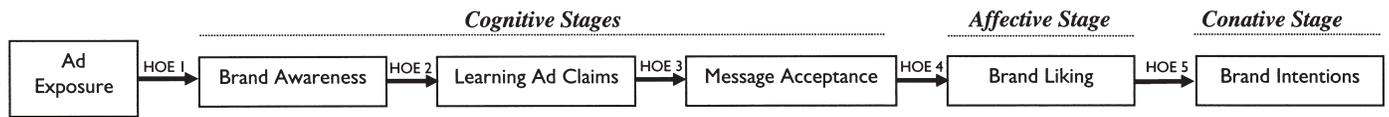
B: HOE Model with all Direct Paths
Direct paths from Divergence = D1 – D5, Direct paths from Relevance = R1 – R5,
Direct paths from DxR = DR1 – DR5, All other direct paths = P1- P6
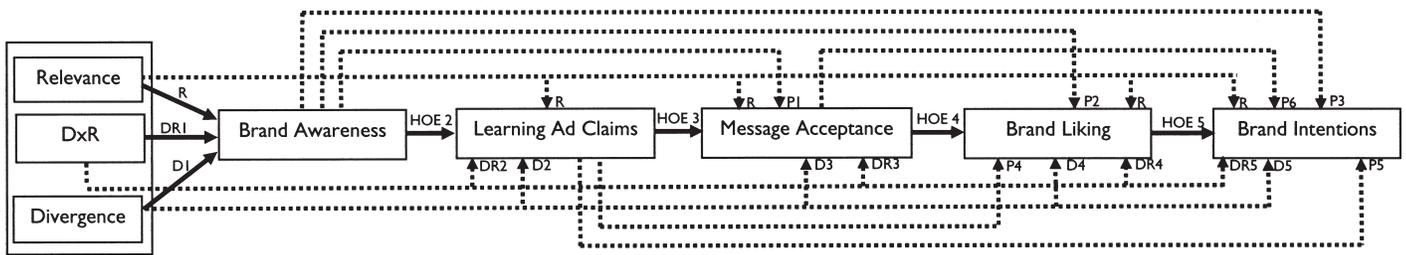
C: Empirically Derived Model
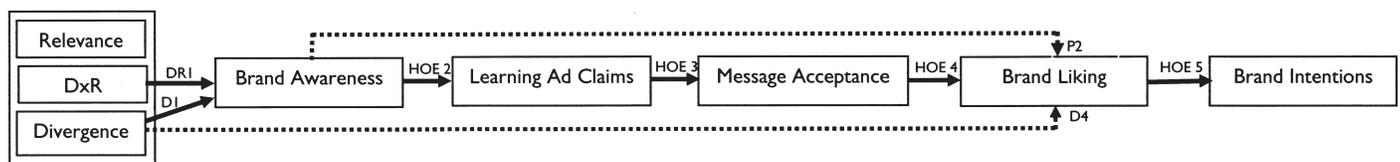
Note: HOE = hierarchy of effects.

stages to later stages). See Figure 1B for the model with all direct paths added.

Empirically Derived HOE Structure

To examine the structural effects of ad creativity on consumer processing and response, SEM is used to identify the significant paths in the model. If the HOE is structurally correct, the best fit should be provided by the model in Figure 1A. Although the final model will be empirically derived, it will still be instructive regarding how the influence of ad creativity is transferred to each stage in the HOE. See Figure 1C for the empirically derived model.

METHOD

Design

The experiment was a 2×2 between-subjects design, where the manipulated factors were perceived ad divergence (high, low) and perceived ad relevance (high, low). To achieve these

manipulations, stimulus ads were needed that represented all four experimental cells: creative ads (H_{div}/H_{rel}), divergent-only ads (H_{div}/L_{rel}), relevant-only ads (L_{div}/H_{rel}), and low-creative ads (L_{div}/L_{rel}).

Stimuli

The ad pool was drawn from several sources to assure variation on divergence and relevance. Ads expected to be in the high-creativity group were selected from award-winning ad reels (Clio's and AdWeek). Ads expected to be in the other categories were randomly taped from network television. The original ad pool consisted of 189 television ads that were subjected to extensive pretesting to determine how the respondent population rated each ad on divergence and relevance. Based on the pretest data, 10 ads were selected to represent each of the four experimental groups for a total of 40 stimulus ads. Results from separate pretests ($n = 120$) showed that the ads in the high-divergence cells were perceived to be significantly more divergent than ads in the low-divergence cells ($M_{high\ divergence} = 6.35$, $M_{low\ divergence} = 2.07$, $F = 74.58$,

$p < .001$). Similarly, results showed that the ads in the high-relevance cells were perceived to be significantly more relevant than ads in the low-relevance cells ($M_{\text{high relevance}}$ = 4.27, $M_{\text{low relevance}}$ = 2.17, F = 6.16, p = .018). Thus, the 40 stimulus ads represented the four treatment cells.

To achieve reasonable external validity, we attempted to create naturalistic viewing conditions by embedding each of the 40 ads into a 3.5-minute-long program segment from *Entertainment Tonight.* The stimulus ad was inserted into a real ad break (the original ads were removed) about 30 seconds before the program sign-off. The 40 ad-embedded programs were burned to CDs, which served as the stimulus for the experiment.

Procedure

Respondents (n = 102) reported to a computer lab and were randomly assigned to one of the four treatment conditions and then randomly assigned to an ad. The experiment was conducted with Media Lab. Respondents were asked to play 1 of the 40 CDs. After viewing the program with the embedded ad, they completed a questionnaire that contained (1) processing measures, (2) response measures, (3) covariates, and (4) demographic variables. Finally, respondents were thanked and debriefed.

Instructions

To achieve external validity, we also attempted to create naturalistic viewing motivations where consumers are focused on television programs rather than the ads. Specifically, respondents were instructed: "We are conducting research on TV programs watched by college students. We would like you to view part of a TV program which recently ran on the air. You should be prepared to answer questions related to the program and other questions of interest."

ANALYSIS AND RESULTS

Manipulation Checks

Measures of perceived divergence and perceived relevance (see Table 2 for scales) showed that the ads in the high-divergence cells were perceived to be significantly more divergent than ads in the low-divergence cells ($M_{\text{high divergence}}$ = 4.95, $M_{\text{low divergence}}$ = 2.66, F = 48.93, $p < .001$). Similarly, results showed that the ads in the high-relevance cells were perceived to be significantly more relevant than ads in the low-relevance cells ($M_{\text{high relevance}}$ = 3.95, $M_{\text{low relevance}}$ = 2.89, F = 19.27, $p < .001$). Thus, the independent variables were successfully manipulated.

Covariate Analysis

A number of covariates were included in the questionnaire. These included gender, product familiarity, GPA (grade point average), ethnicity, and age. Analysis with MANCOVA (multivariate analysis of covariance) demonstrated that none of these covariates had systematic effects on the results. Accordingly, we use MANOVA to analyze the experimental data for clarity in presentation.

Hypothesis Testing: Mean Levels

The hypotheses predicted a significant D × R interaction effect on the specific steps in the HOE model. To test these hypotheses, MANOVA was used to examine cell means; the results are summarized in Table 3. There were significant main effects for both divergence and relevance on most variables. However, these main effects were qualified by significant ($p < .05$) D × R interactions for 11 variables, and a marginally significant ($p < .10$) D × R interaction for one variable (memory). Of the 13 hypotheses, only message comprehension (H2a) failed to show the predicted D × R interaction effect.

It is perhaps not surprising that message comprehension was the only dependent variable that did not display a significant D × R interaction. It has occasionally been argued that creativity may interfere with message comprehension by drawing consumers' attention to execution elements. Although ad creativity did not improve comprehension, there is no evidence that it causes any harm (cell means are actually directionally higher for creative ads). Overall, the findings demonstrate support for the hypothesized mean-level D × R interaction effects for 12 of 13 variables. Especially interesting are the three different forms of the D × R interaction effect:

1. Past D × R research suggests a fan-shaped interaction whereby high divergence and high relevance are particularly effective compared to other D/R cells. Two variables in this study displayed a similar pattern: brand awareness and curiosity (denoted by [a] in Table 3 and displayed graphically in Figure 2A). Contrast tests show that creative ads are significantly more effective than either the divergent-only or relevant-only ads (ps < .02), and that the low-creativity ads are significantly below them ($p < .01$).
2. Three variables (depth of processing, resistance, and brand intentions) displayed a pattern where ads with low creativity were significantly below the other three combinations (which were all equal) (denoted by [b] in Table 3).
3. The most common pattern showed that the creative ads and divergent-only ads are equally effective, while the relevant-only ads are significantly lower

TABLE 2
Interval Measures

Variable	Scales	Endpoint labels (range)	Reference	Reliability
Attention	I paid close attention to the ad. The ad demanded my attention. The ad would stand out in a group of ads.	Agree/Disagree (1–7)	MacInnis and Jaworski (1989)	α = .85
Interest	I was involved in the ad. I found the ad to be interesting. I was interested in the ad.	Agree/Disagree (1–7)	Burke and Scrull (1988)	α = .97
Brand awareness	I am aware of the advertised brand. I can recall the advertised brand. I can recognize the advertised brand.	Agree/Disagree (1–7)	MacInnis and Jaworski (1989)	α = .94
Comprehension	The ad claims were easy to understand. I was able to comprehend the claims made in the ad. The ad claims were hard to understand (R).	Agree/Disagree (1–7)	MacInnis and Jaworski (1989)	α = .76
Depth of processing	I gave the ad a lot of consideration. I thought about my own life when I looked at the ad. The ad stimulated my imagination. I was able to imagine using the advertised product.	Agree/Disagree (1–7)	Smith et al. (2007)	α = .86
Memorable	I remember a lot about the ad message. The claims made in the ad were memorable. The ad message was easy to learn and remember.	Agree/Disagree (1–7)	MacInnis and Jaworski (1989)	α = .89
Curiosity	The ad made me curious about the advertised brand. I would like more information about the product. I would like to use the advertised product on a trial basis.	Agree/Disagree (1–7)	Yang (2006)	α = .90
Change mind	The ad changed my mind about the brand. I learned something new from the ad. After viewing the ad, I see things differently.	Agree/Disagree (1–7)	Yang (2006)	α = .82

(continues)

TABLE 2 (*continued*)

Variable	Scales	Endpoint labels (range)	Reference	Reliability
Resistance	The ad caused me to be more open-minded. (R) The ad got me to consider views different from my own. (R) The ad got me to be more flexible in my views. (R)	Agree/Disagree (1–7)	Yang (2006)	α = .93
Entertainment	The ad was humorous. The ad was entertaining. The ad made me laugh.	Agree/Disagree (1–7)	Ducoffe (1996); Burke and Edell (1989)	α = .95
Ad attitude	What is your overall evaluation of the ad you saw?	Bad/Good (–3 to +3) Pleasant/Unpleasant (+3 to –3) Unfavorable/Favorable (–3 to +3)	Smith et al. (2007)	α = .95
Brand attitude	What is your overall evaluation of the brand?	Bad/Good (–3 to +3) Pleasant/Unpleasant (+3 to –3) Unfavorable/Favorable (–3 to +3)	Smith et al. (2007)	α = .97
Brand intentions	I would be likely to purchase the advertised brand. I would be likely to recommend the brand to a friend.	Agree/Disagree (1–7)	Smith and Swinyard (1983)	r = .84*
Ad divergence	The ad was different. The ad was uncommon.	Agree/Disagree (1–7)	Smith et al. (2007)	r = .87*
Ad relevance	The ad was very relevant to me. The ad was meaningful to me.	Agree/Disagree (1–7)	Smith et al. (2007)	r = .88*

*$p < .01$.

TABLE 3
MANOVA Analysis Summary

Variable	Mean: HH	Mean: HL	Mean: LH	Mean: LL	Main effect: Divergence (F)	Main effect: Relevance (F)	D × R interaction (F)
Stage 1: Brand Awareness							
Attention[c]	5.46	5.41	4.40	3.09	47.99***	7.76***	6.54***
Interest[c]	5.47	5.41	3.74	2.27	69.15***	6.88**	5.92***
Brand awareness[a]	5.97	5.22	5.57	3.08	16.12***	26.09***	7.55***
Stage 2: Learning Ad Claims							
Comprehension	5.38	4.93	5.37	4.56	.487[n.s.]	5.30**	.44[n.s.]
Depth of processing[b]	4.14	4.09	4.06	2.21	12.04***	11.31***	9.98***
Memorable[c]	5.65	5.09	4.88	3.44	19.69***	13.37***	2.58*
Stage 3: Accepting/Rejecting Ad Claims							
Curiosity[a]	4.30	3.53	3.68	1.72	15.44***	19.38	3.64**
Changed mind[c]	3.12	3.17	3.84	2.47	.01[n.s.]	6.33**	7.32***
Resistance (R)[b]	4.27	4.65	4.20	5.62	2.67**	10.76***	3.95**
Stage 4: Brand Liking							
Entertainment[c]	5.25	5.24	3.10	1.64	80.97***	5.33**	5.24**
Ad attitude[c]	5.81	5.77	4.54	2.97	63.76***	10.05***	9.04***
Brand attitude[c]	5.70	5.17	5.03	3.54	15.70***	11.95***	2.67**
Stage 5: Brand Intentions							
Brand intentions[b]	3.94	3.64	4.32	1.78	5.07**	18.60***	11.49***

Notes: MANOVA = multivariate analysis of variance; HH = high divergence, high relevance; HL = high divergence, low relevance; LH = low divergence, high relevance; LL = low divergence, low relevance; D × R interaction = divergence × relevance interaction.

All hypotheses are directional, so one-tailed tests are reported.

Pattern of cell means:

[a] Cell means: creative ads > divergent-only ads = relevant-only ads > low-creative ads.

[b] Cell means: creative ads = divergent-only ads = relevant-only ads > low-creative ads.

[c] Cell means: creative ads = divergent-only ads > relevant-only ads > low-creative ads.

* $p \leq .10$.

** $p \leq .05$.

*** $p \leq .01$.

n.s. (not significant) = $p \geq .10$.

FIGURE 2
D × R Interaction Effects

A: For Curiosity

B: For Attention
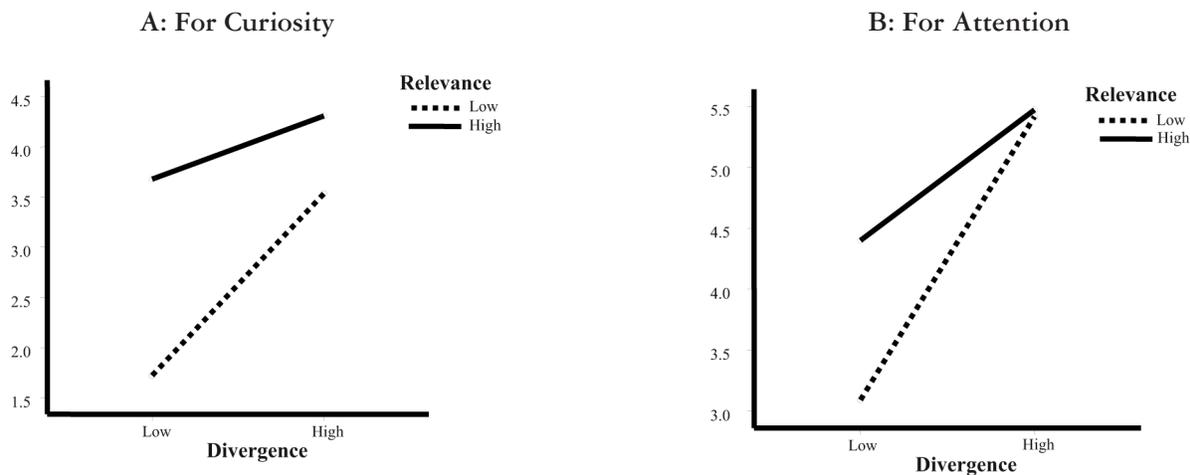
(*p*s < .05) and the low-creative ads are significantly below that (*p*s < .05). This pattern was found for 7 of the 13 dependent variables (denoted by ^{c} in Table 3 and displayed graphically in Figure 2B).

These findings reinforce the conclusion that divergence is especially important to achieve, whereas low divergence coupled with low relevance is especially important to avoid. Indeed, the low-creative ads had significantly lower means than the other three cells on every one of the 13 dependent variables (*p*s < .05).

Structural Analysis

Next we tested the structural relationships for the effects of ad creativity based on the HOE model (Figure 1A). To examine the proposed sequential effects, dummy variable analysis was conducted (MacKenzie 1986) with the five stages in the HOE model (brand awareness, brand learning, message acceptance/rejection, brand liking, and brand intentions) representing the latent dependent variables. Exogenous variables of the model include main effects (divergence dummy and relevance dummy), as well as their interaction. Following Smith et al. (2007), the D × R interaction is used to represent the effects of ad creativity (although main effects are also reported).

The latent variables for each of the five HOE stages were considered formative constructs determined by their respective first-order subdimensions. For example, brand awareness was jointly determined by attention, interest, and awareness (α = .84). Similarly, the latent factor of brand learning was determined by message comprehension, depth of processing, and memory (α = .82). Message acceptance/rejection was a function of brand curiosity, (lack of) resistance to persuasion,

and willingness to change one's mind (α = .78). Brand liking was a function of entertainment value, ad attitude, and brand attitude (α = .85). Finally, brand intentions was a function of intentions to recommend plus purchase intentions (*r* = .84, *p* < .001).

The hypothesized structural relationships (see Figure 1A) were tested using the maximum likelihood method in LISREL 8.7. As shown in Table 4, all of the HOE's hypothesized links were significant (and there was a significant main effect for divergence on brand awareness). However, the overall fit of the theoretical model was not very good, χ^2 = 120.79 (*df* = 18), *p* < .01, CFI (comparative fit index) = .87, NFI (normed fit index) = .85, and SRMR (standardized root mean residual) = .093. These statistics are below the recommended levels in the literature, indicating there could be some direct model links that are not accounted for by the completely mediated model (Figure 1A).

In an attempt to improve model fit, we relaxed the full mediation assumption of the HOE model and checked for direct paths that were not hypothesized (an indication of partial mediation). Following MacKenzie, Podsakoff, and Ahearne (1998), we sequentially allowed the additional 18 direct paths shown in Figure 1B (dashed arrows). Results shown in Table 4 and Figure 1C indicate that only two of the added direct paths were significant: (1) divergence → brand liking, and (2) brand awareness → brand liking. When these paths were added to the model, the overall fit was acceptable, χ^2 = 74.67 (*df* = 16), *p* < .01, CFI = .93, NFI = .91, and SRMR = .08.

Thus, the empirically derived model showed that the effects of ad creativity (D × R interaction) were still fully mediated by the HOE stages. In addition, there are direct paths from the divergence main effect to brand awareness and brand liking, suggesting that divergence has both mediated and unmediated

TABLE 4
Structural Tests of the HOE Model

Model path	Fully mediated model		Empirically derived model	
	β (z)	*p*	β (z)	*p*
Ad exposure (creative/low-creative):				
Divergence (main effect) → awareness	.84 (2.69)	<.01	.85 (2.70)	<.01
Relevance (main effect) → awareness	.39 (1.25)	>.1	.35 (1.11)	>.1
D × R (interaction effect) → awareness	1.51 (3.39)	<.001	1.54 (3.46)	<.001
HOE Stages 1–5:				
Awareness → learning	.81 (11.66)	<.001	.77 (10.60)	<.001
Learning → yielding	.77 (10.18)	<.001	.71 (8.08)	<.001
Yielding → liking	1.22 (10.44)	<.001	.42 (3.15)	<.01
Liking → intentions	1.00 (10.24)	<.001	.91 (9.24)	<.001
Empirically derived direct paths:				
Divergence → liking	—	—	.59 (2.71)	<.01
Awareness → liking	—	—	.60 (5.14)	<.001

Notes: HOE = hierarchy of effects; D × R = divergence × relevance.

The error terms of the variables were fixed at (1-α) × variance and the exogenous variables (divergence, relevance, and their interaction) were allowed to covary.

effects on consumer response. The direct link between brand awareness and brand liking is not related to ad creativity (i.e., D × R) and will require future research to explain.

DISCUSSION AND IMPLICATIONS

Empirical Implications

D × R Interactions

The results from hypothesis testing revealed strong and consistent D × R interaction effects across the entire HOE response sequence. This suggests that when meaningful variation exists on both divergence and relevance, their combination can be expected to have nonlinear (multiplicative) effects on dependent variables. In addition, there are three major forms of the D × R interaction: (1) creative ads are significantly more effective than any other combination; (2) ads low in creativity are significantly less effective than any other combination; and (3) creative ads and divergent-only ads are equally effective, followed by relevant-only ads, and then ads with low creativity.

The HOE Stages

The findings for Stage 1 replicate previous studies that creative ads attract more attention, are more interesting, and create more brand awareness. Results for Stage 2 showed that two of the three hypotheses were confirmed. Ad creativity did not have a significant effect on message comprehension, but the other two steps in the learning stage (depth of processing and

memorable claims) did display the predicted D × R interaction. The cell means show that the low-creative ads were significantly less effective than the other D/R combinations.

Stage 3 of the HOE model investigated how ad creativity impacts consumers' resistance to persuasion. Results confirmed the D × R interaction for all three hypotheses, again showing the inferiority of ads with low creativity. These are important findings because any variable that can decrease consumer resistance to persuasion is highly valued in the marketplace.

This research also found the predicted D × R interaction effect for all three brand-liking variables, showing the power of creative advertising to affect both the cognitive antecedents of attitudes (mediated through awareness, learning, and acceptance stages) and the emotional elements (entertainment value and affect transferred from A_{ad} [attitude toward the ad]). Also, the influence of ad creativity is transferred all the way down the HOE model, as the predicted D × R interaction effect was also confirmed for brand intentions. In summary, the entire HOE sequence was affected by ad creativity, reinforcing the intense interest given to it by practitioners, trade papers (e.g., *Advertising Age*), and textbook authors.

Structural Analysis

Another important empirical contribution of this research was the structural testing of the HOE model. Using SEM, we tested the assumption that the effects of advertising creativity (D × R) are fully mediated by the five HOE stages. Results provided additional support that the D × R interaction term is the best representation of ad creativity. Findings also revealed that divergence can have a dual influence on consumer response:

(1) through its interaction with relevance (D × R) and, (2) via direct (unmediated) main effects on brand awareness and brand liking. Finally, while the HOE model captures the effects of advertising creativity fairly well (since only 2 of the 18 direct paths added were significant), the assumption of full mediation had to be relaxed to achieve acceptable fit.

Managerial Implications

Investigating the effects of ad creativity on the full range of processing and response variables also has implications for advertisers and marketers. First, the findings reinforce the D × R approach to studying ad creativity by showing significant interaction terms in both the MANOVA and SEM analyses. Accordingly, advertising agencies and clients should carefully consider both divergence and relevance when planning their promotional campaigns. This is important because the multiplicative relationship between divergence and relevance implies that maximum effectiveness can be achieved only by balancing both. Indeed, future research is needed to establish optimum levels of each variable under different marketplace conditions.

Although both divergence and relevance are needed to define ad creativity, it seems clear that divergence is the leading component. For example, hypothesis testing revealed that divergent-only ads were as effective as creative ads for seven dependent variables (see Table 3). In addition, SEM analysis showed that divergence can have dual effects (mediated and unmediated) on brand awareness and brand liking. These findings have direct implications for ad agencies because it is not uncommon for clients to favor relevance over divergence (Smith and Yang 2004). The results reported here should give pause to sponsors resisting divergent approaches. Indeed, the dual impact of divergence indicates a fundamental need for divergent thinkers in the ad development process and may help explain why creative talent dominates the advertising industry.

Finally, we find evidence that ads that are low in both divergence and relevance always led to less favorable processing and response, representing a situation that advertisers should definitely avoid. This is especially important to managers because their marketing communications are delivered in a cluttered and competitive marketplace where ads low in divergence and relevance can be expected to perform poorly. In contrast, advertising creativity has a favorable impact throughout the entire hierarchy-of-effects model.

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