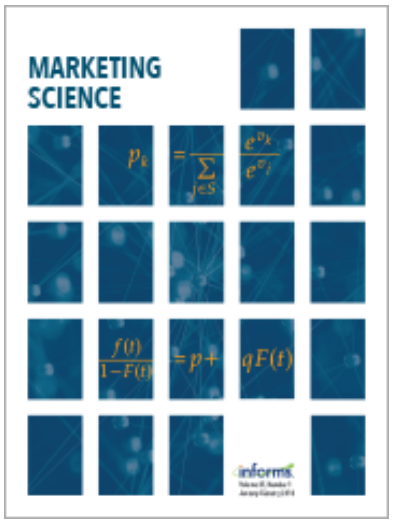


Marketing Science

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Modeling the Determinants and Effects of Creativity in Advertising

Robert E. Smith, Scott B. MacKenzie, Xiaojing Yang, Laura M. Buchholz, William K. Darley,

To cite this article:
Robert E. Smith, Scott B. MacKenzie, Xiaojing Yang, Laura M. Buchholz, William K. Darley, (2007) Modeling the Determinants and Effects of Creativity in Advertising. Marketing Science 26(6):819-833. https://doi.org/10.1287/mksc.1070.0272

MARKETING SCIENCE
Vol. 26, No. 6, November–December 2007, pp. 819–833
ISSN 0732-2399 | EISSN 1526-548X | 07 | 2606 | 0819

informs

DOI 10.1287/mksc.1070.0272

Modeling the Determinants and Effects of Creativity in Advertising

Robert E. Smith, Scott B. MacKenzie
Department of Marketing, Kelley School of Business, Indiana University, Tenth and Fee Lane, Bloomington, Indiana 47405
{smith5@indiana.edu, mackenz@indiana.edu}

Xiaojing Yang
Department of Marketing, Sheldon B. Lubar School of Business, University of Wisconsin–Milwaukee, P.O. Box 413, 2200 E. Kenwood Boulevard, Milwaukee, Wisconsin 53201-0413, yangxiao@uwm.edu

Laura M. Buchholz
Department of Marketing, Kelley School of Business, Indiana University, Tenth and Fee Lane, Bloomington, Indiana 47405
lbuchhol@indiana.edu

William K. Darley
College of Business Administration, Marketing & International Business, University of Toledo, 2801 Bancroft, Toledo, Ohio 43606-3390, william.darley2@utoledo.edu

Consumer perceptions of advertising creativity are investigated in a series of studies beginning with scale development and ending with comprehensive model testing. Results demonstrate that perceptions of ad creativity are determined by the interaction between divergence and relevance, and that overall creativity mediates their effects on consumer processing and response.

Key words: creativity; divergence; advertising; relevance; measurement; latent variable models
History: This paper was received August 3, 2005, and was with the authors 8 months for 3 revisions; processed by Gerard J. Tellis.

Introduction

Marketing researchers and practitioners agree that *creativity* is one of the essential elements for advertising success in a cluttered marketplace. This philosophy is apparent in

- advertising textbooks (e.g., Belch and Belch 2004, Wells et al. 1995),
- academic research (e.g., Goldenberg et al. 1999, Smith and Yang 2004, Till and Baack 2005), and
- trade publications (e.g., *Advertising Age, Ad Week, Creativity*).

In contrast to the importance attributed to ad creativity is the limited amount of research investigating it (Zinkhan 1993). Indeed, only a handful of empirical studies have been reported in the literature (see Smith and Yang 2004 for a review) and most investigate specific issues regarding creativity rather than trying to model the overall phenomenon. Even though some interesting questions have been addressed in the literature, there is still insufficient empirical research to resolve basic issues. Accordingly, the major goals of this research are to provide empirical answers to the following key questions:

- How do consumers judge ad creativity?
- What are the determinants of ad creativity?
- How should ad creativity be measured?
- Do the determinants of ad creativity interact as some researchers have hypothesized?
- Does creativity mediate the effects of ad exposure on key dependent variables like attention to the ad, ad attitude, and brand attitude?

To achieve these goals, we begin by discussing the theoretical background for defining ad creativity and its role in determining consumer processing and response. Next, we develop and validate scales designed to measure the key components of ad creativity (divergence and relevance). Then, we develop an ad processing and response model (and a mediation model) for the key constructs, and test them in a series of pretests culminating with a final study that compares Clio award-winning ads to a random sample of network ads. Finally, we conclude by discussing implications from the results and needed future research.

Ad Creativity: Theoretical Background

In the literature, definitions differ but most are similar to Leo Burnett's approach that ad creativity is

"the art of establishing new and meaningful relationships between previously unrelated things in a manner that is relevant, believable, and in good taste, but which somehow presents the product in a fresh new light" (El-Murad and West 2004, p. 190). The main difference in past definitions is whether ad creativity is determined by one or two factors. The first approach is to define creativity as divergence. Divergence can be defined as the extent to which an ad contains brand or execution elements that are different, novel, unusual, original, unique, etc. As an example of this approach, Till and Baack (2005, p. 49) noted: "creative advertisements have been consistently defined, at least in part, as novel and/or original."

The second approach to defining ad creativity is that it has two determinants: *divergence* and *relevance* (Besemer and O'Quinn 1986, Besemer and Treffinger 1981, Haberland and Dacin 1992, Jackson and Messick 1965, Tellis 1998, Smith and Yang 2004, Thorson and Zhao 1997). Here, divergence is defined as originality and relevance is defined as the extent to which at least some ad/brand elements are meaningful, useful, or valuable *to the consumer*. However, advertising research has presented minimal theoretical development of divergence and relevance and has usually operationalized them in a narrow manner. A major goal of this research is to conceptually develop the divergence and relevance dimensions, and build valid and reliable scales to measure them.

While researchers can debate the advantages and disadvantages of the two conceptualizations, it is important to understand how *consumers* judge ad creativity, because creativity (like beauty) is in the eye of the beholder. Perceptions of an ad's divergence require a comparison with the consumer's experiences; while perceptions of relevance require a comparison to the consumer's goals, needs, and desires. Thus it is the consumer's perception—not the judgment of researchers or advertising professionals—that is expected to stimulate his or her interest in an ad.

Therefore it is essential to understand consumer perceptions of ad creativity. These judgments could be empirically derived by measuring consumers' perceptions of an ad's overall creativity, and subsequently measuring their perceptions of the ad's divergence and relevance. If divergence is the only significant predictor of overall creativity, it would suggest that consumers view creativity as being a function of novelty, originality, imaginativeness, etc. However, if divergence and relevance (and/or their interaction) are significant predictors of overall creativity, it would suggest that consumers view creativity as a joint function of these constructs.

Modeling Ad Divergence. Both theoretical perspectives share the belief that the leading characteristic of creative ads is their divergence—they contain elements that are novel, different, or unusual in some way. Indeed, as noted above, some researchers equate divergence with creativity. Given the prominent role it plays in determining creativity, it is surprising that no research has investigated consumer perceptions of ad divergence. In fact, most advertising studies have limited measures of divergence, which fall far short of the conceptual development of this construct in the psychology literature. For example, Smith and Yang (2004) review the pioneering creativity research by Guilford (1950, 1956, 1967) and Torrance (1987), to identify seven primary indicators of divergence (fluency, flexibility, originality, elaboration, resistance to premature closure, unusual perspective and synthesis), and seven secondary indicators (empathic perspective, provocative questions, future orientation, humor, richness and colorfulness of imagery, fantasy, and expression of feeling and emotion).

A major goal of this research is to empirically reduce this list of possible divergence factors to include only those that are *directly* related to divergence in an *advertising* context. It is important to note that the divergence factors are conceived of as conceptual determinants of divergence rather than as reflections of it. Thus, these characteristics should be modeled as *formative* (rather than reflective) indicators of divergence (see Diamantopoulos and Winklhofer 2001, Jarvis et al. 2003).

Modeling Ad Relevance. The second characteristic of creative ads prominent in the literature is *relevance to the consumer*. Using the second theoretical perspective, in addition to being divergent, creative ads must contain elements that are meaningful, appropriate, useful, or valuable to the audience in some way.

In marketing, there has been a long interest in the relevance component of ad creativity. Often referred to as involvement, 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, for example, 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*, and it can be achieved in the following ways:

- *Ad-to-Consumer Relevance*. "Ad-to-consumer relevance" refers to situations where the ad contains execution elements that are meaningful to consumers. This type of relevance is achieved when stimulus properties of the ad create a meaningful link to potential buyers. For example, using Beatles music in an ad could create a meaningful link to Baby Boomers, thereby making the ad relevant to them.
- *Brand-to-Consumer Relevance*. "Brand-to-consumer relevance" refers to situations where the advertised brand (or product category) is relevant to potential buyers. This type of relevance occurs when an ad establishes a meaningful link between the brand and

the consumer. For example, the advertisement could show the brand being used in circumstances familiar to the consumer (Mishra et al. 1993, Thorson and Zhao 1997).

• *Ad-to-Brand Relevance*. A third possibility in terms of relevance is how well the ad relates to the brand (e.g., Ang and Low 2000). However, this connection is not directly indicative of the ad's relevance to the consumer as applied in the creativity literature. Accordingly, it is not expected that ad-to-brand relevance will predict consumer perceptions of ad creativity.

Thus, another goal of this research is to develop a valid model of relevance in an ad creativity context. As before, the relevance factors are conceived of as the conceptual determinants of ad relevance rather than as reflections of it, and should be modeled as *formative* indicators (see Diamantopoulos and Winklhofer 2001, Jarvis et al. 2003).

Consumer Processing and Response. Another goal of this research is to examine the effects of ad creativity on consumer processing and response. Traditionally, creative ads have been expected to attract more attention from consumers because their divergence contrasts with noncreative ads (Smith and Yang 2004). While it seems likely that creative ads will stand out in ad clutter (Wells et al. 1995, p. 451), careful examination of the full range of consumer processing and response variables has not been achieved. To provide new evidence about where the effects of ad creativity will be manifested, we collected measures of consumer processing and response. The selection of these variables was guided by the widely referenced ad model of MacInnis and Jaworski (1989) and included three processing variables: amount of attention allocated to the ad, motivation to process the ad, and depth of ad processing; and three response variables: ad attitude, brand attitude, and purchase intentions.

Divergence by Relevance Interaction Effect. Another important issue in conceptualizing ad creativity is the possibility of an interaction effect between ad divergence and ad relevance. Specifically, past models in advertising (Smith and Yang 2004), marketing (Im and Workman 2004), consumer creativity (Burroughs and Mick 2004), and social psychology (Mumford and Gustafson 1988) have conceptualized creativity as requiring both high divergence and high relevance. According to these models, ads that are low in both divergence and relevance lack both prerequisites, and therefore are *noncreative*. Ads that are high in divergence and low in relevance may attract the consumer's attention (because of divergence), but will have limited effectiveness (because of low relevance). Ads that are low in divergence and high in relevance can be ineffective in a cluttered marketplace because they fail to engage the consumer.

Creative ads possess high levels of both divergence and relevance. These ads can attract the attention of consumers and channel it to relevant issues, thereby enhancing the impact on ad processing and response (i.e., making them significantly more effective). Moreover, based on the above discussion and given the importance attributed to ad creativity, it seems reasonable to predict that the effects of high divergence and high relevance should be more than additive. Indeed, Smith and Yang (2004) predict that there will be a fan-shaped interaction effect between ad divergence and ad relevance. While this interaction effect is stated or assumed in many previous ad creativity studies, it has never been empirically examined.

Scale Development and Pretesting

Valid and reliable scales for the ad divergence and ad relevance constructs were developed over a series of six pretests involving 1,250 respondents. The final measurement scales are presented in Appendix A and the pretest process is summarized in Appendix B.

Divergence Measures. A major goal of this research is to identify the ways that ads can achieve divergence. To accomplish this goal, we started with the list of 14 divergence factors developed by Guilford (1950, 1956, 1967) and Torrance (1987) and applied to advertising by Smith and Yang (2004). We then examined the face validity of each item and eliminated those that overlapped with established marketing constructs (i.e., empathic perspective, humor, and expression of feeling and emotion) based on suggestions of experts (Pretests 1 and 2). Next, we eliminated factors that are more closely related to the divergent thinking process (i.e., how people come up with unusual ideas) than to perceptions of ad divergence (i.e., resistance to premature closure and provocative questions). Finally, to reduce conceptual redundancy and achieve parsimony, we combined fantasy, future orientation, and unusual perspective into a single factor called *imagination*, leaving the following seven main indicators of ad divergence:

• *Flexibility*—Ads that contain different ideas or switch from one perspective to another.

• *Fluency*—Ads that contain a large number of ideas—more than expected.

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

• *Elaboration*—Ads that contain unexpected details, or finish and extend basic ideas so they become more intricate, complicated, or sophisticated.

• *Synthesis*—Ads that combine, connect, or blend normally unrelated objects or ideas.

• *Artistic Value*—Ads that contain artistic verbal impressions or attractive colors or shapes.

Table 1 Rotated Factor Matrix for Exploratory Factor Analysis on Divergence Measures

	Factors						
Items	1	2	3	4	5	6	7
The ad was out of the ordinary.	0.72			*0.36*			
The ad broke away from habit-bound and stereotypical thinking.	0.69						
The ad was unique.	0.69			*0.30*			*0.31*
The ad contained a large number of ideas.		0.75	*0.27*				
The ad contained more concepts than most ads.		0.78			*0.28*		
The ad had many ideas, more than expected.		0.87					
The ad contained ideas that moved from one subject to another.			0.83				
The ad contained different ideas.		*0.31*	0.77				
The ad shifted from one idea to another.		*0.27*	0.79				
The ad connected objects that are usually unrelated.				0.85			
The ad contained unusual connections.				0.86			
The ad brought unusual items together.				0.82			
The ad contained numerous details.					0.80		
The ad finished basic ideas so that they become more intricate.					0.63		
The ad contained more details than expected.		*0.35*			0.70		
The ad allowed me to form images I have not directly experienced.				*0.29*		0.69	
The ad made something unreal come to life.				*0.27*		0.78	
The ad allowed me to form vivid mental images.						0.66	
The ad was visually/verbally distinctive.	*0.28*						0.70
The ad made ideas come to life graphically/verbally.						*0.29*	0.79
The ad was artistically produced.	*0.30*					*0.30*	0.54
Initial eigenvalues.	0.99	2.98	1.72	9.30	0.63	1.12	0.93

Notes. (1) Extraction method: Maximum likelihood method. (2) Rotation method: Varimax method. (3) Loadings lower than 0.27 were not included in the table. Loadings between 0.27 and 0.4 were italicized. (4) Factors: 1 = Originality; 2 = Fluency; 3 = Flexibility; 4 = Synthesis; 5 = Elaboration; 6 = Imagination; 7 = Artistic Value.

• *Imagination*—Ads that help consumers form vivid mental images, or make something unreal come to life.

Measurement Model for Ad Divergence. Scale items were developed for each of the divergence factors and pretested in a series studies (see Appendix A, Part 1 for final measures). Following preliminary tests of their face validity, an exploratory factor analysis of the measurement items (Appendix A) was conducted using the combined data from Pretests 5 and 6 and a maximum likelihood extraction method. Initially, seven factors were retained because the scree plot revealed a significant drop in variance extracted after this point. Together, these factors accounted for a total of 84.1% of variance in the items. As shown in Table 1, the seven-factor solution revealed a fairly clean factor pattern consistent with the hypothesized model.

However, further examination revealed some wording similarities between fluency and flexibility and between imagination and artistic value. Also, as shown in Table 2, the average factor scores showed unwanted redundancy as well: fluency and flexibility ($r = 0.56$, $p < 0.001$), imagination and artistic value ($r = 0.67$, $p < 0.001$). Accordingly, to achieve the most parsimonious model, fluency and imagination were dropped from the model because they had lower correlations with overall ad creativity ($r = 0.35$ versus $r = 0.36$; $r = 0.63$ versus $r = 0.77$).

Thus, in an advertising context, we were able to conceptually and empirically reduce the number of divergence factors to five (flexibility, originality, elaboration, synthesis, and artistic value), which resulted in the final measurement model shown in Figure 1. A confirmatory factor analysis of this model was conducted and the results indicated that it fit the Pretests 5 and 6 data well, and that the items were all valid and reliable indicators of the divergence factors. The average variance extracted (AVE) in the items by the divergence factors ranged from 0.61 to 0.89 with an average of 0.74; and the Cronbach alphas (α) ranged from 0.81 to 0.96 with an average of 0.89. For a more detailed summary of the pretest results for divergence, see Appendix C.

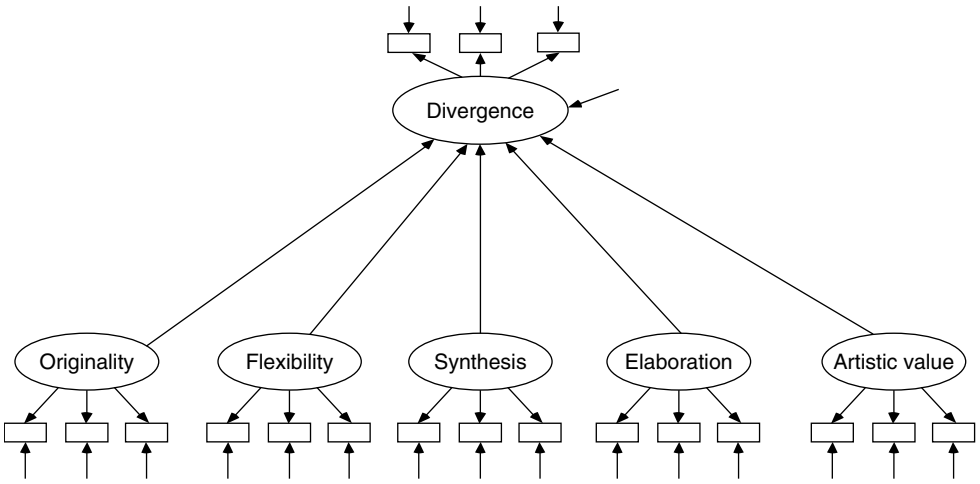
Relevance Measures. To provide a comprehensive examination of the relevance dimension, we developed measures for all three types of relevance in a

Table 2 Correlation Matrix: Divergence Factor Scores

Factors	1	2	3	4	5	6	7
1. Originality							
2. Fluency	0.36						
3. Flexibility	0.34	0.56					
4. Synthesis	0.62	0.24	0.38				
5. Elaboration	0.31	0.59	0.51	0.27			
6. Imagination	0.58	0.40	0.34	0.54	0.43		
7. Artistic value	0.64	0.40	0.35	0.47	0.49	0.67	

Note. All correlations are significant at 0.05 level.

Figure 1 Measurement Model for Divergence*



Source. Diamantopoulos and Winklhofer 2001, Jarvis et al. 2003.

*Divergence is a second-order composite latent factor, which is jointly determined by five equally important first-order factors. Each individual first-order dimension of divergence is further measured reflectively by three items. In addition, three global reflective measures were added for the second-order composite latent construct of divergence.

series of pretests (see Appendix A, Part 2 for final measures). Tests of the psychometric properties of these measures using the Pretests 5 and 6 data indicated that they were all valid and reliable. The AVEs ranged from 0.69 to 0.84 with an average of 0.78; and the αs ranged from 0.87 to 0.95 with an average of 0.92.

Measurement Model for Ad Relevance. For theoretical reasons, we expected only ad-to-consumer and brand-to-consumer relevance to be related to ad creativity. To test this premise, we examined the correlations between scale scores for the three types of relevance and overall creativity. The results, displayed in Table 3, show a positive association between ad creativity and ad-to-consumer relevance ($r = 0.46$, $p < 0.01$) and a positive association between ad creativity and brand-to-consumer relevance ($r = 0.31$, $p < 0.01$) as hypothesized. However, the association between overall ad creativity and ad-to-brand relevance was negative ($r = -0.31$, $p < 0.01$). Accordingly, the measurement model specification for overall ad relevance included only ad-to-consumer and brand-to-consumer subdimensions as shown in Figure 2.

Processing and Response Measures. The selection of the processing and response variables was based on the ad processing model of MacInnis and Jaworski (1989). Scales were developed to measure: amount of attention allocated to the ad, motivation to process the ad, depth of ad processing, ad attitude, brand attitude, and purchase intentions. These scales were pretested over a series of six studies and results showed the items presented in Appendix A, Part 3 were valid (AVEs averaged 0.77) and reliable (αs averaged 0.91).

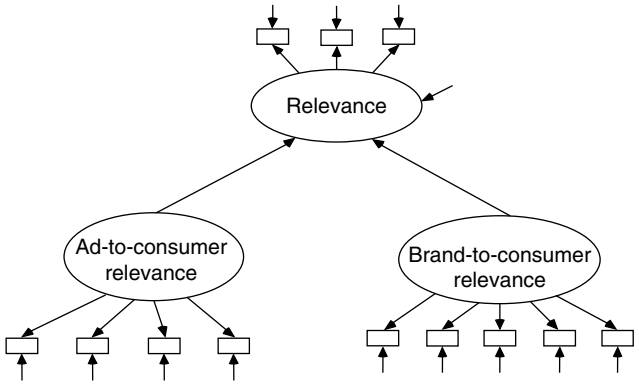
Production Quality Measures. To better establish discriminant validity, it is important to distinguish an ad's creativity from its production quality. Therefore, four items were developed to measure the production quality of the ads. One was an estimate of the ad's overall quality, while the other three

Table 3 Correlation Matrix for Relevance

Measures	1	2	3
1. Ad-to-consumer relevance			
2. Brand-to-consumer relevance	0.71**		
3. Ad-to-brand relevance	0.04	0.09	
4. Overall creativity	0.46**	0.31**	−0.31**

**Correlations significant at 0.01 level.

Figure 2 Measurement Model for Relevance*



Source. Jarvis et al. 2003.

*Relevance is a second-order composite latent factor, which is jointly determined by two equally important first-order factors: ad-to-consumer relevance and brand-to-consumer relevance. These first-order dimensions of relevance are measured *reflectively* by four and five items. In addition, three global reflective measures were added for the second-order composite latent construct of relevance.

focused on the quality of the audio elements, visual elements, and production elements. The items shown in Appendix A, Part 4 were found to exhibit adequate validity (AVE = 0.64) and reliability ($\alpha = 0.87$) based on pretests. The production value scale was then used as a covariate in the analyses that follow.

Overall Ad Creativity. To examine the determinants of consumer perceptions of ad creativity, an unbiased overall measure of perceived ad creativity was needed that did not prompt subjects to include either divergence or relevance. Accordingly, after viewing the ad, respondents were asked first to report their judgments on how *creative* the ad was. Because no cues were provided in the definition of ad creativity, respondents had to use their own judgments, which allows us to examine whether consumers judge ad creativity as divergence or divergence plus relevance. The items used to measure overall creativity are shown in Appendix A, Part 5.

Overall Divergence and Relevance. To fully account for the hypothesized relationships and for the purpose of identification of the proposed second-order composite latent factor measurement model, global measures of overall divergence and overall relevance were also needed (see MacKenzie et al. 2005, Jarvis et al. 2003). Accordingly, respondents were asked to report their judgments on how divergent and how relevant the ad was on the scales shown in Appendix A, Part 6.

Final Study

To provide an independent and conservative test of the models, a final study was conducted that compared creative ads to a random sample of network ads for national brands. The creative ads ($n = 39$) were selected from Clio award winning ads from 2003.[1] The Clio awards are given to reward creative excellence in advertising and design and are selected by a panel of advertising experts. The average ad, were a randomly generated set of network television ads ($n = 39$) for national brands.[2] In generating the random sample of network ads, procedures similar to those of Till and Baack (2005) were used.[3]

Two hundred twenty-three student consumers from a major public university participated in the experiment for credit. The data were collected in a computer lab with up to 28 respondents participating at one time and wearing headphones for privacy. Participants were asked to view the target ad and then filled out the questionnaire at their own pace. To reduce the possibility of auto-checking, we reversed the anchor points on every other item throughout the questionnaire.

Psychometric Properties of the Divergence and Relevance Scales. Because the divergence and relevance scales are new, it is important to demonstrate their reliability and validity. To test the factor structure for divergence, a second-order composite latent factor model was estimated using LISREL 8.7. As shown in Table 4,

- The hypothesized model of divergence fit the data well (CFI = 0.95; NFI = 0.92; RMSEA = 0.086; SRMR = 0.10; $\chi^2 = 371.83$; df = 125; $p < 0.001$).
- All 15 of the items loaded significantly on their hypothesized first-order factors ($p < 0.01$).
- The item reliabilities all exceeded 0.50.
- All five of the paths from the divergence subdimensions to the second-order divergence factor were significant ($p < 0.01$).

To test the factor structure for relevance, a second-order composite latent factor model was estimated using LISREL 8.7. As shown in Table 5,

- The hypothesized model of relevance fit the data well (CFI = 0.98; NFI = 0.97; RMSEA = 0.092; SRMR = 0.043; $\chi^2 = 166.65$; df = 53; $p < 0.001$).
- All nine of the items loaded on their hypothesized first-order factors ($p < 0.01$).
- The item reliabilities all exceeded 0.50.
- In addition, both of the paths from ad-to-consumer relevance and brand-to-consumer relevance to the second-order divergence factor were significant ($p < 0.01$).

To gauge the validity of the divergence and relevance dimensions (i.e., construct reliability, convergent validity, and discriminant validity) in context

[1] Brands for the creative ads included: Unif Green Tea, Budlight, Daily Telegraph, DeMorgan Newspaper, T-fal, CBS, Airline Argentina, Delta Airline, Hallmark, Mastercard, Nike, American Express, Thai Insurance, Olympus, Toyota, Beatle, iPod, Sony PS2, and Honda.

[2] Brands for the random sample of ads included: AAA, Accuchek, Accura, All State, Ultramax, Colgate, Covergirl, Dodge, Excedrin, Ford, Icy Hot, KFC, Loreal, Maybelline, Vain, Golden Corral, FifthThird Bank, Value City, McDonald, Heavenly Ham, Nicoderm CQ, Flexall, Neutragena, Goodwill, Bounty, and Verizon Wireless.

[3] Four networks (ABC, CBS, NBC, and FOX) were each assigned a number (1–4); each day of the week was assigned a number (1–7); each hour of programming from 6:00 A.M. to 2:00 A.M. was assigned a number (1–20). Random numbers were drawn for each of the three variables to designate the network, day, and time to record commercials, and the specified hour of programming was taped from air in the spring of 2003. Each possible network commercial within the hour pod was assigned a number from 1–25. Research assistants drew a random number and then counted the ads for national brands until the random number was reached. That ad was transferred to a CD and represented one of the random network ads. This procedure was repeated until 56 ads were designated. After eliminating duplicate ads, poorly recorded ads, and missing ads (because of war coverage), there were a total of 50 different network ads, 39 of which were randomly selected for inclusion in the final study.

Table 4 Completely Standardized Measurement Parameter Estimates for the Divergence Construct

Measures	Means	Standard deviation	Factor loadings
Originality:			
The ad was out of the ordinary.	4.06	1.80	0.92
The ad broke away from habit-bound and stereotypical thinking.	4.07	1.76	0.76
The ad was unique.	4.36	1.74	0.84
Flexibility:			
The ad contained ideas that moved from one subject to another.	3.14	1.62	0.86
The ad contained different ideas.	3.23	1.60	0.83
The ad shifted from one idea to another.	3.16	1.52	0.84
Synthesis:			
The ad connected objects that are usually unrelated.	3.95	1.93	0.87
The ad contained unusual connections.	3.70	1.91	0.84
The ad brought unusual items together.	3.77	1.88	0.90
Elaboration:			
The ad contained numerous details.	3.59	1.51	0.73
The ad finished basic ideas so that they become more intricate.	4.00	1.50	0.65
The ad contained more details than expected.	3.48	1.53	0.88
Artistic value:			
The ad was visually/verbally distinctive.	4.47	1.84	0.77
The ad made ideas come to life graphically/verbally.	4.47	1.79	0.85
The ad was artistically produced.	4.33	1.90	0.79
Overall divergence:			
The ad was different.	4.43	1.71	0.88
The ad was uncommon.	4.21	1.65	0.83
The ad was unusual.	3.86	1.62	0.77
Originality factor			0.23
Flexibility factor			0.18
Synthesis factor			0.23
Elaboration factor			0.15
Artistic value factor			0.20

Notes. (1) All estimates significant ($p < 0.01$). (2) CFI = 0.95; NFI = 0.92; RMSEA = 0.086; SRMR = 0.10; $\chi^2 = 371.83$; df = 125; $p < 0.001$.

of each other, a 24-item confirmatory factor model with 7 intercorrelated first-order factors was tested (i.e., 3 items for each of 5 divergence subdimensions, plus 4 items for ad-to-consumer relevance and 5 items for brand-to-consumer relevance). The results suggest that

- The hypothesized model was consistent with the data (CFI = 0.98; NFI = 0.95; SRMR = 0.044; RMSEA = 0.055; $\chi^2 = 401.48$; $df = 231$; $p < 0.001$).
- All 24 items had significant loadings ($p < 0.01$) on their intended factors.

In addition, as shown in the lower diagonal entries of Table 6,

- The five divergence subdimensions and the two relevance dimensions were all reliably measured (α's ranged from 0.79 to 0.94), and
- Exhibited reasonable levels of convergent validity (AVE ranged from 0.59 to 0.79).

Table 5 Completely Standardized Measurement Parameter Estimates for the Relevance Construct

Measures	Means	Standard deviation	Factor loadings
Ad-to-consumer relevance:			
The ad was meaningful to me.	3.85	1.79	0.86
The ad was appropriate for me.	3.88	1.82	0.83
The ad was useful to me.	3.68	1.78	0.91
The ad was valuable to me.	3.61	1.77	0.86
Brand-to-consumer relevance:			
The product or brand was meaningful to me.	3.77	1.87	0.92
The product or brand was appropriate to me.	3.89	1.87	0.92
The product or brand was useful to me.	3.83	1.89	0.92
The product or brand was valuable to me.	3.67	1.84	0.93
I do NOT care about this product/service. (R)	3.74	2.11	0.73
Overall relevance:			
The viewing experience was relevant to me.	3.83	1.81	0.87
The viewing experience was useful to me.	3.62	1.67	0.79
Overall, the ad and the brand were NOT really applicable to me. (R)	3.73	1.91	0.77
Ad-to-consumer relevance factor			0.40
Brand-to-consumer relevance factor			0.45

Notes. (1) All estimates significant ($p < 0.01$). (2) CFI = 0.98; NFI = 0.97; RMSEA = 0.092; SRMR = 0.043; $\chi^2 = 166.65$; df = 53; $p < 0.001$.

Finally, the results showed that a reasonable level of discriminant validity was achieved as is evident from the fact that for every pair of constructs,

- The intercorrelations were significantly less than 1.0 ($p < 0.05$) (Anderson and Gerbing 1998), and
- The squared intercorrelations were always less than the AVE for the constructs (Fornell and Larcker 1981).

Psychometric Properties of the Overall Divergence, Overall Relevance, and Overall Creativity Scales. It is also important to assess the validity of the overall creativity, overall divergence, and overall relevance measures. Thus, a 10-item confirmatory factor analysis (CFA) (4 global measures of overall creativity, 3 global measures of overall divergence, and 3 global measures of overall relevance) was conducted. The CFA was performed separately from the previous analysis because these constructs are at different levels of measurement. Results show the following:

- The hypothesized model was consistent with the data (CFI = 0.98; NFI = 0.98; SRMR = 0.059; RMSEA = 0.083; $\chi^2 = 82.51$; $df = 32$; $p < 0.001$),
- That all 10 items had significant loadings ($p < 0.01$) on their intended factors,
- Further analysis showed that overall creativity, overall divergence, and overall relevance were all reliably measured (α's were 0.78, 0.88, and 0.83, respectively),
- Exhibited reasonable levels of convergent validity (AVE were 0.65, 0.71, and 0.63), and
- Met the requirements of discriminate validity as the squared intercorrelations were always less than

Table 6 Construct Intercorrelations and Reliability Estimates for the Divergence and Relevance Factors

Measures	α	$\rho_{vc(\eta)}$	1	2	3	4	5	6	7
1. Originality	0.89	0.71	1.00						
2. Flexibility	0.88	0.72	0.27	1.00					
3. Synthesis	0.91	0.76	0.53	0.40	1.00				
4. Elaboration	0.79	0.59	0.31	0.53	0.43	1.00			
5. Artistic value	0.85	0.65	0.54	0.27	0.30	0.41	1.00		
6. Ad-to-consumer relevance	0.92	0.75	0.35	0.05	0.13	0.19	0.33	1.00	
7. Brand-to-consumer relevance	0.94	0.79	0.24	0.00	0.06	0.10	0.16	0.77	1.00

the AVEs for the constructs (the correlations were: creativity and divergence (0.76), creativity and relevance (0.30), and divergence and relevance (0.42); all correlations are significantly less than 1.0).

The Role of Divergence and Relevance in Predicting Ad Creativity. The next goal was to examine the entire measurement model to see if ad divergence and ad relevance predict ad creativity as hypothesized. As criterion measures, we used both consumers' perception of ad creativity and whether the ad received a Clio award from ad creativity experts.

First, we examined whether consumers judge ad creativity as divergence or divergence plus relevance using LISREL 8.7 by regressing consumer perceptions of ad creativity on divergence, relevance, and their interaction, while controlling for ad production quality.[4] The results reveal that divergence had a significant positive relationship with ad creativity ($\beta = 0.35$, $z = 4.88$, $p < 0.001$), as did the interaction between divergence and relevance ($\beta = 0.36$, $z = 8.11$, $p < 0.001$). The relevance factor was not related to the ad creativity measure ($\beta = 0.05$, $z = 0.74$, $p = ns$); which may, in part, explain why some researchers have not included this component in the definition of ad creativity. In addition, divergence and the interaction between divergence and relevance accounted for a substantial proportion of the variance in consumer perceptions of ad creativity ($R^2 = 68\%$). These results indicate that when consumers judge ad creativity, they consider both divergence and its interaction with relevance.

[4] For this analysis: (1) a scale score for overall creativity was obtained by averaging its four items; (2) a scale score for production quality was obtained by averaging its four items; (3) an overall scale score for divergence was created by averaging the scores on the five divergence subdimensions; (4) an overall scale score for relevance was created by averaging the scores for ad-to-consumer and brand-consumer relevance; and (5) an interaction term was created for each ad by multiplying its overall divergence and overall relevance scores. We fixed the error terms for all of these variables at a level of (1-alpha) times the variance of the variable (Joreskog and Sorbom 1982). Note that the assumed alpha for the interaction (0.70) was lower than the observed alphas for either of its individual components (0.73 for divergence, 0.83 for relevance) because Busemeyer and Jones (1983) demonstrated that the reliability of a multiplicative term is lower than that of its component terms.

A second criterion measure of ad creativity is whether the ad had previously won a Clio award (high creativity) or was a randomly selected network ad (average creativity). This criterion measure was treated as a nominal scale and regressed on divergence, relevance, their interaction, with production quality as a covariate using the robust maximum likelihood estimation procedure in LISREL 8.7. The results indicate that both divergence ($\beta = 0.49$, $z = 5.36$, $p < 0.001$) and the interaction between divergence and relevance ($\beta = 0.23$, $z = 6.40$, $p < 0.001$) were significant predictors of ad creativity as hypothesized. In addition, the exogenous variables explained a significant amount of the variance in ad creativity ($R^2 = 0.38$). This time, the main effect of relevance was negative ($\beta = -0.11$, $z = -2.12$, $p < 0.05$), suggesting that expert creativity judges do not value relevance by itself (and even devalue it) when voting for Clio awards.

Thus the overall pattern of findings indicates that our conceptualization of creativity was supported regardless of whether we used consumers' perceptions or the judgments of experts as the criterion measure of ad creativity. In addition, the polyserial correlation between the experts' judgment of creative ads and consumers' perception of overall creativity is $r = 0.58$, $p < 0.01$, showing consistency between the two criterion measures. In summary, the definition of advertising creativity that includes divergence and its interaction with relevance is supported by both of the analyses.

Effects of the Subdimensions of Divergence and Relevance on Ad Creativity. Next, we examined which of the five divergence subdimensions best explained ad creativity as determined by advertising experts (i.e., Clio judges). A logit analysis was performed on the grouping variable of ad creativity (Clio award/no award), with the five subdimensions of divergence, the two dimensions of relevance, and the covariate of production quality. Results showed three of the divergence factors were significant (or marginally significant): *originality* ($\beta = 0.78$, wald $= 34.61$, $p < 0.001$), *synthesis* ($\beta = 0.32$, wald $= 8.11$, $p = 0.004$), and *elaboration* ($\beta = 0.26$, wald $= 2.76$, $p = 0.09$), but not flexibility or artistic value.

Table 7 Effects of the Subdimensions of Divergence and Relevance on Ad Creativity

				Group 1 Clio award-winning ads		Group 2 Random network ads		Group 3 Local and regional ads	
Subdimensions	Wilks' Λ	$F(2, 497)$	p-value	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Originality	0.615	155.66	<0.001	5.18	1.26	4.07	1.39	2.66	1.44
Flexibility	0.920	21.53	<0.001	3.64	1.46	3.40	1.50	2.63	1.34
Synthesis	0.756	80.38	<0.001	4.75	1.71	3.61	1.83	2.46	1.55
Elaboration	0.950	13.07	<0.001	4.08	1.41	3.94	1.39	3.31	1.47
Artistic value	0.678	117.94	<0.001	5.12	1.32	4.72	1.46	2.86	1.46
Rel_Ad-to-consumer	0.939	16.21	<0.001	3.18	1.53	3.16	1.68	2.24	1.35
Rel_Brand-to-consumer	0.955	11.77	<0.001	3.68	1.57	3.42	1.67	2.86	1.52

Note, however, that this test is very conservative because of the limited variance between the Clio award-winning ads and the random sample of network ads for national brands (which included some creative ads by chance). To provide a more robust test of the individual subdimensions of divergence on ad creativity, we conducted a three-group discriminant analysis of the combined data from Pretests 5 and 6 ($n = 500$). In this test, the criterion measure had more variation because the following three different groups of ad creativity were compared:

- *Level 1*—ads with high creativity (*Ad Week* award-winning ads),
- *Level 2*—ads with average creativity (randomly selected network TV ads),
- *Level 3*—ads with low creativity (TV ads for local and regional brands).

The predictor variables were the scale scores for the five subdimensions of divergence and two subdimensions of relevance. The results indicated that these predictors significantly discriminated between the three groups of ads (Wilks' $\Lambda = 320.58$, df $= 14$, $p < 0.000$) and could be used to correctly classify 66% (64%) of the original (cross-classified) grouped cases. Moreover, as shown in Table 7, each of the individual subdimensions significantly ($p < 0.001$) contributed to this overall effect, and the means for the sub-dimensions were always in the expected order across the three groups of ads. Taken together, this pattern of findings suggests that it is important to measure all five of the subdimensions of divergence in creativity studies.

Predicting the Effects of Ad Creativity on Consumer Processing and Response. The next goal was to examine how ad creativity influences consumer processing and response. First, we examined which processing and response variables are sensitive to differences in ad creativity. Traditionally, consumers are expected to pay more attention to creative ads, but there are reasons to expect effects on downstream variables as well. For example, Smith and Yang (2004) present conceptual reasons why creative ads should also impact motivation to process the ad (i.e., creative stimuli are more ambiguous and should activate the consumer's desire for sensemaking), processing depth (i.e., divergent stimuli can require more processing depth for understanding to occur), and ad attitude (i.e., consumers enjoy processing creative ads and this positive affect will transfer to the ad). In addition, brand attitudes and even purchase intentions may be sensitive to ad creativity, at least in those situations where the positive effects on ad processing and ad attitude transfer to the brand.

Logically, ad divergence should exhibit significant main effects on earlier stages of ad processing (e.g., attention to the ad), because the contrast effect that starts the chain of events is produced by the divergence component. Conversely, it is logical to expect ad relevance to exhibit significant main effects on the measures of brand attitude and purchase intentions, because consumers are more likely to develop attitudes and purchase intentions toward brands that are meaningful to them. While it is logical to expect some main effects because of ad divergence and ad relevance, there are reasons to expect them to show a statistical interaction effect. In fact, most past research on ad creativity emphasizes the combination of high divergence and high relevance as uniquely effective, raising the question: Are their combined effects more than additive?

To examine this issue, we used each of the components of creativity (divergence, relevance, and their interaction), with production quality as a covariate, in a series of six seemingly unrelated regression equations to predict the dependent variables. The effects of the three predictors on each of the criterion variables were simultaneously estimated using LISREL 8.7 and maximum likelihood estimation method.[5]

[5] This approach, pioneered by Zellner (1962), was used because the disturbance terms for the six equations were likely to covary across the six equations because of the recognized relationships among some of the criterion variables. Again, scale scores for divergence and relevance were obtained by averaging respective subdimensions. A scale score for production quality was obtained by

Table 8 Standardized Estimates (Z-Values) of the Effects of Divergence, Relevance, and Their Interaction on Ad Processing and Response Measures

Predictors	Attention to ad	Motivation to process	Depth of processing	Ad attitude	Brand attitude	Purchase intentions
Divergence	0.22 (3.08)	0.11* (1.58)	−0.01* (−0.12)	0.07* (1.08)	0.05* (0.70)	−0.13 (−1.95)
Relevance	0.00* (−0.02)	0.25 (3.89)	0.49 (6.70)	0.12* (1.81)	0.16 (2.32)	0.52 (8.03)
Divergence × relevance	0.34 (7.57)	0.28 (6.62)	0.18 (3.72)	0.30 (6.91)	0.16 (3.46)	0.21 (4.88)
Production quality	0.19 (2.32)	0.13* (1.65)	0.13* (1.47)	0.30 (3.79)	0.26 (2.96)	−0.01* (−0.07)
R^2 =	0.47	0.45	0.51	0.45	0.28	0.46

* Not significant at a 0.05 level.

Table 9 Summary of Pretest Results for the Divergence by Relevance Interaction Effect

Predictors	Attention to ad	Motivation to process	Depth of processing	Ad attitude	Brand attitude	Purchase intentions
Pretest 5						
Divergence	0.77 (13.04)	0.52 (8.04)	0.13* (1.84)	0.47 (7.55)	0.20 (2.65)	−0.01* (−0.17)
Relevance	−0.12 (−2.17)	0.14 (2.28)	0.41 (6.36)	0.16 (2.80)	0.27 (3.75)	0.49 (7.36)
Divergence × relevance	0.21 (9.22)	0.16 (6.14)	0.21 (7.77)	0.21 (8.63)	0.14 (4.58)	0.19 (6.78)
R^2 =	0.82	0.60	0.55	0.65	0.34	0.49
Pretest 6						
Divergence	0.60 (8.34)	0.37 (5.04)	0.22 (2.76)	0.17 (2.52)	−0.07* (−0.95)	−0.05* (−0.69)
Relevance	−0.11* (−1.92)	0.99* (1.58)	0.22 (3.42)	0.14 (2.66)	0.28 (4.97)	0.43 (7.73)
Divergence × relevance	0.20 (7.44)	0.22 (7.86)	0.21 (6.66)	0.16 (6.42)	0.16 (5.94)	0.19 (7.35)
Production quality	0.17 (2.77)	0.05* (0.87)	−0.16 (−2.24)	0.39 (6.80)	0.37 (6.08)	0.18 (2.95)
R^2 =	0.62	0.43	0.34	0.48	0.41	0.49

Notes. (1) All estimates are standardized. (2) Numbers in the parentheses are z-values.
*Estimates not significant at a 0.05 level.

Results, shown in Table 8, indicate that the main effects for divergence were significant for attention to the ad. The main effects of relevance were significant for motivation to process, depth of processing, brand attitude, and purchase intentions. However, these main effects were qualified by a significant interaction on all six processing and response variables (all p's < 0.01). Together, the predictors accounted for 28% to 51% of the variance in the criterion measures across the two groups of ads examined. The strong and consistent support (see Table 9 for additional corroboration from Pretests 5 and 6) for the interaction effect suggests that creative ads are significantly more effective than noncreative ads across all of the processing and response measures examined here. These empirical findings reinforce the commonly stated view that creativity is one of the most important elements for ad effectiveness in the marketplace.

Table 10 Standardized Effects (Z-Values) of Overall Creativity as a Mediator on the Criterion Variables

	Predictor variables				
Criterion variables	Production quality	Divergence	Relevance	Divergence × relevance	Overall creativity
Overall creativity	0.08 (3.30)	0.26 (4.20)	0.08 (1.38)	0.37 (9.18)	—
Attention to the ad	—	—	—	—	0.87 (15.38)
Motivation to process	—	—	0.21 (3.90)	—	0.64 (9.94)
Depth of processing	—	—	0.42 (6.02)	—	0.40 (5.03)
Ad attitude	—	—	—	—	0.83 (14.71)
Brand attitude	—	—	—	—	0.48 (6.89)
Purchase intention	—	—	0.46 (7.59)	0.18 (3.80)	0.01 (0.16)

Notes. (1) CFI = 0.99; NFI = 0.98; RMSEA = 0.080; SRMR = 0.035; $\chi^2 = 49.87$; df = 20; $p < 0.001$. (2) Shaded cells indicate nonhypothesized direct effects.

Testing for Mediation. Finally, we investigated whether overall ad creativity plays a mediating role by estimating the structural model shown in Figure 3.[6] This model posits that divergence, relevance, and their interaction influence ad processing and response through their effects on ad creativity (with production quality as a covariate). We expected overall creativity perceptions to completely mediate the impact of divergence, relevance, and their interaction on the ad processing and response measures. However, we also tested for any direct (unmediated) effects. The overall findings (see Table 10 and Figure 3) suggest that creativity perceptions

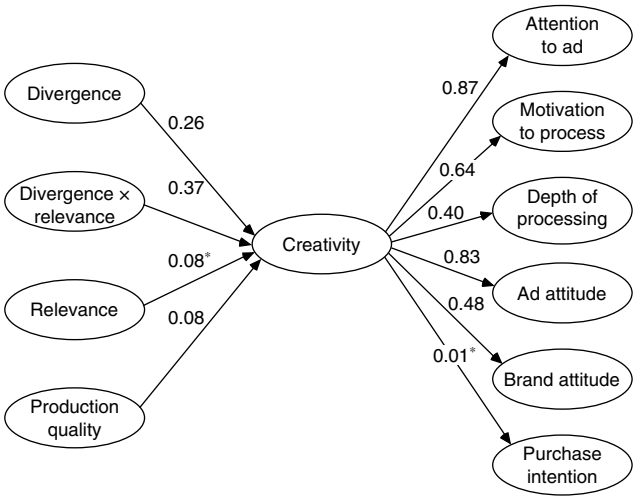
- *completely* mediate the impact of divergence, relevance, their interaction on attention to the ad, attitude toward the ad, and attitude toward the brand,
- *completely* mediate the impact of divergence and its interaction with relevance on motivation to process and depth of processing,
- *partially* mediate the impact of relevance on motivation to, and depth of, processing.[7]

averaging its four items. The score for the interaction term was obtained by multiplying the divergence and relevance scale scores. We fixed the error terms for divergence (alpha = 0.73) and relevance (alpha = 0.83) at a level of (1 − alpha) ∗ variance. And we fixed the error term for the interaction term at a level of 0.3 ∗ variance based on an assumed alpha of 0.70.

[6] Scale scores were used to represent each latent construct and the level of error associated with each construct was set at (1 − alpha) ∗ variance (Joreskog and Sorbom 1982). Again, the error term for the interaction between divergence and relevance was set at 0.3 ∗ variance, assuming 0.7 for alpha of the interaction.

[7] The indirect effects of divergence on attention to the ad ($z = 4.17$, $p < 0.01$), motivation to process ($z = 3.95$, $p < 0.01$), depth of

Figure 3 Ad Creativity Model*



*(1) Numbers are standardized estimates significant at a 0.05 level (except for those with asterisk). (2) To make the figure clearer, these significant links are not shown: (a) relevance → motivation to process, (b) relevance → depth of processing, (c) relevance → purchase intention, and (d) divergence × relevance → purchase intention (see Table 10). (3) Fit: CFI = 0.99; NFI = 0.98; RMSEA = 0.80; SRMR = 0.035; $\chi^2 = 49.87$; df = 20; $p < 0.001$.

Thus the overall pattern of results provided strong support for the hypothesis that creativity is the key mediator of the impact of divergence, relevance, and their interaction on most of the ad processing and response variables. Moreover, because production quality was controlled in these analyses, it can be ruled out as a rival explanation. The only important exception to the predictions was that the results indicate that creativity did not mediate the impact of divergence, relevance, and their interaction on purchase intentions. Instead, these variables were found to have a *direct* influence on purchase intentions. This result suggests that these relationships are unmediated or some variable other than creativity mediates them.

Conclusion

The answers to the five major research questions posed at the beginning of this paper are important to understanding ad creativity's determinants and effects. To find these answers, a series of pretests were conducted culminating in a final study that compared Clio award-winning ads (the leading ad industry benchmark for creativity) to a random sample of network ads. Comprehensive model testing was then used to provide empirical answers as summarized below.

How Do Consumers Judge Ad Creativity? Results show that divergence is the leading indicator of creativity but its interaction with relevance also plays a significant role. This finding suggests that the definition of ad creativity as divergence plus relevance is most consistent with the data. However, the lack of a main effect for relevance may explain why some researchers do not include it in the definition of ad creativity.

What Are the Determinants of Ad Creativity? In this research, divergence was shown to be the leading indicator of ad creativity. The list of 14 possible divergence factors was reduced conceptually and empirically until five unique determinants remained: originality, flexibility, synthesis, elaboration, and artistic value. This finding suggests that research on ad creativity should include measures of these five factors. Empirical results showed ad-to-consumer relevance and brand-to-consumer relevance were significant predictors of ad creativity while ad-to-brand relevance had a negative correlation.

How Should Ad Divergence and Ad Relevance Be Measured? Over a series of studies, the measures of ad divergence and ad relevance developed here were shown to be reliable and valid. This result is important as it allows advertising researchers to use verified scales, which could increase the comparability of results across studies and manipulations. Although these scales were developed for TV ads, they can be readily adapted to any media or marketing mix element.

In addition, the scales could be used by marketing managers or expert panels to judge the creativity of a proposed ad or a campaign over time. To facilitate this usage, the mean ratings, standard deviations, and ranges for the divergence and relevance scales across all 189 ads used in this research are provided in Appendix D for use as preliminary norms in judging ad creativity.

Do the Determinants of Ad Creativity Interact? For the first time, we examined how ad creativity influences the processing of, and response to, advertising using a wide range of dependent variables. Results showed some main effects for both divergence and relevance, but these were qualified by significant interaction effects on all six dependent variables (replicated in Pretests 5 and 6). These findings reinforce the need to include relevance measures in creativity studies and expand the known effects of ad creativity well beyond the consumer's attention to the ad. This implication is important because the multiplicative nature of ad divergence and ad relevance

processing ($z = 3.22$, $p < 0.01$), attitude toward the ad ($z = 4.15$, $p < 0.01$), attitude toward the brand ($z = 3.67$, $p < 0.01$) were all significant; as were the indirect effects of the divergence by relevance interaction on attention to the ad ($z = 8.83$, $p < 0.01$), motivation to process ($z = 7.54$, $p < 0.01$), depth of processing ($z = 4.69$, $p < 0.01$), attitude toward the ad ($z = 8.70$, $p < 0.01$), and attitude toward the brand ($z = 5.80$, $p < 0.01$). Because the main effect of relevance on creativity was not significant, none of its indirect effects were significant ($p > 0.05$).

has been widely suggested but never empirically validated before this study.

Does Creativity Mediate the Effects of Ad Exposure on Key Dependent Variables? Finally, we showed that creativity, in general, did mediate the effects of divergence and relevance on the dependent variables. This result furthers our understanding of the relationships among the key variables and reinforces conceptual models that give ad creativity a central role.

Limitations and Future Research. Because internal validity is critical in theory testing and scale development, our studies were conducted in a lab setting to control for extraneous variables. This procedure limits the findings to similar situations and shows a need for future research that replicates these results in realistic marketplace settings. Also, the use of student participants in the final samples may restrict the generalizability of these results so research is needed using more diverse consumer segments.

Future research is also needed to explore the relationship between divergence and relevance. These variables can be tested in a variety of situations to examine boundary conditions that may facilitate or ameliorate the consistent interaction effect found in the final study and the pretests. In addition, the divergence and relevance factors developed here could be extended to other marketing mix elements such as new product development (Im and Workman 2004), or the idea generation process itself (Toubia 2006).

In addition, it seems time for marketing research to move beyond the attentional effects of ad creativity and investigate its role in the persuasion process. For example, research could examine whether creative ads make consumers more curious and open-minded (Kardes et al. 2004, Kruglanski and Webster 1996). Both of these effects can be predicted theoretically and both could have a major influence on making consumers less defensive when they process persuasive messages. It could also be hypothesized that exposure to creative ads might produce a priming or framing effect making novel product features more salient in decision making.

Finally, there is currently no research that compares ad creativity processing and effects across important demographic and/or psychographic factors such as age, gender, education, culture, and consumer identity. Studies of these issues would advance our knowledge of how ad creativity influences consumer behavior. It definitely seems time to address this area of advertising that is frequently discussed and intuitively important.

Acknowledgments

This research was supported by grants from the Kelley School of Business. The authors thank Adam Duhachek, four anonymous reviewers, the area editor, and editor for their helpful comments and advice.

Appendix A. Measurement Scales

Part 1. Measures of Divergence

Originality

The ad's ideas are rare, surprising, or move away from the obvious and commonplace.

The ad was "out of the ordinary."

The ad broke away from habit-bound and stereotypical thinking.

The ad was unique.

Flexibility

The ad had different ideas and shifted from one type of subject matter to another.

The ad contained ideas that moved from one subject to another.

The ad contained different ideas.

The ad shifted from one idea to another.

Synthesis

The ad combined or connected normally unrelated objects or ideas.

The ad connected objects that are usually unrelated.

The ad contained unusual connections.

The ad brought unusual items together.

Elaboration

The ad provided numerous details. The ad finished, extended, and detailed basic ideas so they become more intricate or sophisticated.

The ad contained numerous details.

The ad finished basic ideas so that they become more intricate.

The ad contained more details than expected.

Artistic Value

The ad had striking visual and/or verbal elements.

The ad was visually/verbally distinctive.

The ad made ideas come to life graphically/verbally.

The ad was artistically produced.

Fluency*

The ad contained a large number of ideas—more than expected.

The ad contained a large number of ideas.

The ad contained more concepts than most ads.

The ad had many ideas.

Imagination*

The ad caused you to form vivid mental images, or made something unreal come to life.

The ad allowed me to form images I have not directly experienced.

The ad made something unreal come to life.

The ad allowed me to form vivid mental images.

Part 2. Measures of Relevance

Relevance of the Ad to You:

The ad was very meaningful to me.

The ad was appropriate to me.

The ad was useful to me.

The ad was valuable to me.

*This dimension was removed from the model in the final study.

Relevance of the Brand to You:
The product or brand was meaningful to me.
The product or brand was appropriate to me.
The product or brand was useful to me.
The product or brand was valuable to me.
I do NOT care about this product/service. (R)
*Relevance of the Ad to the product or brand**:
The product or brand was the primary focus of the ad.
The product or brand was NOT a central character in the ad, it was more a background component. (R)
The heart of this ad was what it said about the product or brand.
The product or brand did NOT seem to be related to what went on in the ad. (R)
The ad presented useful information about the product or brand.

Part 3. Processing and Response Measures
Amount of Attention:
The ad demanded my attention.
I examined the main elements of the ad very carefully.
I tried to carefully evaluate the brand information provided in the ad.
I spent considerable time analyzing the ad's message.
Motivation to Process the Ad:
I had a strong desire to examine the ad.
I was highly motivated to read the ad.
I really wanted to understand the ad.
I was very interested in the ad.
Depth of Processing:
I related parts of the ad to my own life.
I used my imagination to go beyond the information presented in the ad.
I was able to imagine using the product in the ad.
Ad Attitude: What is your overall evaluation of the advertisement?
Bad/Good
Unpleasant/Pleasant
Unfavorable /Favorable
Not Likeable/Likeable
Brand Attitude: What is your overall evaluation of the advertised brand?
Bad/Good
Unpleasant/Pleasant
Unfavorable/Favorable
Not Likeable/Likeable
Purchase Intentions: What is the probability that you will purchase the advertised brand in the future?
Unlikely/Likely
Improbable/Probable
Impossible/Possible

Part 4. Measures of Production Quality of the Ad
The audio elements of the ad (e.g., music, voice-overs, sound effects, etc.) were of high quality.
The visual elements of the ad (e.g., images, colors, lighting, etc.) were of high quality.
The production elements of the ad (e.g., expensive staging, celebrities, action scenes, special effects, etc.) were of high quality.
Overall, it must have cost a lot of money to produce the ad.

Part 5. Global Measures of Overall Creativity
Overall Creativity: All things considered, how creative was the ad compared to the average TV ad?
In general, the ad was very creative.
The ad should win an award for creativity.
The ad was not very inventive and displayed little creativity in its design. (R)
Please rate the ad's overall creativity on the following scale (1–20 points).

Part 6. Global Measures of Overall Divergence and Relevance
Overall Divergence: All things considered, how unusual was the ad compared to the average TV ad?
The ad was different.
The ad was uncommon.
The ad was unusual.
Overall Relevance, Meaningfulness, and Usefulness:
The viewing experience was relevant to me.
The viewing experience was useful to me.
Overall, the ad and the brand were NOT really applicable to me. (R)

Appendix B. Summary of Pretests

Study	Purpose	Sample	Ads	Independent variables
Pretest 1	Preliminary item generation	13 ad agency creative directors	Not used	
Pretest 2	Check face validity of scales with experts	12 advertising creative directors, and 13 marketing managers	Not used	
Pretest 3	Examine scale psychometrics	340 student consumers	2 real magazine ads	
Pretest 4	Measure ad creativity	372 student consumers	3 TV ads	
Pretest 5[a]	Test creative versus noncreative ads	246 student consumers	100 TV ads	Creative/noncreative ads; processing involvement
Pretest 6[b]	Test creative ads versus average network ads	254 student consumers	100 TV ads	Creative/average ads

[a]In Pretest 5, the procedure was the same as the final study except for the manipulation of ad creativity. In Pretest 5, the 50 creative ads came from award-winning ads from *Ad Week*. The 50 noncreative ads were regional/local ads recorded from TV.
[b]In Pretest 6, the same 50 ads from *Ad Week* were used as creative ads. However, 50 ads randomly recorded from major TV network (please see the description of the final main study) were used as the average ads.

Appendix C. Summary of Pretest Results for Divergence Measurement Model

Measures	Pretest 5 Standardized estimates	Pretest 6 Standardized estimates
Originality (AVE = 0.81/0.61, α = 0.93/0.81):		
The ad was out of the ordinary.	0.91	0.75
The ad broke away from habit-bound and stereotypical thinking.	0.88	0.75
The ad was unique.	0.91	0.84
Flexibility (AVE = 0.78/0.75, α = 0.92/0.90):		
The ad contained ideas that moved from one subject to another.	0.88	0.83
The ad contained different ideas.	0.88	0.88
The ad shifted from one idea to another.	0.89	0.89
Synthesis (AVE = 0.89/0.80, α = 0.96/0.92):		
The ad connected objects that are usually unrelated.	0.95	0.90
The ad contained unusual connections.	0.96	0.87
The ad brought unusual items together.	0.92	0.90
Elaboration (AVE = 0.67/0.67, α = 0.87/0.86):		
The ad contained numerous details.	0.77	0.80
The ad finished basic ideas so that they become more intricate.	0.83	0.79
The ad contained more details than expected.	0.84	0.86
Artistic value (AVE = 0.75/0.63, α = 0.89/0.81):		
The ad was visually/verbally distinctive.	0.88	0.85
The ad made ideas come to life graphically/verbally.	0.92	0.88
The ad was artistically produced.	0.80	0.64
Overall creativity (AVE = 0.90/0.79, α = 0.95/0.90):		
The ad was creative.	0.95	0.89
The ad was innovative.	0.95	0.89
Effects of divergence components on creativity:		
Originality factor	0.25	0.19
Flexibility factor	0.19	0.20
Synthesis factor	0.26	0.26
Elaboration factor	0.17	0.19
Artistic value factor	0.24	0.20

Notes. (1) All estimates significant ($p < 0.01$). (2) For Pretest 5: CFI = 0.97; NFI = 0.96; RMSEA = 0.093; SRMR = 0.072; $\chi^2 = 376.35$; df = 109; $p < 0.001$. For Pretest 6: CFI = 0.96; NFI = 0.94; RMSEA = 0.083; SRMR = 0.077; $\chi^2 = 299.74$; df = 109; $p < 0.001$. (3) There are two values of AVEs and alphas associated with each construct, the first refers to values in Pretest 5 and the second refers to values obtained in Pretest 6.

Appendix D. Preliminary Norms for Ad Creativity Measures

Experimental advertisements	Originality	Flexibility	Synthesis	Elaboration	Artistic value	Ad-to-consumer relevance	Brand-to-consumer relevance
Across all ads (n = 189)							
Means	4.20	3.27	3.83	3.79	4.41	3.14	3.55
Std. dev.	1.67	1.47	1.89	1.40	1.67	1.63	1.66
Range	6	6	6	6	6	6	6
High creativity ads—Clio award winners (n = 39)							
Means	5.00	3.26	4.46	3.96	4.93	3.98	4.07
Std. dev.	1.19	1.40	1.64	1.22	1.46	1.58	1.76
Range	5.33	6	6	6	5.33	6	6
High creativity ads—*Ad Week* award winners (n = 50)							
Means	5.18	3.64	4.74	4.08	5.12	3.07	3.68
Std. dev.	1.26	1.46	1.71	1.41	1.32	1.53	1.57
Range	6	6	6	6	6	6	6
Average creativity ads—Random sample of network ads (n = 50)							
Means	3.71	3.26	3.39	3.70	4.34	3.34	3.57
Std. dev.	1.49	1.48	1.74	1.35	1.58	1.66	1.69
Range	6	6	6	6	6	6	6
Low creativity ads—Local and regional ads (n = 50)							
Means	2.66	2.63	2.46	3.31	2.86	2.24	2.86
Std. dev.	1.44	1.34	1.55	1.47	1.46	1.35	1.52
Range	6	5.33	6	5	5.33	5	5.75

References

Anderson, J. C., D. W. Gerbing. 1998. Structural equation modeling in practice: A review and recommended two-step approach. *Psych. Bull.* **103**(May) 411–423.

Ang, S. H., S. Y. M. Low. 2000. Exploring the dimensions of ad creativity. *Psych. Marketing* **17**(October) 835–854.

Belch, G. E., M. A. Belch. 2004. *Introduction to Advertising and Promotion: An Integrated Marketing Communications Perspective*, 6th ed. McGraw-Hill/Irwin, Homewood, IL.

Besemer, S. P., K. O'Quinn. 1986. Analyzing creative products: Refinement and test of a judging instrument. *J. Creative Behav.* **20**(2) 115–126.

Besemer, S. P., D. J. Treffinger. 1981. Analysis of creative products: Review and synthesis. *J. Creative Behav.* **15**(3) 158–178.

Burroughs, J. E., D. G. Mick. 2004. Exploring antecedents and consequences of consumer creativity in a problem-solving context. *J. Consumer Res.* **31**(September) 402–411.

Busemeyer, J. R., L. E. Jones. 1983. Analysis of multiplicative combination rules when the causal variables are measured with error. *Psych. Bull.* **93**(3) 549–562.

Diamantopoulos, A., H. M. Winklhofer. 2001. Index construction with formative indicators: An alternative to scale development. *J. Marketing Res.* **38**(2) 269–277.

El-Murad, J., D. C. West. 2004. The definition and measurement of creativity: What do we know? *J. Advertising Res.* **44**(2) 188–201.

Fornell, C., D. F. Larcker. 1981. Evaluating structural equation models with observable variables and measurement error. *J. Marketing Res.* **18**(February) 39–50.

Goldenberg, J., D. Mazursky, S. Solomon. 1999. The fundamental templates of quality ads. *Marketing Sci.* **18**(3) 333–351.

Guilford, J. P. 1950. Creativity. *The Amer. Psychologist* **14** 444–454.

Guilford, J. P. 1956. The structure of intellect. *Psych. Bull.* **53** 267–293.

Guilford, J. P. 1967. *The Nature of Human Intelligence*. McGraw-Hill, New York.

Haberland, G. S., P. A. Dacin. 1992. The development of a measure to assess viewer's judgments of the creativity of an advertisement: A preliminary study. J. F. Sherry, Jr., B. Sternthal, eds. *Advances Consumer Research*, Vol. 19. Association for Consumer Research, Provo, UT, 817–825.

Im, S., J. P. Workman, Jr. 2004. Market orientation, creativity, and new product performance in high-technology firms. *J. Marketing* **68**(April) 114–132.

Jackson, P. W., S. Messick. 1965. The person, the product, and the response: Conceptual problems in the assessment of creativity. *J. Personality* **33**(March–December) 309–329.

Jarvis, C. B., S. B. MacKenzie, P. M. Podsakoff. 2003. A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *J. Consumer Res.* **30**(2) 199–218.

Joreskog, K. G., D. Sorbom. 1982. Recent developments in structural equation modeling. *J. Marketing Res.* **19**(4) 404–416.

Kardes, F. R., M. L. Cronley, J. J. Kellaris, S. S. Posavac. 2004. The role of selective information processing in price-quality inference. *J. Consumer Res.* **31**(2) 368–374.

Kruglanksi, A. W., D. M. Webster. 1996. Motivated closing of the mind: "Seizing" and "Freezing." *Psych. Rev.* **103**(2) 263–283.

MacInnis, D. J., B. J. Jaworski. 1989. Information processing from advertisements: Toward an integrative framework. *J. Marketing* **53**(October) 1–23.

MacKenzie, S. B., P. M. Podsakoff, C. B. Jarvis. 2005. The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *J. Appl. Psych.* **90**(July) 710–730.

Mishra, S., U. N. Umesh, D. E. Stern, Jr. 1993. Antecedents of the attraction effect: An information processing approach. *J. Marketing Res.* **30**(August) 331–349.

Mumford, M. D., S. B. Gustafson. 1988. Creativity syndrome: Integration, application, and innovation. *Psych. Bull.* **103**(January) 27–43.

Smith, R. E., X. Yang. 2004. Toward a general theory of creativity in advertising: Examining the role of divergence. *Marketing Theory* **4**(1/2) 29–55.

Tellis, G. J. 1998. *Advertising and Sales Promotion Strategy*. Addison-Wesley, Reading, MA.

Thorson, E., X. Zhao. 1997. Television viewing behavior as an indicator of commercial effectiveness. W. D. Wells, ed. *Measuring Advertising Effectiveness*. Lawrence Erlbaum Associates, Mahwah, NJ, 221–237.

Till, B. D., D. W. Baack. 2005. Recall and persuasion: Does creativity matter? *J. Advertising* **34**(3) 47–57.

Torrance, E. P. 1987. *Using the Torrance Test of Creative Thinking to Guide the Teaching of Creative Behavior*. Scholastic Testing Service, Benesnville, IL.

Toubia, O. 2006. Idea generation, creativity, and incentives. *Marketing Sci.* **25**(5) 411–425.

Wells, W., J. Burnett, S. Moriarty. 1995. *Advertising Principles and Practice*, 3rd ed. Prentice-Hall, Inc., Englewood Cliffs, NJ.

Zellner, A. 1962. An efficient method of estimating seemingly unrelated regression equations and tests for aggregation bias. *J. Amer. Statist. Assoc.* **57** 348–368.

Zinkhan, G. M. 1993. Creativity in advertising: Creativity in the journal of advertising. *J. Advertising* **22**(June) 1–4.