

THE EFFECTS OF MEDIA CONTEXT EXPERIENCES ON ADVERTISING EFFECTIVENESS

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ABSTRACT: This study presents a quantitative examination of the qualitative impact of magazines on advertising effectiveness. The research identifies 39 distinct experiences involved in reading magazines. We propose that these experiences are a way of describing the media context for ads that appear in magazines. We show that the large majority of these experiences are related to advertising effectiveness. The more readers experience a magazine as “making them smarter,” for instance, the more effective an ad in the magazine is. A context-free control group is included in the analysis. Heterogeneity across magazines is also examined, and it is further shown that these effects hold over the 100 largest magazines in the United States.

The effectiveness of advertising depends on both the quality of the product being advertised and the quality of the ad itself. A third factor is equally obvious, but receives relatively less attention: the media context in which the ad appears. In advertising practice, the traditional concern of media planning is with evaluating the size, reach, and frequency associated with a medium’s audience. The medium itself is most often viewed as a vehicle that provides exposure, or “eyeballs,” for an ad. Any consideration of the quality of the medium itself as something that might affect reactions to an ad, if considered at all, is typically based on subjective judgments of alternative, and otherwise comparable, media buys.

Over the years, there have been repeated calls from advertisers, agencies, and research suppliers for research on the effects of media contexts, such as print magazine vehicles, on advertising (e.g., Chook 1985; Marc 1966; Philport 1993; Schultz 1979). Media context can, of course, be construed in different ways, but in our view, it is ultimately necessary to characterize “the quality of the medium” from a consumer point of view, that is, the qualitative experience of the medium. There are potentially many dimensions of this experience. Fuchs (1964) found that the prestige of a magazine “rubbed off” on advertisements. Aaker and Brown (1972) examine how the “expertise” and “prestige” of a magazine affect ads. Soldow and Principe (1981) evaluate the effects of whether a

program is “involving” on ads. Tipps, Berger, and Weinberg (2006) study the effect of “involvement” with newspapers and magazines on ads. Bruner and Kumar (2000) study how the background complexity of a Web page affects attitudes toward advertising. Clearly, there are many dimensions of “quality” that can affect reactions to advertising.

The present study goes beyond previous work by proposing a general approach to quantifying how the qualitative experience of the medium is related to advertising effectiveness. The particular medium used is magazines. The first step in our approach is to determine the relevant qualitative reader experiences associated with the medium. Once these experiences have been established, they can be related to the effectiveness of a particular ad appearing in the medium. This relationship will be examined through a quasi-experiment in which readers of a magazine are presented with an ad and asked to evaluate it.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

The impact of media context on advertising effectiveness has received considerable attention in the research literature. Context effects have been approached in terms of differences in media content. Furnham, Gunter, and Walsh (1998), for instance, compare advertising in entertainment television shows versus news television shows. More generally, media context has been identified with the concept of “involvement.” For instance, Norris and Colman (1992) inserted ads in different types of magazine sections and varied the involvement of the sections. Feltham and Arnold (1994) compared participants

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who were highly involved in a program with those who were not involved. These and other studies (e.g., Assmus 1978; Aylesworth and MacKenzie 1998; Danaher and Mullarkey 2003; De Pelsmacker, Geuens, and Anckaert 2002; Goldberg and Gorn 1987; Krugman 1983; Lloyd and Clancy 1991; Lord and Burnkrant 1993; Lynch and Stripp 1999; Winick 1962) point to the existence of media context effects and the need to understand these effects in terms of psychological reaction to the medium.

Involvement, however, is a very loose construct when used to describe media contexts. Andrews, Durvasula, and Akhter point out that “involvement is . . . controversial due to the many different proposals and ideas for conceptualizing . . . and measuring the involvement construct” (1990, p. 27). They give an extensive literature review of different ways that the construct has been operationalized. Marc (1966) defines magazine involvement as how disappointed a person would be “should the magazine stop publication.” Adapting television involvement scales for magazines and newspapers, Tipps, Berger, and Weinberg (2006) measure three factors labeled informational value, emotional connection, and concentration/diversion. Other streams of research, including work on the Elaboration Likelihood Model (ELM), also offer a variety of different operationalizations. In the most extensive review of such work, Johnson and Eagly (1989) can only conclude that the underlying construct is defined generally as a motivational state that implicates the self-concept in a desired outcome, in other words, personal relevance.

What exactly does involvement mean? Involvement certainly means that you care about the medium—in our case, a magazine—and get something worthwhile from reading it. Perhaps it means getting “caught up” while reading it. But how is this different from saying that you like the magazine or that you read it a lot? We propose that there is an advantage to moving beyond the descriptive and rather loose characterization of media contexts in terms of involvement. To do this, we introduce the term *media experiences*, and focus here on consumer magazines. The goal is to capture the qualitative thoughts and feelings people have about a magazine—what it means to like and use a magazine from their perspective. Given all of the different operationalizations of involvement, we should expect many such experiences at some level, but the point is that it is the specific experience that defines involvement. Thus, we present our first research hypothesis:

H1: Reader experiences with magazines are multidimensional. Collectively, these experiences might be referred to as a person's “involvement” or “engagement” with the magazine, but identifying the separate experiences will provide specificity.

Many of the studies mentioned above show that “involvement” affects reactions to advertising. The literature review in Dahlén furthermore proposes three mechanisms to explain this effect. The first is the mood congruency–accessibility hy-

pothesis: “The ad context makes a certain mood or affect more accessible and relieves the processing of stimuli with similar moods or affects” (2005, p. 90). The second is the congruity principle: “The medium and the advertised brand converge and become more similar in consumers’ minds” (p. 90). The third is that the context serves as a cognitive prime that “activates a semantic network of related material that guides attention and determines the interpretation of the ad” (p. 90). All three of these mechanisms apply to our conceptualization of reader experiences. Experiences measure the thoughts and feelings that readers have about a magazine. Along with constituting a mood, they converge with thoughts and feelings produced by an ad and prime additional ad-related information processing. These mechanisms are not alternative theories. It is likely that all three are implicated in media context effects, which leads us to theorize that experiences affect reactions to advertising. More precisely, we hypothesize the following:

H2: Reader experiences with a magazine are related to the attitudes that people have toward advertisements appearing in the magazine (after controlling for other relevant factors).

In outlining potential future research, we discuss how the experiences identified here provide a foundation for further theoretical work. Relevant to this, Cannon proposes a typology of approaches for quantifying the effect of media context. Approaches are either direct (based on advertising effectiveness norms) or indirect (based on characteristics “that bear a theoretical and empirical relationship to advertising effectiveness” [1982, p. 42]). They are also either specific to a particular ad or generalizable across advertisements. Our approach is indirect because experiences have a theoretical and, as we show here, empirical relationship to effectiveness. The results presented here are generalized, but the experiences identified provide the foundation for future research on message-specific effects.

METHOD

The objective of this research is to reach conclusions about how the experiences involved in reading a magazine affect reactions to advertising in that magazine. For this reason, we needed to develop an approach to measuring magazine experiences and a way to test the effects of these experiences on an ad.

Magazine Selection

At some level, experiences with any magazine are unique to its content. But this research postulates and attempts to show that at a more general level, there are experiences that exist across magazines. These are the experiences that can be used across magazines to characterize the media context of an ad. In developing this approach, we first had to define a universe of magazines to study. We chose to use magazines with the largest audiences. By definition, these magazines cover the

reading experiences of a large number of people and span the MRI (Mediamark Research, Inc.) categories of types of magazines.¹ These magazines represent 96.2% of net readers of all MRI-measured titles. (Two titles were excluded; one was no longer published and another did not contain advertising as content. Two business magazines were added to better represent that category.)

Qualitative Phase

Qualitative research generated the initial set of experience items. The second author conducted 100 hour-long interviews with readers. Each interview focused on one of the 100 magazines. Interviews were conducted for 68 of the magazines. Each interviewee regularly read that magazine.

The interviews followed a qualitative format but were structured around the following. Participants were first asked about what they liked or disliked about the magazine. They were then told: "I want to focus now on what reading [*magazine*] is like for you—what the experience of reading it is like. Do you understand what I mean? (If no, this was explained further.) I'll ask you about this in a number of different ways. Try to tell me what reading [*magazine*] is really like for you personally."

Participants were then asked about situations (times, places, etc.). They were probed about reading as an end in itself or as a means to an end or goal. They were asked about talking to others about what they read, how reading made them feel, what kind of mood it put them in, and any behaviors that resulted from reading. They were also asked about their awareness and interest in advertising in the magazine. A final set of probes took the form of complete-the-sentence projective questions. Examples of these are: "When I am *not* reading [*magazine*], I am most likely to think of it when _____." "If I were to pick up [*magazine*] just before going to bed, I would _____." "A name that would better describe [*magazine*] would be _____." "The pictures in [*magazine*] make me _____." "I trust [*magazine*] not to _____." Another set of probes asked them to use a word (e.g., "experience," "want," "anticipate," "helps," "worry") in a sentence about the magazine. The complete set of items generated is given on our Web site (www.medill.northwestern.edu/faculty/malthouse/ftp/magjoa.html). These are shown in the form used in the quantitative survey. Two different orders were used to administer the items on the survey (no order effect was observed).

Survey Phase

The same universe of magazines was also used in the survey phase. Using 100 magazines provides a strong test of whether experiences are common across magazines. We sampled readers of the magazines using a two-wave procedure. The first wave used a mail survey to identify readers of each of the 100 magazines. In the second wave, selected responders from the

first wave were mailed a longer survey containing the experience items from the qualitative research.

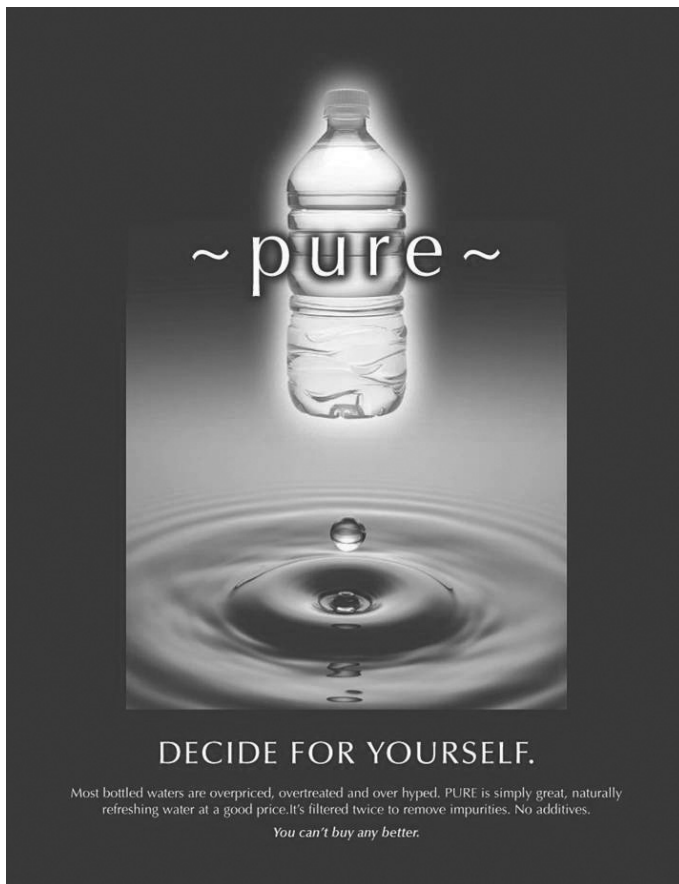
In the first wave, we mailed 22,810 surveys to a random sample of the National Family Opinion (NFO) household panel members. NFO is a leading panel-based marketing research vendor with a consumer panel of 1.7 million U.S. households and over 4 million individuals. This included an oversampling of teenagers, Generation X members, African Americans, and Hispanics. A total of 11,494 usable questionnaires were returned, giving a 50.4% response rate. The survey asked up to three members of the household to complete the survey. The three members were indicated on the survey and selected at random from within-household sampling frames provided by NFO. From the 11,494 returned surveys by households, a total of 19,004 individuals completed the questionnaire. Individuals were asked whether or not they read each of the 100 magazines at least once during a typical month. The 19,004 individual respondents yielded a total of 80,536 person-magazine combinations.

The goal of the second wave was to survey a random sample of readers of each of the 100 magazines. We define a reader as someone who reads or looks into the magazine at least once in a typical month. To avoid complicating the statistical inference, we decided to interview at most one person from each of the households that returned a survey. Each person was asked about one of the magazines they read. Determining which person-magazine combination to select from each household was complicated because (1) we wanted to have approximately the same number of participants for each magazine, and (2) some magazines are more commonly read than others. If we had drawn a simple random sample of households and then one person-magazine combination from each of the selected households, the more widely read magazines would have been overrepresented in the sample while the less common publications would have too few participants. To address this problem, we computed sampling weights for each household-person-magazine combination and used a weighted random sampling procedure to select roughly the same number of people for each of the 100 magazines. The details for these weights are given in Appendix 1. This procedure produces a random sample of household-person-magazine experiences. In total, 4,347 of the 6,085 surveys mailed were returned, giving a 71% response rate to this second wave of the survey. Overall, the response rate was $50\% \times 71\% = 36\%$. Respondents were weighted to the U.S. Census using age, gender, and race, and these weights were used in all analyses.

Measuring Consumer Experiences

One contribution of this paper is to identify and develop measurement scales for specific consumer experiences associated with reading a magazine. To this end, the survey included 220 items, constructed from the qualitative research, relating

FIGURE 1
Advertisement Used in Quasi-Experiment



to the experience of reading a specific magazine. Each item paraphrased a recurring thought or feeling about magazines expressed in the qualitative interviews. The item wording on the survey was the same across magazines, but each participant responded to the items with a specific magazine in mind. The analysis can thus address differences across magazines. The “Results” section documents how exploratory factor analysis and coefficient α were used to develop 39 experience factors. Appendix 2 gives example items, and the complete survey is available on-line at our Web site.

Quasi-Experimental Design

We hypothesized that a person’s qualitative experience with a magazine affects the way a person reacts to advertising in the magazine. To test this hypothesis, we developed an ad for a fictitious bottled water product (see Figure 1). Research participants could not have had prior exposure to either the product or the ad. We chose bottled water as the advertised product because it is at least potentially relevant to everyone, and for this reason, an ad for bottled water might plausibly

appear in any magazine. The format of the ad was intended to reflect typical print advertising.

The media context of the bottled water ad was manipulated experimentally in the following way. Research participants were exposed to the ad as part of the survey (the experience measures were in an earlier section). Participants were told: “This section asks about your reactions to an ad that will appear in the _____ magazine. This ad is for a new bottled water product.” The name of one of the 100 magazines was inserted. Each participant was thus exposed to the ad thinking that it was from a particular magazine. (Furthermore, the magazine was one that the person read and the one with which he or she had rated experiences.) Note that this manipulation of media context is a weak one compared with encountering the ad while actually reading the magazine. This actually provides a strong test of the hypothesis, however. If the magazine experiences affect reactions to the ad in this case, if anything, this effect would be expected to be smaller than in the case of seeing the ad while reading the magazine.

A quasi-experimental design was used to address threats to validity in testing the effect of magazine context on advertising effectiveness. One threat is that the mere measurement of the experiences of a given magazine might itself affect reactions to the ad. Although this would imply that all of the experiences would affect the ad equally, it is at least possible that some of the experience scales could be differentially sensitive to measurement (a measurement \times scale interaction). In this way, merely thinking about how a magazine “makes me smarter” could have produced a higher rating of the ad. Another threat is that any effect on advertising is not due to experiences with a particular magazine context but to experiences with magazines in general (which are correlated with the particular magazine that participants are told contains the ad). Alternatively, the experience with magazines in general could be construed as an individual difference not dependent per se on reading any particular magazines. To assess these threats, we used a context-free control group design. The most important thing about the control group is that the ad was identified only as a magazine ad and was not linked to any particular magazine. Other aspects of the control group related to the specific threats to validity described above.

A control group of 305 magazine readers was employed. This control group was asked about their experiences with reading magazines in general and told only that the ad was a magazine ad. If any effects of the experiences on the ad are due to simply rating the experiences and/or thinking about magazines in general while taking a survey, then the control group should respond in a similar way to those asked about specific magazines. If the experimental group is different from the control group, this indicates that the results do not reflect mere measurement or experiences with magazines in general. In addition to the above specific threats to validity,

this control group design is useful more generally in that the bottled water ad is not linked to any magazine in the control group. The context-free control group is comparable to testing a print ad in isolation.

Because of space constraints, only 124 of the 220 experience items were included in the survey for the control group, so we do not have measurements on all 39 experiences. We are able to assess the effects for many of the experiences, however, and since the main goal of this paper is to establish the existence of these effects rather than optimizing the understanding of this particular ad, this is not crucial for our purposes.

Statistical Control Variables

It is also possible that the experience measures will covary with other variables. To help rule out alternative explanations based on such covariation, we employed two variables to control for factors that might influence reactions to the ad and could be correlated with the experience scales. A person's current bottled water consumption could have a positive relationship with the person's rating of the ad and, conceivably, could be associated with certain magazine experiences. We control for this by including data from the following question in our models: "In a typical month, how many bottles do you drink of any brand of bottled water?" Responses to this question were measured by the six response bins: none, 1–3, 4–5, 6–7, 8–9, and 10 or more bottles.

Also, it is possible that people who have positive experiences with a magazine will like all of the ads in it better, and accordingly, will like the bottled water ad more. To control for this, we also included the question "How much interest do you have in the advertising that appears in [*magazine name*]?" The four response categories were "A lot of interest," "considerable interest," "some interest," and "not much interest." Again, by including these variables in the model, we attempt to rule out other factors that might explain differences in attitudes toward our particular ad, thereby increasing the internal validity of the quasi-experiment. This allows us to be more confident that any results identified by our analysis are due to media context experiences rather than a confounding variable.

Measuring Advertising Effectiveness

We developed a multi-item scale to measure attitude toward the ad. Respondents were asked, "How well does each of the following words describe the ad for Pure in the [*magazine name*]?" The study included the items "interesting," "believable," "warm," "calm," "energetic," "irritating," "imaginative," "soothing," "clever," "personal," and "valuable" (rated on a seven-point scale ranging from "Does not describe the ad at all" to "Describes the ad very well"). These items were selected to be typical of those that are commonly used to test reactions

to advertising stimuli (Bearden and Netemeyer 1999, chap. 5) and to fit the particular bottled water ad tested here. The goal was to obtain an overall measure of attitude toward the ad that could serve as a measure of advertising effectiveness. The "Results" section reports reliabilities and a factor analysis of the items.

It should be noted that this research focuses on attitude toward the ad as a measure of advertising effectiveness. Of course, other measures of effectiveness are possible, and the present results are limited to the measure taken. It should be further noted, however, that the attitude toward the ad measure is sufficient to test the hypothesis that media experiences are related to reactions to an ad. It is possible that H2 might not be verified. This measure is therefore sufficient for the purposes of this study. Similarly, the attitude toward the ad measure could have included other items. We argue only that the items used here constitute a measure of attitude toward the ad, and thus advertising effectiveness, thereby affording the experimental test. It may also be worth noting that presumably other items and other measures would have some degree of correlation with the attitude toward the ad measure used in this study.

Modeling the Relationship Between the Experiences and Attitude Toward the Ad

We study the dependence of attitude toward the ad on experiences using hierarchical linear models (HLM; Kreft and DeLeeuw 1998). Attitude toward the ad is the dependent variable and the independent variables are the experience factor, the bottled water consumption control variable, and the general interest in advertising control variable. We estimate this model for each of the 39 magazine experiences. More precisely, we estimate the model

$$y_{ij} = (\alpha + a_j) + (\beta_1 + b_{1j})x_{1ij} + (\beta_2 + b_{2j})x_{2ij} + (\beta_3 + b_{3j})x_{3ij} + e_{ij} \quad (1)$$

where the subscript i indexes people and j indexes magazines. The attitude toward the advertisement is y_{ij} , the value of the experience factor is x_{1ij} , the amount of bottled water consumed by the respondent is x_{2ij} , and interest in advertising is x_{3ij} . The industry intercept is α , the industry slope for an experience factor is β_1 , the effect for current bottled water consumption is β_2 , and the effect for interest in advertising is β_3 . Random variables a_j and b_{1j} ($j = 1, 2, 3$) are specific effects for magazine j having normal distributions, each with mean 0 and standard deviations σ_{a2} and σ_{b1} , respectively. For example, the effect of an experience on advertising attitude for magazine j is thus the sum of the industrywide effect (β_1) and the magazine-specific effect (b_{1j}). By including random effects for the intercepts and slopes, each magazine can have a different slope and/or intercept.

For the analysis involving the control group, we include a fixed-effect dummy variable x_{4ij} , which equals 1 for the treatment group and 0 for the control group:

$$y_{ij} = (\alpha + \gamma_0 x_{4ij} + a_j) + (\beta_1 + \gamma_1 x_{4ij} + b_{1j})x_{1ij} + (\beta_2 + b_{2j})x_{2ij} + (\beta_3 + b_{3j})x_{3ij} + e_{ij} \quad (2)$$

The term γ_0 adjusts the intercept and γ_1 measures the change in slope for the treatment group. If $\gamma_1 = 0$, then there is no difference between the treatment and control groups, and thus the effect of magazine experiences on attitude toward the ad is the same for a specific magazine as for magazines in general. If $\gamma_1 > 0$, we conclude that the specific magazines affect the slope, thus supporting our theory.

RESULTS

Experience Scale Development

We first factor analyzed all 220 items using the principal components method of estimation and a varimax rotation. There were 41 eigenvalues greater than one, although many eigenvalues were close to one and a scree plot suggested that 30 to 45 factors would be reasonable. The large number of eigenvalues greater than 1 provides strong evidence in support of our first hypothesis, that consumer experiences are multidimensional. Some of the factors had many items. For example, the first rotated factor had 43 items that loaded most heavily on it, with 27 of the loadings greater than .5 and the remaining items with loadings greater than .4. We factor analyzed these 43 items separately and found 10 eigenvalues greater than 1. Our general approach for developing factors from this large set of items was as follows:

1. Factor analyze all items.
2. Run separate factor analyses on each factor from Step 1 to evaluate unidimensionality.
3. If the factor analysis from Step 2 indicates that the scale is unidimensional based on inspection of a scree plot, purify the scale by (a) dropping items with loadings less than .5, and (b) dropping any items that cause coefficient α to increase.
4. If the factor analysis in Step 2 was not unidimensional, we continued to factor the factors until we found unidimensional scales.
5. The final scores (scale values) are the simple averages of the items, after reverse coding items where appropriate.

The analysis resulted in 39 experience scores (factors). Appendix 2 provides the items for eight of the experiences, which were selected to give the reader a sampling of the variety of experiences that consumers have with magazines. For space

reasons, our Web site gives the complete set of experiences, their items, factor loadings from a separate factor analysis of the items, and coefficient α . These experiences characterize the different aspects of being involved with a magazine. For example, experience 2 (“It makes me smarter”) is a different way of being involved with a magazine than experience 15 (“It’s my personal time out”).

A few of the Experience scales had moderately low α values, indicating low reliability. In most cases, the low α values were due to having too few indicators of the underlying construct on the survey. If we had retained fewer factors, the experiences with a low α value would have had higher reliability, but our goal here was to identify as many distinct experiences as possible. In future research, we recommend developing additional items for these scales, thereby improving their reliability.

Attitude Toward the Ad Scale Development

All of the items loaded on one factor with the exception of the “valuable” item, which loaded on a second factor. After omitting the “valuable” item, the other 10 items loaded on a single factor, with one eigenvalue greater than 1 and factor loadings ranging from .81 to .69. Coefficient α was .92, indicating a highly reliable scale. We will use the 10-item scale as the dependent variable in our analyses because it is more reliable and spans the construct domain better than a single item. (We have repeated the HLM analyses using “valuable” as the dependent variable and found that some experiences have a highly significant effect on valuable, showing that the central conclusion of this paper is robust to this change in the way that the attitude toward the ad is operationalized.)

HLM Without Control Group

We estimate the model in equation (1) for each of the 39 magazine experience factors, with estimates shown in Table 1. The third column gives the slope for the experience averaged across magazines (β_1). The fourth column gives the p value testing the null hypothesis that the slope is zero ($H_0: \beta_1 = 0$) versus a two-sided alternative. All but three of the experiences have significant effects on the attitude toward the bottled water ad. The largest slope is for experience 3 (“The stories absorb me”), with $\beta_1 = .60$, indicating that the more stories in the magazine absorb the reader, the more favorable the reader is to the bottled water ad. Other experiences with particularly large effects on attitude as indicated by their slopes include 19 (“I like some of the ads a lot”), 5 (“I find the magazine high quality and sophisticated”), 32 (“I often reflect on it”), 2 (“It makes me smarter”), and 4 (“I trust it”). It is particularly interesting that many of the experiences that have the strongest relationship with attitude toward the ad are not explicit advertising-related experiences.

TABLE I
Effects of Magazine Experiences on Attitude Toward the Advertisement, After Controlling for
Current Bottled Water Consumption and General Advertising Interest

Number	Experience label	β_1	p value	σ_{b1}	p value
3	The stories absorb me	.60	<.0001	.053	.002
19	I like some of the ads a lot	.55	<.0001	.063	.001
5	I find the magazine high quality and sophisticated	.53	<.0001	.057	.004
32	I often reflect on it	.53	<.0001	.072	.000
2	It makes me smarter	.52	<.0001	.066	.001
4	I trust it	.51	<.0001	.050	.126
25	I learn things first here	.50	<.0001	.066	0
8	It improves me and gets me to try new things	.49	<.0001	.084	0
28	I feel good when I read it	.48	<.0001	.050	.096
15	It's my personal time out	.48	<.0001	.063	.002
13	It grabs me visually	.47	<.0001	.066	.001
27	It's brief and easy to read	.47	<.0001	.035	.276
30	I find unique and surprising things	.47	<.0001	.059	.046
35	I get a sense of place	.46	<.0001	.069	0
7	I'm inspired	.46	<.0001	.062	.034
22	It's relevant and useful to me	.44	<.0001	.064	.003
24	It's for people like me	.43	<.0001	.070	0
29	I like seeing people of color in this magazine	.42	<.0001	.053	.001
1	I get value for my time and money	.41	<.0001	.061	.001
16	It helps me look good; it's sensual, even sexy	.41	<.0001	.073	.055
6	I'm touched	.40	<.0001	.053	.067
10	I build relationships by talking about and sharing it	.38	<.0001	.056	.074
33	I like its seasonality	.38	<.0001	.050	.020
14	It helps me keep track of celebrities	.34	<.0001	.055	.009
17	I read the ads	.34	<.0001	.072	.002
31	It's part of my routine	.33	<.0001	.064	.001
38	I relate to the ads	.32	<.0001	.070	.014
34	I feel I know the writers	.28	<.0001	.073	0
37	I think others in the household would enjoy this magazine	.25	<.0001	.068	.001
9	It reinforces my faith	.23	<.0001	.077	.005
23	I keep or share articles	.22	<.0001	.077	.009
21	It leaves me feeling bad	.16	<.0001	.040	.231
11	I save and refer to it	.15	<.0001	.076	0
12	This magazine's Web site is important to me	.15	<.0001	.087	.004
36	I want more ad information	.14	<.0001	.054	.048
39	It requires me to focus	.11	<.0001	.063	.024
18	I dislike some of the ads	.03	.3904	.000	—
26	This magazine irritates me	.03	.4278	.061	.100
20	It disappoints me	.02	.5515	.000	—

The only three magazine experiences that do not have significant slopes, indicating that they have no effect on attitude toward the ad, are 18 (“I dislike some of the ads”), 26 (“This magazine irritates me”), and 20 (“It disappoints me”). The fifth and sixth columns quantify whether these slopes vary across magazines by giving σ_{b1} and a p value testing whether $\sigma_{b1} = 0$. For *these three* experiences, the variation across magazines is not significant, suggesting that these experiences do not affect the ad for any magazine.

There is significant variation across magazines for most of the other experience factors. For example, consider experience 3 (“The stories absorb me”), where $\beta = .60$ and $\sigma_{b1} = .053$.

The p value for σ_{b1} is .0021, so we conclude that there is significant variation across magazines in the effect of this experience on the attitude toward the ad. For some magazines, the effect (slope) of this experience is stronger than for others. Invoking the normality assumption, we conclude that 68% of magazines have slopes between $.60 \pm .0533$. Note that the slope is positive for all magazines, meaning that having this experience has a positive effect on attitude toward the ad across magazines. The effect is stronger for some magazines than for others, however.

We do not report the slopes of the statistical control variables for each of the 39 models. The estimates are provided

TABLE 2
Reliability of Scales Used in Hierarchical Linear Models (HLM) Analysis with Control Group

No.	Label	Items	Correlation with full scale	Treatment group α	Control group α
19	I like some ads a lot	4/4		.69	.57
2	It makes me smarter	7/9	.9803	.87	.59
4	I trust it	5/5		.84	.66
25	I learn things first here	4/4		.75	.58
15	It's my personal time-out	11/12	.9952	.90	.65
1	I get value for my time and money	6/9	.9658	.90	.79
10	I build relationships by talking about and sharing it	6/6		.83	.72
11	I save and refer to it	3/3		.82	.66
18	I dislike some of the ads	5/7	.9555	.78	.49
20	It disappoints me	4/12	.8177	.83	.61

on our Web site. For each of the experience factors, the effect of current bottled water consumption is positive and around $\beta_2 = .10$. This indicates that the more people drink bottled water, the more they like this ad. Likewise, the slopes for the other control variable measuring how much respondents like ads in general have a slope of about $\beta_3 = .25$, indicating that the more respondents like ads in general, the more they like this ad. The effect of this covariation is what is controlled for in the models.

That most experiences have a significant effect on attitude toward the ad across magazines after controlling for general ad interest and current consumption provides strong evidence in support for the hypothesis that these qualitative experiences influence advertising effectiveness in a robust way.

HLM Analysis with Control Group

Recall from the "Method" section that the purpose of this analysis is to investigate whether the effect on the ad is due to the experiences a consumer has had with a specific magazine or to mere measurement or experiences with magazines in general. The control group referred to magazines in general rather than to a specific magazine. The ad in the control group was thus tested without reference to a magazine. The treatment and control groups were otherwise equivalent in all ways.

As discussed earlier, 124 of the 220 experience items were included in the survey for the control group. In addition to not having all the items, some items may have been more difficult to evaluate without a specific magazine in mind. Consequently, we evaluated the reliability of every experience for the control group only. The 10 experiences that had three or more items and reasonable reliability are listed in Table 2. For example, seven of the nine items for experience 2 ("It makes me smarter") were included in the control-group survey. The correlation between the seven-item reduced scale and the nine-item original scale is .9803. The reduced scale will be

used for all respondents, including the treatment group, in this analysis. For the treatment group, α is .87, and for the control group it is .59. The reliabilities are systematically smaller for the control group, even for those experiences where all of the items were on the survey. This is likely due to the fact that respondents were not describing a specific stimulus.

Table 3 gives the estimates from the model in equation (2). Consider factor 2—"It makes me smarter." The slope for the treatment group is $\gamma_1 = .61$ greater than for the control group. The p value, .0022, allows us to reject the null hypothesis that $\gamma_1 = 0$, and conclude that the slope is greater for the treatment group than for the control group. The slope for the control group is $\beta_1 = -.10$ and the industry slope for the treatment group is the sum $.61 - .10 = .51$. The p value .6112 indicates that we cannot reject the null hypothesis that $\beta_1 = 0$, which indicates that the experience has no effect on advertising effectiveness for the control group. The slope for the treatment group is significantly greater than that for the control group for the six experiences. These results support the validity of the relationship between the experiences and ad effectiveness.

CONCLUSIONS

This research confirms that involvement with magazines constitutes a rich set of multidimensional experiences. It identifies specific experiences and develops reliable scales for quantifying the extent to which a magazine provides each experience. It demonstrates that the way a person experiences a magazine can affect the way the person reacts to advertising in the magazine. For example, people who find that the stories in a magazine absorb them also have more positive reactions to the advertising in the magazine. Therefore, other things being equal, an advertisement in a magazine with absorbing stories is worth more to the advertiser than the same ad in a magazine that provides lower levels of this experience. We find these effects across the 100 largest magazines and quantify

TABLE 3
Effects of Control Group and Experience on Ad Effectiveness for Hierarchical Linear Models (HLM) Analysis with Control Group After Controlling for Current Bottled Water Consumption and General Advertising Interest

No.	Label	γ_1 (SE)	p value (H0: $\gamma_1 = 0$)	β_1 (SE)	p value (H0: $\beta_1 = 0$)
19	I like some ads a lot	.48 (.152)	.0016	.08 (.148)	.6115
2	It makes me smarter	.61 (.199)	.0022	-.10 (.197)	.6112
4	I trust it	.39 (.146)	.0073	.12 (.142)	.4151
25	I learn things first here	.42 (.152)	.0060	.09 (.148)	.5455
15	It's my personal time-out	.67 (.219)	.0022	-.19 (.218)	.3762
1	I get value for my time and money	.49 (.151)	.0012	-.10 (.149)	.5193
10	I build relationships by talking about and sharing it	.16 (.165)	.3360	.22 (.163)	.1755
11	I save and refer to it	.10 (.149)	.5189	.06 (.148)	.7043
18	I dislike some of the ads	-.16 (.160)	.3134	.17 (.156)	.2681
20	It disappoints me	-.04 (.140)	.7488	.03 (.137)	.8498

Note: SE = standard error.

the variation across magazines; in most cases, the effects of experiences on the attitudes toward an ad hold very generally across magazines.

The most striking thing about the results reported here is just how many of the different experiences identified for magazines are related to advertising effectiveness. Thirty-six of the 39 different magazine experiences are related to effectiveness. And the three unrelated experiences are all negative. The ad was unaffected by whether the magazine experience involved a general dislike of the ads in the magazine or whether the person was often disappointed or irritated by stories in the magazine. It appears that magazines that bring any strong positive experience to an ad tend to increase the effectiveness of that ad, but negative experiences do not hurt the ad. Exploring this asymmetry further in future research would be useful. It may be that the asymmetry exists for magazines because of the high degree of choice involved in magazines. People may feel less control with newspapers or television. If so, negative experiences might affect advertising more.

It should also be noted that the experiences were not equal in their impact. Different experiences had different effects on advertising. This, along with the control group results and the statistical covariates, argues for the validity of the results. Moreover, it suggests that future research comparing how experiences differentially affect different types of ads would be useful.

At this point, these conclusions are, of course, subject to the limitations of the methodology of this study. Three points should be kept in mind. First, it would be desirable to study other measures of advertising effectiveness. We believe that the attitude toward the ad measure used here is sufficient for testing the media experiences-effectiveness hypothesis, but it will be of interest to explore this relationship with

other dependent variables. Second, only one ad was used in the research. No matter how "representative" this ad might be, further research is called for to examine different product categories and types of advertising execution. For example, the slope for experience 25 ("I learn things first here") may be even stronger for a new high-tech product than for our bottled water ad. The goal of this research was to identify media context experiences and to test whether they *can* affect advertising. Further work is obviously needed to determine when and how these effects occur. Moreover, the relationship between experiences and advertising creative requires further theorization. Experiences could facilitate testing of the mood congruency-accessibility hypothesis and the congruity principle. For example, we would expect advertising stimuli with a personal time-out/relaxation theme to receive better ratings in publications that deliver high levels of this sort of experience. Likewise, advertisements that are "high quality and sophisticated" should perform better in magazines that deliver this experience. Aaker and Brown (1972) demonstrate this effect in one situation; the 39 experiences proposed here provide a general way of matching publications and advertising/product stimuli. To use our system, media planners would need to have measurements of various experiences for the publications under consideration. The planner would then match characteristics of the advertisement being placed with experiences of the publication.

Third, it would also be desirable to conduct future research with actual insertion of ads in magazine pages. This might have some value in being a more "realistic" methodology with potentially better external validity. We note, however, that at best, achieving external validity through matching a research setting with some "real" context is always fraught with difficulty (Calder, Phillips, and Tybout 1983; Sternthal, Tybout,

and Calder 1987). It is never possible to duplicate the exact context, or even to know what key variable might be missing. In our view, additional work with actual ad insertions would be most valuable in allowing further theoretical issues to be addressed.

The present results might be best thought of in terms of the “chronic” experience of the medium, how it is typically experienced over time. One can distinguish between this and the “acute” experience of content adjacent to the ad. Actual ad insertions could be used to explore the possible differences between chronic and acute effects in future research. In particular, the placement of ads relative to story content can only be addressed in this way and ad effects may vary with this in important ways (Wang and Calder 2006).

Taking into consideration the limitations of this study, we conclude, based on a systematic exploration of the distinct qualitative experiences associated with magazines, that the effects of these media context experiences on advertising effectiveness are potentially pervasive and in great need of further investigation.

NOTE

1. The MRI categories are automotive, babies, bridal, business/finance, children, computers, entertainment, epicurean, fishing and hunting, fitness, general, golf, health, home/garden, home service, lifestyle, men's, music, news weeklies, parenthood, science/technology, sports, teen, travel, women's fashion, women's entertainment, and women's health.

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APPENDIX 1

Wave II Sampling Procedure

This appendix documents the sampling weights used to select households and person–magazine combinations so that approximately equal numbers of participants are selected from each magazine. Let I denote the number of households, J the number of magazines in the study (here $J = 100$), m_{ij} the number of people in household i who read magazine j , n the total sample size, and $m_j = m_{1j} + \dots + m_{Ij}$ the total number of people who read magazine j . We can now define weights for magazines and households, with their justification below. Let the weight assigned to magazine j be $v_j = 1/m_j$ and the weight assigned to household i be

$$w_i = \sum_{j=1}^J v_j m_{ij}.$$

We will select the household–person–magazine combinations in two stages. The first stage is to select households. Once the households have been selected, the second stage is selecting the person–magazine combinations. In the first stage, we selected household i with probability

$$p_i = \frac{nw_i}{\sum_{i=1}^I w_i} = \frac{nw_i}{w}.$$

Note that the sum of these probabilities is n , the sample size. In the second stage, we selected magazine j with household i with probability $q_{ij} = v_j m_{ij}/w_i$. If more than one person in the household read selected magazine j , we selected a *reader* at random from the

household, where each reader had the same probability. Note that for each household,

$$\sum_{j=1}^J q_{ij} = \frac{1}{w_i} \sum_{j=1}^J v_j m_{ij} = \frac{w_i}{w_i} = 1.$$

The goal of these sampling weights is to produce a sample of household–person–magazine combinations such that each magazine will have approximately the same number of participants in the final sample. We will now show that this sampling procedure produces this result. Let X_j be a random variable indicating the number of people selected for the sample who read magazine j . Under the proposed sampling plan, we will show that $E(X_j) = n/J$, which does not depend on the magazine sampled, implying that the expected sample size is constant across magazines. The proof is as follows:

$$\begin{aligned} E(X_j) &= \sum_{i=1}^I p_i q_{ij} = \sum_{i=1}^I \frac{nw_i}{w} \times \frac{v_j m_{ij}}{w_i} \\ &= \frac{nv_j}{w} \sum_{i=1}^I m_{ij} = \frac{nv_j m_j}{\sum_{i=1}^I \sum_{j=1}^J v_j m_{ij}} \\ &= \frac{nv_j m_j}{\sum_{j=1}^J \sum_{i=1}^I m_{ij}} = \frac{nv_j m_j}{\sum_{j=1}^J v_j m_j} = \frac{n}{J}. \end{aligned}$$

The last cancellation occurs because $v_j = 1/m_j$, which motivates our selection of the magazine weights in this way.

APPENDIX 2

Eight Experiences

Experience 2: It makes me smarter ($\alpha = .87$)

I look at the magazine as educational. I am gaining something. It is important to remember later what I have read in this magazine.

I get ideas from the magazine.

It addresses issues or topics of special concern to me.

The magazine stimulates my thinking about things.

I am mentally involved when reading it.

It updates me on things I try to keep up with.

I remember at least some of the things I have read in the magazine for a long time.

Even if I disagree with things in the magazine, I feel I have learned something.

Experience 6: I'm touched ($\alpha = .87$)

It helps me to see that there are good people in the world.
Some articles touch me deep down.
It features people who make you proud.
The magazine definitely affects me emotionally.

Experience 10: I build relationships by talking about and sharing it ($\alpha = .83$)

A big reason I read it is to make myself more interesting to other people.
I like for other people to know I read this magazine.
Reading this magazine is a little like belonging to an organization or a group.
I like to have this magazine around so that others might read it.
I show some things in this magazine to people in my family so they will understand.
I bring up things I've read in the magazine in conversations with many other people.

Experience 13: It grabs me visually ($\alpha = .83$)

I like to look at the pictures even if I don't read the story.
Most often I look at the pictures before reading the article.
I like to look at pictures for awhile.
I look at the pictures in it and think "Wow."
I sometimes show a picture in it to someone else.
The magazine uses pictures to convey important information.
The cover really makes me want to read the magazine.
While reading the magazine, I like to picture things in my own mind.

Experience 15: It's my personal time out ($\alpha = .90$)

It is a quiet time.
I like to kick back and wind down with it.

Reading this magazine is my time alone.
My goal is to relax with the magazine.
It's an escape.
It's a treat for me.
The magazine takes my mind off other things that are going on.
It is my reward for doing other things.
I feel less stress after reading it.
It is important to me to get comfortable when I read it.
When I read this magazine, I lose myself in the pleasure of reading it.
Reading this magazine is a bit of a luxury.

Experience 17: I read the ads ($\alpha = .74$)

I like the ads as much as the articles.
I look at most of the ads.
I make a special effort to skip over and avoid the ads.
I read ads because they are there.

Experience 20: It disappoints me ($\alpha = .83$)

I try to skim the articles as quickly as I can.
I find my mind wandering while reading this magazine.
I find myself reading less of the magazine than I used to.
Some of the articles I start but don't finish.
I only read the articles that I especially want to read.
Sometimes I feel it is the same from issue to issue.
While I am reading the magazine, the activity going on in the room around me is also on my mind.
It's mainly good for when I don't have anything else to do.
It can be pretty shallow.
After finishing the magazine, I find it easy to put it out of my mind.
I tried to cover too much. They should split it up.
Some people would think this magazine is dumb.