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## **“Stay Tuned—We Will Be Back Right After These Messages”: Need to Evaluate Moderates the Transfer of Irritation in Advertising**

Bob M. Fennis and Arnold B. Bakker

*Studies on irritation in advertising have primarily focused on commercial attributes that produce negative reactions to that commercial and the brand advertised. The present study extends this line of research by examining the carryover effects of irritation previously elicited by either disliked ads or a large number of ads (embedded in a documentary) to an unrelated, neutral ad (at the end of the documentary). We hypothesize that people with a high need to evaluate (NE) will show such a transfer of irritation more clearly than will low NE individuals. The results confirm this hypothesis; high NE individuals were (1) more irritated after exposure to disliked or many ads and, consequently, (2) more negatively affected in their evaluations of the neutral ad and brand. The theoretical and practical implications of the findings are discussed.*

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### **Introduction**

Does irritation elicited by disliked advertisements have negative consequences for the effectiveness of another ad for a different brand that is broadcast later during the same television program? Previous research has identified irritation as a prevalent response to disliked commercials (e.g., Aaker, Stayman, and Vezina 1988; Barling and Fullagar 1983) and has shown that irritating ads generally result in reduced persuasion (Aaker and Stayman 1990; Duncan and Nelson 1985). Such studies have shown that content factors inherent to a specific commercial may have adverse effects on attitudes toward that commercial. However, none of the earlier advertising studies has explored the hypothesis that the audience's feelings of irritation in response to a series of disliked commercials may transfer to the attitude toward a subsequent commercial and brand. In today's television climate, in which the prominent presence of advertising constitutes an important part of the viewing experience, this irritation transfer may have far-reaching implications for the effectiveness of television advertising.

Although several studies have examined the impact of viewing context on commercial effectiveness (e.g., Broach, Page, and Wilson 1995; Goldberg and Gorn 1987), most have varied the program context, not the advertising context (but see Aaker, Stayman, and Hagerty 1986; Sharma 2000, for exceptions). Nevertheless, commercials broadcast earlier during a television program may be expected to have an impact on the effectiveness of advertisements aired later during the same program, because they can induce a dominant mood or feeling state that affects perceptions of a subsequent commercial (e.g., Gardner 1985). Such proactive carryover effects may occur through a process of excitation transfer (Zillmann 1983). Excitation transfer theory states that residual sympathetic excitation from preceding emotional behaviors may transfer to unrelated experiences because such sympathetic arousal is assumed to be largely nonspecific. Zillmann (1983) has argued that individuals may associate such excitatory reactions at later times with unrelated stimuli, regardless of the hedonic valence of the antecedent affect. Thus, affective reactions to subsequent stimuli may be intensified.

Studies using the excitation transfer paradigm have generally supported this contention but have mainly focused on the effects of program context, not advertising context. For example, research by Mattes and Cantor (1982) shows that both positive and negative affective reactions to fictional program content enhance favorable evaluations of subsequently presented commercials. That is, the residual excitation evoked by the fictional programming intensifies the evaluative response to the commercials. Furthermore, Mundorf, Zillmann, and Drew (1991) have studied the impact of emotionally disturbing news programming on the recall of subsequently presented commercials and found that the arousal caused by the emotionally disturbing news segment interfered with commercial recall.

Although excitation transfer theory is rather unspecific with regard to the effects of the valence of such affect transfer (positive or negative), hedonic compatibility frameworks, such as social judgment theory (Sherif and Hovland 1961) or adaptation level theory (Helson 1964), suggest that the association may take the form of assimilation or contrast with the prior induced affective state, depending on the degree of perceived similarity between the preceding stimulus or anchor and the subsequently presented stimulus (Mundorf and Zillmann 1991). When a subsequent stimulus is perceived to be similar in nature to the one(s) that previously evoked the affective reactions, the affective valence (positive or negative) may be transferred by a process of assimilation, thereby affecting evaluative judgments (attitudes) in the same direction as the preceding stimulus. Dissimilar stimuli are expected to be contrasted. In addition, according to social judgment theory (Sherif and Hovland 1961), this process is moderated by (ego) involvement. In low involvement situations, the likelihood of a contrast effect generally decreases. Because the typical television advertising context can be viewed as a relatively low involvement situation (Krugman 1965), commercials may be perceived as largely similar, which makes the case for an assimilation process of affect transfer on attitudes plausible. Furthermore, in such a low involvement situation, in which there is low motivation to process brand-specific information, affective responses to advertising may have an increased impact on attitudes (Holbrook and Batra 1987), and the attitude toward a given ad ( $A_{Ad}$ ) may have a significant impact on the attitude toward the brand ( $A_b$ ; Lutz 1985; MacKenzie and Lutz 1989).

Following this line of reasoning, the central aim of the present study is to examine whether negative affective reactions to earlier broadcast commercials (i.e., feelings of irritation) carry over and negatively affect the attitude toward another, unrelated commercial and brand aired later in the same commer-

cial pod or in a different pod aired later during the same television program. In addition, we will examine the process by which such affect transfer might be shaped. This process may depend on both commercial and individual attributes.

### Factors Causing Irritation

*Commercial Attributes.* What causes irritation in advertising? It has been shown that factors associated with increased irritation in advertising include the use of contrived, phony, or overdramatized situations; personal criticism in terms of appearance, knowledge, or sophistication; and threats to an important relationship (Aaker and Bruzzone 1985). In contrast, factors such as good casting and story lines; the creation of a light, happy mood; and attempts at amusement appear to be associated with reduced irritation. In addition to these factors associated with commercial content, the sheer frequency of commercials in a given time frame of programming (the extent to which a program is interrupted by commercial messages) may foster feelings of irritation, regardless of their specific execution.

An interesting result of Aaker and Bruzzone's (1985) study was that irritation levels varied by socioeconomic level. The white-collar, higher income, college-educated viewer experienced significantly more irritation than did the blue-collar, less-educated viewer.

*Individual Attributes.* This latter finding suggests that individual differences may play an important role in the way advertisements are processed and evaluated. If viewers do not care too much about commercial breaks or about what it is that interrupts their favorite program, increased exposure to commercials need not necessarily result in increased irritation, and disliked ads need not elicit more negative reactions than do well-liked ads. It seems reasonable to assume that irritation is dependent on viewers' motivation to pay attention to and evaluate the ads. Such motivation may depend on individual difference characteristics. Indeed, the moderating effects of individual difference variables on the effectiveness of advertising are well established by studies, including those on the role of self-monitoring (e.g., Celuch and Slama 1995; DeBono and Packer 1991) and the need for cognition (Cacioppo and Petty 1982; Haugtvedt, Petty, and Cacioppo 1992). Both traits moderate the motivation to process brand-specific information in advertisements, as a function of either the degree of perceived compatibility of the brand's attributes to the individual's social orientation (self-monitoring) or the extent to which the individual is motivated to

engage in extensive issue-relevant thinking (need for cognition). However, for the present study, another individual difference factor that explicitly addresses the valence of processing may be of particular relevance.

Jarvis and Petty (1996) have shown that there are stable individual differences in the chronic tendency to engage in evaluative responding (to products, social issues, future behaviors, and so forth), which may have important implications for persuasion. They developed the need to evaluate scale (NES) and demonstrated that this scale possesses high internal consistency, high test-retest reliability, and convergent and discriminant validity when compared with other stable individual differences. Three studies supported the predictive validity of the NES. In the first validation study, people were simply asked to write about the events of their previous day (Jarvis and Petty 1996, Study 3). Participants' narratives were divided into thought segments, and these segments were coded as to whether they expressed evaluative content (e.g., "Some of the songs at the concert were really good") or not (e.g., "Woke up at 8 AM and took my dog out first thing"). Subjects who were high in the need to evaluate (NE) wrote nearly twice as many evaluative thought segments as did those with a low NE. This finding was replicated in a second validation study (Jarvis and Petty 1996, Study 4), which showed that the extent of participants' evaluative responses to relatively novel stimuli (i.e., paintings from various styles and periods) could be predicted by their scores on the NES (see also Petty and Jarvis 1995).

These results suggest that NE moderates the extremity of evaluative responses to stimuli. Note, however, that the NE construct is not expected to moderate the extent of processing, in contrast to such individual difference characteristics as the need for cognition (Cacioppo and Petty 1982). That is, people high in NE are not expected to be more motivated to engage in extensive message-relevant thinking than are individuals low in NE. However, high NE individuals are expected to engage in more evaluatively polarized responding compared with people who have low NE. Thus, NE primarily moderates the degree of polarization of the direction or valence of processing, without affecting the elaboration likelihood per se. This notion may be of particular importance for the topic under consideration here, as the extremity of affective responses to advertising may be a function of NE. For example, high NE persons may respond with extreme feelings of annoyance in reaction to an overdramatized commercial for a detergent, in which the actress exaggerates her reaction to a stain on her favorite dress. Low NE persons would be less affected.

To summarize briefly, irritation evoked by previously broadcast commercials may negatively influence the effectiveness of subsequently presented commercials. Recent research suggests that such irritation in advertising may be caused by both commercial and individual attributes. In addition, Jarvis and Petty's (1996) studies provide experimental evidence for the idea that there are stable individual differences in the need to engage in evaluative responding. Because irritation can be conceived of as an affective response with a negative evaluative valence, the magnitude of feelings of irritation may be a function of NE.

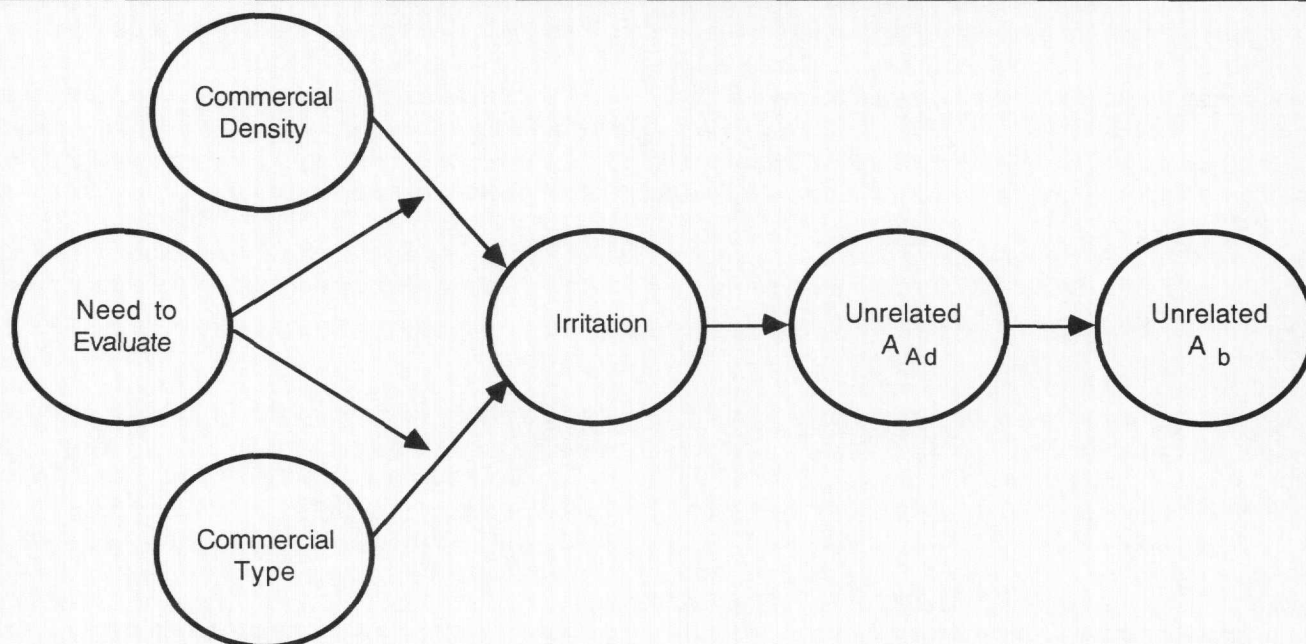
### Objectives

In this study, low and high NE subjects were exposed to a television program that was interrupted by either a few or many commercials. Furthermore, half of the sample was exposed to amusing, well-liked commercials, whereas the other half was exposed to disliked commercials (according to a pilot study). We predict that our manipulation of commercial density (frequency of ad exposure) will have the greatest impact on feelings of irritation for individuals with a high (versus low) NE (Hypothesis 1). In a similar vein, we expect that our manipulation of commercial type will have a greater impact on feelings of irritation for individuals high (versus low) in their NE (Hypothesis 2). Thus, it is assumed that NE moderates the impact of both commercial density and commercial type on irritation.

It is conceivable that high NE persons will show more feelings of irritation to disliked ads in high (versus low) density conditions. At present, however, it is unclear whether irritation is an additive or multiplicative phenomenon. A test of the three-way interaction effect is therefore included for exploratory reasons.

Several studies have provided support for the contention that the effects of feelings such as irritation are mediated by or conditional on  $A_{Ad}$ , by demonstrating that feeling responses to a persuasive communication influence  $A_{Ad}$  and that  $A_{Ad}$  further acts as a mediator or intervening variable of the effect of those feelings on brand attitude (e.g., Batra and Holbrook 1990; Batra and Ray 1986; Edell and Burke 1987; Holbrook and Batra 1987; Lutz 1985). On the basis of these findings and Hypotheses 1 and 2, we propose a model of irritation transfer in advertising that is depicted in Figure 1. Assuming that the process of excitation transfer will be one of assimilation (and not contrast), we hypothesize that feelings of irritation elicited among high NE individuals by disliked ads or exposure to many ads will have a negative impact on

Figure 1  
A Model of Irritation Transfer in Advertising



their attitude toward another, unrelated advertisement. In addition, this  $A_{Ad}$  will act as an intervening variable of the effect of irritation on the attitude toward the brand advertised,  $A_b$  (Hypothesis 3).

Because the feelings of irritation are not a property of the target ad (in contrast to affect studies such as those by Batra and Holbrook [1990] and Holbrook and Batra [1987]) but instead are evoked by previously shown commercials, no direct impact of commercial type or commercial density on attitudes is expected. Instead, irritation can be viewed as a necessary precursor of these effects and is therefore expected to function as a conditional variable for the effects of commercial type or commercial density on  $A_{Ad}$ . Following the same reasoning,  $A_{Ad}$  should act as a conditional variable of the impact of feelings of irritation on  $A_b$ .

Finally, research by Isen and Shalcker (1982) has demonstrated that a transfer of context-induced affect is most clearly discernable for stimuli that are neutrally (rather than positively or negatively) rated. Therefore, we examine the carryover effect of a specific type of context-induced affective response (irritation) to an unrelated, neutrally rated commercial.

In summary, the objectives of this study are to examine whether the effects of both commercial type and commercial density on irritation are moderated by NE and whether such irritation may transfer to

the attitude toward the ad and the attitude toward the brand of a subsequently presented, unrelated, and neutrally rated commercial.

## Method

### Participants and Design

The sample included 30 male and 86 female undergraduate students from Utrecht University, The Netherlands, who had a mean age of 21 years. They participated in a 2 (commercial type: disliked, liked)  $\times$  2 (commercial density: low, high) between-subjects factorial design with NE as a continuous variable. Dependent variables were irritation, attitude toward the ad ( $A_{Ad}$ ), and attitude toward the brand ( $A_b$ ). The students were randomly assigned to the experimental conditions and were paid 10 Dutch guilders (approximately US\$4) for participation.

### Procedure

Upon their arrival, participants were greeted by the experimenter and seated in cubicles so that visual contact between them was impossible. They could only watch a television screen. They were told that the study was conducted in collaboration with a large Dutch broadcasting corporation. Participants were

requested to give their opinion on a television program, ostensibly as part of a larger study on social judgment processes in television viewing. Before they were exposed to the television program, participants were asked to fill out a questionnaire, which included the NES and some demographic questions. The program consisted of a 30-minute documentary on capital punishment, interrupted by either a few (3) or many (30) disliked or well-liked commercials. The last commercial to which participants were exposed was a neutral commercial for a brand of toothpaste (see "Independent Variables").

After viewing the television program, participants were handed a booklet that contained the dependent measures, including the irritation measure, the  $A_{Ad}$  and  $A_b$  measures referring to the neutral ad and brand, and the manipulation checks. After they completed the questionnaire, participants were debriefed, thanked for their participation, paid the 10 guilders, and dismissed.

### Independent Variables

*Commercial Type.* This variable had two levels, namely, disliked and well-liked commercials. In a pilot study, 210 randomly selected television commercials were taped and voluntarily evaluated by an independent sample of 45 student judges. To minimize the likelihood of boredom or annoyance as a result of having to judge a relatively large number of commercials, these 210 advertisements were divided in three pools of 70 commercials. Fifteen judges then evaluated each pool. None of the judges indicated being bored or annoyed by the task. The commercials were rated on four nine-point semantic differential scales (bad-good, irritating-not irritating, annoying-not annoying, and boring-not boring), which were intended to form a commercial liking index. Scores for each commercial on these four items were averaged, provided that Cronbach's alpha for the liking index exceeded .70. For 10 commercials, the alpha coefficient remained less than this value, and therefore, these commercials were removed from the sample. The mean liking scores of the remaining 200 reliably measured commercials were then ranked, which enabled us to select the 30 most disliked ( $M=2.36$ ; mean variance=2.44) and the 30 most liked ( $M=7.10$ ; mean variance=2.90) commercials. In addition, this ranking offered the possibility of selecting the neutral commercial on which the transfer of irritation could be examined (the 100th commercial in the ranking with a mean liking score of  $M=4.75$ ; mean variance=5.90). This was a health-related commercial for a brand of toothpaste.

*Commercial Density.* In the low commercial density condition, the program on capital punishment was interrupted only once by a commercial slot comprised of three disliked or three well-liked commercials, followed by the neutral commercial. In the high density condition, the program was interrupted by six commercial slots, each consisting of five disliked or five well-liked commercials. The last commercial break closed with the neutral commercial.

*Need to Evaluate.* The NE was assessed using a Dutch translation of Jarvis and Petty's (1996) NES. This scale consists of 16 six-point Likert statements and proved to possess a satisfactory reliability (Cronbach's alpha=.84). Comparable to the original scale, a factor analysis yielded one major factor (eigenvalue of 4.93), which indicates a unidimensional construct. The NES includes such items as: "I form opinions about everything," "It is very important for me to hold strong opinions," "I like to have strong opinions even when I am not personally involved," and "I enjoy strongly liking and disliking new things" (see Jarvis and Petty 1996 for a complete listing of the items).

### Dependent Variables

*Irritation.* The irritation experienced during the viewing of the television program was measured using seven Likert statements. Participants were asked to indicate to what extent the commercials were annoying, irritating, boring, and bothersome. In addition, they were asked to what extent the commercials constituted a pleasant break from the program (recorded), distracted unpleasantly from the program, and formed a troublesome, irritating interference with the program (1=totally disagree, 5=totally agree). Scores on the items were averaged to form one irritation index. The reliability of this scale was satisfactory (Cronbach's alpha=.87). A confirmatory factor analysis yielded a one-factor solution ( $R^2=.60$ ).

*Attitude Measures.* Participants responded to two different attitude measures. Attitude toward the ad ( $A_{Ad}$ ) was measured using three five-point Likert statements that rated the extent to which participants evaluated the neutral commercial as being good, enjoyable, and positive. Attitude toward the brand ( $A_b$ ) was measured using twelve semantic differential scales to prevent any boredom due to question format, including good-bad, attractive-unattractive, positive-negative, and useful-not useful. Scores on the items of both attitude measures were summed and averaged to form an  $A_{Ad}$  and an  $A_b$  index. Cronbach's alpha for both indices was highly satisfactory (.80 and .89, respectively).

## Manipulation Checks

Two items that used Likert statements were employed as manipulation checks. To check the manipulation of commercial type, participants were requested to indicate on a five-point scale the extent to which they liked the commercials they viewed. The manipulation of commercial density was checked by an item assessing the extent to which participants perceived the total amount of commercials to which they were exposed as being too high.

## Results

### Demand Characteristics

At the end of the questionnaire, participants were asked to describe in their own words what the true goal of the experiment was. None of the participants guessed the real purpose.

### Manipulation Checks

**Commercial Type.** To control this manipulation, we conducted an ANOVA with commercial type and commercial density as the independent variables, NE as a continuous variable, and the liking manipulation check as the dependent variable. Results showed that this manipulation was successful: Participants who viewed the program that was interrupted by well-liked commercials scored significantly higher on the liking manipulation check than did participants exposed to disliked commercials (disliked  $M=1.45$ , well-liked  $M=2.02$ ;  $F(1, 112)=11.79$ ,  $p<.001$ ). Note that, though it is highly significant, compared with the pilot study, the difference between the mean liking scores in the two commercial type conditions was much smaller. There are at least two explanations for this discrepancy. First, participants in the main study were asked to evaluate the commercials on a five-point scale, whereas the judges in the pilot rated the commercials on a nine-point scale. Second, it is conceivable that participants' ratings were somewhat lowered by the context of the program they watched (the documentary on capital punishment). There were no differences in liking scores between the high and low commercial density conditions ( $F(1, 112)=2.44$ , n.s.) or between individuals low and high in NE, nor were there any interaction effects.

**Commercial Density.** A similar ANOVA on the commercial density manipulation check showed that participants in the high density condition ( $M=4.81$ ) believed more strongly that the amount of commer-

cial was too high than did those in the low density condition ( $M=3.52$ ;  $F(1, 112)=61.52$ ,  $p<.001$ ). No other main or interaction effect approached significance on this manipulation check. We conclude that the manipulation of commercial density was also successful.

### Irritation in Advertising

The first step in testing the hypothesis that NE moderates the impact of both commercial type and commercial density on irritation (Hypotheses 1 and 2) consisted of an ANOVA with commercial type and commercial density as the independent variables, NE as a continuous variable, and the irritation measure as the dependent variable. This analysis yielded highly significant effects for the NE  $\times$  commercial type interaction term ( $F(1, 109)=21.18$ ,  $p<.001$ ), as well as for the NE  $\times$  commercial density interaction term ( $F(1, 109)=7.65$ ,  $p<.01$ ). Neither the main effects of commercial type ( $F<1$ ), commercial density ( $F<1$ ), and NE ( $F(1, 109)=2.58$ ), nor the effect of the three-way interaction term ( $F<1$ ) was significant.

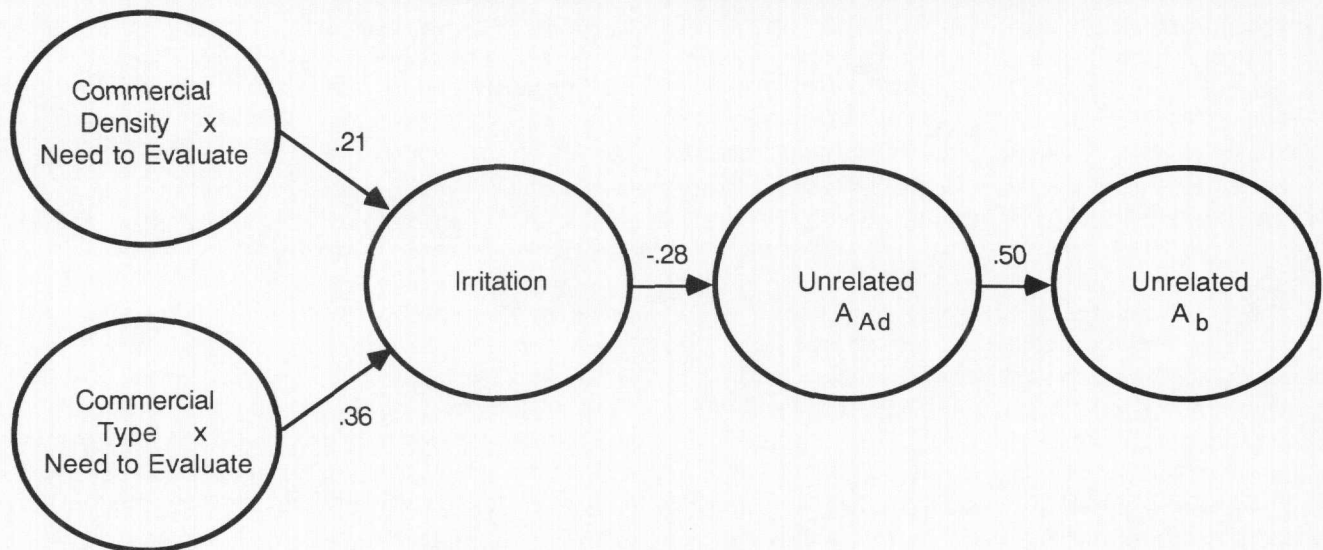
In a second step, we performed a regular ANOVA on the same variables to examine the quality and direction of both interactions. To enable this, participants were first divided in a group with a low or high NE, according to a median split procedure. The ANOVA revealed that individuals high in NE were more irritated by disliked ( $M=4.75$ ) than by well-liked commercials ( $M=3.97$ ). A simple contrast analysis showed that this difference was highly significant ( $F(1, 109)=16.14$ ,  $p<.001$ ). In contrast, individuals low in NE were not significantly affected by commercial type (disliked  $M=4.25$ , well-liked  $M=3.88$ ;  $F(1, 109)=3.78$ , n.s.).

The commercial density  $\times$  NE interaction showed a similar, though less polarized, pattern. High NE individuals in the high density condition were more irritated by the commercials ( $M=4.49$ ) than were high NE individuals in the low density condition ( $M=4.06$ ;  $F(1, 109)=5.61$ ,  $p<.05$ ). For individuals low in NE, the effect of commercial density on irritation was less pronounced (high density  $M=4.25$ , low density  $M=3.95$ ). Moreover, a simple contrast analysis showed that this latter difference was nonsignificant ( $F(1, 109)=2.85$ ). In conclusion, these results are consistent with Hypothesis 1 and 2 and show that NE moderates the impact of both commercial type and commercial density on irritation.

### Consequences of Irritation in Advertising

According to Hypothesis 3, feelings of irritation elicited among high NE individuals by disliked ads or the

Figure 2  
LISREL Estimates for the Model of Irritation Transfer in Advertising



exposure to many ads will have a negative impact on their attitude toward another, unrelated advertisement. In addition, we hypothesized that the attitude toward this unrelated ad ( $A_{Ad}$ ) would act as an intervening variable of the effect of irritation on the attitude toward the brand ( $A_b$ ) (see Figure 1). This model of irritation in advertising was tested in two steps using structural equation modeling. First, we tested the irritation  $\rightarrow A_{Ad} \rightarrow A_b$  sequence using the unweighted least squares (ULS) method of estimation in LISREL 8 (Jöreskog and Sörbom 1993). This model proved to possess an excellent fit ( $\chi^2(1)=.017, p=.90$ , adjusted goodness-of-fit index [AGFI]=1.00). The model indicates that irritation is negatively associated with  $A_{Ad}$  ( $\beta=-.32, R^2=.10$ ), whereas  $A_{Ad}$  is positively associated with  $A_b$  ( $\beta=.50, R^2=.25$ , standardized parameters).

Second, the fully hypothesized model presented in Figure 1 was tested using ULS, an estimation method that is suitable for testing models that include categorical variables. On the basis of the foregoing findings, it was predicted that the interactions between NE and commercial type and NE and commercial density would independently predict irritation (using effect coding for the manipulated variables; cf. Pedhazur 1982). In turn, irritation was assumed to be the sole predictor of  $A_{Ad}$ , which exclusively predicts  $A_b$ . This path model fitted very well to the data ( $\chi^2(5)=4.19, p=.52, AGFI=.96$ ). As can be seen from Figure 2, consistent with the ANOVA results, the interactions between both NE and commercial type ( $\beta=.36$ ) and NE and commercial density ( $\beta=.21$ ) had a

significant impact on irritation, with the interaction between NE and commercial type having the largest impact (all estimates standardized). Although still significant, the estimate for the effect of irritation on  $A_{Ad}$  decreased somewhat in comparison with the same estimate for the model without the moderating role of NE ( $\beta=-.28$ ). The estimate for the effect of  $A_{Ad}$  on  $A_b$  remained the same in comparison with the previously tested model ( $\beta=.50$ ).

In summary, these results suggest that NE is an important individual difference variable that moderates the effects of both commercial type and commercial density on irritation. Furthermore, commercial type and commercial density seem to have only an indirect impact on  $A_{Ad}$ , as irritation appears to be a pivotal intervening variable. Finally, the effects of commercial type, commercial density, NE, and irritation on  $A_b$  appear to be fully conditional on  $A_{Ad}$ .

## Discussion

In this study, we explored whether feelings of irritation elicited by disliked commercials or high exposure levels can have negative consequences for the effectiveness of another commercial for a different brand that is broadcast either later in the same commercial pod or in a different pod later during the same television program. We argued that these factors would lead to such feelings particularly among people with a chronic tendency to engage in evaluative responding. Furthermore, we extended previous

research by hypothesizing that the negative impact of feelings of irritation is not limited to the specific commercials and the brands advertised but may transfer to the attitude toward another, unrelated commercial and brand. As such, the present research is an extension of the well-established effects of mood on evaluative judgments (e.g., MacKenzie and Lutz 1989), which has primarily focused on mood effects on attitudes within the same advertisement.

The results provide clear support for Hypotheses 1, 2, and 3; particularly among individuals with a high NE, irritation evoked by disliked commercials and exposure to many commercials can result in decreased persuasion for an unrelated brand. In addition,  $A_{Ad}$  acts as an intervening variable of the negative impact of such feelings of irritation on the attitude toward the brand advertised,  $A_b$ .

These findings provide experimental support for Jarvis and Petty's (1996) contention that individual differences in the chronic tendency to engage in evaluative responding to products (i.e., in NE) have important implications for persuasion. If viewers do not care too much about commercial breaks or about what it is that interrupts their favorite program, increased exposure to commercials will likely not result in increased irritation, and disliked ads will not elicit more negative reactions than will well-liked ads. Irritation evoked by such factors is only elicited to the extent that viewers are motivated to engage in evaluative responding in reaction to exposure to the ads.

In addition, our findings show that the irritation evoked by disliked ads or high exposure levels may transfer to the attitude toward an unrelated, neutral ad and, even more important, to the attitude toward an unrelated brand. This latter finding is important from both a theoretical and a practical point of view. Theoretically, the results demonstrate the far-reaching effects irritation may have in advertising. The negative mood (irritation) caused by the high density of the preceding commercials or by their irritating content carries over to a subsequently presented, neutrally rated commercial, and, presumably through a process of assimilation, negatively affects evaluative judgments with regard to both the ad and brand. Of particular interest is the finding that this process of excitation transfer is moderated by NE.

We explored the possibility that disliked commercials particularly elicit feelings of irritation at high exposure levels, the more so when viewers have a high NE. However, the results provided no evidence for such a three-way interaction effect. This suggests that irritation is separately evoked by factors inherent to the commercial or the frequency of commer-

cial in a given time interval. Thus, irritation may best be conceptualized as an additive, not multiplicative, phenomenon.

Apart from an excitation transfer perspective, a more cognitive framework may explain our results, though the present study was not designed to explore in detail how the commercials were processed. Research on introspective access to cognitive processes (e.g., Nisbett and Wilson 1977; Read and Bruce 1982) suggests that people often have little or no access to their own mental processes. It is conceivable that irritation is transferred to unrelated advertised brands because the audience does not realize what it is that causes the negative feelings experienced. This will presumably be the case when, for example, irritation is caused by unfamiliar ads or subtle characteristics of the ads, such as "white noise" in the background of the commercials. Thus, in these cases, misattribution processes may be responsible for the transfer of irritation in advertising.

Limitations and possible confounds of our study clearly must be noted. First, the study was conducted in a laboratory setting with student participants, which may potentially limit the ecological validity of the study. For example, in the high density condition, we used no less than 30 liked or disliked ads in a 30-minute program. However, this exaggeration of reality was necessary to create conditions that enabled us to focus properly on the psychological process demonstrated in this study. It seems plausible that, in a real-life viewing context, the same psychological process is operating, though the magnitude of the effects may differ. This is an interesting topic for future research. Although the ads were pretested to be appropriate for this setting, the results still need to be replicated in a more generalizable setting to establish the external validity of the conclusions. On the positive note, we used real advertisements and a real documentary in our experiment, which have actually been aired on television.

Furthermore, regarding the use of student samples, Petty and Cacioppo (1996, p. 3-4) have argued that, when the psychological mechanism under study is not a priori confounded with the unique characteristics of the sample, students can be considered a suitable sample. Our purpose was not to assess the absolute level or prevalence of irritation evoked by advertising, but rather to examine the relationship between (1) commercial type and density and (2) irritation for people with a low and high NE. Our participants were randomly assigned to experimental conditions, and there was enough variance on the NES to distinguish between individuals scoring low



or high on this individual difference variable. Thus, we have no reason to assume that the effects of commercial type and density on irritation are unique for the student population.

Second, the NES was administered prior to exposure to the program. This could have exaggerated the type of processing applied during the program. However, there are good reasons to believe that this was not the case here. First, none of the participants guessed the hypotheses of the study, which suggests that there was no contingency awareness between the administration of the NES and the experimental conditions. Therefore, there is no reason to believe that participants were primed to be more or less evaluative in their processing in accordance with their responses to the NES. Second, the results of research by Jarvis and Petty (1996) also suggest that a priming bias is not a problem in NE research. They conducted studies in which they asked participants to fill out the NES before (Study 3 and 5) or after (Study 4) the experimental task. Their results were highly consistent across three studies, making a strong case against contingency awareness. Awareness of the hypotheses would have required that, in two studies, participants behaved in accordance with their scores on the NES, whereas in the third study, they filled out the NES in accordance with their behavior. According to Jarvis and Petty (1996, p. 190), this is unlikely to be the case.

Third, only one type of affective response, namely, irritation, was studied. Further research that explores a range of possible responses to advertising (e.g., warmth, amusement) is needed, because most ads elicit a broad range of feelings and other responses (Batra and Ray 1986). Fourth, feelings of irritation were measured through post-exposure ratings at the end of the program in which the ads were embedded. Although some research (e.g., Aaker, Stayman, and Hagerty 1986) suggests that retrospective and real-time measures are strongly related, the effects of different measures and the delay in this study are unknown.

Fifth, the carryover effects of irritation were measured with regard to attitudes toward only one neutral ad and brand and in the context of one specific television program. Therefore, we cannot be certain that irritation transfer to the evaluations of other neutral ads, embedded in other television programs, would involve the same process. Future research could explore this possibility by using several neutral ads and varying program content. In addition, as a logical result of the commercial density manipulation, the neutral ad did not appear at the same time in the program content across the density conditions, which may have had an unknown influence on the dependent measures.

Despite these limitations, the results of this study suggest the importance of irritation as a feeling response to advertising. Particularly noteworthy is the finding that irritation evoked by disliked ads or high exposure levels may transfer to the attitude toward another, unrelated ad and brand, suggesting the importance of carryover effects of irritation in future research on advertising.

From a practical point of view, the results point to the importance of the quality and amount of the ads that precede a particular ad, at least for subjects with a high NE. Although commercial density was manipulated such that the high frequency condition may not perfectly resemble the typical viewing situation, it does provide information on the conditions of irritation transfer in real-life viewing situations (though they may be less polarized than in this study). This finding is important because television viewers are exposed to an increasing number of commercials that are competing for attention.

Because irritation levels were higher among high NE individuals, this factor can be utilized as an audience segmentation variable. Audience segmentation has traditionally focused on demographic variables, such as age or education level. In addition, other segmentation criteria of a more psychographic nature have been added, such as values and lifestyles. More recently, advertising and marketing research agencies have started fine-tuning these criteria by including the need for cognition as a means of assessing the extent of information processing by the audience, as well as self-monitoring to determine the tone of voice of an advertisement. In line with this trend, NE can be utilized to assess the extent to which context effects pose an opportunity or threat to the advertiser. To the extent that the target audience can be characterized as high in NE, media scheduling becomes a more important issue for advertising effectiveness. In such a situation, it may be advisable for the advertiser to place the commercial relatively early in a given program to reduce the risk of irritation transfer or relatively late to further the chances of a positive affect transfer. For this to be practically feasible, however, advertisers not only need to know the amount, but also the nature of the ads that constitute the immediate viewing context.

Although this may seem rather problematic at first glance, such knowledge about the amount and nature of the ad context can be relatively easily acquired and integrated in the copy- or pretesting phase of a commercial. That is, during the pretest, advertisers could use recent programming intervals (including several commercial pods) of channels that are candidates for

airing the new commercial. The nature and frequency of these commercials will be largely representative of the ad context in which the focal commercial will be embedded once it is actually broadcast. Advertisers can edit the taped program intervals by replacing one of the commercials (either relatively early or late in a programming interval) with the focal ad. In addition, during the pretest, low and high NE participants can be exposed to the edited program intervals. In this way, irritation or positive affect transfer to the new ad can be assessed for each group separately. Results can be used to decide which channel and programming interval to use, as well as where to place the commercial.

Finally, though media managers have traditionally lacked control over the immediate advertising context in which an ad is embedded, recent initiatives in the advertising field have provided a means of better controlling who advertises what around a given commercial. For example, advertising practitioners have begun to buy their airtime jointly so as to minimize the risk of irritation transfer as a result of the presence of disliked commercials in their vicinity. Our study suggests that such a transfer of irritation is important to consider in advertising strategies.

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