

The Effect of Brand Awareness on Intrusive Advertising

Jesper H. Nielsen
Joel Huber*

* Jesper Nielsen (jesper@arizona.edu) is Assistant Professor of Marketing, Eller College of Management, University of Arizona, Tucson, AZ 85721. Joel Huber (Joel.Huber@Duke.edu) is Alan D. Schwartz Professor of Marketing, Fuqua School of Business, Duke University, Durham, NC 27706. The authors thank the University of Arizona Economic Science Lab for assistance in data collection. The guidance provided by the editor, associate editor, and two anonymous reviewers is greatly appreciated and this manuscript was much improved as a result.

Abstract

Typically one expects that brand activities that frustrate a consumer will hurt the brand. However, we demonstrate that intrusive advertising hurts the brand only when the consumer is able to later recognize the brand. When consumers recognize the offending brand, processes consistent with evaluative conditioning dominate and the brand suffers. In contrast, when brand awareness is absent, mere exposure effects dominate and even highly intrusive advertising results in positive changes in evaluation. Our results are theoretically relevant by supporting the established findings that the positive mere exposure effect is independent of awareness, while evaluative conditioning is likely not to be.

As consumers use technology to bypass advertisements online, in television and on the radio, advertisers respond by developing new techniques to ensure that ads are noticed. The result is an evolution of increasingly sophisticated intrusive ads. For example, with pop-up blockers and other technologies limiting the effectiveness of traditional pop-up ads, advertisers and technology companies develop more attention-grabbing – and some would argue more effective – advertising formats for the web. As one industry expert puts it “...for online advertising to work ... these [online advertisers] have to keep upping the ante as consumers get used to the old ones” (Dvorak, 2007). The early intrusive ads have evolved, no longer limited to still images, but now capturing attention with mini-movies running across the screen complete with sound effects. Further, in other media different forms of intrusion emerge. Consider the cable company that makes customers sit through ads for their latest services before allowing access the customer service menu, the television channels with animated ads for one show running during the presentation of another, or the profusion of unannounced cell phones ads.

Although advertisers acknowledge the potential for backlash from such intrusive actions (Scott 2007), their very existence suggests that such ads may be effective. The purpose of this paper is to identify the contexts in which ads presented within even deeply frustrating contexts can positively impact brand perceptions and when they produce harm to the brand image.

Although effective in increasing brand awareness, most people expect that uninvited ads for a new brand that rudely interrupt shopping or search will hurt the brand. As evidence of this belief we asked 44 undergraduate students to predict their response to a hypothetical Internet shopping scenario in which their shopping was interrupted by an ad that draws a curtain over the attended text and stays for several seconds. Of those asked, 88% predicted they would like the advertised brand less as a result of such an intrusive act. Consumer research also supports this

suspicion that intrusive advertising can hurt the advertised brand. For example, Wang and Calder (2006) show that when participants are transported by a current experience (e.g. reading Chicken Soup for the College Soul; Wang & Calder, 2006), ads that interrupt this experience reduce evaluations of the advertised brand.

In this manuscript, we put people in an involving task which is rudely interrupted by ads and show that intrusive advertising formats (defined as ads that interrupt a current task and as a result create a significant level of frustration on behalf of the consumer) hurt the advertised brand only when the consumer is able to later recognize it. More specifically, in our studies we see negative effects consistent with the findings of Wang and Calder (2006) only when the ad is highly intrusive and consumers later recognize the brand. We provide evidence that this negative evaluation of the brand is not simply the result of consumers “punishing” the offending brand, but arises from a formed association between the brand and the intrusive event. In other words, we find that the negative attitude towards the advertised brands arise from processes consistent with *evaluative conditioning* where the frustrating event (interruption) serves as the valenced (unconditioned) stimulus and the advertised brand as the target (conditioned) stimulus.

In contrast, when participants cannot recognize the brand, we establish conditions under which intrusive advertising produces positive changes in evaluation. This latter finding is consistent with research on *mere exposure* which demonstrates that simply exposing consumers to a new brand will improve preferences for the brand (Shapiro, MacInnis, & Heckler 1997; Shapiro, 1999; Janiszewski, 1993; Winkielman & Cacioppo, 2001; Lee 2001; 2004; Fang, Singh, & Ahluwalia, 2007; Labroo, Dhar, & Schwarz 2007).

In summary, we propose that evaluative conditioning and mere exposure effects occur simultaneously when new brands are introduced through intrusive ad formats that generate

frustration and negative affect. We find changes in evaluation resulting from exposure to be consistent with evaluative conditioning when the negative affect can be attributed to the advertised brand (when the advertised brand is recognized), but with mere exposure when the target brand cannot be recognized or frustration is low. In other words, we find negative associations overwhelm mere exposure *only* under limited conditions of high frustration and brand recognition.

The paper is organized as follows. First, we review the research into mere exposure and evaluative conditioning and use that to generate hypotheses about the impact of intrusive ads as a function of consumer awareness. Then we test these hypotheses with two studies in which ads for new brands rudely interrupt a task.

Mere Exposure

Zajonc (1968) first explained the mere exposure effect as follows: “The mere repeated exposure of an individual to a stimulus is a sufficient condition for the enhancement of his or her attitude toward it.” Zajonc demonstrated that the successive exposure to Turkish nonsense words, Chinese ideographs, and yearbook photographs resulted in increased liking for these stimuli.

The mere exposure effect is robust and has been replicated across different types of stimuli on both human and animal subjects (Monahan, Murphy, & Zajonc, 2000). In the consumer behavior domain, research has demonstrated that repeated exposures to advertising stimuli produce positive effects. Mere exposure has been shown to result in increased liking for the ad stimulus (e.g. Janiszewski, 1993; Lee, 2001, Fang, et al., 2007) as well as the advertised product (Labroo, Dhar, & Schwarz, 2007), increased likelihood for consideration set inclusion

(Shapiro et al., 1997, Shapiro, 1999), and the perception that the repeated brand logo represents a more expensive brand (Janiszewski & Meyvis, 2001).

Two important characteristics of mere exposure are relevant to the current study. First, we propose that attitude shifts arising from mere exposure are inherently positive. Although they have not conclusively been established as such, there is strong evidence in the literature to support the positive-only characteristic of mere exposure effects. Second, mere exposure effects are independent of awareness, meaning they can form from both subliminal (below consciousness threshold) and supraliminal (above consciousness threshold) stimulus exposure. We elaborate on these two characteristics below.

Evidence of the inherent positivity of mere exposure arises from the work by Winkielman and Cacioppo (2001), replicated by Fang et al. (2007) within the domain of marketing. They find that respondents asked about negative emotions show no effect of mere exposure, while those asked about positive emotions consistently do. As further support that mere exposure is always positive, Winkielman and Cacioppo found that mere exposure is associated with electromyography (EMG) activity for the facial region associated with positive reactions, but not for the region associated with negative reactions. These findings provide strong evidence for the prediction that affective reactions resulting from mere exposure are inherently positive. Lee (2001) arrive at similar conclusions although she argues that exposure reduces uncertainty regarding the novel stimulus and that this uncertainty reduction drives positive changes in evaluation.

The second important characteristic of mere exposure effects is the finding that mere exposure effects are independent of target stimulus awareness. In other words, positive mere exposure effects can result from either supraliminal or subliminal stimulus exposure (Murphy,

Monahan, & Zajonc, 1995). Mere exposure effects have been demonstrated repeatedly with subliminally presented target stimuli (e.g. Murphy et al., 1995; Monahan, Murphy, & Zajonc, 2000). Equally strong demonstrations exist of mere exposure effects with supraliminal exposures (Murphy et al., 1995; Reber, Winkielman, and Schwarz, 1998). In the consumer behavior domain, Janiszewski (1993) demonstrated mere exposure effects from incidental exposure to advertising stimuli outside the focal range. In a newspaper setting Janiszewski demonstrated that participants exposed to a non-focal novel brand name exhibited more positive evaluations to those names. Important to the studies in this paper, Janiszewski found no differences in mere exposure effects between those who recognized and those who did not recognize the brand names.

Our studies focus on stimulus-specific sources of affect, as could occur when pain occurs only when a stimulus is present. However, in dealing with relatively long-lived frustration, it may be important to take account of its diffuse affect which may be present even when it is not acute. Murphy et al. (1995) make specific predictions about the joint influence of diffuse and specific sources of affect and show that diffuse affect can reduce the impact of mere exposure. Specifically, the authors found that presenting a negative affective prime prior to repeated exposures of Chinese ideographs created a diffuse affect that limited the mere exposure effect. Thus, presenting a negative affective prime prior to repeated exposure to a target stimulus was equivalent to deducting a constant from the mere exposure effect. Importantly, they find these mere exposure effects for both supraliminal and subliminal presentation.

In summary, mere exposure to a novel stimulus is expected to result in generally positive effects that increase the value of the repeated stimulus and to occur regardless of whether the

participant can recognize the target stimulus itself. These expectations are important because neither of these generalizations apply to evaluative conditioning.

Evaluative conditioning

Unlike mere exposure effects, evaluative conditioning effects do not occur in isolation, but are the result of a formed association between a target stimulus (e.g. brand) and a valenced stimulus. In a classic evaluative conditioning exercise, a neutral conditioned stimulus (hereafter referred to as “target stimulus”) is repeatedly paired with a negatively or positively valenced (unconditioned) stimulus (hereafter referred to as “valenced stimulus”). Through this conditioning process, the neutral target acquires the affect associated with the valenced stimulus. De Houwer, Thomas, and Baeyens (2001) provide a comprehensive review of evaluative conditioning. In the consumer research domain, marketing stimuli have been demonstrated to be influenced via evaluative conditioning (e.g. Kim, Lim, & Bhargava, 1998; Stuart, Shimp, & Engle, 1987; Allen & Janiszewski, 1989; Shimp, Stuart, & Engle, 1991; Kim, Allen, & Kardes, 1996; Grossman & Till, 1998; Baker, 1999).

Evaluative conditioning effects generally differ from mere exposure effects in two important ways. First, unlike mere exposure effects, evaluative conditioning effects can result in either positive or negative changes in evaluation. Second, evaluative conditioning appears to depend on the availability of attentional resources (Field and Moore, 2005) in the sense that it has not been reliably demonstrated to occur when target stimuli are presented below the threshold of conscious recognition (Lovibond & Shanks, 2002). We elaborate below on each of these findings.

Consider first examples of positive evaluative conditioning effects. Allen and Janiszewski (1989) enrolled participants in a computerized word game where they paired

positive feedback with specific Norwegian words. For each game, participants were given a three-letter string and were then asked to indicate via the keyboard whether the Norwegian word that followed could be spelled with letters from the string. Stimuli were designed so that certain words always (or more often) resulted in positive feedback (e.g., “well done,” “nice job,” “excellent,” etc.) while other words never (or less often) received positive feedback. No feedback was provided for wrong responses. Allen and Janiszewski found that pairing words with a higher frequency of positive feedback resulted in higher evaluations for those words, as indicated by a higher rating for appropriateness as a possible brand name for a men’s cologne. In related work, Stuart, Shimp, and Engle (1987) demonstrated evaluative conditioning effects using pleasant visual stimuli (mountain, blue skies, and an ocean sunset) as the valenced stimuli and fictitious, neutral brand names as target stimuli. They demonstrated that pairing the neutral brand names with the positively valenced stimuli resulted in higher brand evaluations for the target brands.

There is also evidence that evaluative conditioning can negatively change the evaluation of the target. For example, Riordan and Tedeschi (1983) showed that male participants receiving a high intensity shock in the presence of a female confederate were less attracted to the female confederate than were participants who received the high intensity shock when the female confederate was not in the room. No such found effects were found for participants receiving low intensity shocks. Similarly, Epple and Herz (1999) found that children given a frustrating task in the presence of a fragrance performed worse on a second task in a different room when the fragrance from the first task was present.

In addition, we propose that evaluative conditioning has a second characteristic that has been strongly suggested, but not unequivocally demonstrated in the literature. Specifically, we

propose that evaluative conditioning is greatly facilitated when the target receives enough attentive processing to generate later recognition of the stimulus. Although the focus of most research has been on investigating the importance of contingency awareness (awareness of the US-CS contingencies), a few researchers have attempted to demonstrate evaluative conditioning effects with stimuli presented below the threshold of conscious recognition. However, in their review, Lovibond and Shanks (2002) conclude that evaluative conditioning without some attentive processing remains unsupported despite more than 30 years of trying. From our perspective, however, we do not need to claim that evaluative conditioning always requires awareness, but only that its impact is greatly improved with attentive processing and target stimulus recognition.

The claim that recognition strongly moderates evaluative conditioning is consistent with the work of Field and Moore (2005). They find that asking participants to count down from 300 to one during the stimulus presentation stage of a conditioning sequence reduces evaluative conditioning. Field and Moore present these findings as evidence that attention augments evaluative conditioning effects. Our findings confirm this expected facilitation of evaluative conditioning effects from attention to, and recognition of, the target stimulus.

Testing the Joint Influence of Mere Exposure and Evaluative Conditioning

In assessing consumers' reactions to a brand featured in a highly intrusive ad, our experiments explore the joint influence of mere exposure and evaluative conditioning and the moderating role of brand recognition within the context of internet shopping interrupted by intrusive ads.

A central aspect of our method is that we test for brand awareness by simply asking for it.

That is, after successive exposures to the intrusive ads, we ask participants if they recognize the advertised brands. Our approach is consistent with traditional evaluative conditioning research that relies on such explicit measures of awareness for testing contingency awareness (e.g. Allen & Janiszewski, 1989, Pleyers et al., 2007) and also with prior research into mere exposure effects (Janiszewski, 1993, Shapiro et al., 1997).

We rely on prior research into the drivers of mere exposure effects to carefully control exposure across levels of intrusiveness. To validate the success of these efforts, we rely on follow-up analyses to test whether recognition is the result of the level of intrusiveness. Finally, we test the reliability of our recognition measure by assessing each participant's ability to correctly rule out stimuli they have not seen.

Experimental Design and Hypotheses. To jointly test the impact of evaluative conditioning and mere exposure, we introduce a frustrating event to co-occur with repeated exposures of a novel brand. Mere exposure and evaluative conditioning provide opposing predictions for the outcome of pairing a repeated stimulus exposure with such a frustrating event. When respondents recognize the stimulus, then evaluative conditioning predicts a negative shift, while when respondents do not recognize it, then the positive mere exposure effect should result in a positive shift in brand evaluation. In particular:

H1: Advertising a brand in a highly intrusive ad results in positive or negative evaluations, depending on whether the respondent recognizes the brand.

When the brand is repeatedly presented *with a highly frustrating event*, repeated exposures of the brand lead to the following results:

H1a: Unrecognized brands are evaluated *more favorably* than unexposed control brands

H1b: Unrecognized brands are evaluated *more favorably* than recognized brands

H1c: Recognized brands are evaluated *less favorably* than unexposed control brands

The next set of hypotheses deal with the low intrusiveness condition. Such low frustration exposures lead us to predict that mere exposure will dominate evaluative conditioning because the conditioning stimulus has limited strength. Further, if mere exposure is the dominant mechanism, then it should be uninfluenced by awareness.

H2. Advertising a brand in a less intrusive ad results in positive evaluations that are not affected by recognition

When a brand is repeatedly presented *with a less intrusive event*, repeated exposures of the brand lead to the following results:

H2a: *No difference* in the evaluations of aware and unaware brands

H2b: Recognized brands are evaluated *more favorably* than the unexposed control brands

H2c: Unrecognized brands are evaluated *more favorably* than the unexposed control brands

In our experiments we pair neutral, unfamiliar brands with a frustrating event in an Internet shopping task. This enables us to define conditions under which evaluative conditioning will and will not overwhelm mere exposure effects. The experiments share the property of exposing brands to different frustration levels and measuring subsequent brand awareness and evaluation; however, they differ in the mechanism by which they manipulate brand specific and ambient frustration and how they control for brand repetition and exposure.

EXPERIMENT 1: A JOINT TEST OF MERE EXPOSURE AND EVALUATIVE CONDITIONING

Two hundred and twenty undergraduate and graduate students as well as staff (all ages 18-36) from a major Southwestern university participated in the 30 minute exercise in exchange for a \$5 show-up fee and the opportunity to earn \$1-\$8 additional compensation based on performance. We eliminated 14 participants who either indicated in the funneled debriefing that

they suspected the ads played a role in the experiment or failed to follow instructions during the experiment.

Written instructions informed participants that the goal of the study was to improve measurement of customer satisfaction from Internet shopping websites. After learning that they would be answering questions about several aspects of Internet shopping, participants engaged in a simulated shopping experience from an actual shopping website, ostensibly to provide them with a foundation for answering shopping related questions. Their task was to locate and place in their shopping basket 12 products from different product categories that match the attributes specified in a shopping list. Shopping had to be done without the use of search functions -- hence, all shopping had to be done by browsing categories--thus increasing both the difficulty with and engagement in the task.

A software program built into the browser generated intrusive ads every 60 seconds that locked into the center of the screen. They appeared to come from the shopping website. The background program also recorded response times from time of appearance until time of close for each ad.

To manipulate intrusiveness, the “X” in the corner used to close/remove the ad worked immediately in the low intrusiveness condition, but the high intrusiveness condition delayed its operation for five seconds. That is, participants in the frustrating condition could press the “X” as often as they wanted, but nothing would happen for five agonizing seconds. As a measure of frustration, we measured the number of times respondents clicked on the “X” during the five-second delay.

Three 4 x 5 inch advertisements (shown in Appendix A) were created with each ad featuring a brand logo and a single headline/slogan on white background. These brands came

from a larger set of brand logos judged to be unfamiliar by undergraduate students. A subset of three brands were chosen as the target brands in the experiment, while the remaining seven logos served as unexposed fillers for the recognition and attitude measurements.

As shown in Appendix B, twelve conditions fully crossed brand, order, and condition (high intrusiveness, low intrusiveness, and control). Each participant saw one ad consistently paired with delay (high intrusiveness) and one presented without the co-occurring aversive delay (low intrusiveness). The third, unseen ad served as the control. Delay and no delay ads were each displayed three times in alternation. Hence, during the course of the experiment each participant would encounter interfering ads six times (3 with and 3 without delay), but would see only two different brands -- one always and the other never paired with a delay.

Following the closing of the sixth ad, a message asked the participant to stop searching and answer a website satisfaction survey. This filler task was followed by the rating task where participants evaluated the 10 logos, completed an aided recognition task where they checked which of the 10 brand logos they recognized from the shopping website, and a funneled debriefing procedure aimed at revealing suspicions as to the experimenter interest in the ads. Finally, participants completed a demographic profile, were thanked, fully debriefed, and dismissed.

To increase motivation and perceived intrusiveness of the ads, participant compensation was linked directly to the number of correct items added to their shopping baskets. This manipulation served two purposes. First, linking compensation with perceived time pressure ensured that the ads would be perceived as intrusive and frustrating because they would interfere with the goal to perform well on the shopping task. Second, high motivation to attend to the primary (shopping) task was expected to generate inattentional blindness effects, causing

participants to ignore other stimuli in the visual field (Mack & Rock, 1998). Such blindness made it more likely that exposure to the advertised brands would remain largely incidental. Put differently, since knowledge of the offending brands was of no use during the task; respondents were better off if they could ignore it completely, and greater frustration did not provide a reason to learn about the ad.

Results

Five 9-point items assessed brand evaluations (Attractive, Appealing, Good, Likeable, Pleasant) that reliably conformed to a single scale ($\alpha = .96$). Accordingly, their average rating generated the dependent variable in an analysis with a large number of controls and two critical independent variables. The first of these, intrusiveness, reflects whether the brand was presented within a highly intrusive (5 second delay after pressing “X”) or less intrusive (no delay) ad. The second independent variable indicates whether the brand was an unexposed control, and if exposed, whether it was recognized or not recognized. Finally, to minimize heterogeneity in brand valuation and scale usage across participants, each person’s average brand rating across all ten rated brands served as a covariate. There were no significant interactions with brands or order (intrusive first vs. non-intrusive first) so the results are collapsed across these factors in Figure 1.

[INSERT FIGURE 1 ABOUT HERE]

Our analysis revealed the expected interaction between awareness and intrusiveness on brand evaluation ($F(1,399) = 8.76$; $p < 0.01$). Once we established the overall interaction

between the four experimental cells we directly tested our hypotheses with planned contrasts testing each cell against the unexposed control condition. Considering first the high intrusiveness (delay) condition, the analysis reveals that, consistent with H1a, unaware participants evaluated brands from ads presented in a frustrating context more favorably than the control ($t(295) = 2.7$, $p < .01$, $M_{\text{no rec}} = 5.0$, $M_{\text{ctrl}} = 4.6$). By contrast, those aware of the brands evaluated them significantly less favorably than both the unrecognized ($t(204) = 5.1$, $p < .01$) and the unexposed control brands ($t(313) = 3.2$, $p < 0.01$, $M_{\text{rec}} = 3.85$) providing support for H1b and H1c, respectively. These findings are consistent with negative evaluative conditioning effect occurring when respondents are aware of the brand and positive mere exposure occurring when they are not aware.

The low intrusiveness condition revealed no differences between recognition conditions ($t(204) = 0.72$, $p = .47$), finding support for the H2a's prediction that recognition does not influence evaluation under low frustration. We expected positive mere exposure effects in the low intrusiveness condition but did not find brands advertised in the less frustrating ad format to be rated significantly higher than the unexposed control for either recognized advertised brands ($t(139) = 0.39$, $p = .70$) or non-recognized advertised brands ($t(109) = 0.87$, $p < .39$), thus failing to provide support for H2b and H2c, respectively. We discuss this finding after we review the tests of our key assumptions.

We test three key assumptions necessary to validate our conclusions from the data. The first critical assumption concerns the accuracy of the recognition data, whether participants were both willing and able to assess whether they recognized the brands they saw. We test this assumption by assessing the extent to which participants could correctly distinguish between brands that had and had not been in the experiment. Here, our recognition measures were

validated as only 2.2% of unseen brands were falsely recognized and only 13% of participants reported any false alarms. Thus it appears respondents were highly accurate in their recognition judgments.

The second assumption is that recognition was incidental in nature and not driven by differences in frustration. Specifically, for the brands in the high intrusiveness condition we compared the number of clicks on the “x” within the five second delay for ads with recognized compared with unrecognized brands and found that the two groups did not differ on this measure of frustration ($F(1,204) = .16, p = .67$). However, within the recognized brands, the number of clicks was negatively correlated with brand evaluation as predicted ($r = -.15, p = .05$). This latter result supports clicks as a reasonable measure of frustration while the former tests demonstrate that frustration is unrelated to recognition.

A third assumption is that the negative impact of high frustration was not due to a reasonable participant motive to punish brands that had been associated with an intrusive ad. If the observed negative affect is caused through a reactance effect or a deliberate punishment of the brands on behalf of participants, we would expect the decrease in preference to exist for recognized brands in both the high and low frustration conditions. Planned contrasts revealed the predicted effect of frustration within recognition ($t(184)=2.44, p = 0.02$), indicating that participants did not simply punish all recognized brands from the frustrating experience.

The interpretation of this comparison assumes that participants were *unable* to correctly identify the brand that was presented with a frustrating event (delay) from a brand that was presented without the frustrating event (delay). To test this assumption we asked a subset of the study population one additional debriefing question (“did you notice systematic differences between the pop-up ads”) and asked them subsequently to identify delayed brands. Specifically,

we mentioned that for some participants, some ads may have taken longer to remove and if this had happened to them to please identify the brand for which this was the case. Participants could check any of the three brands from the study as well as “all ads were difficult to remove” and “no ads were difficult to remove.” Of the 122 participants who responded to these additional questions, only 7% were able to correctly answer that ads were systematically different in their removal time and were also able to identify the brand that for them had been delayed. This simple test supports our assumption that a general punishment or demand effect is unlikely to account for our findings, as the participants would not be able to specifically punish the offending brands only without being able to correctly identify of the offending brand.

Discussion of experiment 1. In summary, experiment 1 identifies conditions under which target stimulus awareness plays a critical role. For strongly frustrating experiences awareness matters—such experiences produce negative brand evaluations only when they are recognized, but when they are not then mere exposure results in a positive shift. By contrast, for less frustrating experiences there was no difference between the evaluations regardless of whether the brand was recognized. These results are consistent with evaluative conditioning only occurring under conditions of high frustration and target awareness.

Although experiment 1 found support for the predicted relationships between the four experimental cells, it did not find the predicted difference between the low intrusiveness conditions and the control. Two factors may contribute to this non-significant finding. First, the low non-intrusive ads may indeed not have been perceived as truly non-intrusive or second, and perhaps more likely, it is possible that the influence of diffuse affect from ambient frustration from the continuous interruptions could mirror the influence of negative affective priming found by Murphy et al. (1995). If the latter is true we would expect that as exposure levels are reduced

(as in the case of the non-delayed ads with total exposure time of about 4 seconds vs 19 seconds for the delayed condition) that ambient frustration will have a relatively larger influence. Which of these alternative accounts drives this non-significant finding has important theoretical implications. If the semi-intrusive nature of the low intrusiveness ads is causing this non-significant result it casts doubt on the assumption that mere exposure is always positive as we see the reduced effect for both recognized and non-recognized brands. However, if ambient frustration is in fact reducing the mere exposure effect at low exposure, then this would confirm the inherent positive nature of the mere exposure effect. We will test this account for our low intrusiveness results directly in experiments 2 and 3 while replicating the impact of awareness in the high intrusiveness conditions.

EXPERIMENT 2: REPLICATION WITH ONLY AMBIENT FRUSTRATION IN THE LOW INTRUSIVENESS CONDITION

The primary objective of experiment 2 is to replicate the high intrusiveness results in experiment 1 and to begin the process of identifying the impact of ambient frustration by introducing unambiguously non-intrusive ads for the low intrusiveness condition. In experiment 1 the event-bounded frustration occurs only with the 5 second delay, but given the similarity in overall appearance between high and low intrusiveness ads, it is possible that the low intrusiveness ads generated some event-bounded frustration as well. To separate such event-bounded from ambient frustration, experiment 2 created minimally intrusive low frustration ads. They were similar to small banner ads often found online. Placed in the corner of the screen, the ads were reduced in size (1.5 x 2 inches) and featured only the advertised brand without any

accompanying text. Finally, to further reduce any association with to the frustrating ads, they appeared and disappeared on a schedule unrelated to the frustrating ads.

114 undergraduate, graduate students and staff (all ages 18-31) from the same Southwestern U.S. university participated in the 30 minute exercise in exchange for a \$6 show-up fee and the opportunity to earn \$1-\$8 additional compensation based on performance. We eliminated 5 participants who indicated in the funneled debriefing that they suspected the ads played a role in the experiment or who failed to follow instructions.

The study relied on the procedures and materials from experiment 1 but added the following questions immediately prior to the demographics questions: “How intrusive did you find the centered pop-up ads?” and “How intrusive did you find the ads in the upper right corner?” The study also followed the same twelve conditions that fully crossed brand, order, and condition (high intrusiveness, low intrusiveness, and control). Low intrusiveness ads began after 2 minutes of browsing, would stay for 50 seconds, disappear for 40 and then reappear. Through pretests we determined that these rather long exposure times were necessary to generate reasonable levels of recognition. Hence, during the course of the experiment each participant would encounter six experimental ads (3 centered, each with a five second delay after pressing “X”, and 3 off to the side on a timer each for 50 seconds), but each respondent would see only two different brands -- one always and the other never paired with the intrusive event.

Results

Responses to the experienced intrusiveness of the two ad formats confirmed that our manipulation of intrusiveness was successful. Participants correctly perceived the centered ads (presented with a five second delay) to be highly intrusive (1 = not at all, 100 = extremely;

$M_{\text{intrusive}} = 88.50$) and smaller ads presented off to the side as not intrusive ($M_{\text{not intrusive}} = 29.57$, $t(106) = 3.82$, $p < .01$).

Again, the composite of the five brand evaluation items served as the dependent variable in an analysis of variance stabilized by using each person's average score across all evaluated brand logos as a covariate. As before, there were no main effects of order or interactions with order or with brand. Figure 2 illustrates the expected interaction between awareness and intrusiveness ($F(1,197) = 7.53$; $p < 0.01$).

For the high intrusiveness (delay) condition we again find support for H1a as planned contrasts confirm that unaware participants evaluated brands from ads presented within a frustrating context more favorably than the control ($t(156) = 2.13$, $p < .03$, $M_{\text{no rec}} = 4.77$, $M_{\text{ctrl}} = 4.16$). Further, those aware of the brands from the frustrating ad format evaluated them significantly less favorably than both the unrecognized ($t(102) = 3.40$, $p < 0.01$, $M_{\text{rec}} = 3.62$), and nearly significantly for the unexposed control brands ($t(146) = 1.67$, $p < .07$) thus providing support for H1b and H1c, respectively. Hence, we again find results consistent with a dominant evaluative conditioning influence dependent on brand awareness.

To further investigate the role of perceived intrusiveness, we regressed intrusiveness ratings on brand evaluations. As predicted, the analysis revealed an interaction between felt intrusiveness of the high intrusiveness (centered) ads and recognition ($\beta = -.039$, $t(103) = -2.27$, $p < 0.03$). Further, for non-recognized brands we found a marginal positive relationship between felt intrusiveness and brand evaluation ($\beta = 0.03$, $t(55) = 1.62$, $p < .1$) and more importantly a negative relationship between felt intrusiveness and brand evaluation for recognized brands ($\beta = 0.02$, $t(49) = -1.92$, $p < .06$). Thus, we are able to confirm the hypothesized direct effect of perceived intrusiveness on reduced brand evaluations when these brands are recognized.

[INSERT FIGURE 2 ABOUT HERE]

As predicted, within the low intrusiveness condition we again find no effect of recognition ($t(102) = .87, p = .39$), finding support for H2a and the prediction that recognition does not influence evaluation under low frustration. Once again, however, we find no difference relative to the control for either recognized advertised brands ($t(122) = 1.17, p = .24$) or non-recognized advertised brands ($t(180) = .45, p = .65$) in the low frustration (no delay) condition, failing to provide support for H2b and H2c, respectively.

Thus, despite making low intrusiveness ads completely non intrusive, we did not observe expected improvements in brand evaluation from mere exposure. What is common to experiments 1 and 2 is that low frustration ads were exposed in a generally frustrating environment, and thus the lack of a positive mere exposure may arise from ambient (diffuse) rather than stimulus specific frustration. In both experiments, exposure strength was low--with exposure duration at 29% of the high intrusiveness condition in experiment 1 and the small non-central ads in experiment 2 creating very low signal strength. Thus, finding clear mere exposure effects when exposure levels are high and non-significant effects when exposure is low, the results from experiments 1 and 2 replicate the findings of Murphy et al. (1995) who show that another form of diffuse negative affect (affective priming) erases or reduces both subliminal and supraliminal mere exposure effects.

To test whether ambient frustration from the frustrating ad formats dampened the overall evaluation of brands we designed a follow-up study to experiment 2 that completely removed the frustration of any interruptions in the search task.

Experiment 2b: Removing Ambient Frustration

Seventy-five participants from the same economics lab participant pool participated for \$6 show up fee and between \$2 and \$8 performance earnings. Except for the removal of the interrupting ads, procedures, stimuli, and measures all followed those of experiment 2.

Results. Removing the ambient frustration restored the positive mere exposure effect. Planned contrasts with the composite brand rating as the dependent measure confirmed that, again, there was no difference between recognized and non-recognized brands ($t(73) = .02$, $p = .99$). This finding is consistent with H2 and the results from experiments 1 and 2. Importantly, however, we find that both recognized ($t(120) = 2.46$, $p = .02$; $M_{\text{no rec}} = 4.72$, $M_{\text{ctrl}} = 4.00$) and non-recognized ($t(101) = 1.96$, $p = .05$; $M_{\text{no rec}} = 4.72$) brands were liked better than the unexposed control, confirming hypotheses H2b and H2c, respectively. Thus, experiment 2b confirmed that in the absence of ambient frustration, non-intrusive ads placed off to the side generate the predicted mere exposure effects found in similar studies (e.g. Fang et al. 2007).

Discussion. When removing the presence of overall (ambient) frustration with the task, we found the expected mere exposure effect for both recognized and non-recognized brands advertised in the low intrusiveness format. This result is important as it is consistent with the Murphy et al. (1995) result that diffuse affect can limit the impact of the inherently positive mere exposure effect.

EXPERIMENT 3: STRENGTHENING LOW FRUSTRATION EXPOSURE

The primary goal of experiment 3 was to directly replicate the ambient frustration results from experiment 2b within a study featuring both high and low frustration ads. Thus, experiment 3 was designed to replicate the results of experiments 1 and 2 while reducing concurrent ambient

frustration from the low intrusiveness ad formats and increasing low-intrusiveness exposure levels to where exposure levels were comparable across intrusiveness levels. This experiment also enabled us to generate complimentary measures that test key assumptions in our data.

Experiment 3 differentially manipulates the level of intrusiveness by making the first intrusive ad very difficult to remove by completely removing the close button, “X,” typically present in the upper right corner of online ads. To allow for quick learning and lessened frustration from later exposures, ads could be closed by clicking anywhere on the ad itself, a fact indicated by a sentence in very small font at the bottom of each ad. A pretest confirmed that this non-standard way to remove the ad generated substantial frustration with the first ad as the participants struggled to remove it. The pretest further confirmed that frustration was reduced once participants learned the procedure for removal, enabling them eventually to perform this function almost automatically. Hence, this manipulation focused the frustration on the first few exposures but generated very little frustration thereafter. Because ambient frustration is reduced for the brands shown later in the sequence and overall exposure has increased, we predict that the dampening effect of ambient frustration will be less, leaving the positive influence of the strengthened mere exposure effects to dominate in the low intrusiveness condition.

The program presented six ads in two-minute intervals, with one repeated twice in the first block and a second repeated four times in the second block. Pretests confirmed that the four exposures in block 2 counterbalanced the two exposures in block 1 to generate comparable recognition levels across the two blocks. In addition, by creating comparable levels of recognition across levels of intrusiveness, experiment 3 also employs a design that predicts comparable mere exposure effects across high and low intrusiveness conditions.

Each randomly assigned participant saw an ad within a frustrating context twice in the first ad block, a less frustrating ad format four times in the second ad block, and had no exposure to the control ad. The ordinal position of the specific brand advertised was balanced across conditions, resulting in 6 conditions that balanced the identity of the control ad and the order of the experimental ads. The first unexpected ad appeared two minutes after the shopping task began, followed every two minutes by other ads. In addition to the measures used in previous studies, participants rated their perceived annoyance with the very first and the very last ads.

Results

A total of 111 introductory marketing students from a major Southeastern U.S. university participated in the experiment in exchange for partial course credit. We eliminated 10 participants who indicated in the funnel debriefing that they suspected the ads played a central role in the experiment.

Closing times confirmed the effectiveness of “inactive X” for creating an ad that was more difficult to remove. Median total closing time in the first ad block (two exposures) was about 15 seconds. By contrast, the times for closing second block ads had a median value of slightly more than 1.5 seconds for each of the four ads. Thus, the ads in the high intrusiveness condition were visible for a longer total time than the ads in the second block, but that was balanced by a greater frequency of exposure in the low intrusiveness condition. For our purposes, we needed these two groups to have similar recognition levels. In that goal, we were quite successful across the two blocks (Recognition $M_{\text{frust}} = 45\%$, Recognition $M_{\text{ease}} = 46\%$; $\chi^2_1 = 0.02$, $P = 0.89$.) This result is important, as it means that average recognition could not have produced observed differences in reactions between the groups.

Brand evaluation. Figure 3 summarizes the results pooled across non-significant order and brand effects. As before, awareness and intrusiveness significantly interact ($F(1,186) = 4.53$; $p = 0.04$), implying as before that awareness operates differently across low and high intrusiveness conditions. In the high intrusiveness condition, consistent with H1a, planned contrasts reveal that non-recognized brands were evaluated *higher* than the unexposed control brands ($t(152) = 2.06$, $p = 0.04$). Further, consistent with H1b, recognized brands were rated significantly *lower* than non-recognized brands ($t(97) = -2.30$, $p = 0.02$; $M_{\text{rec}} = 3.87$, $M_{\text{no rec}} = 4.63$). This negative evaluation was not significantly different compared with the non-exposed control brands ($t(141) = 0.69$, $p = 0.49$; $M_{\text{ctrl}} = 4.08$), thus not supporting H1c.

[INSERT FIGURE 3 ABOUT HERE]

A possible account of this non significant result comes from our manipulation and the attempt to create frustration that would be eliminated over time. For most participants, the second of the two exposures in the “frustrating” block may in fact not have been frustrating as they had already learned to rid of the ad. Thus, for many participants it is possible that only the first ad was associated with a highly frustrating event, thus not providing sufficient replications for standard evaluative conditioning to operate. This is expected to be especially true for those able to quickly rid of the intrusive first ad. Importantly, early ads were perceived as highly intrusive as we discuss in more detail in the discussion of this experiment.

Additional analysis of exposure time in the high intrusiveness condition provides support for evidence for our basic theoretical account as well as our speculation that the intrusiveness manipulation was not equal in strength across participants. Those who spent the longer time on

the first block are more likely to have the greatest positive mere exposure effect, and likely to be the most frustrated. If correct, then both negative and positive effects should be stronger for those people who spent more time and thus were more frustrated in the first block compared to the second block. To test this prediction we mean centered both recognition and relative exposure time (first block time / total time) within participant and found the effect of recognition by intrusiveness is altered as expected by relative exposure time ($\beta = -2.34$, $t(93) = -2.11$, $p = .04$). We investigate this interaction by separating respondents into two groups with either high or low relative exposure times. As expected, we see a stronger effect for the long first block exposure times ($M_{\text{rec}} = 3.68$, $M_{\text{no rec}} = 4.94$) but very small differences for participants with short relative exposure times and thus more quickly learned to remove the ad ($M_{\text{rec}} = 4.32$, $M_{\text{no rec}} = 4.22$).

Consider next the low intrusiveness condition. We again find support for H2a that recognition does not influence evaluation under low intrusiveness ($t(99) = 0.59$, $p < 0.55$). Importantly, as in experiment 2b we also find that exposure resulted in more positive evaluation relative to the control for both recognized ($t(145)=2.5$, $p = 0.01$, $M_{\text{rec}} = 4.8$) and in the unrecognized conditions ($t(155)=2.03$, $p = 0.04$, $M_{\text{no rec}} = 4.6$). These results support H2a and H2b, and are consistent with mere exposure producing a positive change in brand evaluation in the absence of a highly frustrating ambient frustration.

Discussion of experiment 3. Experiment 3 again demonstrates the predicted interaction between intrusiveness and awareness. Importantly, experiment 3 confirmed that without concurrent ambient frustration, brands presented in a low frustration format benefit from the predicted mere exposure effects.

Although experiment 3 fails to find support for a negative evaluative conditioning effect

when aware (H1c) , the support of H1b as well as from the follow-up analyses within longer exposure times suggests that the pattern of results within high levels of frustration would follow that of experiments 1 and 2 with additional intrusive exposures.

Again, there are three critical assumptions that need to be considered to validate these conclusions. First, the false alarm rate (i.e., ads not in the study but reported as seen) was again low at only 6.6 percent with only 18 percent of participants reporting any false alarms. This result permits good confidence in the reliability of the recognition data.

A second assumption across our studies is that recognition was incidental in nature and not driven by differences in frustration. The specific manipulations used in experiment 3 allowed us to introduce a new test of the incidental nature of recognition in this studies, allowing us to further strengthen our confidence with regards to this issue, Specifically, we tested whether recognized and non-recognized brands differed by the overall time the particular ad was open. We found no relationship between time open (a measure of frustration) and recognition. In particular, there were no differences in time open between the two recognition levels overall ($F(1, 200) = .19, p = .66$) or within the early (high frustration) ads ($F(1, 99) = .02, p = .87$). We therefore conclude that differences in recognition were not caused by differences in frustration. This finding specifically addresses the alternative explanation that frustration is causing both recognition and low brand logo ratings and supports the independence of frustration and recognition in altering brand ratings.

A third assumption is that the negative impact of high frustration was not due to a reasonable participant motive to punish brands that had been associated with a frustrating experience. Although also tested in experiment 1, experiment 3 allows us to test this assumption in a new way. As a reminder, if the observed negative affect is caused

through a reactance effect or a more deliberate punishment of the brands on behalf of participants, we would expect the decrease in preference to exist for recognized brands in both the high and low intrusiveness conditions. However, follow-up analyses again show that recognized brands in the high intrusiveness condition were evaluated lower than those in the low intrusiveness condition (effect of intrusiveness within recognition: $t(87) = 2.87, p < 0.01$), while no effect of intrusiveness was found for non-recognized brands ($t(108) = 0.08; p = 0.94$). These results cast doubt on a demand or punishment account. In fact, only if participants were aware of differences in concurrent frustration between advertised brands could a deliberate punishment of “bad” brands come into play. It is unlikely that participants consciously perceived the ads to differ in the level of frustration as the ad format does not change throughout the study and the driver of lower frustration is participant learning.

However, if participants *were* aware of the different levels of frustration for specific brands we might expect this knowledge or suspicion to surface in the annoyance ratings of the very first (high frustration) versus the very last (low frustration) ad. We asked participants about their felt annoyance for the first and last ad shown and did not find a significant difference across all participants ($M_{\text{first}} = 5.97/7, M_{\text{last}} = 6.06/7, t(100) = -.410, p = .68$) or among the 25 participants who recognized both brands ($t(24) = .35, p < .73$). This result is consistent with the finding in experiment 1 that respondents were not conscious of differential annoyance across the brands. Thus, the fact that recognition has no impact in the low intrusiveness condition combined with the fact that most participants were unaware of which of the brands shown was in the high intrusiveness condition, casts doubt on a punishment or reactance story in our data. In addition, this

finding is further interesting because it shows that lessening ambient frustration resulted in positive evaluations of the advertised brands even when participants recalled the brands as being advertised in intrusive ads.

GENERAL DISCUSSION

The most surprising result of these studies from the perspective of the general population is the demonstration that an intrusive ad only hurts a brand when the offense is substantial and participants have the cognitive resources to process and later recognize the brand. We initially summarize the theoretical results by focusing first on the high intrusiveness and then the low intrusiveness conditions.

In the high intrusiveness condition, when lack of recognition precludes or weakens evaluative conditioning, mere exposure produces a positive response to the offending brand relative to an unexposed control. By contrast, when the offending brand is recognized, then the brand suffers. This result is consistent with evaluative conditioning requiring target recognition to be effective, and with mere exposure operating when targets are not recognized.

We are confident that the negative impact given recognition was not due to either a demand or punishment motive. Evidence comes from the fact that most respondents could not indicate which brands was the high frustration brand, so they would be as likely to punish the low as the high frustration brand. Further, among recognized brands the high frustration brand suffered while the low frustration brand did not.

In experiment 3 the negative impact was not significant. However, there were only two exposures to the frustrating brand, and follow-up tests revealed that the intrusiveness manipulation was not equal across participants. It is likely the second exposure was not

perceived as highly frustrating for those who quickly removed the offending ad, leaving only one frustrating exposure. We expect that more truly intrusive exposures would have resulted in similar significant results as found in experiments 1 and 2.

Next consider the low intrusiveness condition. From a theory perspective, the interpretation of this condition can be the most problematic as it is not clear for any given subject whether the low intrusiveness condition is indeed low frustration, is neutral, or by contrast by high intrusiveness is even seen as positive. Experiment 1 does not find a positive mere exposure effect, a result that is replicated in experiment 2, when the inserted ad does not detract from the central shopping task. However, the positive mere exposure effect is significant in experiments 2b (no ambient frustration) and 3 (less ambient frustration and stronger exposure). Since these last two experiments differ from the earlier ones in having less ambient frustration, that result is consistent with the finding by Murphy et al. (1995) showing that diffuse can lessen the positive mere exposure effect. Thus, although mere exposure is inherently positive, having exposure within a negative environment starts the brand at a disadvantage, and thus, stronger exposure may be required for the positive effect of mere exposure to be substantial.

Limitations and future research: One potential limitation of the methodology used in these experiments is that participants are not assigned to recognition conditions. While research in this arena has consistently relied on self-reported measures of recognition or awareness (see e.g. Pleyers et al., 2007), we build on that work by directly assessing the accuracy of our recognition measures. Across our experiments we rely on different manipulations to control recognition levels across conditions. Importantly, we demonstrate through follow-up analyses that our measure of frustration (number of clicks) and the main driver of frustration (the time the ad is open) do not substantially alter recognition levels. Hence, across our experiments we are

able to demonstrate the predicted effects while addressing these potential confounds. While we believe our results would replicate with manipulated recognition, the question of the domain of our results as a function of recognition remains an important future research topic.

Managerial implications: The context used in this article for studying intrusive advertising is that of online advertising, however, intrusive advertising is hardly limited to the Internet. As an example of similar intrusive frustration, consider a TV ad appearing only a few seconds after the buzzer sounds to signal that one's beloved college team just won the national championship. An Internet search for the term "intrusive advertising" returned results about TV, radio, and cell phone ads in addition to online advertising. Even magazines where one cannot easily distinguish ad content from editorial content – or where finding the editorial content among the ad content becomes a major challenge – can be considered intrusive advertising. The key is that these ads are unwanted and are rudely interrupting a current consumer task.

At first glance, our finding of substantial positive changes following intrusiveness results may seem to justify more intrusive and frustrating ads for marketers. However, it is more appropriate to view our findings as a cautionary tale, that marketers should be careful what they wish for. Successful ads are those that generate brand awareness. However if the implementation is frustrating to the user then that awareness leads to a weakened brand. By contrast, the brand is helped only if the marketer is unsuccessful in its pursuit of brand awareness. This result suggests that intrusive ads are likely to be most effective for products only for a short introductory period when they are able to slip under the radar of awareness.

A second result may have more direct implications for marketers—frustration may bleed over to less frustrating brands. Assessing our findings across the three experiments, it is clear that when low frustration ads are presented concurrently with ads in more frustrating formats, the

increased level of general frustration experienced by the consumer appears to negate the positive influences of exposure otherwise awarded to brands advertised in low frustration ad formats.

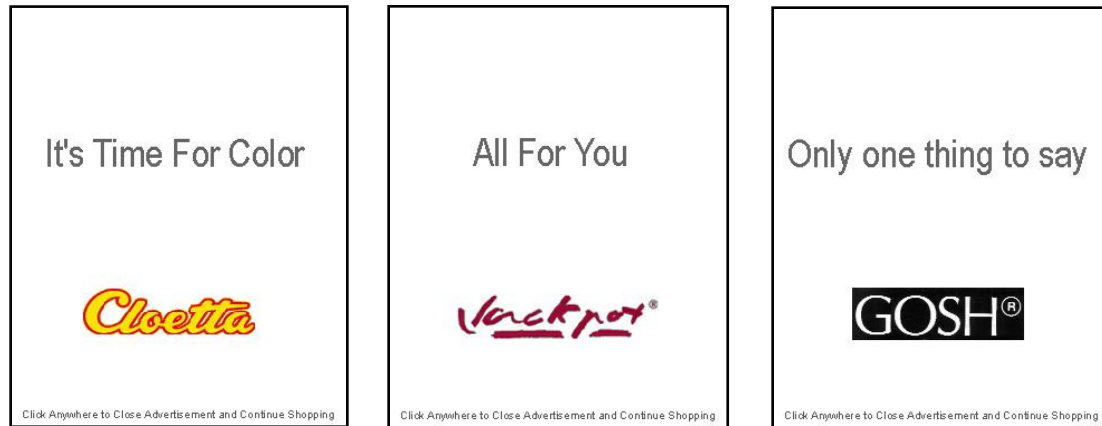
Thus, an ad in a high frustration context—such as a billboard in a bad traffic area, or aired during an unexpected loss of a sports event, may counteract the otherwise positive impact of mere exposure.

With respect to boundary conditions, it is important to acknowledge that our ads were all for previously unknown brands. Had we used known brands it is likely the positive mere exposure effect and the negative evaluative conditioning would be dampened, simply because the consumer already has a well-formed attitude towards the brand. Further the ability to recognize a brand and associate it with a rude intrusion may be greater with known brands. Recent research suggests that the influence of evaluative conditioning on mature brands is lessened by prior preferences (Gibson, 2008). Still, it would be valuable to test the impact of intrusive ads on known brands. It may be that the immediate impact is negative but the long-term effect positive.

Summary. This article documents the joint influence of two distinct sources of affect, mere exposure and evaluative conditioning, on repeated ad exposures. By designing experiments that take advantage of the boundary conditions for each mechanism we reveal the impact of each on repeatedly advertised brands. Our results are consistent with evaluative conditioning that is dependent on target stimulus awareness. Additionally, we provide clarification for the claim put forth by Winkielman and Cacioppo (2001) that mere exposure effects are, in isolation, inherently positive as we find evidence that even in an environment influenced by ambient frustration, mere exposure can lead to positive changes in evaluation given sufficient levels of exposure. Thus, in terms of marketing theory we provide evidence of boundary conditions for both evaluative

conditioning and mere exposure. Additionally, for marketing practice, we use these results to characterize contexts in which intrusive ads will work and when they will backfire.

APPENDIX A: ADVERTISEMENTS USED IN BOTH EXPERIMENTS



* The small text at the bottom of the advertisements was present only in experiment 3.

APPENDIX B: STIMULUS PRESENTATION (EXPERIMENT 1)

Condition	High Intrusiveness	Low Intrusiveness	Unexposed Control
Frustrating Ad First			
1	Brand A	Brand B	Brand C
2	Brand A	Brand C	Brand B
3	Brand B	Brand C	Brand A
4	Brand B	Brand A	Brand C
5	Brand C	Brand A	Brand B
6	Brand C	Brand B	Brand A
Frustrating Ad Second			
7	Brand A	Brand B	Brand C
8	Brand A	Brand C	Brand B
9	Brand B	Brand C	Brand A
10	Brand B	Brand A	Brand C
11	Brand C	Brand A	Brand B
12	Brand C	Brand B	Brand A

Footnotes

¹ Removing these participants from the analysis did not change the results.

REFERENCES

- Allen, C. and Janiszewski, C. (1989), Assessing the Role of Contingency Awareness in Attitudinal Conditioning with Implications for Advertising Research, *Journal of Marketing Research*, 26 (February), 30-43
- Baker, W. E. (1999), When can Affective Conditioning and Mere Exposure Directly Influence Brand Choice, *Journal of Advertising*, 4 (Winter), 31-46.
- De Houwer, J., Thomas, S., & Frank Baeyens, F. (2001), Associative Learning of Likes and Dislikes: A Review of 25 Years of Research on Human Evaluative Conditioning.” *Psychological Bulletin*, 127 (6), 853-869.
- Dvorak, J. C. (2007) *This Week In Tech*, www.twit.tv, February 11
- Epple, G. & Herz R. S. (1999), Ambient Odors Associated to Failure Influence Cognitive Performance in Children, *Developmental Psychology*, 35, 103-107.
- Fang, X., Singh, S., & Ahluwalia, R. (2007), An Examination of Different Explanations for the Mere Exposure Effect, *Journal of Consumer Research*, 34 (June), 97-103.
- Ferraro, R., Bettman, J. R. & Chartrand, T. L. (2008), The Power of Strangers: The Effect of Minimal Social Interactions on Brand Choice, *Journal of Consumer Research*, Forthcoming
- Field, A. P., & Moore, A. C. (2005). Dissociating the effects of Attention and contingency awareness on evaluative conditioning effects in the visual paradigm. *Cognition & Emotion*, 19 (2), 217-243.
- Gibson, B. (2008), Can Evaluative Conditioning Change Attitudes toward Mature Brands? New Evidence from the Implicit Association Test, *Journal of Consumer Research*, 35 (June), 178-188.
- Grossman, R. P. & Till, B. D. (1998), The persistence of Classically Conditioned Brand Attitudes, *Journal of Advertising*, 28 (1), 25-31.
- Janiszewski, C. (1993), Preattentive Mere Exposure Effects, *Journal of Consumer Research*, 20 (December), 376-392.
- _____ & Meyvis, T. (2001), Effects of Brand Logo Complexity, Repetition, and Spacing on Processing Fluency and Judgment, *Journal of Consumer Research*, 28 (1), 18-32.
- Kim, John, Allen, C. T. & Kardes F. R. (1996), An Investigation of the Mediational Mechanisms Underlying Attitudinal Conditioning, *Journal of Marketing Research*, 33 (August), 318-328.

- _____, Lim, J. & Bhargava, M. (1998), The Role of Affect in Attitude Formation: A Classical Conditioning Approach", *Journal of Advertising*, Spring, , p.143-152.
- Labroo, A. A., Dhar, R., & Schwarz, N. (2007), Of Frowning Watches and Frog Wines: Semantic Priming and Visual Fluency, *Journal of Consumer Research*, *Forthcoming*
- Lee, A. Y. (2001), The Mere Exposure Effect: An Uncertainty Reduction Explanation Revisited, *Personality and Social Psychology Bulletin*, 27 (10), 1255-1266.
- Lee, A. Y. (2004), The prevalence of metacognitive routes to persuasion, *Journal of Consumer Psychology*, 14 (4), 349-355.
- Lovibond, P. F. & Shanks, D. R. (2002), The Role of Awareness in Pavlovian Conditioning: Empirical Evidence and Theoretical Implications." *Journal of Experimental Psychology: Animal Behavior Processes*, 28 (1), 3-26.
- Mack, A., & Rock, A. (1998). Inattentional Blindness. Cambridge, MA: MIT Press.
- Monahan, J. L., Murphy, S. L. & Zajonc, R. B. (2000), Subliminal Mere Exposure: Specific, General, and Diffuse Effects, *Psychological Science*, 11, 6 (September), 462-466.
- Murphy, S. T., Monahan, J. L., & Zajonc, R. B. (1995), Additivity of Nonconscious Affect: Combined Effects of Priming and Exposure; *Journal of Personality and Social Psychology*, 69 (4), 589-602.
- Pleyers, G., Corneille, O., Luminet, O., & Yzerbyt, V. (2007), Aware and (Dis) Liking: Item-Based Analysis Reveal that Valence Acquisition via Evaluative Conditioning Emerges Only When There Is Contingency Awareness, *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33 (1), 130-144.
- Reber, R., Winkielman, P. & Schwarz, N. (1998), Effects of Perceptual Fluency on Affective Judgments, *Psychological Science*, 9 (1), 45-48.
- _____, Schwarz, N. & Winkielman, P. (2004). Processing fluency and aesthetic pleasure: Is beauty in the perceiver's processing experience? *Personality and Social Psychology Review*, 8, 364-382.
- Riordan, C. A., & Tedeschi, J. T. (1983), Attraction in Aversive Environments: Some Evidence for Classical Conditioning and Negative Enforcement, *Journal of Personality and Social Psychology*, 44 (4), 683-692.
- Scott, G. (2007), Ad Backlash, *Advertising Industry Newswire*, Feb 25.
- Shapiro, S. (1999), When an Ad's Influence is Beyond Conscious Control: Perceptual and Conceptual Fluency Effects Caused by Incidental Ad Exposure, *Journal of Consumer Research*, 26 (June), 16-36.

- _____, MacInnis, D. J., & Heckler, S. E. (1997), The Effects of Incidental Ad Exposure on the Formation of Consideration Sets, *Journal of Consumer Research*, 24 (June), 94-104.
- Shimp, T. A., Stuart, T. E. & Engle, R. W. (1991), A Program of Classical Conditioning Experiments Testing Variations in the Conditioned Stimulus and Context, *Journal of Consumer Research*, 18 (June), 1-12
- Stuart, E. W., Shimp, T. E., & Engle, R. W. (1987), Classical Conditioning of Consumer Attitudes: Four Experiments in an Advertising Context, *Journal of Consumer Research*, 14 (December), 334-349.
- Wang, J. & Calder, B. (2006), Media Transportation and Advertising, *Journal of Consumer Research*, Vol. 33 (September), 151-162.
- Winkielman, P. & Cacioppo, J. T. (2001), Mind at Ease Puts a Smile on the Face: Psychophysiological Evidence That Processing Facilitation Elicits Positive Affect, *Journal of Personality and Social Psychology*, 81 (6), 989-1000.
- Zajonc, R. B. (1968) Attitudinal Effects of Mere Exposure. *Journal of Personality and Social Psychology*, **9, 2**, 1-27.

Figure 1

Brand evaluation as a function of intrusiveness and recognition (exp. 1)

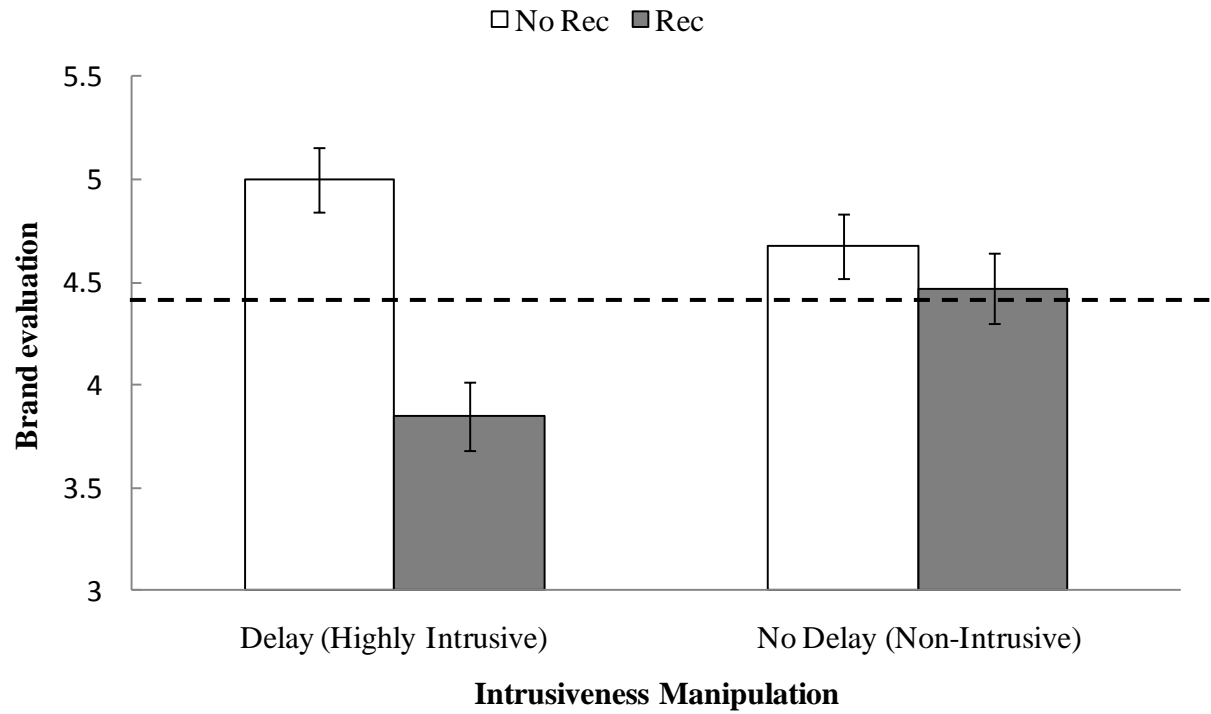


Figure 2

Brand evaluation as a function of intrusiveness and recognition (exp. 2)

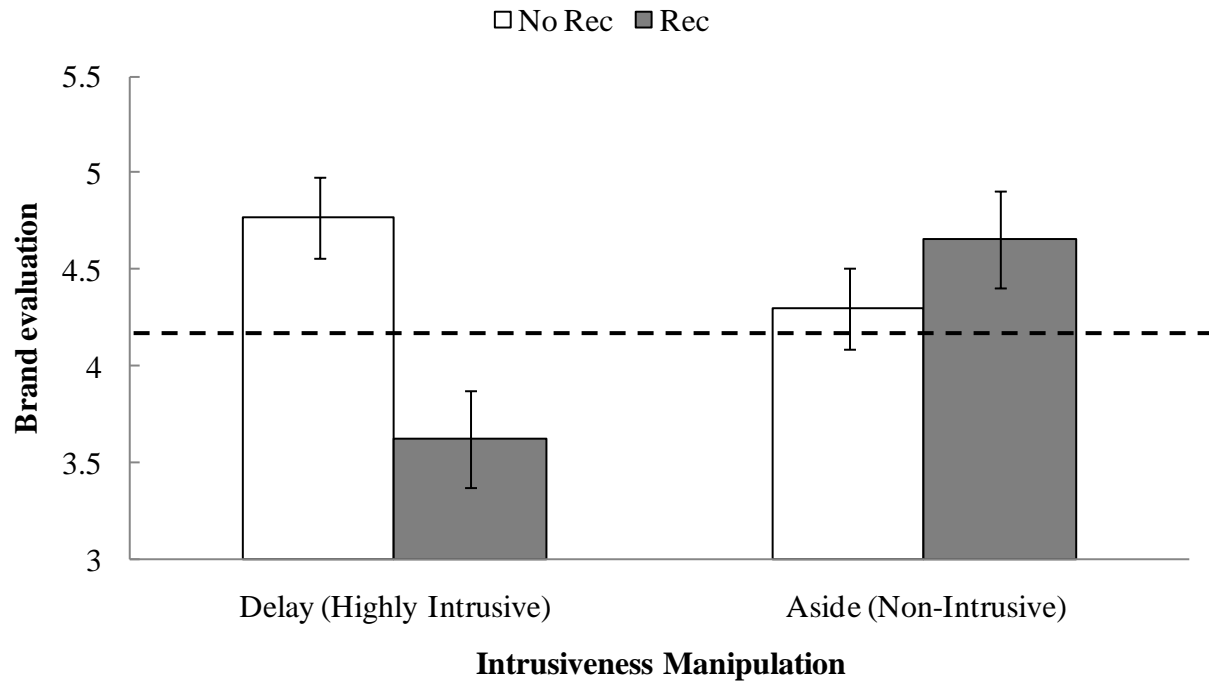


Figure 3

Brand evaluation as a function of intrusiveness and recognition (exp. 3)

