

**UNCONSCIOUS PROCESSING OF INCIDENTAL
ADVERTISING EXPOSURE: EFFECTS ON IMPLICIT
MEMORY, ATTITUDE TOWARD THE BRAND AND
CONSIDERATION SET**

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ABSTRACT

Our study expands research on incidental ad exposure by checking whether incidental exposure to an ad increases the likelihood that a product described in the ad will be included in consideration set. In this context, measuring advertising effects based on the traditional cognitive models of information processing may undervalue the effectiveness of incidental advertising. The result suggest that ,upon exposure to incidental advertising, consumers experience priming caused by implicit memory and build a more favorable attitude toward the advertised brand regardless of the levels of attention they paid to the advertisements. Additionally, those who unconsciously processed incidental print ads did not remember seeing the ad explicitly, but they were more likely to include the brand in the consideration set than those who had no exposure. These effects were found despite subject's lack of explicit memory for the ads. Because inclusion of product in a consideration set is often a necessary condition, this research would be an important contribution to the apprehending of the effect of low involvement processing on advertising effect.

***Key words:* incidental advertising, implicit memory, brand consideration set**

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1. Introduction

Brand names and logos are omnipresent in the everyday environment. They are under our feet at the supermarket; they serve in as props in our favourite TV shows. These are just a few examples of ways in which people are continually and steadily exposed to brands in the course of their daily activities. Sometimes, these brands displays are able to capture people's attention, and as a result, people may or may not be aware that they have been exposed to brands in these contexts. Other times, however, this brand exposure is not the focal point of their attention. Actually, recent research in marketing and social psychology proposes that attitudes, choices and behaviour can be influenced as a function of incidental brand exposure (Ferraro, Chartrand and Fitzsimons, 2006). There is solid evidence now that even in the absence of recall or recognition of the exposure marketing communications can influence our behaviour (Vanhuele et al., 2005). Ferraro, Chartrand and Fitzsimons (2005) define incidental exposure as an automatic processing of visual brand information while conscious attention is directed elsewhere. Vanhuele et al. (2005) talked about focal versus non-focal attention is fairly clear-cut in the case of visual perception. Focal vision is restricted to 1,5 to 5 degrees from the current point of focus. To define it, Shapiro (1999) suggests that while a person spotlights conscious attention on a primary task, other information that is not attended to can be processed. This nonconscious, incidental exposure often occurs without explicit memory for ad, product, or marketing stimuli and can affect persuasion.

2. Research objectives

The dissertation will contribute to advertising research and practice in several ways. In fact, an empirical examination of unconscious processing of incidental advertising would make theoretical, methodological and practical contributions. From a theoretical perspective, the objective of this study is to prove that consumers memorize information advertisement message in two ways: implicitly and explicitly and that those types of memorization are influenced simultaneously by cognitive and affective reactions. We want to discover how cognitive treatment of advertisement cue conducts to an implicit/explicit memorization. We want to know how emotion influences those types of memorization, too. We try to investigate how an incidental exposure to brand names can affect subsequent brand choices even when the consumer is not aware of the effect of prior exposure, often referred to as an 'implicit memory' perspective, and demonstrate how this framework can offer an insight for examining brand choices made. This study will permeate to expand our knowledge of factors that

influence the effects of preattentive processing of incidental advertising. Further, we try to revise the traditional Visual-Verbal cognitive style in accordance with current cognitive science findings. In fact, one of the intentions of our study is to better understand the effect of the cognitive style of consumers in their memorization of the advertised brand. This study is the first to consider the moderating role of characteristics of the person: gender and the dimension of visualizer/ verbalizer of cognitive in studying the effects of incidental advertising on consumer consideration set.

3. Model development and hypothesis

Shapiro and MacInnis (1992) suggested that the existence of unconscious processing can be indicated by two measures: (1) no evidence for recognition of target stimuli, and (2) evidence of priming effect. To better apprehend the mechanism of unconscious processing two major constructs: implicit memory and priming. Unconscious processing would result in priming effects generated by implicit memory without the consumer consciously identifying the source from which is derived. To better comprehending the mechanism of unconscious processing one chief construct: implicit memory was checked. The hypothesized linkages in the model are discussed below.

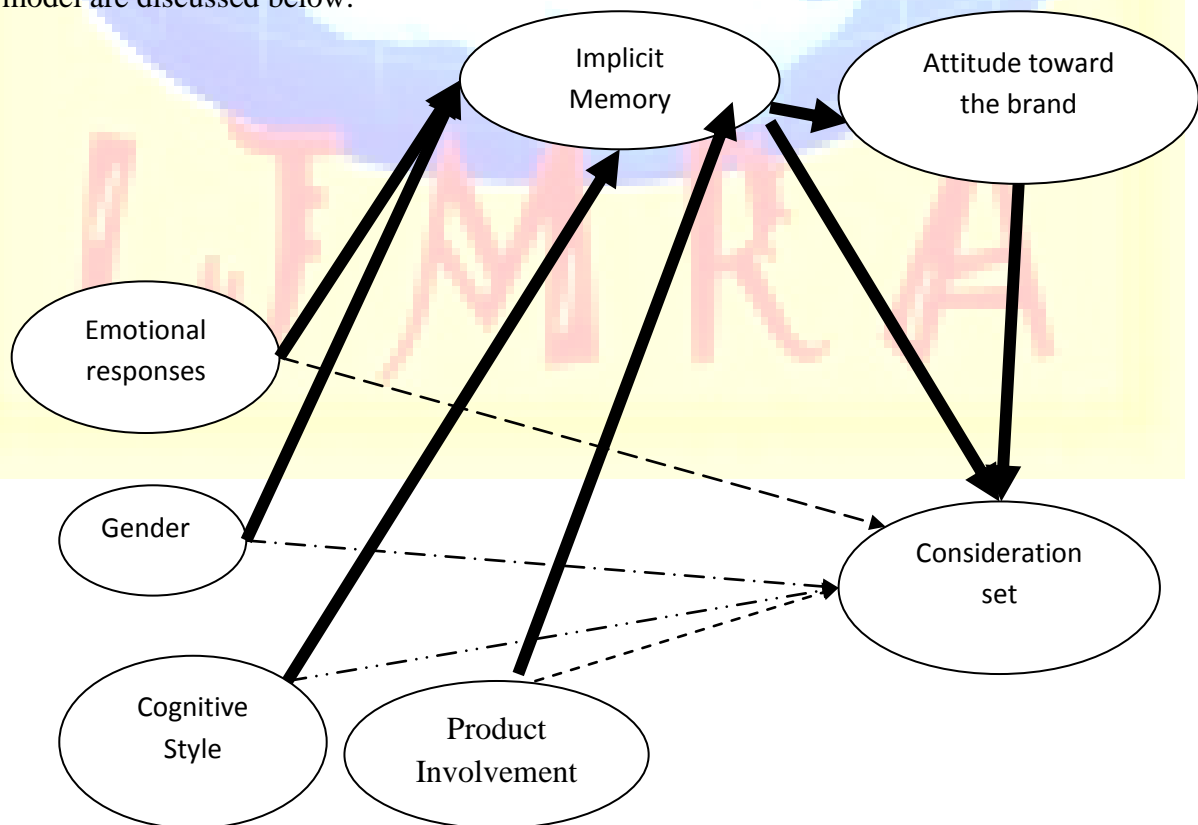


Figure 1. : Effects of Incidental Advertising Exposure model

4. Methods

An experiment was designed to test the hypotheses. The ensuing sections denote an experimental procedure. Earlier to the chief experiment, three computer magazine pages were developed for the main study and three web pages were developed for the main study and a word stem completion test was developed to appraise implicit memory. In tandem with past research on unconscious processing in advertising context, the incidental ad exposure setting can be applied to the experimental design of the present study, in which subjects are asked to fulfil their experimental goal (reading the context of a magazine page) and they do not attentively process the embedded in the incidental ads during the experimental tasks. Some pretests preceded the main experiment. Two versions of the magazine were developed. The first contained the advertisements placed in the bottom at the right. The ads occupied a visual field ranging from approximately 2 degrees to 16.5 degrees when viewed from the left-hand margin of the right column and 17.3 degrees when viewed from the right hand-margin of the right column. The highlighted text that appeared in the right-hand column next to each product depiction in the target ads took approximately 15seconds to read

Hypothesis 1. Incidental processed advertising is more likely to generate implicit memory than that expected by chance. We choose to adopt the same method of Lee (2002) as she measures implicit memory performances by calculating the target completion rate which means the number of correct answers in the word completion list. The results of independent samples t-test showed that target word completion rate were significantly greater for subjects in the preattentive condition ($t_{df_{358}}=6.813, p<.05$). For the hypothesis test the word completion rate for the control group was compared to that for incidental processing group. The results showed that subjects in the preattentive processing group ($M=.44, S.D. =.14$) completed more target words than the control group ($M=0.3, S.D=.12, F=46.41, p<.05$) thus H1 supported.

Hypothesis 2. Expects that positive feelings (Pleasure) evoked by the consumer at the moment of incidental exposure to advertising affect positively the implicit memory performance. For the hypothesis testing, a regression analysis was conducted. The index score of the pleasure evoked by the consumer at the moment of incidental advertising for 'Sablito Cookies ' was entered as an independent variable while the scores of recall of the brand name

was entered as dependant variable. As shown in the table 8., the feeling of pleasure evoked by the consumer at the moment of exposure had no effect on implicit memory performance ($B=.008$, $S.E=.007$, $Beta=.059$, $t=-1,031$, $p<.05$). Furthermore, R-Square indicates that only minimal variation of .03percent of implicit memory was explained by the feeling of pleasure evoked by the consumer at the moment of exposure to incidental advertising.

Hypothesis 3. Predicted that subject's implicit memory performance in an incidental processing condition would not be affected by the level of product involvement. For the hypothesis testing, we conducted a regression analysis. We entered the score of product involvement for "Sablito Cookies" as independent variable, while the target word completion rate (implicit memory) as dependant variable .As shown in the Table 9. , the subject's product involvement had an effect on implicit memory ($B=-.045$, $S.E=.016$, $Beta=-.147$, $t=-2,819$, $p<.05$). Furthermore, R-square indicates that medium variation (.022) of implicit memory was explained by the subject's product involvement. Thus H3 was rejected.

Hypothesis 4. Expects that the gender of consumer affects positively the memorisation of brand names. We try to test the relationships of gender and recall of the name of advertised brand. Females have greater capacity than man to retrieve from memory the name of the brand in the case of incidental exposure to advertising. To test this hypothesis, we proceed to a comparison of scores of recall of the brand name between males and females. As shown in the Table 10., the female consumer ($M_{female}=.05$, $S.D. =.22$) have greater capacity than man to retrieve from memory the name of the brand in the case of incidental advertising ($M_{male}=.04$, $S.D. =.193$). Additionally, we lead a two tailed difference of mean test that indicate that gender of individuals affects positively the recall of the brand name in the case of two products (cookies and laptops).

Hypothesis 5. Expects that cognitive styles affect positively the implicit memory performances of each participant. Females and males differ in their verbal reports of visual image. Females have superiority in visual-item memory. Ensuing to that we emphasize that they recall more accurately the brand name in the case of incidental advertising. Before testing the hypothesis and analyzing the collected data, the internal reliability consistency of this scale. Just one of the three cognitive styles had significant effect on implicit memory (object factor: $B=.002$, $S.E=.027$, $Beta=.004$, $t=.073$, $p=.942$) which is spatial factor: $B=.012$,

S.E.=.018, Beta=.040, $t=.068$, $p=.479$; verbal factor : $B=-.004$, S.E.=.013, Beta=-.016). So we conclude that differences of cognitive styles of participants had no effect in their implicit memory performances. Thus H5 is supported.

Hypothesis 6. predicts that attitude toward the advertised brand affects positively the inclusion of the brand name in a stimulus based consideration set. To test this hypothesis we proceed to a regression analysis. The index score of attitude toward the brand was entered as independent variable while the scores of stimulus based set was entered as dependant variable. Attitude toward the brand had positive effect in the inclusion of the advertised brand in stimulus based consideration set ($B=.002$, S.E=.009, Beta=.014, $t=.239$, $p\leq.05$). Furthermore, Rsquare indicates that only minimal variation of 1.4% of stimulus based set was explained by attitude toward the brand in the case of incidental exposure to advertising.

Hypothesis 7. Expects that implicit memories and emotional responses affect positively the including of the name of the brand in a stimulus based consideration set. For the hypothesis testing we lead a regression analysis .We entered the stimulus based consideration set as dependant variable and implicit memories and emotional responses as independent variables subject's implicit memory ($B=.20$, S.E. =.091, $\beta=.124$, $t=2.20$, $p<.05$) and one dimension of emotional responses Arousal ($B=.014$, S.E. =.007, $\beta=.114$, $t=1.99$, $p<.05$) had significant effect in including the name of the brand in consideration set. Thus hypothesis 7 is supported. Further, the R-Square for the regression model is .032, and this indicates that 3.2percent of the variation of including the name of the brand in stimulus based consideration in the preattentive condition is explained by subject's implicit memory and emotional responses. Among the four independent variables, the standardised coefficient indicates that 'implicit memory' ($\beta=.124$) is the strongest predictor of the attitude toward the brand followed by Arousal ($\beta=.114$).

5. Additional Analysis

We expect that incidental processing is more likely to generate favourable attitude toward the advertised brand than that expected by chance. In order to test our hypothesis, Attitude toward the brand, Attitude toward the scores for control and incidental processing for Laptops were compared. As we see in the table 16, the incidental processing group had more favourable attitude toward the target brand ($M= 5.10$; S.D. =1.40) than did the control group

(M=3.42; S.D=0.59). A two tailed difference of mean test indicates that Attitude toward the brand scores among experimental subjects are significantly greater than those expected by chance.

Table 1. Results of ANOVA: Control versus Incidental Processing Groups on Attitude toward the Advertised brand

| | N | Mean | S.D. | df | F | sig |
|-------------------|-----|------|------|----|------|-------|
| Control | 50 | 3.42 | 0.59 | 1 | 1.63 | 0.125 |
| Incidental | 310 | 5.10 | 1.40 | | | |

We expect that a brand name from the unconscious processing of incidental advertising is more likely to be included in a stimulus based consideration than that of the control group. To test the hypothesis, we proceed to a comparison of the proportions of the target brand chosen between experimental and control groups. The results of chi-square tests showed that subjects in the experimental processing groups (M= 0.05, S.D=0.228) were likely more to include the target brand (laptop brand) in the consideration set than was the control group (M=0.02, S.D=0.141, $X^2_{df=1}=1.1$, $p<0.05$). A two tailed difference of proportion test proved that the likelihood of including the brand name is presented in the advertising in a consideration set was significantly greater than that by chance ($t_{df=359}=38.57$, $p<0.05$).

In the objective of examining the relative influences of implicit memory performance, emotional responses and attitude toward the brand, emotional responses and attitude toward the brand on the consideration set formation, supplementary statistical analysis was performed. Since the inclusion of the target brand (Sablito Cookies) was coded as dichotomous variable (Yes=1 or No=0) in a consideration set, a binary logistic regression was used.

Table 2. Results of Logistic Regression Analysis: Implicit Memory, Emotional Responses and Attitude toward the brand (N=310).

| | B | S.E. | Wald | df | Sig |
|------------------------|-------|-------|--------|----|-------|
| Constant | -9.07 | 0.259 | 12.267 | 1 | .000 |
| Implicit memory | 3.45 | 0.228 | 2.283 | 1 | 0.131 |
| Pleasure | 0.208 | 0.231 | 0.810 | 1 | 0.368 |

| | | | | | |
|-----------------------|-------|-------|-------|---|-------|
| Arousal | 0.299 | 0.149 | 4.029 | 1 | 0.045 |
| Dominance | 0.217 | 0.192 | 1.28 | 1 | 0.258 |
| Attitude brand | 0.154 | 0.263 | 0.344 | 1 | 0.557 |

Binary Logistic Regression Model: $\ln [p / (1-p)] = \alpha + B1 (\text{implicit memory}) + B2 (\text{Pleasure}) + B3 (\text{Arousal}) + B4 (\text{Dominance}) + B5 (\text{Ab})$.

As shown in table 2, only Arousal had significantly positive effects on the inclusion of target brand in a consideration set. The results indicate that, when respondents feel a pleasant emotion they are more likely to include the target brand in a consideration set. This result is coherent with the theoretical findings.

A second validation of our hypothesis is required to confirm the results that we found that are why we had recourse to the SEM method that we used in the chapter 5 for the verification of the validity of the model. For the validation of the relations stated on our assumptions, it is recommended to refer to two indicators: T of student and the standardized coefficients of regression. The value of T of student must be higher than 1.96 whereas the coefficients of regression must be ranging between 1 and -1. (Roussel et al., 2002). Consequently, more the absolute value of a coefficient is close to 1, more the linear relation is strong; opposite being true. Those statistical tests rely on factor analyses which constitute one of the principal applications of the structural equations model carried out using the software AMOS (19).

An analysis of the estimated standardized path coefficients gave the direction and the significance of the hypothesised relationships among the seven constructs as shown in figure 2. The results of the analysis of causality provided by Amos 19.0 explain the relations between the variables of the model by standardized coefficients of regression. Certain hypothetical bonds were cancelled whereas others validated. The eight constructs in the effects incidental advertising model are latent variables that cannot be observed directly. In addition to the direct effects, we further examined implicit memory and attitude toward the brand to determine whether they were indirectly related to consideration set. The results displayed by the figure below stipulate that emotion had no effect on implicit memory and a non significant indirect effect in consideration set. . Product involvement had a significantly

negative non direct effect on consideration set ($\beta = -.010$, $t = -.160$). The cognitive style had negative indirect effect in consideration set ($\beta = -.020$, $t = -.035$).

Additionally, a non significant effect of gender in consideration set was found ($\beta = -.070$, $t = -1.27$). Gender, cognitive style and product involvement had a negative indirect effect on consideration set. So gender, cognitive style (in its verbal dimension) and product involvement had a role on reinforcing the memorization of brand name in the case of incidental advertising which permits a more probability to include the name of the brand in consideration set. However, as we see in the table 18. , emotional responses have a positive direct effect in implicit memory ($\beta = .059$, $t = 1.031$) and a positive indirect effect in the consideration set, too ($\beta = .060$, $t = 1.00$). In sum, the structural equation modelling indicate that SEM conclusions concords our results done by SPSS. It indicated that implicit memory theory explains consumer's attitude toward the brand and the inclusion of the brand name in consumer consideration set in the case of incidental advertising. Additionally, incidental advertising has a total positive effect in consumer consideration set via implicit memorisation of the brand name.

Table 3. : Direct and indirect effects among the seven constructs

| Paths | Student T. | Standardized coefficients |
|---|------------|---------------------------|
| Pleasure → implicit memory | 1.031 | .059 |
| Pleasure → consideration set | 1.00 | .060 |
| Product involvement → implicit memory | 2.81 | .147 |
| Product involvement → consideration set | -.160 | -.010 |
| Gender → implicit memory | 1.44 | .080 |
| Gender → consideration set | -1.270 | -.070 |
| Cognitive style → implicit memory | 2.057 | .119 |
| Cognitive style → consideration set | -.035 | -.020 |
| Implicit memory → attitude toward the brand | .438 | .019 |
| Implicit memory → consideration set | .239 | .014 |
| Attitude toward the brand → consideration set | 1.198 | .068 |

The various relationships between the dependant variables and the independent variables are diagrammed in the following figure 2. that represents the effects of incidental advertising exposure in the formation of consideration set. The goal of the chief of study was to test eight hypotheses. The results demonstrated that three of eight hypotheses were rejected. Along with limitations and contributions, the detailed discussion relating to the results of the main study will be presented in the next paragraph.

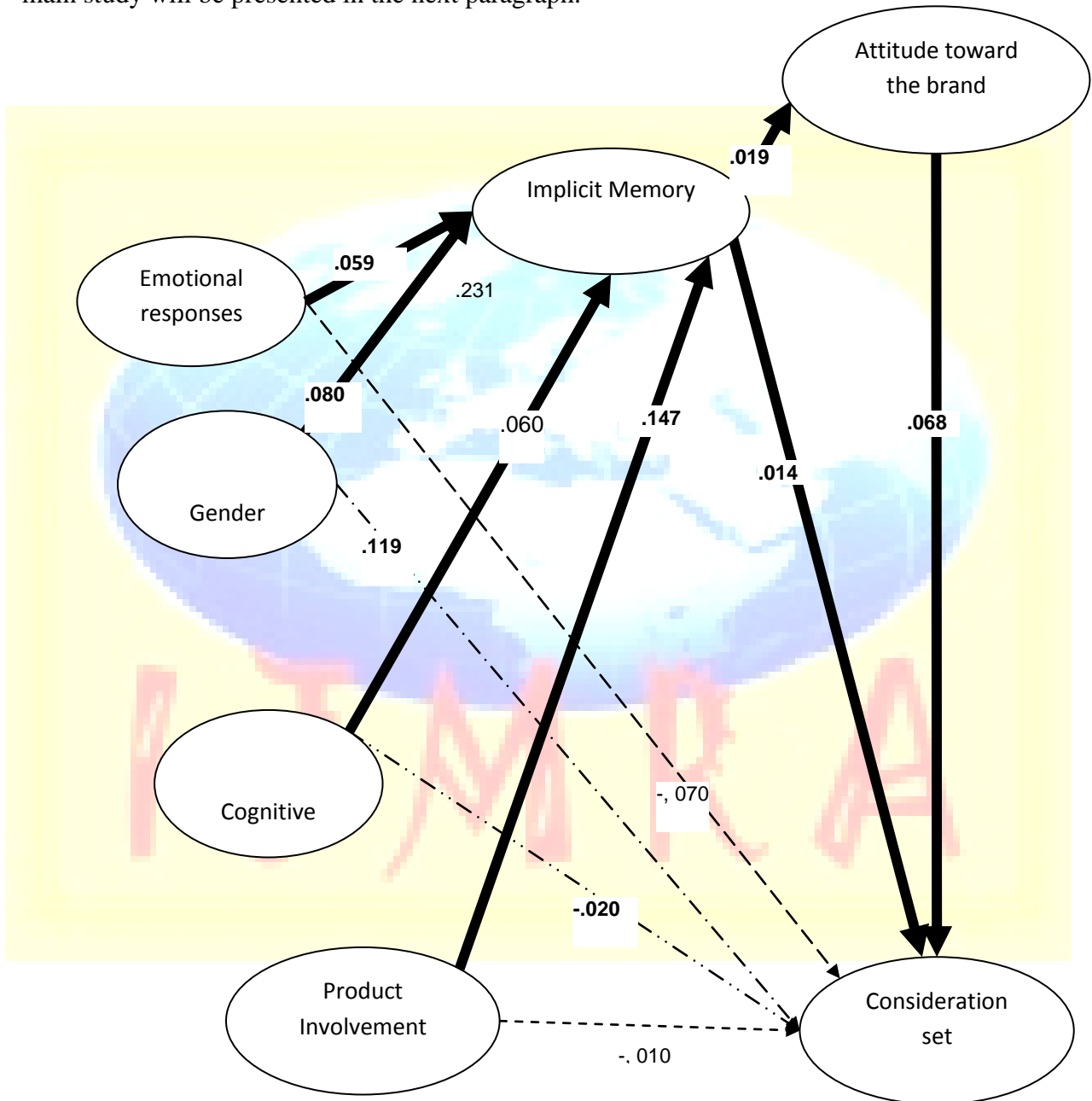


Figure 1. : Effects of Incidental Advertising Exposure test results

9. Implications

First, this study shows that implicit memory measures can complement the limitations of the current measures of incidental ad effectiveness based on explicit memory (e.g. recall and recognition). Specifically when incidental ad are avoided or ignored, implicit memory measures based on unconscious retrieval are more appropriate for incidental advertising effectiveness. Our study confers to the field in many ways. First, we proposed a new conceptual model that supports researchers and practioners with an overall theoretical framework to appraise the effectiveness of incidental advertising. Inconsistent with anterior incidental ad effects model , not only this model combines various antecedents appearing in classical ad processing models, but also it includes preattentive processing in the print environment furnish a theoretical framework to examine the effects of such processing. Thus as more consumers intentionally avoid incidental advertising, the importance of the model will be improved. . Our findings imply that incidental advertising may be more beneficial for brands that need to increase their familiarity or have low involvement level products.

From a media seller's point of view, the results of this research may be useful to persuade clients to buy incidental media spots, especially when the clients doubt an effectiveness of incidental advertising. Additionally, in terms of pricing, the practical implication for print advertisers is that emphasis should be emplaced in the impression rather than media, which may underestimate the effectiveness of print advertising.

10. Limitations

Our research provides useful insights on consumer's preattentive processing of incidental advertising, the limitations should be cited. Like any experimental of advertising effects, the anterior results and discussions are limited by the nature of our stimuli, subjects and instruments.

First, the study takes place in a computer lab, and the setting forces participants to pay full attention to the print magazine pages and disregard everything in the surrounding area. Although this design ensures incidental processing, it also might prevent subjects from diverting their attention to other things involuntarily, such as they may do when they read magazine in a natural settings. This study does not include every experimental condition that

could test the hemispheric processing of incidental cues. Instead, in all conditions stimuli appear in the peripheral vision (left-hand). Therefore, additional studies should manipulate the location of the stimuli fully. Secondly, incidental print ad banners cannot represent the full hue cycle of print advertising. For this cause, the results of this study should be understood within the context of banner ads, not other print advertising formats. Third, although the choice of student objects appeared appropriate for the study, available samples can restrict the findings to the general population. Nevertheless, the goal of the study was to analyze preattentive processing within the context of print advertising and there is no reason to accredit that the relationships we discovered should not hold for other segments of consumer population. Reflection of this study using the general advertising population would be beneficial to amplify our apprehension of preattentive processing of incidental advertising. Finally, to evaluate subject implicit memory we used word fragment completion tests. Researchers battled that implicit memory tests provoke different patterns of priming when the test forms differ, such as in the comparison of word fragment completion and picture fragment naming. Actually, words create more priming than do pictures in the former case but pictures produce more priming than do words in the terminal (Yoo, 2005). Hence, in this research, due to the restraints of using word fragment completion tests, the effects of pictorial claims on preattentive processing could not be appraised. Future research should study the independent effects of verbal and pictorial ad claims in incidental advertising through using multiple implicit memory tests.

11. Future Research

The present work advances a new conceptual model of how incidental advertising work. This model will aid to answer to elucidate the unique problems relating to incidental advertising by combining varying constructs and variables drawn from anterior literature. Greenwald and Leavitt (1984) claimed that there are more than one level of focal attention. As a result, in order to build a more exhaustive model of how incidental ad works, it is acclaimed to address and explore progressive levels (low, medium, and high) of focal attention in future model. Future research should strive to expand our knowledge on preattentive processing. First, the link between involvement and preattentive processing of incidental processing should be further investigated. Although, this study affirms that that preattentive processing happens only when both enduring and situational involvement are low investigating this aspect using other product categories is essential to ascertain the claim.

Furthermore, other factors affecting preattentive processing of incidental advertising should be appraised in the future research. Though, to date the effects of varying print ad features such as size, colour and visual vs. auditory ad information on preattentive processing of incidental processing are still in question. Hence, echo of this study using other product categories and manoeuvring various ad-related (e.g. size, colour, location, number of repetition, pictorial vs. verbal representation) would be of huge importance because it would supply tangible ideas for researchers and practioners when preattentive processing of incidental advertising is assumed to happen. The measures of incidental advertising should be modified accordingly as certain conditions or products are more promotive to preattentive processing. Due to the nature of incidental advertising, consumer's weak performances on explicit memory are anticipated. Additionally, a fragile link between this level of processing and behavioural responses commend that using traditional measures of incidental advertising effectiveness would understate the value of incidental advertising. The attenuate effects of preattentive processing should be appraised by implicit memory performance and implicit memory and attitude changes. Thus research efforts should be assigned not only to advance a suitable to understand implicit memory of incidental advertising. Examining implicit memory may supplement disadvantages of adjusting exclusively on explicit memory and would give more insights into the effectiveness of incidental advertising.

6. CONCLUSION

First, this study shows that implicit memory measures can complement the limitations of the current measures of incidental ad effectiveness based on explicit memory (e.g. recall and recognition). Specifically when incidental ad are avoided or ignored, implicit memory measures based on unconscious retrieval are more appropriate for incidental advertising effectiveness. Our study confers to the field in many ways. First, we proposed a new conceptual model that supports researchers and practioners with an overall theoretical framework to appraise the effectiveness of incidental advertising. Inconsistent with anterior incidental ad effects model , not only this model combines various antecedents appearing in classical ad processing models, but also it includes preattentive processing in the print environment furnish a theoretical framework to examine the effects of such processing. Thus as more consumers intentionally avoid incidental advertising, the importance of the model will be improved. . Our findings imply that incidental advertising may be more beneficial for brands that need to increase their familiarity or have low involvement level products. From a

media seller's point of view, the results of this research may be useful to persuade clients to buy incidental media spots, especially when the clients doubt an effectiveness of incidental advertising. Additionally, in terms of pricing, the practical implication for print advertisers is that emphasis should be emplaced in the impression rather than media, which may underestimate the effectiveness of print advertising.

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