

# THE HEDONIC CURSE: INVESTIGATING THE INFLUENCE OF HEDONIC ADS ON THE EVALUATION OF SUBSEQUENT ADS

*Research in Progress*

Tianhui, Tan, National University of Singapore, 13 Computing Drive, Singapore 117417,  
tianhui.tan@u.nus.edu

Prasanta, Bhattacharya, National University of Singapore, 13 Computing Drive, Singapore  
117417, prasanta@comp.nus.edu.sg

Tuan Q. Phan, National University of Singapore, 13 Computing Drive, Singapore 117417,  
phantq@comp.nus.edu.sg

## Abstract

*In the age of multi-channel advertisements, it is imperative for businesses to understand how advertisements are perceived by the consumer. While several studies in marketing and information systems have studied ad design, ad effectiveness, and potential outcomes like satisfaction and sales, few have studied the effect of advertisements on a dyadic level. In this study, we point out that ads are rarely shown to consumers in isolation. Thus, understanding the effects of ad sequence is both interesting to researchers and instrumental to marketers. In the current study, we explore the effects of ad sequence when a hedonic ad is followed by a utilitarian ad or a hedonic ad. We uncover the detrimental influence of hedonic ads on ads that follow, such that users evaluate a brand as more negative when its ad follows a hedonic ad, as compared to a utilitarian ad. We call this the hedonic curse, and provide preliminary results from a quasi-natural experiment to support this claim. We also intend to conduct a lab study to provide converging evidence for this effect, and to validate the underlying mechanism.*

*Keywords: Brand Evaluation, Advertisement Sequence, Word of mouth, Hedonic Advertisements, Utilitarian Advertisements*

## 1 Introduction

It will not be an exaggeration to say that we are living in the era of pervasive advertising. From product ads in print media to ads on prime time television, the Internet and even our mobile applications, it is becoming increasingly unlikely to consume any content without being exposed to ads. According to popular estimates, the worldwide total expenditure on media advertising will be close to \$630 billion by 2016 (eMarketer, 2013). Marketers advertising through new age media like social media sites and mobile apps have greatly increased their share of this revenue in recent years (Lomas, 2014; Ward, 2014). With such a noticeable growth in the industry, academic research in advertising has progressed rapidly too. Researchers in the recent past have focussed attention on ad related issues like ad design, ad timing and advertising channels (Leone, 1995; Wright, 1974; Mitchell, 1986), while others have looked at user-centric issues like ad perception and evaluation, ad effectiveness and exposure outcomes (Mitchell, 1986; Gardner, 1985; Burton and Lichtenstein, 1988; Berger and Mitchell, 1989; Deighton, et al., 1994). In the present day, however, we experience a deluge of ads on a daily basis. Be it television ads on prime time or half-time ads at a Super Bowl game, or banner ads on our favorite music website, advertisements never occur in isolation. While most previous research on advertising effectiveness have focussed on a single advertisement, it remains to be seen whether and how evaluation of a product ad influences subsequent ad evaluations of similar or dissimilar types.

The interplay between product advertisements is important for several reasons. Perhaps the most important is the cognitive conflict that arises from watching ads that are of inconsistent types. There could be several forms of inconsistency. For instance, viewing a Coke ad right after a Pepsi ad might not be as effective as viewing a Coke or Pepsi ad in isolation. Here, the consumer's lay theories about brand rivalry play an important role. However, in this study, we look at inconsistency based on a higher level classification of ads into hedonic (i.e. pleasure-giving) and utilitarian (i.e. functional) types.

In our study, we exploit exogenous exposure to live television ads during a Super Bowl game to analyse how the sequence of ads belonging to conflicting types (i.e. hedonic vs. utilitarian) affects evaluation of the focal brand on social media. We identify a significant increase in brand-related word-of-mouth on a large social network site (SNS) soon after the Super Bowl. On analyzing these user-generated content, we uncover a stronger negative influence of hedonic ads than utilitarian ads on the evaluation of subsequent hedonic or utilitarian ads, a phenomenon we term as the "hedonic curse" in product advertising. We also show that this effect cannot be entirely attributed to increased accessibility of stimuli-consistent information in our mind. The only plausible explanation lies in understanding the psychology behind how we perceive hedonic ads and the cognitive changes that follow the exposure to hedonic ads. We seek to provide converging evidence from a quasi-natural experiment and a set of lab experiments to establish this hedonic effect and to uncover its theoretical mechanism.

We believe that understanding the existence of and the rationale behind this hedonic curse has strong theoretical and practical contributions. On the theoretical front, the current research contributes to our understanding of how hedonism has a cascading negative effect on future evaluations and judgement. On the practice side, the findings from our study have strong implications for advertisers and platform owners in designing suitable ad sequences to mitigate consumer resentment and improve adoption. Moreover, this study has a certain methodological implication. It sheds light on how causality issues can be studied by leveraging big data from social media platforms. By taking advantage of online platforms, researchers or platform owners can conduct the quasi-experiments for a fraction of the investment involved in traditional lab experiments, and with added realism. Thus, by combining IS-driven methods and techniques, this paper provides insights and implications for marketing and IS researchers alike.

In the following section, we provide a brief overview of existing research that guides our theoretical development of the proposed hedonic curse. Then, we present our data context and some empirical results from a real-world setting. Next, we describe the experiment designs and predicted outcomes for a set of ongoing lab studies. We conclude with a brief discussion on the contributions and limitations of our study in the current form.

## 2 Background

### 2.1 Advertising Effectiveness

Even though firms spend a large amount of marketing effort and financial investment in designing and running advertising campaigns, the returns are relatively hard to immediately quantified. Prior work have emphasized on a number of factors, including ad copy valence, contextual effects and celebrity endorsements, which affect the overall effectiveness of an advertisement (Vakratsas and Ambler, 1999; Mitchell, 1986; Burton and Lichtenstein, 1988; Kamins, et al., 1989; Bolt and d'Eon, 1999; Ramalingam, et al., 2006). For instance, Mitchell demonstrated how affect-laden images in advertisements increase favorable reactions towards both the advertisement as well as the brand. This is consistent with related research on ad context conducted by Burton and Lichtenstein (1988), and on media effects in advertising by Wright (1974). Loda and Coleman also looked at the impact of sequence effects in advertising- and publicity-related activity on the persuasive effectiveness (Loda and Coleman, 2005). Perhaps the closest to the current study are the studies by Berger and Mitchell (1989) who looked at the impact of ad repetition on young adults, and the one by Aaker et al. (1986) that looked at

sequence effects in warm, humorous or irritating commercials and found no evidence of sequence effects in the warm and humorous categories. However, in the study by Berger and Mitchell, the ads repeated were of the same brand and the effects studied were a result of increased perceptual fluency as a result of the heightened exposure to the ads. We depart from most of these prior studies that analyze ads in isolation or study the repetition of the same ad. We posit that it is equally important to investigate the ad effectiveness when multiple and potentially inconsistent ads are presented in sequence. For instance, if the first ad promotes a luxury car and the second ad promotes a luxury handbag, it is a tricky question to think about how the first hedonic ad would influence the perception and evaluation of the second hedonic ad. Also, what happens if the second ad is that of a health drink (i.e. a strongly utilitarian product) instead of a hedonic object? We later discuss our predictions for these questions.

## 2.2 Hedonic Consumption

In our study, we classify product ads based on whether they are promoting necessities or luxuries. This is consistent with the classical consumer choice literature which differentiates between utilitarian and hedonic types (Khan et al., 2005). Utilitarian goods are primarily instrumental and their purchase is motivated by functional product aspects. Items such as microwaves, personal computers, health food and drinks, etc. would be good examples of utilitarian goods (Dhar and Wertenbroch, 2000; Khan et al., 2005). On the other hand, hedonic products provide for experiential consumption and lead to heightened pleasure and excitement, such as designer clothes, luxury watches, cars etc. (Dubois, et al., 2005; Khan et al., 2005; Wiedmann, et al., 2009). Among other aspects, the extant literature on hedonic or luxury products inform us that the concept of hedonic consumption is intrinsically linked to self-interest and personal desire (Chua and Zhou, 2009; Berry, 1994; Tsai, 2005; Mandel et al., 2006). Even though individuals might indulge in hedonic consumption as an attempt to affirm their self-identity or to fulfil a drive towards variety seeking, a key factor that drives individuals towards hedonism is the need to seek and receive pleasure and gratifications (Tsai, 2005; Vigneron and Johnson, 1999).

## 3 The “Hedonic Curse”: Role of moral licensing

Research on psychological priming shows that treatment to a subliminal or supraliminal stimuli can activate associated cognitive representations and increase accessibility of related stimuli in our mind. This in turn influences subsequent behavior in the direction of the prime (MacLeod, 1991; Herr et al. 1983; Bargh and Chartrand, 1999). For instance, buyers primed with the idea of fairness as a stimulus reported a willingness to pay a higher amount for a used car than unprimed users (Maxwell, et al., 1999). In another classic priming study, participants primed with thoughts of old people as a stimulus, started walking slowly themselves when leaving the experiment room (Bargh et al., 1996). In advertising, the role of priming has been explored in a couple of studies too. For instance, in her experiments Yi (1990) showed that cognitive priming through ads significantly affects the attitude towards the brand. Priming a certain attribute increases the likelihood that this attribute will then be used to interpret subsequent information and thus will affect advertising effectiveness.

Since priming increases accessibility of related information and influences behavior, it is expected that when utilitarian ads follow utilitarian ads, or when hedonic ads follow hedonic ads, the users would have a higher evaluation of the second ad, as compared to the case where the two ads presented are of inconsistent types. However, we believe that hedonic stimulus is qualitatively different from utilitarian stimulus and might lead to different cognitive outcomes. As mentioned in Section 2, hedonic consumption is inherently related to personal consumption and self-gratification. However, individuals are known to have a moral compass that aims to keep a balance between self-serving vs. pro-social behaviors. This idea has been identified and empirically shown in related work on the moral licensing effect which suggests that an initial act of “goodness” licenses the performer to act in a self-serving or even

immoral fashion (Khan and Dhar, 2006; Mazar and Zhong, 2010; Merritt et al., 2010). However, we contend that the reverse might also be true wherein an initial act of indulgence might push individuals into a license-debt. Even though the individuals do not physically consume the product, merely thinking about it results in qualitatively similar cognitive effects as actual consumption (Morewedge et al., 2010). Thus, the license-debt induces a strong feeling of guilt at having viewed the ad for a hedonic type without acquiring the necessary moral license. Now, since individuals have a natural tendency to be debt-averse as has already been established in prior research on mental accounting (Prelec and Loewenstein, 1998; Thaler, 1985), subsequent exposure to ads about consumer brands would be evaluated less and less positively. Thus, even though individuals have an increased affinity towards consistent ad types, this affinity is likely to be attenuated when the previous ad was of a hedonic type. Thus, any ad that follows a hedonic ad is doomed to receive a lower evaluation than what can be explained by the information accessibility theory. We coin this effect as the “hedonic curse”. Based on this theorizing, we hypothesize the following:

*H1: Compared to consistent sequence of ads, an inconsistent pair of ads would lead to a lower evaluation of the second ad.*

H1 follows as a natural conclusion of our theorizing on the effects of increased accessibility and prime-consistent behavior. However, as discussed above for hedonic ads, the increased evaluation from ad consistency is reduced. Since, exposure to the first hedonic ad pushes individuals into a license-debt, any subsequent exposure would result in a negative evaluation even though the exposure is consistent with the previous product ad type, as hypothesized in H2.

*H2: The positive effect of ad consistency on evaluation is moderated by the ad type such that the positive relationship between ad consistency and evaluation is attenuated for hedonic ad types.*

Similarly, for inconsistent ad types, the effect of a first exposure to a hedonic ad influences the evaluation of a subsequent utilitarian ad more negatively than the reverse order of exposure. This is because exposure to the first hedonic ad pushes individuals into a license-debt, while exposure to the first utilitarian ad has no such effect.

*H3: The negative effect of ad inconsistency on evaluation is accentuated when the first ad is of hedonic type.*

## 4 Empirical Analysis

### 4.1 Data and Empirical Model

As a real world test of our hedonic curse hypotheses, we exploited a large-scale and exogenous source of advertisements, the American Super Bowl XLIV. The Super Bowl is the final championship game of the National Football League (NFL) in the United States. Like every year, Super Bowl XLIV, on Sunday, February 7, 2010, provided a perfect platform for brands to launch much anticipated advertisements. Since Super Bowl ads would be generally kept secret before the event, we have used the release of Super Bowl XLIV ads as the exogenous shock and monitored the resulting brand-related word-of-mouth on a large American social network site (SNS). In our study, we have selected the valence of the word-of-mouth content as a measure of advertising effectiveness and brand evaluation.

The word-of-mouth data comprised of the following three components: i) user profiles of over 1.4 million undergraduate students from U.S universities, ii) public social media posts for these users from January 1<sup>st</sup> 2010 to March 13<sup>th</sup> 2010, iii) data about their friendship networks.

In Super Bowl XLIV, there were over 60 ads shown, covering brands of beverage, automobile, film, food, clothing, technology etc. We categorized these ads into hedonic and utilitarian types mainly based on the advertising style. This categorization was performed by 2 independent coders and we obtained high inter-rater agreement (>90%) on the categories developed. Next, we did a keyword search on the SNS data, using the brand names as keywords. To avoid potential confounds, we select-

ed brands whose names could not have multiple connotations. For example, "Google" was excluded as it is frequently used as a verb in daily conversations to represent the act of searching something. More importantly, we only chose brands that broadcasted exactly one ad during the event so that, in our data, referring to the brand was equivalent to referring to the ad. In total, 12 brands were finally selected viz. Dr Pepper, Acura, Volkswagen, Kia, Vizio, Honda, Snickers, truTV, Intel, Toyota, MetroPCS and Audi. The first six were categorized as hedonic, while the latter six were utilitarian. In addition to the 12 focal ads, we extracted their previous and subsequent ads from the airing schedule of the Super Bowl ads, and categorized these into hedonic or utilitarian types as well.

Our final dataset contained 13,355 brand-related pieces of content posted by 11,082 unique users in the period from Feb 7 to Feb 27, 2010. For these users, we extracted their demographics, and computed the valence of the product-related content by adopting a simple lexicon-based approach (Li and Wu, 2010). For each public post, we generated a positive polarity score and a negative polarity score, and the difference was taken as the valence of the content. We contend that this score is reflective of the users' attitudes towards the brands. Finally, to control the users' innate preferences towards certain brands, we retrieved SNS contents posted by our users within three weeks prior to the event. We found that out of the user group of 11,082 users, only 921 posted about the 12 brands before the event. This suggested that the Superbowl XLIV was indeed a significant exogenous shock that raised brand-related word-of-mouth on social media. For each brand, we computed the volume of prior mentions and the average sentiment scores for these mentions. We aggregated the volume and valence for these brands into hedonic and utilitarian types by taking an average across all brands for the particular type.

To summarize, for each user  $i$  at week  $t$ , there was exactly one corresponding brand ad  $j$ . Our dependent variable was the sentiment score based on user  $i$ 's textual content about brand  $j$  created at time  $t$ , denoted by  $sent_{i,t}$ . The independent variables included the focal ad type,  $focal\_type_{i,t}$  and the previous ad type,  $prev\_type_{i,t}$ . Both  $focal\_type_{i,t}$  and  $prev\_type_{i,t}$  were binary variables equalling 1 for hedonic type and 0 for utilitarian type. We also controlled for the user's innate type preference as some individuals have a natural disposition to prefer utilitarian products more or less than hedonic ones. These personal preference variables included the volume of mentions, as well as the valence scores for hedonic and utilitarian brands during the three weeks before the event, denoted by  $count\_h_i$ ,  $count\_u_i$ ,  $sent\_h_i$ , and  $sent\_u_i$  respectively. Control variables for user demographics included the physical age of user  $i$  in the year 2010 ( $age_i$ ), gender ( $gender_i$ ), SNS tenure as the count of days since user  $i$  joined the SNS until the event ( $SNSTenure_i$ ), and number of friends in user  $i$ 's network at the start of the event ( $num\_friend_i$ ). The social network controls of  $SNSTenure_i$  and  $num\_friend_i$  were included to account for the fact that the platform features might influence content production on the site and might therefore confound our main findings, if not controlled for. The seasonality effects were controlled by including the week dummies and the day-of-week dummies for each created content, denoted by  $week\_dummies_t$ , and  $day\_dummies_t$ . We ran a panel regression model using the specification shown in Eq. 1 below. An interaction term was added to capture the effect of  $focal\_type_{i,t}$  on  $sent_{i,t}$  conditional on the value of  $prev\_type_{i,t}$ .

$$sent_{i,t} = \alpha_i + \beta_1 focal\_type_{i,t} + \beta_2 prev\_type_{i,t} + \beta_3 focal\_type_{i,t} * prev\_type_{i,t} + \beta_4 count\_h_i + \beta_5 count\_u_i + \beta_6 sent\_h_i + \beta_7 sent\_u_i + Controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$Controls_{i,t} = \{age_i, gender_i, SNSTenure_i, num\_friend_i, week\_dummies_t, day\_dummies_t\}$$

## 4.2 Empirical Results

The descriptive statistics for our data are presented in Table 1 below. We used both fixed effects and random effects estimators on our model (Eq.1). The Hausman test was not significant ( $p > 0.1$ ) indicating a preference towards the more efficient random-effects estimator. The results from the subsequent model estimation are shown in Table 2.

Variable	Mean	Std.Dev.	Min	Max	Variable	Mean	Std.Dev.	Min	Max
$senti_{i,t}$	0.535	2.347	-28	42	$focal\_type_{i,t}$	0.522	0.004	0	1
$prev\_type_{i,t}$	0.574	0.004	0	1	$count\_h_i$	0.059	0.537	0	8.5
$count\_u_i$	0.014	0.089	0	2.5	$senti\_h_i$	0.005	0.078	-0.667	2.833
$senti\_u_i$	0.007	0.113	-2.278	5	$age_i$	21.378	0.013	19	25
$SNSTenure_i$	1287.35	345.838	235	2178	$num\_friend_i$	238.879	242.92	1	3966

Table 1. Descriptive statistics

Estimates	Pooled OLS	Fixed Effects (robust)	Random Effects (robust)
Constant	0.585 (0.315)	0.707 (0.289) *	-0.645 (0.334)
$focal\_type_{i,t}$	-0.233 (0.066) ***	-0.063 (0.336)	-0.193 (0.065) **
$prev\_type_{i,t}$	-0.460 (0.059) ***	-0.578 (0.504)	-0.476 (0.067) ***
$focal\_type_{i,t} * prev\_type_{i,t}$	0.402 (0.086) ***	0.752 (0.563)	0.473 (0.088) ***
$count\_h_i$	-0.067 (0.039) .	Omitted	-0.234 (0.143)
$count\_u_i$	0.127 (0.234)	Omitted	-0.080 (0.258)
$senti\_h_i$	0.386 (0.263)	Omitted	0.345 (0.499)
$senti\_u_i$	0.794 (0.184) ***	Omitted	0.833 (0.344) ***
Controls	(included)	(included)	(included)
R-squared	0.012	0.003	0.008
Prob>F	0.000	0.765	0.000
Signif. Levels: <0.001 '***' <0.01 '**' <0.05 '*' <0.1 '.' <1 ' ' ,			

Table 2. Estimation Results

The results suggest that the hedonic type of brand ad, compared to utilitarian type, would have negative impact on user’s brand attitude. This is illustrated by the significantly negative estimate of the  $focal\_type_{i,t}$  main-effect. More interestingly, we show that the type of the previously aired brand ad would exert significant influence on the user’s attitude towards the focal brand. If the previous ad is hedonic, it would negatively impact user’s evaluation of the focal ad. This is illustrated by the significantly negative estimate of the  $prev\_type_{i,t}$  main-effect. Our analysis also reveals our predicted interaction effect as illustrated in Figure 1. We find support for hypothesis 1 which states that consistency in ad sequence leads to more positive evaluations as compared to inconsistency. However, this effect is significantly weaker for hedonic types, as stated in hypothesis 2. The interaction shows that when the previous type is hedonic, a subsequent exposure to a hedonic type fails to improve evaluation. This provides basic support for our hedonic curse hypothesis. Thus, we show that the effects of ad sequence cannot be entirely attributed to a result of increased accessibility and behavioral consistency. Consistent with hypothesis 3, we also find that even within inconsistent ad pairs, a previous hedonic ad leads to a stronger negative influence on the focal ad as compared to a previous utilitarian ad.

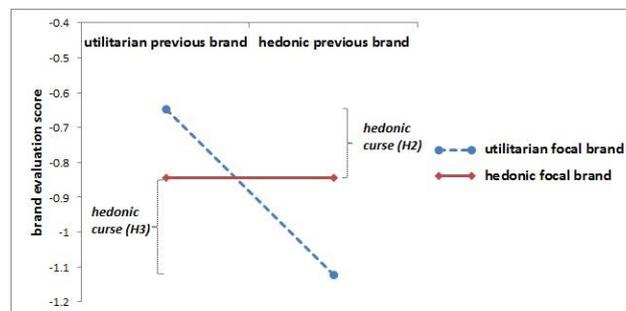


Figure 1. Interaction Analysis

## 5 Lab Study

The empirical analyses described in the previous section illustrate the negative influence of hedonic product advertisements on subsequent product ad evaluations. Hedonic and utilitarian ads might increase accessibility of consistent information in our mind, leading to more favorable evaluations of similar rather than dissimilar products. However, heightened information accessibility is not sufficient to explain the observation that when hedonic ads follow other hedonic ads, the resultant evaluation is worse than when a utilitarian ad follows a first utilitarian ad. This suggests that there might be a different mechanism that drives the observed hedonic curse. Drawing on previous work in the area of luxury products and hedonic consumption, as detailed in Section 3, we know that hedonic consumption is often accompanied by feelings of guilt stemming from perceived license-debt. Therefore, we believe that with an increased accessibility of hedonic information, the individual also experiences feelings of guilt, which negatively influences the eventual consumption process. To verify whether perceived guilt is indeed the underlying mechanism driving the hedonic curse, we propose two lab experiments. In the following subsections, we briefly describe the design of the experiments and the predicted outcomes.

### 5.1 Study 1 Design

In the first study, we perform a between-subjects experiment to test participants' evaluation of two popular snack items viz. a Granola bar and a chocolate-chip cookie. These two types of snacks have been used in recent research to test preferences towards utilitarian and hedonic products respectively (Wilcox and Stephen, 2013). Participants would be randomly allocated to either the hedonic product type (H) or the utilitarian product type (U) groups. Next, the participants in group U would be shown a picture ad of a Granola bar, while the participants in group H would be shown a picture ad of a chocolate-chip cookie. Following this, we would ask the participants to fill up a questionnaire asking them to recall basic details about the ad (e.g. "What was the ad about?", "Have you seen this ad before?", "Can you remember the ad captions?" etc.). These questions serve as manipulation checks of the ad exposure while also checking for any idiosyncratic preferences towards the products used as treatments. Next, we engage the participants in a brief filler task where they would be asked to perform a seemingly unrelated and benign task, like talking about what they felt about the previous elections or even the weather that day. Once the participants complete the filler task, we would show half the number of participants in each group another set of ads pertaining to a different brand of chocolate-chip cookies. The other half in each group would be shown a set of ads from a different brand of Granola bars. The allotment of participants to the chocolate cookie or Granola bar conditions within each group would be performed based on a fresh random assignment, and not based upon how soon they complete the filler task. Thus, we would effectively generate four treatment groups viz. UU, HH, UH, HU. The ads would be shown for a fixed period of time, and then the participants would be requested to evaluate their preference for the product on a scale of 1 to 10. We would also ask the participants to fill up a PANAS scale to record their emotions, including their feelings of guilt (Watson and Clark, 1999).

### 5.2 Study 2 Design

We plan to perform a follow up study to extend the base study 1 in three ways. First, since study 1 essentially compares two different products, it is not entirely impossible that there are other points of difference besides the consumption type that might act as a confounding treatment. To control for such unobserved product-level differences, in study 2, we would use the same product for all participants but frame the product descriptions differently for the two groups to reflect a hedonic vs. utilitarian consumption type. Secondly, there is a possibility that using pictorial ads might introduce several peripheral cues in the form of colors, font sizes, size of bounded boxes etc. which might influence product evaluation. To control for this, we would use textual ads in study 2, where only a textual descrip-

tion of the product description would be provided to the participants. Finally, we provide an indirect test for our proposed mediator i.e. perceived guilt. Individuals who have a higher sensitivity to guilt would be more likely to feel guilty. Hence, participants' scores on the Guilt and Shame Proneness (GASP) scale (Cohen et al., 2011) would moderate their results, such that the hedonic curse would be more pronounced for individuals who have a higher proneness to guilt.

### 5.3 Predicted Outcomes

Across both studies, we hypothesize that individuals who are exposed to hedonic ads first would rate their products as more negative than individuals who are exposed to the utilitarian ads at first. This provides support for our hedonic curse hypothesis. We also expect to find that the perceived sense of guilt fully mediates the effect of the treatment (i.e. ad exposure) on the final evaluation, such that individuals exposed to hedonic ads would experience a higher sense of guilt as compared to those exposed to utilitarian ads. Moreover, the hedonic curse is subject to individual-level differences such that the effect would be pronounced for those individuals who are more sensitive to perceptions of guilt. We hope to show that the hedonic curse exists over and beyond the anticipated effects stemming from consistent vs. inconsistent stimuli i.e. a hedonic-hedonic sequence triggers a lower evaluation than a utilitarian-utilitarian sequence even though both sequences are consistent.

## 6 Conclusion

In the current work, we exploit a major television event, Super Bowl XLIV, to empirically establish “the hedonic curse” of hedonic styled ads on any following ad. We provide initial evidence for the existence of this hedonic curse in a real-world setting and also propose a set of lab studies to further investigate its underlying mechanism. Our study contributes to advertising research by assessing the effect of ad sequence, particularly when hedonic product ads are being displayed. We emphasize the negative carryover effect of hedonic ads on subsequent ads. Theoretically, this sheds light on how hedonism can negatively influence consumers' future evaluations. In addition to existing theories on information accessibility, our study brings in a second psychological lens which is perceived guilt generated from a moral license-debt, to build a theoretical foundation for hedonic curse in ad sequence. Practically, our findings provide strong implications to advertisers and publishers. For instance, if an advertiser has the right to choose her ad location in a sequence of ads, our results suggest that placing it after a hedonic ad would be detrimental. Alternately, if the advertiser has no power to influence the sequence of ads, but has complete information about sequence itself, it would be beneficial to frame or design the ad to appear more hedonic if it is likely to follow a hedonic type ad, in order to reduce this effect of hedonic curse.

Beyond the theoretical and practical contributions, our study also provides certain methodological insights on how large-scale objective data from social media platforms can be effectively leveraged and combined with traditional research methods, like lab-experiments, to investigate questions relating to causality. Such multi-method approaches have the potential to address a large variety of questions, while also maintaining a certain ecological validity of the results.

Our study in its current form has a couple of limitations, such as the generalizability of empirical results, stemming mainly from our data limitations. Firstly, although we control for personal preference towards hedonic vs utilitarian types, we do not control for the brand fixed effects on individuals. Secondly, we exclude other marketing events except for Super Bowl advertising. It is not entirely impossible that the brand evaluations on social media are influenced significantly from other forms of advertising. However, owing to the magnitude and popularity of Super Bowl ads as exogenous shock, such alternative sources might be less important at least in the few weeks that follow the Super Bowl event. Lastly, we acknowledge that even though perceived guilt is a fairly universal experience, the nature and degree of perception as well as the sensitivity towards guilt might be contingent on the societal culture in the place. We hope to investigate such cross-cultural issues in future.

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