

WHAT HAPPENS IF ONLINE VIDEO ADVERTISING IS SKIPPABLE?
TESTING A HIERARCHICAL MODEL OF ADVERTISING AVOIDANCE

By

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To my family

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Abstract of Dissertation Presented to the Graduate School
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Media users encounter hundreds of advertisements in everyday life but do not attend to all the ads. New media technologies have empowered media users to mechanically avoid advertisements. Such new devices as the remote control and digital video recorder are challenging advertising researchers' efforts to understand the mechanism of advertising effects as well as advertisers' endeavors to earn media users' attention to the ad.

This study examines the chain effects of factors influencing mechanical ad avoidance and their subsequent effects on brand attitudes in the context of skippable online video advertising. Drawing upon hierarchical effects of advertising model, this study proposes that ad viewing time is an outcome of the first level of ad responses such as affective response and attitudinal component about the ad and it can be a mediator of ad effects on brand attitudes. The study simulated a skippable thirty-second online video advertising in the middle of editorial content consumption. Ad viewing time was unobtrusively collected and participants evaluated the commercial to the extent that they were exposed to it. The results of structural equation modeling indicated that affective response to the ad indirectly influenced ad viewing time and brand attitudes

through the hedonic component of ad evaluation. However, the utilitarian attitudes toward the ad appeared to directly influence brand attitudes in a relatively weak manner but were not found to influence ad viewing time. In addition, ad viewing time positively influenced brand attitudes. Thus, the longer the ad was viewed, the more positive brand attitudes were formed.

CHAPTER 1 INTRODUCTION

Purpose of the Study

Today, media users have increasingly become empowered by media technology. The history of electronic media development has shown that media users have obtained more control over media consumption (Benjamin 1993). Such new media devices as the remote control, video cassette recorder and recently digital video recorder have created new media consumption patterns (e.g., time-shifting television viewing) (Smith and Krugman 2010). Media technologies have provided media users with a means of avoiding commercials as well as more choices over editorial content consumption.

Ad avoidance tools such as a pop-up blocker and skippable display ads have become prevalent in the web media environment. Even when ad avoidance tools are not available, ad avoidance behavior has been reported in the online video advertising context. Recent industry data shows that nearly 16% of online video viewers clicked away during the pre-roll ads (TubeMogul™ 2010). Another industry source reported that 54% of the pre-roll ads were completed (FreeWheel™ 2010). In a response to ad avoidance phenomenon in an online media environment, the largest online video platform, Youtube® has recently tested and launched skippable online video advertising (Youtube® 2010). In the skippable ad format, commercials can be avoided with a click of the skip button after the first 5 seconds any time video viewers do not like to see them. It becomes more and more difficult that commercials receive full attention from media users given the prevalence of ad avoidance tools and increasingly competitive media environment.

This new media environment that users have more control over attention to commercials calls for research on the nature of attentional process and its subsequent advertising effectiveness in the context of skippable advertising. However, little is known about how users will interact with online video advertising when ads are skippable. Thus, this study addresses the overarching research questions as follows: What factors make media users attend to the ad longer than others when ads are skippable? Does the longer viewed ad have positive ad effects?

The study investigates one way in which spontaneous and immediate ad response at the exposure to the ad influences ad viewing time when ads are skippable. Drawing upon a hierarchical model of ad avoidance (Olney, Holbrook, and Batra 1991), the study proposes a conceptual model of ad avoidance in the context of skippable online video advertising. Specifically, the study proposes that ad viewing time is an outcome of immediate ad responses to the preceding portion of the ad such as affective response and attitudes toward the ad and ad viewing time can be a mediator of ad effects on brand attitudes.

Significance of the Study

This study contributes to our understanding of implications of skippable online video advertising in the ad effect mechanism as well as adding academic literature to ad avoidance phenomenon in the new media environment. There has been little published research on ad skipping behavior in the context of online video advertising. In order to guide advertising practitioners, the proposed study investigates viewers' ad response mechanisms to new features such as skippable online video advertising.

First, the study proposes that ad avoidance behavior results in a varying degree of ad viewing time in the skippable ad condition. In the study, ad avoidance is

conceptualized as a continuum in the ad viewing time rather than a dichotomy, whether to skip or not. Prior literature on ad avoidance has conceptualized ad avoidance as a dichotomous phenomenon, whether users fully attend to the commercial or avoided it (Cronin and Menelly 1992; Siddarth and Chattopadhyay 1998). Online video advertising resembles 30 second television commercial in its format. The ad viewing time can vary depending upon the point of time when the ad is skipped. Thus, this study examines how spontaneous affective ad responses influences ad viewing time.

Second, the study positions the ad viewing time as an outcome of the first level of ad response such as affective response to the ad during the captive audience moment (Krugman 1988) and empirically tests the conceptual model in the context of online video advertising. In the traditional hierarchy of advertising effects model, attention to the ad has not been considered as a variable factor explaining ad effectiveness (Batra and Ray 1986; MacKenzie and Lutz 1989). Prior literature on ad avoidance pointed out the importance of the captive audience moment that audience should take a little time to decide whether to view or not to view commercials (Greene 1988; Gilmore and Secunda 1993; Krugman 1988). Prior research showed that the moment to moment evaluation of the commercial influence viewers' decision to stop watching the commercial (Woltman-Elpers, Wedel, and Pieters 2003).

Third, the study also attempts to test the relationship between attitudes toward the ad, ad viewing time and brand attitudes. This study acknowledges the direct influence of attitudes toward the ad on brand attitudes as the well established relationships in prior literature (Derbaix 1995; MacKenzie, Lutz, and Belch 1986; Mitchell and Olson 1981). Furthermore, drawing upon empirical studies of eyes-on-screen (Thorson and Zhao

1997) and psychology literature (Raymond, Fenske and Tavassoli 2003), it proposes the mediating role of ad viewing time on the relationship between attitudes toward the ad and brand attitudes.

Lastly, the study can gain some insight into the viability of ad viewing time (or the percentage of the ad viewed) as a critical metrics of online video advertising effectiveness. Advertisers have been long concerned that the prevalence of ad avoidance tools lead to the discrepancy between program exposure and advertising exposure and they may not earn the expected advertising effects that they pay for (Abernethy 1990). Skippable ads in online environment allow for measuring viewers' interactions with commercials. Thus, the fine-grained second by second data on the server can provide the percentage of the ad viewed. By examining the role of ad viewing time in the hierarchy of advertising effects model, the findings of study could provide some insights into the reconciliation of concerns from advertisers.

The following chapter first provides the current issues in online video advertising in the online advertising industry. Then, by reviewing ad avoidance literature, it provides the justifications for why the moment to moment ad response to the ad can affect the subsequent decision to stop or continue watching commercials. Lastly, in the review of hierarchical model of ad effectiveness, it identifies factors influencing ad viewing time and proposes a conceptual hierarchical model of ad avoidance.

CHAPTER 2 LITERATURE REVIEW AND HYPOTHESES

Definition and Characteristics of Online Video Advertising

Definition of Online Video Advertising

The Interactive Advertising Bureau (2008) defined online video advertising (also known as “in-stream video ad” or “digital video ad”) as “a commercial that may appear before, during, and or after a variety of content including streaming video, animation, gaming, and music video content in a player environment” (Interactive Advertising Bureau 2008, p.9). Video content on the Web may be professionally-produced content or user-generated content. The scope of this study is limited to professionally-produced, long form television content on the Web, which is available through a variety of website publishers such as network television websites and online television content outlets.

Characteristics of Online Video Advertising

Online video advertising resembles television commercials in that it can employ the capability of audio and visual presentation and provide attentive environment for commercial, and is associated with an intrusive ad experience. Television is considered the most intrusive advertising medium because audience lacks control over ad exposure (Elliott and Speck 1998; Shavitt, Vargas, and Lowrey 2004).

On the other hand, online television viewing experience is different from traditional television viewing. Online television viewing is a digitized on-demand service, meaning that audiences can select the program and control the viewing time as they see fit. The capability of digitized content technically allows for more control over content viewing such as free browsing of editorial contents or commercials. On-demand characteristic resonates with the searchability of pre-recorded content and time-shifting viewing such

as Google TV. One industry report characterized this user-engaging experience as active “lean-forward” television viewing as opposed to traditional television viewing, which is considered passive, “lean-back” television viewing (IBM Business Consulting Services, 2006). In addition, online video advertising is different from television commercials in that it has the characteristics of interactive advertising. Online video advertising can make the most of accurate targeting capabilities and allow room for audiences to engage in interactive features such as clicking through online video advertising or companion banner ads. User interactions with online video advertising can be captured on the server such as the point of time when users skip the commercials.

Industry Research on Online Video Advertising

The Current State

The high penetration of broadband Internet and the advances of digital video compression technology accelerated audiences’ experience of online video content (Hallerman 2008). The ComScore survey reported that about seventy four percent of U.S. online adults have used the Internet to watch or download video (ComScore 2008). eMarketer (2010) estimated that around 60 million U.S. adults would watch full-length TV shows on a monthly basis, which account for 33% of total U.S. Internet users. Among advertisers, online video platform has been regarded as a promising advertising medium to catch up viewers’ exodus from traditional television sets to online media. The industry responded to the new opportunity because online video advertising does not only take advantage of the targeting capability of the Internet advertising but also more likely engages audience with greater creativities. Industry statistics revealed that online video platform has become one of the fastest growing advertising media in the online

advertising industry. eMarketer (2008) also estimated that online video advertising expenditures in the U.S. is around 300 million dollars in 2007 and would increase to around 5.8 billion dollars by 2013, resulting in 5.5% of television ad spending and 11% of total online ad spending.

Industry Research

Since its inception, the intrusive nature of online video advertising has raised concerns about the audience irritation perception and its potentially negative impact on ad effectiveness. Like its prototype, television commercials, online video advertising is initiated by advertising servers and presented in the middle of editorial content in a linear and sequential fashion (IAB 2008). Before deploying online video advertising, advertisers and publishers called for empirical research for the following purposes: 1) to examine consumers' perceptions of online video advertising and 2) to determine the best formats and practices to reduce the intrusive perceptions and ensure the effectiveness.

First, several industry surveys reported on favorable attitudes toward online video advertising and their lenient tolerance level. A market research company, Ipsos Media CT, reported approximately 80% of online video viewers believed that embedded video commercials are a reasonable cost in exchange for the full-length television content (Mcilroy 2008). A recent comScore report estimated that users would tolerate even more commercial time in online video to the extent that online video commercials are fewer than television commercials (ComScore 2010). This report has been cited to support the argument that consumers are still tolerant of online video advertising because online video market has not been ad cluttered yet. According to Kantar Media, an average one hour prime-time television content contains 14 minutes of commercials

in the second quarter of 2010 (KantarMedia 2010), which accounts for 24% of viewing time.

Several studies have been conducted to determine the best formats and practices to reduce intrusive perception and ensure ad effectiveness. Employing a field experimental design, one stream of research primarily investigated the effectiveness of diverse online video advertising formats and practices such as ad length and ad placement (Loughney, Eichholz, and Hagger 2008; Millward Brown & Dynamic Logic 2007; Online Publisher Association 2007). Some general findings from these studies were as follows: The pre-roll commercials are more memorable than the middle-roll and the end-roll; Re-purposed ads and video ads paralleling banner ads yield more synergy than web original ads and ads without banner ads. Vivaki, a digital sector of Publicis Groupe, tested 29 advertising models to determine the best format of online video advertising that is less intrusive and most effective. They found that the Ad Selector model, initially proposed by Hulu, an online video content provider, was significantly higher than pre-roll ad in terms of ad recall and click-through rate (Katz 2010). Another stream of research seeking to less intrusive and more effective online video advertising is to test the impact of embedding the skip option within the commercials (Youtube® 2010). However, research on the effectiveness of skippable ads has not been publicly reported perhaps because it is proprietary data. How consumer response to specific commercial content affects the performance of skippable format has not been examined in academic research.

Advertising Avoidance

Media users encounter hundreds of advertisements in everyday life. However, media users do not give a full attention to the all the ads that they are exposed to. While

they peruse some ads, they purposely ignore others for many different reasons. This phenomenon has been defined as ad avoidance in advertising literature.

Advertising avoidance is broadly defined as “all actions by media users that differentially reduce their exposure to ad content (Speck and Elliott 1997, p.61).” As the definition implies, advertising avoidance can be manifested in different ways: cognitively (e.g., ignoring ads), physically (e.g., leaving the room), and mechanically (e.g., zipping, zapping, etc.).

Previous Studies on Ad Avoidance

One stream of research on television commercial avoidance mainly used observations to investigate ad avoidance behavior in a naturalistic television viewing setting. In one of the earliest studies, Allen (1965) found that there were no viewers for 20% of the sets-on-time while there were no viewers for 40% of the set-in-use time during commercial break. He used the photograph machine that took four pictures a minute of anyone in the viewing area of the TV set. No viewer situation counted when no one was in the viewing area for three or more pictures for a minute. Later, Anderson et al. (1985) used in-home video taping to measure visual orientation to television sets. In coding the video, they used the timed eyes-on-screen measures as visual attention measures. Krugman, Cameron, and White (1995) used human observers to measure eyes-on-screen between editorial content (eyes-on-screen for 60% of set-in-use time) and commercials (30%). They concluded that ad avoidance increased in a multi-channel environment compared to 1960s. Other studies analyzed people-meter data to see the differences in ratings between editorial content and commercial break. Danaher (1995) found that there were the only 5% differences in the rating points between program and commercials.

Another line of studies on zipping and zapping have focused on audience characteristics using personal interviews. Audience demographics were identified as key predictors of zipping/zapping behavior in the early studies of ad avoidance (Heeter and Greenberg 1985; Speck and Elliott 1997). In profiling zappers, Heeter and Greenberg (1985) found younger men were more likely to be zappers and they did not do planned television viewing. Heeter and Greenberg (1985) also found that young men zapped among programs as well as commercials. Some researchers found that the probability of zapping is higher among those who have more channels available in their TV sets (Speck and Elliott 1997). Cronin and Mennelly (1993) and Cronin (1995) confirmed the importance of audience factor in ad avoidance. They found that habitual avoidance, or block zipping and zapping is prevalent in their two studies using field and lab experiments respectively.

In a review of previous studies on ad avoidance, Abernethy (1990) estimated the ad avoidance rate. Bellman and his colleagues (2010) have updated the norms for television ad avoidance rate. According to their study, cognitive ad avoidance occurs around 40% of the commercial time while physical avoidance occurs around 20% of the commercial time. They found that mechanical ad avoidance such as zipping, zapping, and skipping occurs 10% of the commercial time (Bellman, Schweda, and Varan 2010). While this estimation (10%) is relatively low compared to cognitive avoidance (40% of the set-in-use time) and physical avoidance (20%), mechanical ad avoidance has become a big concern for advertisers in the new media environment where users take more control over media consumption.

Mechanical Ad Avoidance in a New Media Environment

The mechanical ad avoidance became more problematic for advertisers in a new media environment such as DVR and online streaming media with ad skippability. Media devices historically developed in favor of user control such as the remote control, multi-channel environment, VCR, DVR, online streaming media, etc (Benjamin 1993; Walker and Bellamy 1993). The concern for advertisers is that not only do users have control over editorial media content, but also control over advertising exposure. It becomes more and more difficult that commercial messages receive attention from users. In addition, commercials are increasingly competing for users' attention with editorial content, other channels or media, and competitive commercials in a new media environment.

As DVR penetration increases, some studies examined commercial avoidance in a DVR household. A DVR user survey (Bernoff 2004) found that DVR users skipped almost 90% of the commercials when they watch the program in the time-shifting pattern. Smith and Krugman (2010) found that DVR users tended to form their own television viewing pattern without following program scheduling and skipped almost half of the commercials.

On the other hand, there is a potential for new media technologies such as the skippable ad in the online streaming media or DVR (Wilbur 2008). Media users' interactions with media can be trackable via DVR or online server. A server connected with DVR or online video platform can provide fine grained user data such as when users skip the editorial content or commercials. Viewing time of commercials is available to advertisers. Such matrices as "the percentage of the ad viewed" can be

used as an indicator of attention to the commercials or how resistant the commercial is to ad avoidance.

Mechanical Ad Avoidance as a Continuum of Ad Viewing Time

Mechanical ad avoidance includes ad zipping (fastforwarding commercials), ad zapping (channel switching during commercial breaks), ad skipping (a type of zipping in the digital prerecorded media). As Olney, Holbrook and Batra (1991) pointed out, all three types of mechanical ad avoidance, zipping/ zapping/ skipping behavior represent decreased ad exposure time. Mechanical ad avoidance results in the varying amount of ad viewing time. Previous research has mainly treated as a dichotomous phenomenon, whether ads are avoided or not (Cronin and Menelly 1992; Krugman, Cameron, and White 1995; Siddarth and Chattopadhyay 1998). The probability of avoiding commercials was of concern instead of the point of the time when the commercial is zipped or zapped. In the context of online video advertising, which resembles 30 second television commercial, mechanical ad avoidance could be understood as a behavior resulting in a variance of ad viewing time, from least amount of attention to full amount of attention depending upon the point of time to skip commercials.

Ad viewing time as an indicator of attention to the ad

Prior research on exploratory behavior (Berlyne 1960) and consumer behavior literature (Bettman 1979) suggests that the amount of attention paid to the stimulus can be measured by looking time. Some advertising researchers such as Thorson and Zhao (1997) used eyes-on-screen (EOS) measures as an alternative measure of attention to the ad. They measured EOS as the time of eyes stayed on the screen. They assume that visual orienting toward the stimulus is highly linked to internal processing of cognitive resource. While acknowledging that eyes-on-screen does not guarantee

mental processing of the stimulus, Thorson and Zhao (1997) found the high correlation between eyes-on-screen measures and ad memory measures such as recognition and recall. They concluded eyes-on-screen measures well represent the amount of attention to the ad. A few studies on ad avoidance (Olney, Holbrook, and Batra 1991; Woltman-Elpers, Wedel, and Pieters 2003) also used ad viewing time as a proxy measure of ad avoidance. Following the logic of Thorson and Zhao (1997), the study proposes that mechanical ad avoidance, ad viewing time represents the varying attention to the ad.

Ad viewing time as an outcome of ad exposure

Ad avoidance literature emphasized the voluntary aspects of mechanical ad avoidance. Mechanical ad avoidance can be understood as an active, voluntary action when users are aware and capable of avoiding ads with one click. The ad viewing time is determined by a user's will to avoid the ad. Stafford and Stafford (1996) identified users' motivations to engage in mechanical ad avoidance and found that enjoyment significantly predicted ad zipping/zapping behavior.

Several studies on ad avoidance pointed out that one must take action (click the skip button or use the remote control) in order to avoid commercials (Gilmore and Secunda 1993; Greene 1988; Krugman 1986). Viewers should inevitably "take a little time to come to decision, or "make some form of mental commitment to view or not to view, or to attend closely or not closely to the commercial (Krugman 1986, p.81)." He labeled the first few seconds of commercial exposure as the captive audience moment. He further contended that this captive moment is required even when a viewer rejects a commercial instantly, he would have to accept or know what it consisted of, in the first part of instant, in order to reject it. Krugman (1986; 1988) asserted that "quick looks" on commercials may leave some impacts on consumers' memory although it may not be

detected by recall measures. He argued that typical television viewers effortlessly monitor a flow of pictorial image and bits of information on the screen with partial attention. It is considered viewers' economic strategy to save cognitive effort without losing important information. Similarly, Broadbent (1977) emphasized the importance of preattentive stage in guiding subsequent attention. He also supported the notion that perception precedes defensive perception. In ad avoidance literature, Woltman-Elpers et al. (2003) showed ad avoidance occur based on the moment-to-moment judgment to view or not view during television viewing.

In conclusion, the study conceptualizes mechanical ad avoidance as a voluntary action to reduce ad exposure, which results in the varying amount of ad viewing time. The study views a variance of ad viewing time as an outcome of ad effectiveness considering that audience keeps evaluating what they see on the screen during the audience captive moment.

A Hierarchical Model of Ad Avoidance

Hierarchy of Effects Model and Ad Viewing Time

The hierarchy of effects model has evolved to explain how consumers process or respond to an advertising stimulus during exposure to it (Barry and Howard 1990). The traditional hierarchy of effects model is predicated on the main notion that cognition precedes affect, which in turn influences behavior (Colley 1961; Fishbein and Ajzen 1975; Lavidge and Steiner 1961; McGuire 1968; 1985; Wright 1973). As artistic aspects of advertising become important and the low involvement concept is highlighted, advertising researchers have drawn attention from the cognitive dominant theories (Fishbein and Azjen 1975; Wright 1973) to the role of affect in response to the ad. Affective response, attitudes toward the ad, attitudes toward the brand, and beliefs

about the product attributes are a widely used set of ad effectiveness measures in the recent hierarchical models (Batra and Ray 1985; 1986; MacKenzie and Lutz 1989). In prior research, attention to the ad has been ignored in attitudes toward the ad research (Lutz 1985; MacKenzie and Lutz 1989; MacKenzie, Lutz, and Belch 1986) and research examining the role of affective responses (Batra and Ray 1986; Burke and Edell 1989; Holbrook and Batra 1987). The hierarchy of advertising effects model has been tested assuming the invariant attention to the ad, either the passive mode of ad viewing situation or the captive audience moments.

However, such ad avoidance tools as the remote control, DVR, and skippable advertising provide viewers with a technical means of controlling attention to commercials. In the skippable ad context, this study proposes to position ad viewing time as an outcome of affective response and attitudes toward the ad and a mediator of ad effects on brand attitudes. A good deal of ad avoidance research (Bellman, Schweda, and Varan 2010; Gilmore and Secunda 1993; Krugman 1986; Stout and Burda 1989) pointed out that audience must give some level of attention to the ad before deciding whether to view or not view the commercials or give some attention not to zip into the editorial program. Krugman (1986) emphasized this captive moment as inevitable by quoting “perception precedes defensive perception (Broadbent 1977).”

A few empirical studies have related the moment to moment ad perceptions to consumers' decisions to continue or discontinue exposure to commercials. Olney, Holbrook, and Batra (1991) proposed that affective response to the ad and multi-attitudinal components of the ad evaluation mediates the effects of ad content on viewing time: Ad content → Affective response (Pleasure/ Arousal) → Attitudinal

component (Utilitarian/ Hedonic/ Interestingness) → Viewing time (an indicator of ad avoidance). They found that pleasure and arousal directly and indirectly (via attitudinal components) influence the viewing time. The attitudinal components were found to significantly affect the viewing time. The first level of response to the ad such as affective response and attitudes toward the ad may be antecedents of ad viewing time. In addition, Woltman-Elpers, Wedel, and Peiters (2003) examined how the moment-to-moment content of commercials affects consumers' attention. They found that the value perceptions of the moment to moment content of commercials, either informative or entertainment, influences commercial viewing time. They found that informative perceptions of commercial content negatively influenced the likelihood to continue watching the commercial while entertainment perceptions led to the longer commercial viewing time.

This study builds the proposed ad avoidance model upon research (Olney, Holbrook, and Batra 1991; Woltman-Elpers, Wedel, and Pieters 2003) suggesting that consumer response to the preceding portion of commercial content can affect ad viewing time. By conceptualizing ad avoidance as a continuum of ad viewing time, the proposed model integrates the hierarchical effects of model and research on ad avoidance (Figure 2-1). This study suggests the hierarchical effects of model as a theoretical framework to explain ad viewing time, which is a proxy measure of ad avoidance such as zipping and zapping. It identifies affective responses and the three attitudinal components about the ad as intervening variables that mediate the relationship between ad exposure and viewing time. In the following section, the study

describes how each variable is positioned as either antecedents or consequences of ad avoidance.

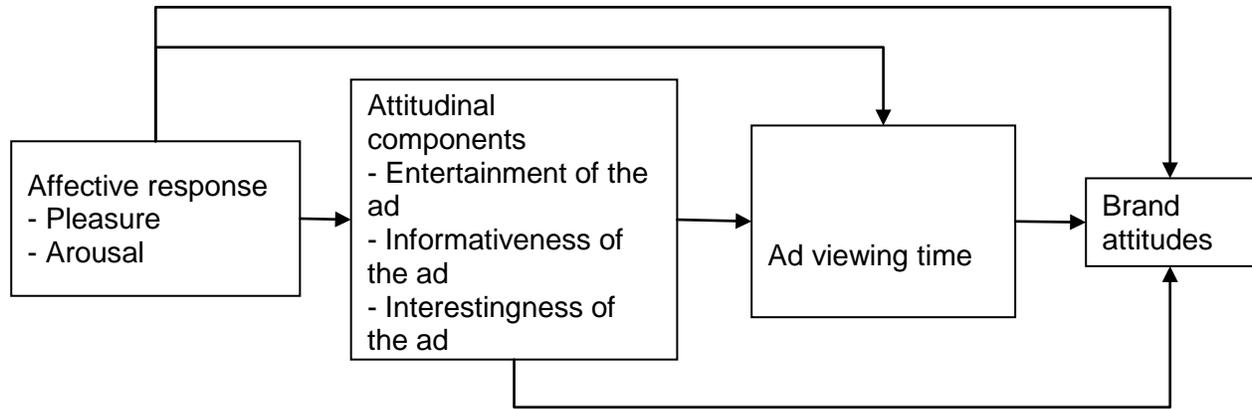


Figure 2-1. A hierarchical model of ad avoidance in the skippable ad condition

The Role of Affective Response in Attention

While little empirical research has been conducted on the relationship between affective response and ad avoidance, Mehrabian and Russell's (1974) environmental psychology model of approach/avoidance is suggestive of the role of emotional response in the ad avoidance context. Their approach/avoidance framework provides a good explanation of effects of emotional response on approach and avoidance behavior. According to Mehrabian and Russell (1974), emotional response is assumed to arise from contact with physical and social stimuli and mediates their effects on behavior. The three dimensions (pleasure/ arousal/ dominance) of emotional response to the stimuli guide approach/avoidance behavior. In their conceptualization, approach/avoidance is not limited to physical approach and avoidance. It is rather defined in a broad sense and can be defined as exploration, affiliation, and preferences.

Some environmental psychologists hold that emotional response tends to play a prominent role in guiding attention and perception. Ittelson (1973) asserted that "the first

level of response to the environment is affective. The direct emotional impact of the situation, perhaps largely a global response to the ambiance, very generally governs the directions taken by subsequent relations with the environment (Ittelson 1973, p.16).”

In the visual neuroscience literature, Compton (2003) provides the two stage process model as to how emotion affects attentional process. First, emotional stimulus is evaluated preattentively, then stimuli deemed emotionally significant are given priority in the competition for selective attention within a limited capacity system. This line of research views emotional response as automatic, immediate response to the stimuli that are differentiated from effortful evaluation (Ferguson and Zayas 2009). Similarly, Vuilleumier (2005) showed the brain activities in which that emotionally salient stimuli and affective response can determine how visual attention is allocated.

In advertising literature, Rossiter and Percy's (1991) argument about motivation and emotions is suggestive of the relationship between affect and the active ad avoidance. According to them, there are two fundamental motivation mechanisms: the onset of a negative stimulus and the onset of a positive stimulus. The former motivates a person to avoid the negative stimulus, thereby desiring from negative emotions to neutral. This negative motivational system indicates the tendency to return to homeostasis. The latter motivates a person to keep pursuing the positive stimulus until some level of satiation sets in. The positive motivational system reflects the pleasure seeking tendency (Silk and Vavra 1974). This motivational mechanism can be applied to the ad avoidance context of active ad avoidance. When audience is exposed to unpleasurable or worn-out commercials, they may want to avoid them when ads are

skippable. When audience is exposed to pleasurable and interesting commercials, they may keep watching it.

The Role of Affective Response in Ad Avoidance Context

Advertising researchers holds that affective response plays a separate role from attitudes toward the ad construct in the hierarchy of effects model. Zajonc (1968; 1980) highlighted the importance of emotion. He argued that emotion may precede cognition and be entirely separated from it. Edell and Burke (1987) showed that emotions account for unexplained variance in attitudes toward the ad and brand attitudes. They recommended adding a feelings scale to existing models of attitude measures, which improves the explained variance of the attitudes toward the ad construct. Stayman and Aaker (1988) proposed that attitudes toward the ad does not account for all of the emotions generated during ad exposure. They found that attitudes toward the ad construct does not completely mediate the effect of affective responses on brand attitude. Burke and Edell (1989) also found that effects of feelings generated by ads could not be explained by attitudes toward the ad and therefore influence brand attitudes directly. Batra and Ray (1986) argued that affective responses are not evaluative responses to the ad but represent the feelings evoked by the ad. They found that affective responses such as active joy, quiet pleasure, social affection are antecedents of attitudes toward the ad. They also found such affective response to the ad had a weak but significant impact on brand attitudes.

Holbrook and Batra (1987) also looked at emotional response as a mediator of ad content on attitudes toward the ad and brand attitudes. Using ads as units of observation instead of people, they assumed that people respond homogeneously to the ads. They content analyzed ads into six groups (emotional, threatening, mundane,

sexy, cerebral, and personal) and they measured three dimensions of emotion (pleasure, arousal, and dominance). They found a link between content factors, emotional dimensions, attitudes toward the ad, and brand attitudes. Their results indicated that the three dimensions of emotions are clear mediators of ad content on attitudes toward the ad, and a possible link between affective responses and brand attitudes.

The role of pleasure

Among three dimensions, pleasure has been found to be the most important determinant of approach/avoidance behavior. Pleasure dimension represents the valence of feeling state. Pleasure as a feeling state is distinguished from "preference, liking, positive reinforcement, or approach-avoidance...since the latter responses are also determined by the arousing quality of a stimulus" (Mehrabian and Russell 1974, p. 18). It is a composite of feelings such as happiness, contentment, satisfaction, etc. Osgood, Suci, and Tannenbaum (1957) stated that positive or negative evaluation of the stimuli or the environment is inherently linked to subsequent interaction with them as well as preferences.

In a response time experiment, Chen and Bargh (1999) demonstrate that automatic evaluation of a stimulus (either positive or negative) influence approach/avoidance behavior. Chen and Bargh (1999) had the respondents either pull a lever toward them or push it away from them when either positively or negatively valenced word appears on the screen. They found that when respondents were instructed to pull the lever, respondents more quickly pulled a lever toward them when they saw negatively valenced words than when they saw positively valenced words.

The proposition that pleasure leads to approach behavior has been tested in a marketing and advertising setting. Donovan and Rossiter (1982) found that pleasure perception of the retail store atmosphere is positively related to extra time spent in the store. Ray and Batra (1983) argued that affective advertising execution is more likely to be attended to than less affective execution.

Batra and Ray (1985) showed that three positive affection categories, active joy (named as Surgency, Elation, Vigor, Activation in their study), quiet joy (named as Deactivation), and social affection explained the significant amount of variances in attitudes toward the ad. In an extension study of Batra and Ray (1985), Holbrook and Batra (1987) used pleasure and arousal dimensions instead of three categorical affective measures. They demonstrated pleasure and arousal mediated ad content and attitudes toward the ad. Furthermore, Olney, Holbrook, and Batra (1991) treated the commercial viewing time as a proxy measure of ad avoidance (e.g., zipping and zapping) and proposed a hierarchical model that the effects of ad content on viewing time is mediated by affective responses such as pleasure and arousal and attitudinal components of the ad. They found that pleasure and arousal directly and indirectly (via attitudes toward the ad) affect viewing time and commercials evoking pleasure were more likely to be viewed the longer time. They concluded that pleasurable ads are more resistant to ad avoidance.

The role of arousal

Arousal is the intensity of a feeling state. It refers to an activity orientation and is "a measure of how wide awake the organism is, of how ready it is to act" (Berlyne, 1960, p. 48). It is commonly accepted that arousal have an inverted U curve relationship with exploratory behavior. Audience tends to avoid the extremes of sluggishness in one

direction or overstimulation in the other. Berlyne (1960) found that while arousal initially increased with surprisingness (related to novelty), the stimulus loses its arousing power as it loses its surprisingness with repetition. Berlyne (1970) also found that optimal joy was found at the intermediate level of arousal. Silk and Vatra (1974) found that both pleasant and unpleasant ads elicited higher response than neutral, factual ads. They interpreted that the relative intensity of affective reactions may be more important for predicting consumer response than the valence of the reaction. This suggests that affectively extreme ads receive more attention than affectively neutral ads. In a similar vein, Olney, Holbrook and Batra (1991) found that arousal has linear relationship with viewing time and attitude toward the ad.

Based on the foregoing discussion, the study poses the following hypotheses:

H1: Affective response to the ad will positively influence attitudes toward the ad.

H2: Affective response to the ad will positively influence ad viewing time.

H3: Affective response to the ad will positively influence brand attitudes.

The Role of Attitudes Toward The Ad in Ad Avoidance Context

Attitude toward the ad research has been developed in a reflection of the dominant notion that cognition (brand beliefs) precede attitude (brand attitude). This stream of research is sparked by the two seminal work by Mitchell and Olson (1981) and Shimp (1981). Mitchell and Olson (1981) tested Fishbein and Ajzen's (1975) multiattribute attitude model and confirmed the model's explanatory power. In addition, they found attitudes toward the ad (good-bad; like-dislike; irritating-nonirritating; interesting-uninteresting) is another mediator of ad effects on brand attitudes (ad content → product beliefs/attitudes toward the ad → brand attitudes). Shimp (1981) also found that attitude toward the ad is a mediator of consumer brand choice. He found that the

participants are more likely to choose the brand whose advertising stimulus was positively evaluated. The role of attitudes toward the ad in forming brand attitudes was explained by the classical conditioning perspective. Affect caused by the unconditioned stimulus (UCS: automatically inducing positive affect) can be transferred to the conditioned stimulus (CS: the brand or the product) when they are paired.

Later attitude toward the ad is used as an evaluative indicator of advertisements in the ad pretest context. Although there are many different definitions about attitudes, attitude toward the ad (Aad) is, in general, defined as a predisposition to respond to an advertising stimulus in a favorable or unfavorable way at a given time (Lutz 1985). MacKenzie and Lutz (1989) argued that Aad is a contextually bounded concept and an attitudinal reaction to the ad generated at the time of exposure. Lutz (1985) identified the five antecedents of attitudes toward the ad in the copy pretest context: ad credibility, ad perceptions, attitude toward the advertisers, global ad attitude, and mood. He found that ad perception factor referring to ad executional factors became more important in the case of unfamiliar brand. He concluded that Aad as a unidimensional global affect can be used as a measure of ad evaluation. Later MacKenzie, Lutz, and Belch (1986) tested and confirmed the dual mediational hypothesis that Aad mediates the effects of ad perceptions on brand attitudes and Aad affects brand attitudes through brand perceptions.

Other researchers maintained that attitudes toward the ad are composed of multi-dimensional factors rather than overall evaluation captured by a unidimensional global affect. Madden, Allen and Twible (1988) argued that Aad consists of the two components: consciously processed components and non-volitional response to the ad.

The consciously processed components involve execution based utilitarian components while the latter involves affective response. Batra and Ahtola (1991) found that Aad consists of hedonic components and utilitarian components. They found that the two factor model explained more variance of Aad concept than the unidimensional model. In explaining the variance of ad viewing time, Olney, Holbrook and Batra (1991) also supported significant influence of multi-dimensional attitudes toward the ad. Thus, this study uses the multi-dimensional view of attitudes toward the ad because it allows for possibly differential effects of each component on ad viewing time and brand attitudes.

The role of utilitarian attitudes toward the ad

The utilitarian attitude component evaluates the ad on the usefulness. It corresponds to dimensions of commercials found in prior advertising literature. Utilitarian component is in line with the relevance dimension in Schlinger's (1979) study and Wellls, Leavitt, and McConville's (1971) study and the informativeness dimension in Ducoffe's (1996) study on perceptions of web advertising. This utilitarian component was found to predict ad avoidance behavior. Siddarth and Chattopadhyay (1998) proposed two message factors as predictors of the zapping probability and found : ad relevance and ad usefulness. As for ad relevance, they predicted that consumers who make purchases in the advertised product category are more likely to be interested in viewing and less likely to zap it. Regarding ad usefulness, they found that a brand-differentiating message decreased the zapping probability. Similarly, ads containing information perceived as useful elicit less irritation than do ads not deemed useful and are less likely to be avoided (Aaker and Bruzzone 1985).

The role of hedonic attitudes toward the ad

Hedonic dimension of attitude toward the ad corresponds to the entertainment dimension found by Schlinger's (1979) study and Ducoffe's (1996) study. Berlyne (1970) found that hedonic value is highly correlated with exploratory search behavior. Leavitt (1970) found four factors of consumer response to commercials: Stimulation, relevance, gratification, and familiarity. He found stimulation factor measured by amusing and novelty is related to attention to the ad. Woltman-Elpers, Wedel, and Pieters (2003) found that high Information value increased skipping probability while high entertainment value of commercial decreased skipping probability.

Based on the foregoing discussion, the study poses the following hypotheses:

H4: Hedonic attitudes toward the ad will positively influence ad viewing time while utilitarian attitudes toward the ad will negatively affect ad viewing time.

H5: Hedonic and utilitarian attitudes toward the ad will directly and positively influence brand attitudes.

The role of ad viewing time

In addition to Olney, Holbrook, and Batra's (1991) model, the present study proposes the mediating role of ad viewing time in the relationship between attitude toward the ad and brand attitudes. In a study on eyes-on-screen (EOS) measures, Thorson and Zhao (1997) found the high correlation between eyes-on-screen measures and attitude measures. They concluded that selecting to watch the ad increased the likelihood of the ad/ the brand being liked. Therefore, it seems plausible that the longer ad viewing gives users more time to process and elaborate on the ad, which in turn may enhance the probability of developing brand attitudes.

In addition, this causal influence from ad viewing time and favorable brand attitudes can be explained by the reciprocal relationship between attention and emotional response (Fenske and Raymond 2006; Raymond, Fenske, and Tavassoli 2003). Two explanations in the psychology and visual neuroscience literature are relevant in predicting the relationships between ad viewing time and brand attitudes. The first account is the affective influences of selective attention (Fenske and Raymond 2006). More attended emotional stimuli facilitate more interpretation of the stimuli. The effect of attention is to magnify emotional responses to stimuli that are already charged emotionally. This account are consistent with Thorson and Zhao's (1997) findings.

The second explanation is the distractor devaluation. Actively ignored stimuli were devalued. Raymond et al. (2003) labeled this phenomenon as inhibitory devaluation. When an inappropriate stimulus is exposed, attentional inhibition is applied and stored with negative appraisal. When an individual encounters an inappropriate stimulus, she or he ignores it with negative impression. When the previously ignored stimulus is encountered again, the inhibition is reinstated and lead to affective devaluation.

Thus, the longer ad viewing has positive and linear influence on brand attitudes by facilitating already-made evaluation of the ad or devaluing skipped commercials.

H6: The longer viewed ad will have more favorable attitude toward the brand.

CHAPTER 3 METHODS

Research Design Overview

This study focuses on the variance in ad viewing time explained by a multicomponent of attitudes toward the ad and two dimensions of emotional response to the ad. Furthermore, it relates to the antecedents of ad viewing time to brand attitudes. While the present study has drawn upon Olney, Holbrook, and Batra's (1991) model, it uses different approach in terms of research design. Olney, Holbrook, and Batra (1991) treated the ads as the unit of analysis and examined the theoretical relationships across 150 ads. The aggregated scores of coders for each ad were justified by the assumption that consumer response to the ad is homogeneous. However, consumer response to the ad varies depending upon the audience characteristic and the ad exposure context (Batra and Ray 1985). Audience is not exposed to the ad independent of editorial content as coders evaluate a pool of commercial stimuli without editorial content in Olney, Holbrook, and Batra's (1991) study. Commercials are rather exposed in the less involving and noisy context of editorial content consumption.

The present study follows an individual-level psychological model (Batra and Ray 1985; 1986; MacKenzie, Lutz, and Belch 1986). This type of study attempts to trace a psychological process by using a variance maximizing strategy. Such studies tactically manipulate ad content to maximize the variance in intervening variable such as emotional response to the ad, measure differences in how people respond to those ad treatments and relate interindividual differences in the preceding variables to the variance in criterion measures such as ad viewing time. Thus, this study employed a variance maximizing strategy to test a chain of effects on ad viewing time. In addition,

ad avoidance phenomena occur in the editorial content consumption context. Unlike Olney, Holbrook, and Batra's (1991) approach, the present study is designed to examine ad avoidance behavior in the online video viewing context.

Pretest: Selection of Commercial Stimuli

A Pool of Commercial Stimuli

The pretest was designed to select commercial stimuli to embed in the editorial content for the main study. Four criteria are considered to collect a pool of commercial stimuli for the pretest. First, product categories that are relevant to the study sample, college students, were considered in a pool of commercial stimuli. Gender-neutral product categories were also included in the pool. Second, affective response to the ad was considered to create the maximum variations in attitudinal components of the ad and ad viewing time (Batra and Ray 1986; Olney, Holbrook, and Batra 1991). Before measuring emotional response to the ad in the pretest, researcher reviewed a hundred of thirty second commercials and tried to balance high pleasurable ad and low pleasurable ads among a pool of test commercials. Third, brand presence was considered in selecting commercial stimuli pool. Prior literature on ad avoidance holds that brand dominance can affect the effect of partial ad exposure on ad recall and brand attitudes (Stout and Burda 1989). Brand dominance refers to whether the brand is mentioned or displayed in the commercial. Brand presence during the unskippable first five seconds may affect ad skipping and subsequent brand attitudes. Thus, the present study attempted to balance commercials with the brand presence vs. without brand presence in the pool of commercial stimuli. Fourth, brand familiarity was considered to balance among commercial stimuli because brand familiarity is known to moderate the relationship between attitudes toward the ad and brand attitudes (Batra and Ray 1985;

Burke and Edell 1986; Derbaix 1995; Phelps and Thorson 1991). Previous experience of brands may also negatively or positively bias ad avoidance, or ad viewing time.

Pretest Procedure

Eighty professionally produced 30-second commercials of various product categories were collected from the largest video sharing site, Youtube®. In the preliminary selection process, researcher pre-evaluated brand familiarity and affective response for 80 commercials. The pretest pools were well balanced in terms of the target gender of the product, brand familiarity, brand presence and affective response to the ad before conducting the pretest (Table 3-1). To find unfamiliar brand commercials, the study used fully produced unknown product ads from English speaking foreign countries such Australia, South Africa, Canada and UK.

Table 3-1. Eighty pretest commercial pool by selection criterion

Affective response		Brand familiarity		Brand presence	
Low	8	Low	31	Brand presence	29
Medium	39	Medium	13	No brand presence	51
High	33	High	36		
Total	80	Total	80	Total	80

Two hundred thirty nine college students, homogeneous in demographics with those from the main survey sample, were recruited from an introductory journalism course at a large south eastern university. In the online survey platform, the participants were shown six commercials, which were randomly selected from a pool of 80 commercials. Each commercial was evaluated in terms of emotional response, overall ad quality, and brand familiarity after showing. Each commercial had about 18 evaluators. Descriptive statistics for eighty commercials are presented in Appendix C.

Pretest Measures

Brand presence was coded by researcher as to whether the brand is mentioned or displayed during the first five seconds of each commercial. Brand familiarity was measured using a semantic differential scale (Not familiar at all:1, Very familiar:7).

To measure affective response to the ad, the pictorial measure AdSAM® (Figure 3-1, Lang 1980; Morris et al. 2002) is used in the pretest. Lang (1980) developed The Self-Assessment Manikin, cartoon-like figures to capture respondent's emotional state. This measure used a nine-point scale for each of the dimensions. On each of the three scales, respondents were required to mark the dot below the manikin or between the manikins that best represent their feelings after seeing the advertisement.

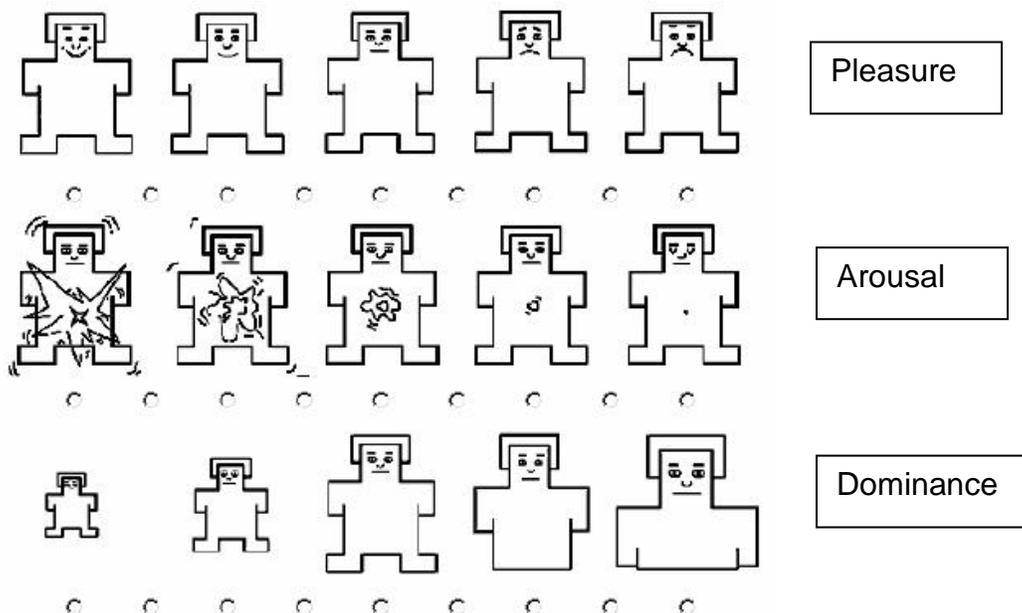


Figure 3-1. SAM (Self-Assessment Mannequin)

This measure relates their measurement systems to Mehrabian and Russell's (1974) three factor approach (also known as PAD theory). This theory describes the full spectrum of human emotions in three independent bipolar dimensions. One advantage of this three dimensional approach is the three emotional responses are not anchored to

specific type of experiences or stimuli, thus allow for comparisons of emotional responses to different types of stimuli. It can function as a common currency to compare emotional response of various commercial stimuli.

Another advantage of this measurement is the non-verbal measure, SAM, eliminates the cognitive processing associated with verbal measures (Edell and Burke 1987) and is quick and simple to use (Lang 1980; Morris et al. 2000). Correlations of .937 for pleasure, .938 for arousal, and .660 for dominance were found between ratings generated by SAM and by the semantic differential scales used by Mehrabian and Russell (Morris et al. 2000). It is also more resistant to the survey fatigue particularly when the survey is repetitive and lengthy. By differentiating from attitudes toward the ad measures, it also reduces the potential common method bias in which correlations among variables may inflate when similar verbal self-reported measure items are used (Spector 1987).

In the pretest, product category involvement was also measured to ensure that the product categories used in the stimuli were relevant to the college student sample. Product category involvement was measured by three, seven-point Likert items (Baumgartner, Hans and Jan-Benedict E.M. Steenkamp 2001): “In general, I have a strong interest in this product category,” “This product category is very important to me,” “This product category is very relevant to me.”

Main Study Design

This study examines ad avoidance in the context of editorial content consumption. The study website was created to simulate online video viewing context. A five minute episode of a popular U.K. comedy show was used as an editorial content, in which a 30 second commercial stimulus was embedded. Out of twelve commercial stimuli, each

commercial was randomly embedded at the predetermined position in the middle of the show. The study purpose was disguised to create a normal video viewing situation, which is highly involving and user-initiative. The participants were told that the study was designed to examine the feasibility of a popular U.K. sit-com among U.S. college students and were asked to watch the way they usually watch online video. After watching the show, they were directed to the online survey website. In the survey site, they were asked to evaluate the commercial to the extent which they were exposed to.

Study Website

The study website was created to simulate involving online video viewing situation. The control panel was removed to control unnecessary user interactions with video player (e.g., adjust screen size, skipping the show) while watching the show. Once the participants enter the main player page, the show was automatically played. Users were not allowed to make screen bigger or fastforward the main show. In the skippable ad condition, the skip button shows up at the bottom of the screen after the first 5 seconds with the message that “you can skip this ad now” and the remaining seconds being counted down (Appendix A for the snapshot of the video player). While participants were not allowed to skip during the first 5 seconds, they were allowed to use the skip button at the bottom of screen to jump to the second part of the show. The time period of the forceful exposure was set to five seconds for the following reasons. The five-second exposure is considered a partial exposure, which may result in different outcomes from null-exposure in the advertising literature (Bellman, Schweda, and Varan 2010; Cronin and Menelly 1992; Stout and Burda 1989). In advertising industry, the largest video sharing site also uses the 5 second rule in their skippable advertising

format (Youtube® 2010). The study website was tested with 15 college students for validating the execution and quality .

Sampling

The study sample is limited to college students. Though this may limit the generalizability of the study to the total population, choosing a relatively homogeneous group allows for a more controlled research sample that is consistent from pretests to main study. The college students are considered the main user group of online video content and are among the most important target groups for many product categories. Two hundred ninety five college students participated in the main study in exchange of extra credit for the courses from a large south eastern university in the U.S. Most participants were recruited from non-advertising courses to minimize the possibility that biased affinity to advertising influences ad skipping behavior.

Key Measures

Ad viewing time

Ad viewing time, a simulated behavioral measure of attention to commercials, was measured in an unobtrusive manner. The time period during the ad viewed was recorded on the server when the participants skip the embedded commercial in the study website. The ad viewing time ranges from 5 seconds to 30 seconds because they are not allowed to skip during the first 5 seconds.

Affective response to the ad

Since the role of emotions and affect in advertising has been emphasized in advertising research (Ray and Batra 1983; Holbrook and O'Shaughnessy 1984), there are several different approaches to measuring emotions in advertising. Assuming that emotions are discrete and categorical, some researchers used a large battery of

subjective feelings to measure emotional response to the ad (Edell and Burke 1987; Westbrook 1987). It is difficult to find well-agreed upon full list of emotional responses to capture different types of advertisement. Other advertising researchers adopted Mehrabian-Russell's PAD approach to emotions. This three dimensional approach holds that pleasure-arousal-dominance are common factors underlying human emotions to environmental stimuli (Mehrabian and Russell 1974). Holbrook and Batra (1987) empirically found three emotional dimensions of pleasure, arousal, and dominance in the principal component analysis on a battery of emotional items.

This study used three dimensional approach to measure the first level of affective response to the ad because this study measures emotional response to various types of commercials. Prior literature suggested dominance is redundant in predicting the effects of emotional response and can be dispensed with (Russell 1980; Russell, Weiss, and Mendelsohn 1989). In advertising research, dominance was often ignored because of the lack of predictive power (Morris 1995; Olney, Holbrook, and Batra 1991). Two dimensions of emotional response - pleasure and arousal were used to measure immediate consumer response to the commercial in the main study. The non-verbal measure, AdSAM® (Figure 3-1) was used to minimize the cognitive processing associated with verbal measures (Edell and Burke 1987) and it is quick and simple to use (Lang 1980; Morris et al. 2000). Correlations of .937 for pleasure, .938 for arousal, and .660 for dominance were found between ratings generated by SAM and by the semantic differential scales used by Mehrabian and Russell (Morris et al. 2000). It is also more resistant to the survey fatigue particularly when the survey is repetitive and lengthy.

Multi components of attitudes toward the ad

Attitudes toward the ad has been generally defined as overall evaluation of the ad captured by a unidimensional affect. For example, Lutz and his colleagues used a three-item index (good-bad;pleasant-unpleasant; favorable-unfavorable) to measure attitude toward the ad. Olney, Holbrook, and Batra (1991) adopted multi-dimensional view of attitudes toward in relating evaluation of advertisements to ad viewing time. They proposed three dimensions of attitudes toward the ad: hedonism (an evaluation along the entertainment dimension), utilitarianism (an evaluation of usefulness), and interestingness (an evaluation of curiosity). The first two dimensions has drawn upon Batra and Atohla's (1991) study that confirmed two dimensional attitudes. The third component, interestingness was justified in the context of Berlyne's exploratory search study. Indeed, these three dimensions of attitudes toward the ad correspond to three ad perception factors of web advertising done by Ducoffe (1996): Entertainment, informativeness, and irritation.

Following Olney, Holbrook, and Batra (1991), instead of evaluating ad attitudes through overall items (such as good-bad, like-dislike), this study used a multi-dimensional view of attitudes toward the ad to predict ad viewing time. One advantage of using multi-dimensional view allows for differential effects of each of these attitudinal components on ad viewing time. Specific items for three dimensions are listed in Table 3-2.

Attitudes toward the brand

In this study, brand attitudes were measured by using overall evaluation of the advertised brand. In the attitude toward the ad research, brand attitudes have been widely used as an indicator of ad effectiveness. In this stream of research, unfamiliar

brands have been used to control for prior brand attitudes. Due to this research context, unidimensional measurements are used rather than using multiattribute attitude measurement model (Fishbein and Ajzen 1975), which is widely used in case of familiar brands. This study used unidimensional measurement items such as good-bad, favorable-unfavorable, pleasant-unpleasant, like it-don't like it (MacKenzie, Lutz, and Belch 1986). The key measurement instruments are specified in Table 3-2.

Table 3-2. Key Measures

Constructs	Measures	References
Ad viewing time	Ad viewing time recorded on the server.	
	Favorable:Unfavorable	
Attitudes toward the brand	Good:Bad Like it:Don't like it Pleasant:Unpleasant	MacKenzie, Lutz and Belch (1986)
Brand familiarity	Not familiar at all:Very familiar	Simonin and Ruth (1998)
Emotional response (Pleasure/Arousal)	Self-Assessment Manikin (Figure 3-1)	Lang (1980)
Aad (entertain)	Fun to watch:Not fun to watch Entertaining:Not entertaining Enjoyable:Not enjoyable Informative:Not informative	
Aad (information)	Useful:Not useful Important:Not important Helpful:Not helpful Makes me curious:Does not makes me curious	Olney, Holbrook, and Batra (1991)
Aad (interesting)	Interesting:Boring Keeps my attention:Does not keep my attention	

CHAPTER 4 RESULTS

Pretest Results

Descriptive analysis of 80 commercials was run (Appendix C) to select stimuli for the main study. As for affective response – pleasure, the pleasure scores ranged from 4.11 to 7.65 while arousal score ranged from 2.50 to 6.29. For affective response – arousal, the score ranged from 2.50 to 6.29. After adding the two affective response scores ranging from 6.61 to 13.82, the researcher filtered out the highest 20 commercials and the lowest 20 commercials in the pleasure score to maximize the variance in the affective response to the ad. Among the forty commercials, 12 commercial stimuli were selected to meet other criteria, product category involvement, brand presence and brand familiarity (Table 4-1).

Table 4-1. Descriptive statistics of twelve commercial stimuli

ADID	Ad length	Product category	Brand	Brand presence during the first 5 seconds	N	Emotional response - Pleasure (mean/standard deviation)		Emotional response - Arousal (mean/standard deviation)	
1	31	Whiskey	Jameson®	Present	14	4.36	1.69	3.07	2.13
2	30	Whiskey	Jameson®	None	17	7.53	1.81	6.29	2.14
3	30	Gum	Senses™	Present	17	5.59	1.77	4.29	2.02
4	31	Gum	Stimorol®	None	18	6.94	1.86	5.33	2.11
5	32	Burger	Steers™	None	16	5.50	1.59	4.06	1.18
6	30	Burger	Hungry Jack™	Present	17	6.00	1.17	4.41	2.03
7	33	Fitness	Startrac™	Present	15	4.17	1.33	4.53	2.03
8	32	Fitness	Virgin Active™	None	18	5.78	1.86	4.83	2.07
9	31	Shoes	Reebok®	None	16	6.86	1.21	3.86	1.21
10	31	Cell phone	Samsung®	Present	18	7.11	1.86	5.88	1.53
11	30	Snack	Doritos®	Present	17	7.50	1.52	5.13	2.41
12	32	Tooth paste	Colgate®	Present	18	5.60	1.98	3.55	1.73

Product category involvement of 12 stimuli ranged from 3.49 to 4.89 out of 7 point scale. The twelve commercials exhibited the medium level of product involvement to college students. In order to balance the brand presence of the commercial stimulus, six commercials with the brand presence during the first 5 seconds were included in the final 12 stimuli. Brand name/information was not mentioned or displayed in the other six commercial. Brand familiarity was well balanced among the final 12 stimuli. Pleasure scores of final 12 commercial stimuli ranged from 4.17 to 7.53 while arousal scores ranged 3.07 to 6.29. Figure 4-1 presents the scatter plot of pleasure and arousal scores.

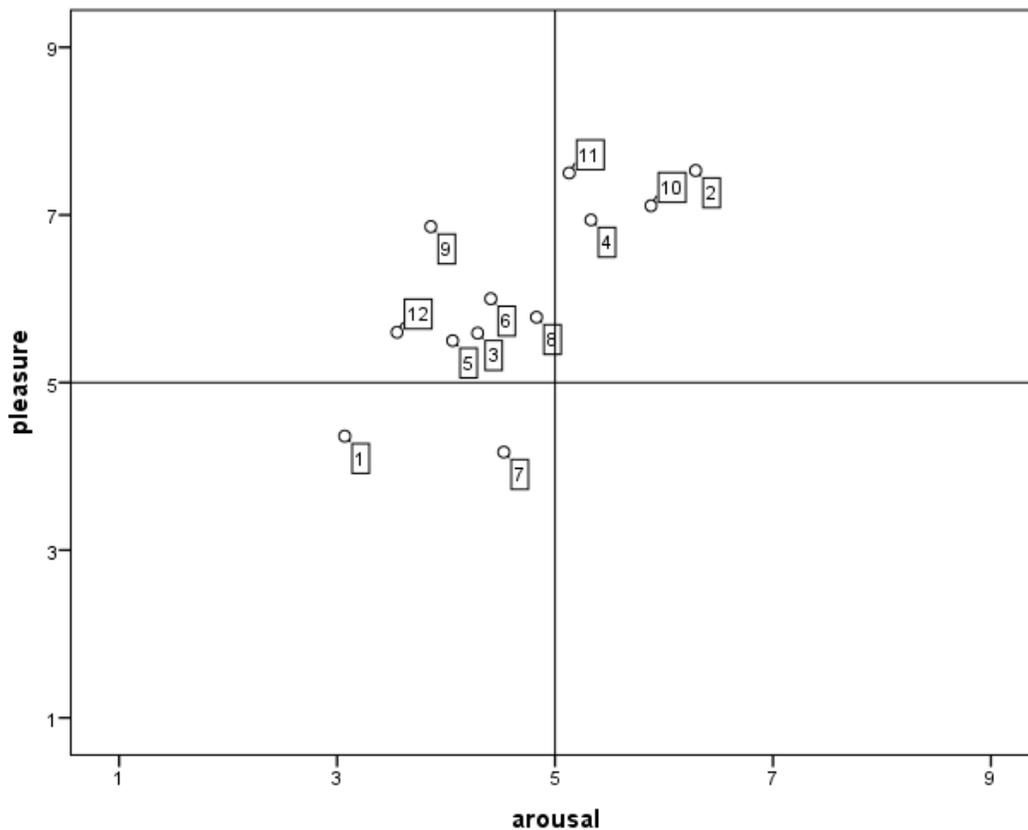


Figure 4-1. Scatter plot of emotional responses to twelve commercial stimuli.

Main Study: Model Estimation and Results

Descriptive Statistics

Demographic characteristics of participants (N = 295) are depicted in Table 4-2. The majority of the participants were women (63.4%). The average age of the participants was 20 years. Majority of participants came from non-communication majors (86.1%) in a large southeastern university. Most participants (88.5%) have used online video television at least once a month, which is consistent with industry statistics (93%) among the 18-29 age groups (Purcell 2010).

Table 4-2. Characteristics of participants

Characteristics of participants		N	Percent
Gender	Male	108	36.6
	Female	187	63.4
Age	18	22	7.5
	19	78	26.4
	20	88	29.8
	21	61	20.7
	22	31	10.5
	23 or more	15	5.1
	Major	Journalism	8
Advertising		18	6.1
Public Relations		32	10.8
Telecommunications		15	5.1
Others		254	86.1
Valid	Freshmen	27	3.7
	Sophomore	98	24.4
	Junior	82	27.1
	Senior	88	29.8
Frequency of viewing online television	Never	34	11.5
	Less than once a month	54	18.3
	Once a month	32	10.8
	2-3 times a month	52	17.6
	Once a week	34	11.5
	2-3 tiems a week	51	17.3
	Daily	38	12.9

Descriptive statistics of specific items are presented in Table 4-3. Out of 30 seconds, average ad viewing time was 16.44 seconds when twelve commercial stimuli were combined. As for affective response to the stimuli, the pleasure score (5.45 out of 9) indicated commercial stimuli yielded the medium level of pleasure while the arousal score (3.92 out of 9) yielded slightly lower than the medium level. Affective responses in the main study generated the lower level of affective responses compared to pretest (pleasure = 6.08 and arousal = 4.60). This discrepancy may be due to the difference in the ad exposure context between the pretest and the main study. Interrupting ad exposure in the middle of the editorial content consumption might interfere with affective response compared to the context where the pretest participants were exposed to stand-alone commercials. Product involvement items also indicated slightly lower scores (3.43 – 3.60) than the ones (4.03) in the pretest. The reliabilities of the constructs were assessed using Cronbach’s alpha. All the cronbach’s alpha were above .9, which is considered highly consistent and reliable items to measure the same construct.

Table 4-3. Descriptive statistics of key measures

Concepts and items	Mean	SD
Ad viewing time		
Ad viewing time recorded on the server (seconds).	16.44	10.98
Emotional responses - Pleasure and arousal		
AdSAM® - Pleasure	5.45	1.55
AdSAM® - Arousal	3.92	2.13
Attitudes toward the ad_Entertainment ($\alpha=.96$)		
Fun to watch:Not fun to watch	3.55	1.74
Entertaining:Not entertaining	3.62	1.78
Enjoyable:Not enjoyable	3.62	1.70

Table 4-3. Descriptive statistics of key measures (Continued)

Attitudes toward the ad_Entertainment ($\alpha=.91$)		
Informative:Not informative	3.30	1.69
Useful:Not useful	2.89	1.60
Important:Not important	2.69	1.49
Helpful:Not helpful	2.93	1.55
Attitudes toward the ad_Interestingness ($\alpha=.90$)		
Makes me curious:Does not makes me curious	3.21	1.81
Interesting:Boring	3.44	1.75
Keeps my attention:Does not keep my attention	3.47	1.91
Brand attitudes ($\alpha=.96$)		
Favorable:Unfavorable	3.55	1.52
Good:Bad	3.68	1.49
Like it:Don't like it	3.59	1.57
Pleasant:Unpleasant	3.67	1.48
Brand familiarity		
Not familiar at all:Very familiar	3.28	2.29
Product involvement ($\alpha=.94$)		
In general, I have a strong interest in this product category.	3.51	1.67
This product category is very important to me.	3.43	1.63
This product category is very relevant to me.	3.60	1.71

In addition, Table 4-4 displays descriptive statistics of averaged key constructs by commercial stimuli. A MANOVA test was performed to examine if the twelve commercial stimuli created sufficient variance in key constructs. Twelve stimuli were entered as the independent variable and dependent variables, which will be used in the structural equation modeling, affective emotional responses to the ad, multi-components of attitudes toward the ad, ad viewing time and brand attitudes. MANOVA results indicated that twelve stimuli significantly yielded sufficient variances in the main constructs (Wilks's $\lambda = .524$, $F(77,1667)=.000$, partial $\eta^2=.10$).

Table 4-4. Descriptive statistics for key measures by twelve stimuli

ADID	N	P	A	Aad_Ent	Aad_Info	Aad_Int	Ad viewing times	Abr
1	36	4.94 (1.35)*	3.69 (2.01)	3.15 (1.47)	3.40 (1.25)	3.16 (1.60)	17.67 (11.47)	3.40 (1.39)
2	21	5.62 (1.02)	4.24 (2.41)	3.71 (1.65)	2.31 (1.58)	3.56 (1.48)	16.56 (10.95)	3.38 (1.78)
3	22	5.36 (.95)	3.59 (1.82)	3.98 (1.49)	2.32 (1.05)	4.11 (1.69)	17.06 (9.87)	3.70 (.86)
4	28	6.04 (1.95)	4.29 (2.03)	4.37 (1.50)	2.65 (1.27)	3.85 (1.53)	19.50 (11.74)	3.88 (1.11)
5	23	5.17 (1.72)	4.22 (1.93)	3.23 (1.43)	2.24 (1.16)	2.86 (1.50)	18.72 (11.48)	2.57 (1.37)
6	26	5.65 (1.20)	4.35 (2.00)	4.23 (1.52)	3.37 (1.58)	3.31 (1.72)	15.54 (11.00)	3.81 (1.41)
7	35	5.09 (1.27)	3.63 (2.07)	2.53 (1.40)	2.80 (1.31)	2.30 (1.35)	17.94 (12.94)	3.29 (1.29)
8	25	5.76 (1.27)	4.76 (2.22)	3.56 (1.36)	3.05 (1.14)	3.56 (1.64)	13.60 (10.35)	3.42 (1.27)
9	16	5.63 (1.93)	3.00 (1.63)	3.71 (2.24)	2.69 (1.32)	3.67 (2.06)	17.47 (11.22)	4.06 (1.64)
10	18	6.22 (1.86)	4.39 (2.48)	4.43 (1.62)	4.29 (1.43)	4.35 (1.56)	11.73 (8.04)	4.22 (1.63)
11	20	5.40 (2.44)	3.80 (2.86)	4.48 (1.93)	2.69 (1.26)	3.82 (1.81)	15.42 (10.40)	4.21 (1.70)
12	25	5.04 (1.21)	3.08 (1.75)	2.77 (1.62)	3.49 (1.38)	2.99 (1.38)	13.70 (9.36)	4.05 (1.33)
Total	295	5.45	3.92	3.60	2.95	3.37	16.44	3.62
Cronbach's α		n.a.	n.a.	.97	.91	.90	n.a.	.97
Minimum		.95	1.63	1.36	1.05	1.35	8.04	.86
Maximum		6.22	4.76	4.48	4.29	4.35	19.50	4.22

Overview of Structural Equation Modeling

A structural equation model was used to estimate the hypothesized relationships among constructs. As input data for estimating the structural equation model, the correlation matrix among 295 respondents was used without missing data. All data from

the twelve commercial stimuli were combined and used for model estimation. Following the two-step approach proposed by Anderson and Gerbing (1998), a measurement model was estimated prior to examining structural model relationships. Both the measurement model and simultaneous equation model were estimated with LISREL 8.80 by the method of maximum likelihood and tested with Satorra-Bentler scaled chi-square statistics. The goodness-of-fit for the estimated model was assessed with a χ^2 test, the ratio of chi-square (χ^2) to degree of freedom (df), the root mean square error of approximation (RMSEA), Non-Normed Fit Index (NNFI), and Comparative Fit Index (CFI) (Hair, Black, Babin, Anderson, and Tatham 2006).

Assumption Checks

Prior to the main analysis, the normality and linearity assumptions were checked. The normality of the observed variables was assessed through examination of histogram and summary descriptive statistics using SPSS 18. There was evidence that both univariate and multivariate normality assumptions for observed variables were violated. Distributions for three out of seventeen observed variables were significantly skewed at $p < .01$ and the distributions for 7 of 17 variables showed significant kurtosis at $p < .01$. To deal with the non-normality, the Satorra-Bentler scaling method (SB χ^2) was used for the SEM analyses. When the normality assumption is violated to cause problems with the SEM analysis, hypothesized models can be estimated with maximum likelihood estimation and tested with the Satorra-Bentler scaled chi-square statistic (SB χ^2). SB χ^2 has been shown to perform reliably with medium sample sizes ($100 < N < 500$) under condition of non-normality (Bentler and Yuan, 1999). Consequently, the minimum fit function chi-square statistics were adjusted with SB χ^2 .

To perform structural equation modeling analysis, the correlation matrix (APPENDIX D) was entered along with the asymptotic correlation matrix, created in PRELIS 2.8. The correlation matrix showed that items measuring the same construct were more highly correlated with each other than with any of the other items. In addition, all the correlation coefficients were much larger than 0, indicating there was no extreme singularity in those matrices. Linearity of the observed variables was assessed by examining randomly selected pairs of scatterplots using SPSS Graphs. All randomly selected pairs of variables appeared to be linearly related.

Measurement Model

Prior to the confirmatory factor analysis, an exploratory factor analysis was run separately for multi-dimensional attitudes toward the ad – entertainment (three items), informativeness (four items), and interestingness (three items). The results suggested the two factor model in which the entertainment dimension and the interestingness dimension converged as one factor while the informativeness factor emerged as a separate factor. Thus, a model comparison test was performed between the two factor model and the three factor model for multidimensional attitudes toward the ad. Satorra-Bentler Chi-square comparison test indicated that the three factor model fits the data better than the two factor model. However, in the subsequent path analysis, excessive correlation ($=.88$) between the entertainment factor and the interestingness factor were observed. Due to the high inter-factor correlation, the subsequent path model did not converge appropriately. Prior literature suggested the first two dimensions, the entertainment and the informativeness factors, correspond to hedonic and utilitarian attitudes (Batra and Ahtola 1991). Thus, the interestingness factor was removed in the subsequent analysis.

A confirmatory factor analysis was run for the measurement model. Ad viewing time was set to the unity for its factor loading because it was a single indicator. Also its error variance was set to nearly zero or .01 because ad viewing time was considered a reliable ad viewing time measure. Two dimensions of affective response to the ad, pleasure and arousal were entered without dominance based on prior literature (Morris et al. 2002; Olney, Holbrook, and Batra 1991).

Convergent and Discriminant Validity

The results of confirmatory factor analysis indicated that the measures had acceptable convergent and discriminant validity. Convergent validity was assessed by “determining whether each indicator’s estimated pattern coefficient on its posited underlying construct factor was significant (Anderson and Gerbing 1988, p.416). First, all items were significantly loaded to the intended factors ($p < .001$) and all the factor loadings ranged from .48 to .98 (Table 4-5). All constructs were more strongly correlated with their own measures than with another of the other constructs. Second, cronbach’s alpha were above .90 when the factors has three items or more. Third, the average variance extracted (AVE) for each construct exceeded the recommended benchmark of .50 (Hair et al. 2006).

Discriminant validity was assessed by comparing the average variance extracted with the square of the correlation (Φ^2) between the factor and each of the other constructs (Table 4-6 for the inter-factor correlation matrix). The AVE for each construct was greater than the squared correlation coefficients for all the latent constructs (Table 4-5), thereby indicating adequate discriminant validity (Lichtenstein, Netemeyer, and Burton 1990).

Table 4-5. Results for measurement model

Factors and items	λ	AVE*	ϕ^2
Ad viewing time			.007 ~ .109
Ad viewing time recorded on the server.	.99		
Emotional responses - Pleasure and arousal		0.56	.078 ~ .384
AdSAM® - Pleasure	.82		
AdSAM® - Arousal	.48		
Attitudes toward the ad_Entertainment ($\alpha=.96$)		0.95	.073 ~.384
Fun to watch:Not fun to watch	.96		
Entertaining:Not entertaining	.94		
Enjoyable:Not enjoyable	.97		
Attitudes toward the ad_Informativeness ($\alpha=.91$)		0.85	.005 ~.239
Informative:Not informative	.74		
Useful:Not useful	.94		
Important:Not important	.87		
Helpful:Not helpful	.92		
Brand attitudes ($\alpha=.96$)		0.96	.109 ~ .348
Favorable:Unfavorable	.95		
Good:Bad	.98		
Like it:Don't like it	.95		
Pleasant:Unpleasant	.95		

*AVE = $\sum (\text{standardized loading})^2 / \sum (\text{standardized loading})^2 + \sum \text{measurement error}$

Table 4-6. Correlations among latent variables

	1	2	3	4	5
1. Ad viewing time	1				
2. Affect	0.27	1			
3. Ad_Entertainment	0.27	0.62	1		
4. Ad_Informativeness	0.07	0.28	0.46	1	
5. Brand attitudes	0.33	0.44	0.59	0.48	1

The measurement model was selected on Satorra-Bentler Chi-square value and the basis of the goodness-of-fit indices. The final measurement model (Satorra-Bentler $\chi^2 (68) = 81.10 (p=.13)$) fit the data very well. The key goodness-of-fit indices

(SRMR=.033, RMSEA=.025, NNFI=.99, CFI=.99) met the conventional cut-off level (SRMR≤.09, RMSEA≤.08, NNFI≥.95, CFI≥.95). Goodness of fit indices used to evaluate overall fit of the model in the current study were the CFI in conjunction with standard root mean squared residual (SRMR) following Hu and Bentler (1999). A cut-off value close to .95 or higher for CFI in combination with a cut-off value close to (less than) .09 for SRMR was recommended (Hu and Bentler 1999). Additionally, the root-mean-square error of approximation (RMSEA), which is thought to reduce problems with incremental fit indices (e.g., CFI) according to Browne and Cudeck (1992), was used. RMSEA values of less than .06 indicate good fit (Hu and Bentler 1999), values of .08 or less would represent reasonable fit and values higher than .10 indicate poor fit (Browne and Cudeck 1992).

Structural Equation Modeling

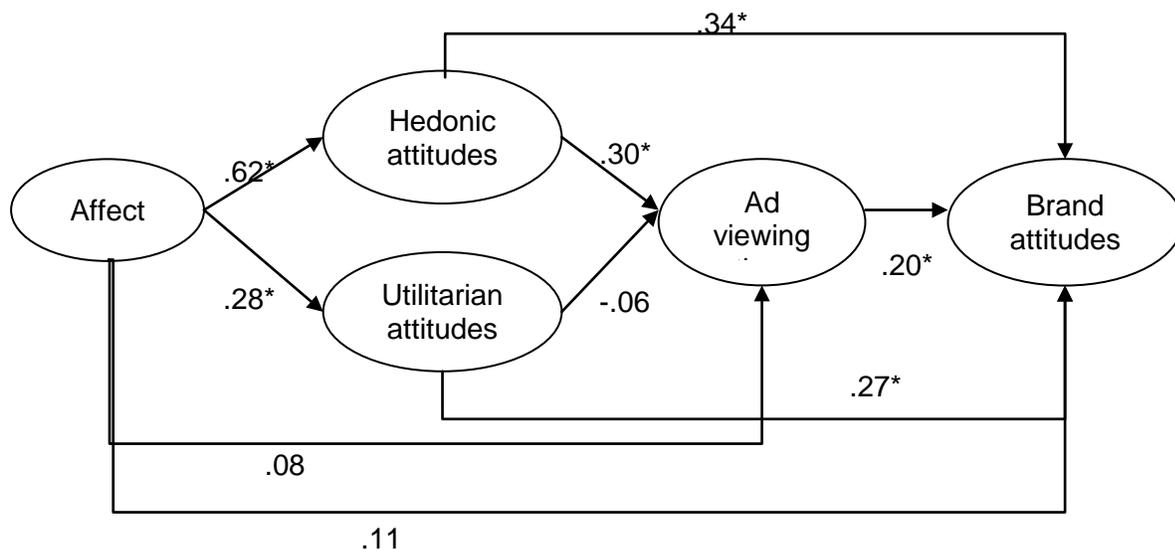
The two-step modeling approach (Anderson and Gerbing 1988) was employed in order to test the hypothesized relationships among latent variables. Hypothesized relationships among latent constructs were entered to estimate the simultaneous model on a basis of the finalized measurement model. To test whether estimating the simultaneous equation model results in a significant decrement in fit, the SB chi-square comparison test between the fit of the simultaneous equation model and the fit of the measurement model was conducted. The model comparison test indicated that the path model significantly decreased the fit of measurement model (Satorra-Bentler χ^2 (df=1) comparison test statistic = 44.55, $p < .05$). The examination of the modification index suggested that the structural residual variances (Ψ) of hedonic attitudes toward the ad and utilitarian attitudes toward the ad need to be allowed to correlate. Then, the revised path model became the saturated model thus there was no decreasing fit in the model.

This means that the revised path model and the baseline model (the measurement model) were identical without a significant decrement in fit. As a result, the revised model with the error variance of the two attitudinal components correlated was selected as the final structural equation model.

Hypotheses Testing

Effects of affective response

H1 predicted higher affective responses to the ad will lead to positive attitudes toward the ad – hedonic and utilitarian attitudes toward the ad. The path coefficients from affect to both hedonic attitudes ($\gamma=.62$, $p<.01$) and utilitarian attitudes ($\gamma=.28$, $p<.01$) were significant (Figure 4-2). Thus, H1 was supported.



* $p<.05$, ** $p<.01$

Figure 4-2. Results for hypothesized structural model

H2 proposed the direct influence of affective response on the ad viewing time. The final structural model indicated the direct path coefficient ($\gamma=.08$, $p>.05$) from affect to the ad viewing time was not significant at the .05 level. Thus, H2 was not supported.

H3, predicting the direct influence of affective response on brand attitudes ($\gamma=.11$, $p=.07$), was not supported by the results. However, examination of direct and indirect effects (Table 4-7) revealed that the indirect influence of affective response to the ad on ad viewing time and brand attitudes was significant. According to the final model specification, the indirect effects of affective response on ad viewing time occur via two components of ad attitudes.

Table 4-7. Standardized causal effects

Determinants	Outcomes ^a	Effects		
		Direct	Indirect	Total
Affective response	Hedonic attitudes toward the ad	.62*	-	.62*
	Utilitarian attitudes toward the ad	.28**	-	.28**
	Ad viewing time	.08	.17*	.25*
	Brand attitudes	.11	.34**	.44**
Hedonic attitudes toward the ad	Ad viewing time	.30*	-	.30*
	Brand attitudes	.34**	.06	.40**
Utilitarian attitudes toward the ad	Ad viewing time	-.06	-	-.06
	Brand attitudes	.27*	-.01	0.26*
Ad viewing time	Brand attitudes	.20**	-	-

* $p<.05$ ** $p<.01$

^a Squared multiple correlations: Hedonic attitudes = .39; Utilitarian attitudes = .08; Ad viewing time = .11; Brand attitudes = .45

The break-down of the indirect effects revealed that affective responses influence ad viewing time via hedonic attitudes toward the ad ($.62 \times .30 = .19$) while the utilitarian attitudes did not appear to mediate the indirect effects of affective response on ad viewing time ($.28 \times -.06 = -.02$). Regarding the indirect effects of affective response to the ad on brand attitudes, there were the five indirect paths from affective response to brand attitudes: Affect \rightarrow Hedonic attitudes \rightarrow Brand attitudes ($.62 \times .34 = .21$), Affect \rightarrow Hedonic attitudes \rightarrow Ad viewing time \rightarrow Brand attitudes ($.62 \times .30 \times .20 = .04$), Affect

→ Utilitarian attitudes → Brand attitudes ($.28 \times .27 = .08$), Affect → Utilitarian attitudes → Ad viewing time → Brand attitudes ($.28 \times -.06 \times .20 = -.003$), Affect → Ad viewing time → Brand attitudes ($.08 \times .20 = .02$). Among them, the indirect effects of affective response on brand attitudes via hedonic attitudes toward the ad were significantly stronger than other indirect paths.

Effects of two-dimensional attitudes toward the ad

H4 and H5 proposed the direct effects of the hedonic and utilitarian attitudes toward the ad on ad viewing time and brand attitudes, respectively. The results of the final structural model indicated that the path from the hedonic attitudes toward the ad onto ad viewing time was significant ($\beta=.30, p<.05$) while the influence of the utilitarian attitudes toward the ad was not significant ($\beta=-.06, p>.05$). Thus, H4 was partially supported for the hedonic attitudes toward the ad but not for the utilitarian attitudes toward the ad. Regarding H5, both the hedonic ($\beta=.34, p<.01$) and utilitarian attitudes ($\beta=.27, p<.05$) toward the ad appeared to significantly influence the brand attitudes although the influence of utilitarian attitudes was relatively weaker than the hedonic attitudes. In addition, the hedonic attitudes appeared to marginally influence brand attitude indirectly via ad viewing time ($.30 \times .20 = .06, p=.065$).

Effects of ad viewing time on brand attitudes

H6 predicted the positive influence of ad viewing time, or the timing of the ad skipping on brand attitudes. The results confirmed the significant influence of ad viewing time on brand attitudes ($\beta=.20, p<.01$), or the longer time the ad is viewed, the more likely the advertised brand be to be liked.

CHAPTER 5 DISCUSSIONS

Summary and Discussions

Drawn upon the hierarchy of ad effect model, this study identified factors influencing mechanical ad avoidance and tested the hypothesized relationship among factors in the context of skippable ad condition using structural equation modeling. The proposed model added ad viewing time as a mediator in the well-established chain effects model of ad response: Affective response → multi-dimensional evaluation of the ad → brand attitudes (Batra and Ray 1986; Derbaix 1995; Holbrook and Batra 1987; MacKenzie and Lutz 1989). Overall, the results showed that the proposed model fitted the data very well. The addition of ad viewing time in the traditional chain effects of model significantly explained the variance of endogenous latent variables (Table 4-7).

Affective response to the ad was defined as the immediate and spontaneous response to the ad stimuli and specified in the proposed model as an antecedent of evaluative components of the ad, ad viewing time and brand attitudes. H1, H2 and H3 specified the effects of affective response to the ad on multi-dimensional attitudes, ad viewing time, and brand attitudes. The results confirmed the direct influence of affective response on two dimensions of attitudes toward the ad while its direct influences on ad viewing time and brand attitudes were not supported. The significant causal relationships between affective response and attitudinal components appeared to confirm the previous studies that feeling evoked by the ad influences evaluation of the ad (Batra and Ray 1986; Derbaix 1995; Holbrook and Batra 1987). Thus, affective responses to the ad are the antecedents of evaluative attitudes toward the ad even in the skippable ad condition.

Regarding the relative influences of affect on hedonic vs. utilitarian attitudes, ads appealing to feelings exerted more positive and direct influences on hedonic attitudes toward the ad than the utilitarian evaluation. However, it should be noted that affective responses not only influenced the entertainment evaluation of the ad, but also the informativeness evaluation of the ad. Some level of pleasure and arousal response appeared to help the relevance and usefulness evaluation of the ad.

This study failed to replicate the direct influence of affect on ad viewing time (Olney, Holbrook, and Batra 1991) and brand attitudes (Batra and Ray 1986) that are supported in the previous studies. The inconsistent results from the previous findings may be due to the different methods used between the current study and the previous studies. Olney, Holbrook, and Batra (1991) used 150 prime-time television ads as the unit of analysis instead of persons who are exposed to the ads. Their study might have created more variance in affective responses to the ad than the present study although the present study attempted to create sufficient variance in affective responses. In addition, this study examined ad avoidance in the middle of editorial content viewing. Interrupting experience might have played a role in explaining ad viewing time. Participants' intrusive perception might have reduced the effects of affective responses on ad viewing time.

However, the indirect effects of affect were significant for ad viewing time and brand attitudes. This study supported the effects of affective response on ad viewing time and brand attitudes are mediated by hedonic attitudes toward the ad. Olney, Holbrook, and Batra (1991) study showed the similar pattern that the regression coefficient of affective response onto ad viewing time was reduced when multi-

dimensional attitudes toward the ad was simultaneously considered. The difference was their study supported the partial mediation model (Affective response → ad viewing time and affective response → ad evaluation → ad viewing time) while the current study indicated the full mediation model only (Affective response → ad evaluation – hedonic attitudes → ad viewing time).

The relationships between hedonic attitudes toward the ad, ad viewing time and brand attitudes showed the partial mediation model. Not only do hedonic perceptions of the ad directly led to the more favorable brand attitudes but also marginally contributed to brand attitudes via longer ad viewing time although the indirect causal effects were only marginally significant ($p=.065$). It appeared that entertaining ads are more likely to be viewed longer time and yield the more positive brand attitudes. This finding is consistent with Woltman-Elpers et al.'s (2003) finding that the entertainment value perceptions of the moment to moment ad content contributed to the higher probability of viewing the commercials. On the other hand, utilitarian attitudes did not play a mediating role in ad effects on ad viewing time. In Woltman-Elpers et al.'s (2003) study, utilitarian perceptions of the ad exerted negative effects on ad viewing time that the more informative the commercials are, the more likely viewers are to stop the commercials. Alternative explanations for the insignificant results may be that the current study did not create sufficient variance in the utilitarian attitudes toward the ad perhaps because the majority of commercial stimuli in the study used the soft sell strategy. The direct influence of utilitarian attitudes on brand attitudes was found to be significant although relatively weaker than the influence of hedonic attitudes on brand attitudes. The utilitarian perceptions of the ad did not contributed to ad viewing time, but directly led to

the favorable brand attitudes. Once viewers perceive the ad useful and relevant, they are more likely to form the positive brand attitudes.

The variance of ad viewing time explained by the proposed model was moderately small (the squared multiple correlation = .11). The proposed model mainly considered consumer response to the commercials in explaining ad viewing time and brand attitudes. Perhaps, other factors not included in the model might have improved the explained variance of ad viewing time. There are many factors influencing ad avoidance in prior literature. Program and ad congruency may explain the more variance of ad viewing time. The current study did not measure the congruency perception between the editorial content and the commercial stimuli. Participants might have perceived commercials and the program irrelevant. Program involvement can be another factor influencing ad avoidance (Kennedy 1971; Krugman 1983; Soldow and Principe 1981; Tavassoli, Shultz, and Fitzsimons 1995). Intrusive perception factor might have explained more variance of ad viewing time. Intrusive perception may vary depending upon the program involvement. Program involvement and intrusive perception should be considered in future research examining the antecedents of ad avoidance. In addition, inclusion of predispositional factors in the model may better explain the variance of ad viewing time. For example, global attitudes toward the ad and attitudes toward television commercials may explain ad viewing time beyond commercial factors. Cronin and Mennelly (1992) pointed out undifferentiated ad avoidance phenomenon regardless of commercial content.

Lastly, the study examined the relationship between ad viewing time and brand attitudes. The results showed that the longer time viewers watch the ad, the more likely

they are to have favorable brand attitudes. The active avoidance concept may explain this significant result. The present research context replicated active ad avoidance by providing the participants a means of ad avoidance. Viewing skippable commercial the longer time may means they decided to view the commercial (or not to skip it) even though they could save their time by skipping the commercials given the situation ad avoidance is mechanically possible. Thus, the results of this study showed that ad viewing time can be a behavioral indicator of ad evaluation. Of course, there may be the case that viewers fully watched the commercial that they did not like. In general, the longer viewing time reflects the evaluation of the commercial already made by viewers moment by moment.

This causal influence from ad viewing time and favorable brand attitudes can be explained by psychology and visual neuroscience literature on the reciprocal relationship between attention and emotional response (Fenske and Raymond 2006; Raymond, Fenske, and Tavassoli 2003). Two findings are relevant to explain the results of the current study. First, more attended emotional stimuli facilitate more interpretation of the stimuli. The effect of attention is to magnify emotional responses to stimuli that are already charged emotionally. Second, actively ignored stimuli were devalued. Raymond et al. (2003) labeled this phenomenon as inhibitory devaluation. When an inappropriate stimulus is exposed, attentional inhibition is applied and stored with negative appraisal. When an individual encounters an inappropriate stimulus, she or he ignores it with negative impression. When the previously ignored stimulus is encountered again, the inhibition is reinstated and lead to affective devaluation. Thus,

the longer ad viewing has positive and linear influence on brand attitudes by facilitating already-made evaluation of the ad and devaluing skipped commercials.

Theoretical and Practical Implications

Theoretical Implications

The study has a few theoretical implications. The study pointed out that the chain effect of advertising model such as attitudes toward the ad research and research on the role of affect have not considered attention to the ad factors. This study has considered ad viewing time as an indicator of ad attention and positioned it as an outcome of ad perceptions.

This study showed that affective response and evaluative perceptions of the ad during the captive audience moment have significantly predicted ad viewing time. The study suggested that ad factors determine the degree of ad avoidance and confirmed the argument that “perception precedes perceptual defense (Broadbent 1977).” The moment by moment response to the ad can affect ad avoidance. The first level of response to the ad such as affective response and attitudinal evaluation of the ad during the first five seconds of forceful exposure significantly explain ad viewing time.

The study results also showed ad viewing time played a mediating role in the chain effects of ad responses. Highly affective ads led to entertainment perceptions of the ad, which in turn contributed to the longer ad viewing time. It was also found that the longer viewed ad led to the favorable brand attitudes.

Practical Implications

The study has a few practical implications. Advertisers have been long concerned about mechanical ad avoidance because it may cause the big discrepancy between program ratings and commercial ratings. Particularly, in a new media environment,

advertisers and media companies need to create commercials more resistant to ad avoidance, ensuring the longer viewing time. The findings of this study suggest that including measures such as affective responses in the ad pretest may help advertisers diagnose if a commercial are more or less prone to being zapped, zipped, or skipped. The present study suggests that commercials evoking feelings are more likely to induce entertainment perceptions of the ad, which in turn lead to the longer ad viewing time. The results suggested that fact-oriented commercials such as ads focusing on product-attributes may not be resistant to ad avoidance in the ad avoidable situations although it contributed to positive brand attitudes. Entertaining, eye-catching commercials may be more effective in inducing favorable brand attitudes and less vulnerable to mechanical ad avoidance.

Limitations and Suggestions for Future Research

Methodological Limitations

This study has a few limitations. First, the study used multiple commercial stimuli to create variance and simulate natural viewing environment. The commercial stimuli may not represent all types of commercials in an online viewing environment. The variance created by this study may be idiosyncratic and not be generalizable to other online video advertising. This study was also conducted via online, thus the controllability was reduced compared to a lab experimental study. For example, not skipping may not necessarily mean participants fully attended to the ad. The current study is restricted by its non-random sample. Therefore, caution is needed when one interprets the representativeness of the results.

Suggestions for Future Research

Ad attention was measured by ad viewing time, which was a single indicator. A self-reported attention to the ad measure can be used to validate the current research findings in the future research. The current study mainly focused on ad factors as antecedents of ad avoidance. For future research, it would be fruitful to examine the effects of contextual factor such as program context, ad placement, ad execution on ad avoidance (viewing time). Inclusion of pre-dispositional factors in the model may better explain the variance of ad viewing time. In addition, a content analysis of the most skipped commercials, and skip-resistant commercials can help identify ad content factors that are prone to or vulnerable to ad avoidance.

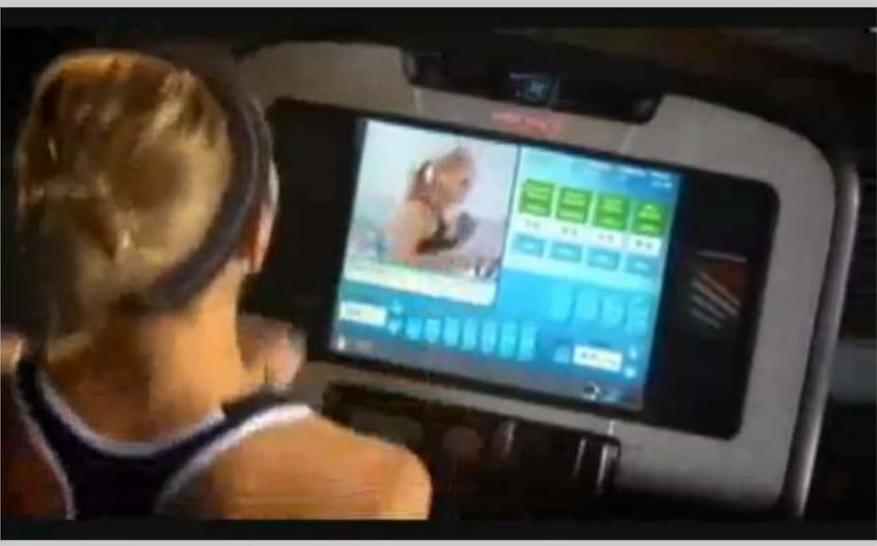
APPENDIX A
STUDY WEBSITE

<The unskippable first five seconds>



You can skip the ad in 2 seconds.
Or
Your next video will automatically resume in 28 seconds.

<The skippable screen after the first five seconds>



You can skip this ad
Or
Your next video will automatically resume in 22 seconds.

APPENDIX B QUESTIONNAIRE

Welcome to the survey page!

This is the second part of the study for Chunsik Lee's research project. You are directed to this survey page because you watched the pilot episode of IT Crowd.

In this research, we are interested in your evaluation of commercial that you saw in the video that you watched.

The survey should take approximately 10 - 15 minutes to complete. Please take time to answer the questions.

Please carefully read the instructions at the beginning of each section. Most of the questions can be answered by clicking on the button(s) that best expresses your response.

Questions about the study should be directed to Chunsik Lee, (352) 273-1641, cslee2@ufl.edu or questions about the use of human subjects in research at UF should be directed to UFIRB Office, (352) 392-0433.

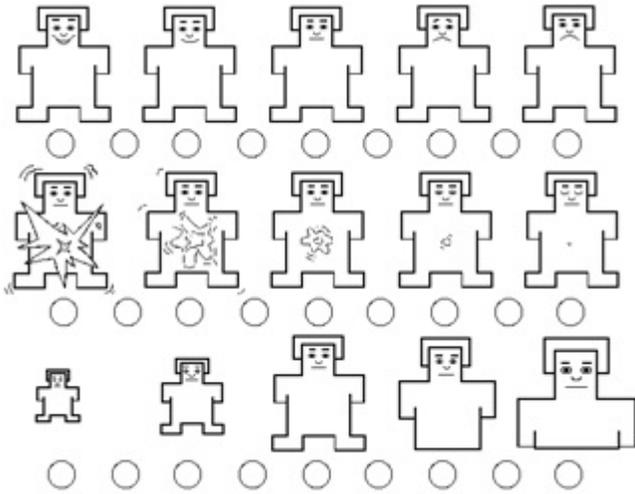
Thank you very much for helping with this important study.

1. There has been a commercial embedded in the video clip that you just saw in the previous website. You will have two minutes for this question. In the space provided below, please list all the thoughts, reactions and ideas that went through your mind while you were looking at the commercial. Please write down any thoughts, no matter how simple, complex, relevant or irrelevant they may seem to you. Write down everything that you thought of, regardless of whether it pertained to the product, the brand, the advertisement, or anything else. There are no or right wrong answers.

Instructions for AdSAM® questions

We would like to understand how you feel about commercials.

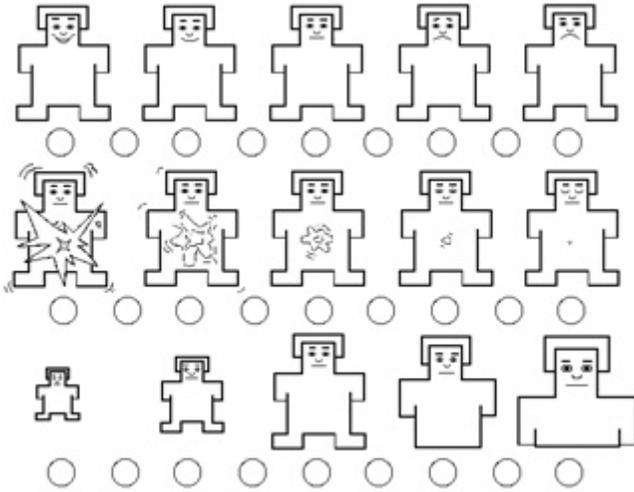
For the next several questions, we would like you to use AdSAM®, a simple tool for you to use to indicate your feelings. Below, you'll notice that the AdSAM® measure consists of three different rows of graphic characters (Manikins), which represent you and your feelings.



For each question, please:

Indicate your immediate response using all three rows, either selecting a dot below a figure, or in between two figures, depending on how you feel. Be sure that you have marked one dot on each row for a total of three marks per question.

2. Choose one dot on each row to indicate how you feel about the commercial that you are exposed to. Don't rate the commercial, rate YOUR FEELINGS.



3. What are your overall reactions toward the advertised brand/product, _____?

Good Bad

Pleasant Unpleasant

Favorable Unfavorable

Like the ad very much Don't like the ad at all

4. How would you evaluate a video hosting website if it implements the same format of video commercials that you experienced while watching the main video clip?

4_1. I feel comfortable in using the website.

Definitely Disagree Definitely agree

4_2. I would like to use the website again in the future.

Definitely Disagree Definitely agree

4_3. I would be satisfied with the service provided by the website.

Definitely Disagree Definitely agree

5. How do you feel about the commercial that you are exposed to in the show?

Happy Unhappy

Pleased Annoyed

Satisfied Unsatisfied

6. How do you feel about the commercial that you are exposed to in the show?

Aroused Unaroused

Frenzied Sluggish

Stimulated Relaxed

Excited Calm

7. How do you feel about the commercial that you are exposed to in the show?

Influential Influenced

In-control Cared for

Dominant Submissive

Controlling Controlled

In this section, we would like to hear your evaluation about the commercial that you are exposed to.

8. How would you evaluate the commercial that you are exposed to?

Enjoyable Not enjoyable

In-control Not fun to watch

Dominant Not entertaining

9. How would you evaluate the commercial that you are exposed to?

Useful Not useful

Helpful Not helpful

Informative Not informative

Important Not important

10. How would you evaluate the commercial that you are exposed to?

Makes me curious Does not makes me curious

Interesting Boring

Keeps my attention Does not keep my attention

11. How familiar are you with the advertised brand/product, _____?

Not familiar at all Very familiar

12. This question asks about your interest in the product category of the advertised brand.

In general, I have a strong interest in this product category.

Strongly disagree Strongly agree

This product category is very important to me.

Strongly disagree Strongly agree

This product category is very relevant to me.

Strongly disagree Strongly agree

13. How well do the following statements describe your usual television watching behavior?

While watching a TV program, I frequently flip channels to escape watching ads.

Strongly disagree Strongly agree

When an ad appears on my TV, I stop looking at the screen until the program starts again.

Strongly disagree Strongly agree

I often leave the TV set during commercial break.

Strongly disagree Strongly agree

14. How much do you agree with the following statement about television commercials in general?

Most television commercials are in poor taste.

Strongly disagree Strongly agree

I like most television commercials

Strongly disagree Strongly agree

Most television commercials are annoying.

Strongly disagree Strongly agree

15. Please rate your thoughts on advertising in general on a 7-point scale below.

Bad Good

Negative Positive

Unfavorable Favorable

16. Recently, many online web publishers have started placing short commercials in premium video clips. The advertising industry calls this in-stream video advertising or online video advertising. What do you think of online video advertising?

Bad Good

Unpleasant Pleasant

Negative Positive

Disliked by me Liked by me

A poor ad format An excellent ad format

17. While watching the episode of "IT Crowd" in this study, were you

_____?

I found the show fascinating.

Not at all Very much

I was interested in the show

Not at all Very much

I watched the show attentively

Not at all Very much

18. How often do you watch TV programs on the Web?

Never Less than Once a Month Once a Month 2-3 Times a Month

Once a Week 2-3 Times a Week Daily

19. What is your age?

20. What is your gender?

Male Female

Debriefing section

This concludes the study. Thank you very much for participating in this research project. Thank you very much for participating in the study. At the beginning of the study, you were told this study is about video viewing for the purpose of validity control. However, the true purpose of study is to examine how online video viewers interact with online video advertising.

APPENDIX C
PRETEST RESULTS

Final stimuli ID	Ad ID	N	Pleasure		Arousal		Ad quality		Brand familiarity		Seen this ad before (NO %)
			Mean	SD	Mean	SD	Mean	SD	Mean	SD	
12	1	17	6.53	1.33	4.06	1.43	5.78	.96	6.18	1.29	88
	2	16	6.31	1.58	4.69	2.18	5.83	.61	1.53	1.06	100
	3	17	6.82	1.91	4.82	1.91	5.18	1.17	5.35	1.87	100
	4	19	6.21	1.69	4.32	1.95	5.25	.83	5.16	1.50	89
	5	17	5.35	1.69	3.47	1.74	4.68	1.23	5.06	1.92	76
	6	17	5.18	1.85	3.76	1.92	4.24	1.33	3.06	1.92	100
	7	15	5.73	1.03	5.27	1.58	4.82	1.01	2.00	1.46	100
	8	18	5.39	1.75	3.39	1.97	4.92	1.19	5.67	1.75	83
	9	17	6.65	1.93	4.24	2.02	5.12	1.45	2.82	1.67	94
	10	18	5.50	1.98	3.17	1.69	3.33	1.41	3.06	2.01	100
	11	16	5.19	2.01	4.13	2.06	2.67	1.52	3.50	1.97	100
	12	16	6.63	1.78	4.94	2.24	5.52	1.22	5.75	1.44	100
6	13	16	4.88	1.54	3.25	2.05	3.17	1.30	3.88	2.19	100
	14	16	6.00	2.37	5.25	2.02	5.44	1.08	3.69	1.66	94
	15	18	6.67	1.46	4.78	1.70	4.89	1.23	2.22	1.63	94
	16	17	6.00	1.17	4.41	2.03	5.34	.77	1.88	1.69	100
	17	15	6.40	1.50	4.00	1.93	4.62	1.05	1.33	.82	100
	18	18	5.72	1.36	3.94	2.10	5.15	1.17	5.61	1.69	100
	19	17	5.53	2.37	4.94	2.25	3.85	1.31	1.41	.87	100
	20	17	6.35	1.46	3.94	1.56	4.82	.89	2.35	1.90	100
	21	14	5.36	1.50	4.43	1.45	4.68	.95	1.71	1.68	100
	22	18	6.83	1.42	5.56	2.01	5.69	.68	5.28	1.96	67
	23	15	5.93	1.49	4.80	2.21	5.55	.96	5.33	1.76	73
	24	18	5.89	2.74	6.11	2.35	4.17	1.67	5.56	1.89	100
8	25	18	6.17	1.86	4.83	2.07	5.47	1.04	3.11	1.68	100
	26	16	6.00	1.75	4.19	2.29	4.72	1.23	5.56	1.71	75
	27	17	6.59	1.80	4.59	2.65	5.56	.89	5.94	1.25	100
	28	17	6.88	1.22	5.00	1.80	5.26	.93	5.12	1.80	88
	29	17	6.35	2.03	4.24	2.05	2.49	1.17	5.18	2.48	100
	30	16	6.94	1.34	5.06	2.02	5.58	1.47	6.13	1.26	69
	31	15	7.33	1.45	5.80	2.24	5.27	.96	2.20	1.52	100
	32	17	6.47	1.62	4.59	1.80	5.72	.93	6.18	1.51	53
	33	16	6.56	1.82	4.13	1.71	5.30	1.32	5.88	1.67	100
	34	17	7.65	1.37	5.24	1.92	5.57	1.41	6.88	.49	94
	35	17	6.12	1.11	4.53	1.55	5.93	.91	4.47	1.84	100

	36	18	4.11	1.53	2.50	1.95	3.22	1.30	1.50	.99	100
	37	17	4.12	1.58	3.65	1.58	4.06	1.05	1.82	1.47	100
	38	17	6.12	1.65	3.88	2.87	5.54	1.28	5.88	1.65	76
	39	15	5.87	1.46	3.73	2.25	5.87	.85	6.27	1.16	13
	40	16	6.88	1.59	4.50	1.51	6.25	.83	5.69	1.40	75
	41	16	5.50	1.59	4.06	1.18	3.95	1.30	1.06	.25	
5	(5)										100
	42	17	5.59	1.77	4.29	2.02	5.03	1.38	1.71	.99	
3	(3)										94
	43	18	6.94	1.86	5.33	2.11	5.36	1.20	1.28	.83	
4	(4)										100
	44	15	6.33	2.32	5.33	1.88	5.45	1.55	6.13	.92	93
	45	16	4.19	1.94	3.00	1.83	2.98	1.09	5.44	1.36	100
	46	17	5.06	.97	4.29	1.40	2.24	.92	5.47	1.18	100
	47	14	4.43	2.17	3.14	2.21	2.61	1.71	5.50	1.99	93
	48	15	5.40	1.59	4.13	2.13	2.85	1.13	5.40	1.92	100
	49	16	5.19	1.28	3.50	1.59	5.06	.95	5.87	1.51	93
	50	17	6.00	2.26	4.47	2.48	5.09	1.18	6.00	1.70	100
	51	17	6.86	1.21	3.86	1.21	5.55	1.67	5.69	1.52	
9	(9)										100
	52	15	6.53	1.13	4.87	2.23	5.58	.78	5.93	1.62	93
	53	17	7.53	1.81	6.29	2.14	5.81	1.03	3.88	2.20	
2	(2)										100
	54	15	5.87	1.36	4.33	2.19	4.96	1.35	1.93	1.49	93
	55	14	4.36	1.69	3.07	2.13	2.73	1.29	4.64	1.65	
1	(1)										100
	56	16	4.56	1.93	3.06	2.08	2.44	1.57	5.06	1.81	100
	57	17	5.94	1.98	5.59	1.42	4.66	1.24	1.53	.94	100
	58	16	7.11	1.86	5.88	1.53	4.98	1.02	4.50	2.03	
10	(10)										93
	59	17	6.41	2.00	4.71	2.14	5.41	1.17	5.24	1.68	88
	60	17	4.59	1.73	3.24	2.22	3.03	2.00	4.47	1.94	71
	61	16	6.50	1.90	5.31	2.27	4.19	1.09	1.50	.89	100
	62	18	5.28	2.16	3.61	2.20	4.35	1.50	4.17	2.04	83
	63	15	6.33	1.18	4.33	1.99	5.42	.78	5.60	2.13	87
	64	18	6.72	1.67	4.78	1.86	5.40	1.13	4.72	1.67	94
	65	17	7.50	1.27	5.13	2.37	5.93	.84	6.59	.71	
11	(11)										41
	66	16	5.75	1.53	4.13	2.16	4.83	1.02	4.44	2.22	88
	67	17	5.47	2.00	4.18	1.98	4.82	1.83	1.88	1.27	100
	68	16	6.50	1.83	3.75	1.69	5.11	.75	1.56	.89	100
	69	16	6.31	1.82	4.19	2.10	4.84	1.60	4.73	2.02	93
	70	16	7.56	2.13	4.69	2.44	6.42	.69	6.13	1.67	94
	71	16	6.50	1.86	4.88	2.03	5.73	1.42	5.19	1.87	100
	72	17	5.76	1.75	4.53	1.62	4.65	1.59	2.59	1.94	100
	73	17	7.12	.99	4.94	1.89	6.13	.80	5.35	1.80	88

	74	18	6.33	2.17	4.50	2.46	5.43	1.38	4.28	1.99	100
	75	16	6.81	2.04	5.50	2.07	5.69	.74	5.25	1.29	75
	76	17	5.47	2.00	4.00	2.18	3.46	1.54	5.82	1.13	100
	77	15	5.73	1.33	4.53	2.03	4.77	1.06	2.47	1.73	
7	(7)										100
	78	17	5.12	1.17	3.35	1.00	3.87	1.38	1.88	1.45	100
	79	17	4.29	2.39	5.82	2.10	5.35	1.33	4.65	1.62	100
	80	17	6.59	1.58	4.24	2.11	5.50	.99	5.06	1.75	100

APPENDIX D
CORRELATION TABLES FOR STRUCTURAL EQUATION MODEL

	1	2	3	4	5	6	7	8	9	10	11
1 SKIP	1										
2 Emotional response_Pleasure	.168	1									
3 Emotional response_Arousal	.131	.322	1								
4 Emotional response_Dominance	.079	.030	.025	1							
5 Aad_entertain_1	.279	.440	.327	.076	1						
6 Aad_entertain_2	.253	.391	.284	.114	.891	1					
7 Aad_entertain_3	.229	.412	.262	.098	.900	.893	1				
8 Aad_information_1	.073	.066	.052	.018	.203	.241	.279	1			
9 Aad_information_2	.046	.182	.141	.100	.363	.380	.428	.674	1		
10 Aad_information_3	.054	.179	.141	.077	.322	.271	.328	.632	.769	1	
11 Aad_information_4	.033	.184	.146	.109	.364	.350	.415	.659	.773	.769	1
12 Aad_interesting_1	.254	.334	.250	.090	.649	.621	.642	.290	.423	.387	.438
13 Aad_interesting_2	.211	.415	.209	.142	.743	.759	.734	.313	.444	.407	.441
14 Aad_interesting_3	.232	.433	.253	.148	.708	.727	.726	.261	.393	.343	.366
15 Brand attitudes1	.306	.315	.101	.072	.462	.446	.497	.277	.420	.376	.397
16 Brand attitudes2	.258	.352	.112	.126	.528	.507	.571	.261	.368	.327	.395
17 Brand attitudes3	.285	.319	.130	.105	.508	.469	.531	.265	.407	.361	.394
18 Brand attitudes4	.300	.294	.121	.086	.504	.478	.526	.305	.375	.352	.401
19 Brand familiarity	-.063	.151	.052	.151	.077	.127	.151	.116	.155	.188	.152
20 Product category involvement1	.028	.217	.222	.090	.274	.228	.249	.127	.236	.246	.239
21 Product category involvement2	.006	.178	.153	.108	.203	.175	.179	.077	.222	.243	.200
22 Product category involvement3	.065	.167	.181	.086	.233	.221	.211	.143	.239	.213	.231
mean	16.44	5.45	3.92	5.22	3.55	3.62	3.62	3.30	2.89	2.69	2.93
standard deviation	10.98	1.55	2.13	1.96	1.74	1.78	1.70	1.69	1.60	1.49	1.55

CORRELATION TABLES FOR STRUCTURAL EQUATION MODEL (Continued)

	12	13	14	15	16	17	18	19	20	21	22
12 Aad_interesting_1	1										
13 Aad_interesting_2	.711	1									
14 Aad_interesting_3	.707	.835	1								
15 Brand attitudes1	.417	.494	.424	1							
16 Brand attitudes2	.420	.546	.472	.866	1						
17 Brand attitudes3	.433	.497	.430	.881	.857	1					
18 Brand attitudes4	.422	.503	.411	.866	.872	.882	1				
19 Brand familiarity	.077	.191	.192	.146	.201	.159	.147	1			
20 Product category involvement1	.221	.228	.250	.315	.287	.340	.317	.251	1		
21 Product category involvement2	.229	.174	.175	.234	.182	.268	.234	.240	.840	1	
22 Product category involvement3	.227	.213	.227	.265	.223	.271	.233	.210	.843	.803	1
mean	3.21	3.44	3.47	3.55	3.68	3.59	3.67	3.28	3.51	3.43	3.60
standard deviation	1.81	1.75	1.91	1.52	1.49	1.57	1.48	2.29	1.67	1.63	1.71

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