Effects of Ad-Video Similarity, Ad Location, and User Control Option on Ad Avoidance and Advertiser-Intended Outcomes of Online Video Ads

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Dedication

I dedicate this dissertation:

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Abstract

Consumers' negative reactions and avoidance of online video advertising is a serious problem. In order to address this problem and understand the underlying psychological mechanisms, this study had two objectives. In particular, this study (1) examined the effects of key online video ad strategy factors on consumers' ad avoidance and subsequent advertiser-intended outcomes (i.e., attitudes and brand memory) and (2) proposed and tested psychological mechanisms explaining the effects of ad strategy factors on consumer responses. To achieve these two objectives, this study focuses on three ad strategy factors: (1) ad-video similarity, (2) ad location within the online video, and (3) user control option in terms of providing skip options.

This study examined the effects of ad-video similarity and ad location on ad avoidance, attitudes toward the ad and toward the brand, and brand memory. Those effects were expected to operate through different psychological mechanisms, namely, perceived ad relevance, perceived manipulativeness, and psychological reactance. Particularly, this study posed alternative hypotheses predicting the effects of ad-video similarity. On the one hand, an online video ad similar (vs. dissimilar) to the online video could be perceived as more relevant to consumers, resulting in lower ad avoidance and in turn higher brand memory and more positive attitudinal outcomes. On the other hand, an online video ad similar (vs. dissimilar) to the online video could be perceived as more manipulative due to the likelihood of the ad misleading consumers, resulting in higher ad avoidance and in turn lower brand memory and more negative attitudinal outcomes. In addition, this study predicted that a mid-roll (vs. pre-roll) online video ad would generate

a higher level of psychological reactance, resulting in higher ad avoidance and more negative attitudinal outcomes. Moreover, this study examined the moderating role of user control option in the effects of ad-video similarity and ad location on ad avoidance and attitudinal outcomes based on a psychological reactance perspective.

In order to test hypotheses, two phases of lab experiments were conducted: Experimental Phase 1 with non-skippable online video ad only and Phase 2 with skippable online video ad only. In both non-skippable and skippable ad conditions, a 2 (ad-video similarity: similar vs. dissimilar) × 2 (ad location: pre-roll vs. mid-roll) between-subject factorial-design experiment was conducted, which incorporated data from an eye-tracking device, observation of behavioral reactions, and self-reported measures.

The results demonstrated that the similar online video ad, compared to the dissimilar online video ad, was perceived to be more relevant, instead of more manipulative, and generated more positive attitudinal outcomes and lower ad avoidance. Perceived relevance was found to be the underlying mechanism by which the similar online video ad generated more positive attitudinal responses. The similar online video ad, however, had direct positive impacts on ad avoidance not mediated through perceived relevance. Furthermore, greater ad avoidance in response to the dissimilar online video ad caused lower brand recognition. The ad location factor did not influence psychological reactance, ad avoidance, and other ad outcomes. In addition, the finding suggested no significant effects of interaction between ad-video similarity and ad location on attitudes toward the ad and the brand and ad avoidance. Lastly, user control option in terms of

skipping the ad did not moderate the effects of ad-video similarity and ad location factors on attitudinal responses.

This study contributes to advancing the ad avoidance research by measuring ad avoidance in multiple ways and expanding the context of ad avoidance to online video advertising. This study also offers useful practical implications for advertisers as they devise ad message and location strategies for digital and interactive ad campaigns while dealing with the serious issue of ad avoidance in the interactive media environment.

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CHAPTER 1

INTRODUCTION

Spending on digital media advertising (e.g., banner ads, search ads, and online video ads) has been growing at a remarkable pace. It represented 22.3 percent of total U.S. ad spending in 2012 and is expected to reach 31.1 percent by 2017 (eMarketer 2013a). Among many different types of digital advertising, online video advertising is the fastest-growing format (eMarketer 2012a). Particularly, U.S. online video advertising spending was about $4.12 billion in 2013 and is projected to reach about $9.20 billion by 2017 (eMarketer 2013a). Online video advertising takes different forms but is generally defined as broad-band video commercials that "may appear before, during, and after a variety of content including, but not limited to, streaming video, animation, gaming, and music video content in a player environment" (IAB 2008, p. 5).

One of the reasons for the rapid growth of online video advertising is the increasing number of online video viewers. According to *Chicago Tribune* (2014), 195.6 million viewers, or 77.3 percent of Internet users, in the U.S. watched online videos at least once a month in 2014. The number of viewers is projected to reach more than 212 million by 2018. Additionally, the time spent on online video viewing is substantial: U.S. online viewers spent an average of 55 minutes per day watching online videos in 2014.

Online video advertising is prevalent across a broad range of platforms on the Internet, including YouTube and Hulu, and takes many different forms. In terms of the location of ads within online videos, online video ads are typically categorized into pre-roll, mid-roll, and post-roll ads (IAB 2008). Although pre-roll online video ads are the

most dominant form of online video advertising, mid-roll online video ads are considered to be the most engaging form of online video advertising, because the rates of ad view completion of mid-roll ads are 87 percent, followed by pre-roll ads (67 percent) and post-roll ads (50 percent) (Adobe 2012). In addition, while some online video ads do not have user control functions (e.g., skipping or fast-forwarding functions), which are similar to traditional TV commercials, many others offer different kinds of user control options (Lee and Lee 2012). For instance, some online video ads placed on YouTube are skippable, whereas others are non-skippable (YouTube 2014). Hulu also developed the Ad Selector, which allows users to choose the type of products to be advertised at the beginning or in the middle of the program they watch (Hulu 2011).

Suppose you visited YouTube to watch a video clip about running. When you click on the link at the top of the search results, you notice that an ad promoting Nike running shoes plays and that you have a choice to skip the ad after five seconds. This is a typical example of pre-roll online video advertising with a user control function. For another example, suppose you are watching The Good Wife on Hulu and in the middle a 1-minute online video ad promoting a new show on Hulu plays and you do not have a choice to skip the ad. This illustrates mid-roll online video advertising without any user control function.

Regardless of the type, online video ads look very similar to traditional TV commercials in terms of the ad content itself and the nature of completely blocking the intended media content (IAB 2012), but differ from TV commercials in several important aspects (Liu and Shrum 2002; McMillan and Hwang 2002). First, online video ads are

placed in interactive media where consumers tend to expect interactivity and higher levels of control over their media use experience and consumers' direct response is available (e.g., clicking on the ad to access the promoted brand's website) (eMarketer 2013b). Second, while TV watching tends to be passive media use with the content pushed to the mass audience, online video watching tends to be more goal-oriented and search-based consumption of content actively pulled by an individual consumer. Third, while TV commercial breaks are a standardized and inherent part of TV watching, online video ads inserted into video-sharing websites are not as well-established as commercial breaks. This may cause consumers to be more acutely aware of ads interrupting their intended video watching. Perhaps because of these differences, online video ads tend to be evaluated more negatively than the same ads placed in TV commercial breaks (Logan 2013).

Online video advertising is still relatively new and, thus, research on consumer responses is scarce. Anecdotal evidence, however, seems to suggest that consumers react to such ads more negatively than to other advertising forms and tend to avoid them more, which would result in diminished advertising effects and even a boomerang effect on the advertised brand. Recent industry research reported that 47 percent of American consumers found pre-roll online video ads annoying, whereas only 15 percent and 12 percent of them found traditional mail advertising and TV commercials annoying, respectively (Adobe 2013). Another industry study found that 70 percent of consumers skipped online video ads if possible, though in cases where user control functions were

not present, only 23 percent of consumers clicked away from online video ads (Vindico 2011).

Advertisers seem to be facing a tough conundrum with online video advertising. If they design ads that would increase ad exposure by removing user control or seamlessly integrating ads into the video content, such ads may be effective in attracting consumers' attention, but at the same time, they may generate highly negative consumer reactions to the ad and to the advertised brand. On the other hand, if ads give consumers lots of user control options to avoid ad exposure, such as providing an option to skip the ads, many consumers would be likely to avoid them and, thus, the ads would have no or only minimal effects due to a lack of sufficient exposure (Vindico 2011). This study examines this problem to better understand what specific strategies could increase or decrease consumers' negative reactions to online video ads and to recommend strategies that can produce better ad outcomes.

Research Purpose and Focus

The purpose of this study is twofold: (1) to examine the effects of key online video ad strategy factors on consumers' ad avoidance and subsequent advertiser-intended outcomes (i.e., attitudes and brand memory); and (2) to propose and test psychological mechanisms explaining the effects of the ad strategy factors on consumer responses. In addressing the question of what specific advertising strategies are more or less likely to induce consumer avoidance of online video ads and generate positive attitudes toward the ad and brand and better memory, this study focuses on three advertising strategy factors, including: (1) ad-video similarity; (2) ad location; and (3) user control option in terms of

providing skip options. Besides ad message creative factors, these factors are the most readily available and systematically deployed strategies for online video advertising across different platforms and ad creative types.

First, ad-video similarity refers to the extent to which an online video ad is similar to the video content where it is placed in terms of content, context, topic, or execution styles (IAB 2013; Li and Lo 2014; Mei, Hua, Yang, and Li 2007; Mei, Hua, and Li 2009; Moorman, Neijens, and Smit 2002; van Reijmersdal et al. 2005). A similar online video ad would make the distinction between the ad and the video blurry, whereas a dissimilar ad would make it much easier to distinguish the two. Ad-video similarity can be achieved in different ways. For example, an ad and a media vehicle can be thematically or contextually similar (Li and Lo 2014; Mei et al. 2007, 2009; Moorman et al. 2002), or executionally similar based on a perspective of native advertising (IAB 2013; van Reijmersdal et al. 2005). This study focuses on both approaches in that ad-video similarity is achieved through thematic or contextual similarity between an online video ad and the video content (Li and Lo 2014; Mei et al. 2007, 2009; Moorman et al. 2002) as well as executional similarity (IAB 2013; van Reijmersdal et al. 2005).

Second, ad location refers to the location where an online video ad is placed within a video (IAB 2008). In terms of ad placement, online video ads can be categorized into three types: ads that are placed before (i.e., pre-roll), during (i.e., mid-roll), or after (i.e., post-roll) the video content plays (IAB 2008). Since advertisers rarely place their ads at the end of the video content, this study focuses on pre-roll and mid-roll online video ads only.

Third, the user control option factor refers to whether an online video ad allows the viewer to skip the ad during its play (IAB 2014; Lee and Lee 2012). Online video ads can be categorized into ads that are non-skippable and ads that are skippable (Ad Age 2012). Non-skippable ads essentially force consumers to watch the ads, while skippable ads give consumers the option to continue watching or to skip the remainder of the ad after only a short period of exposure time (typically five seconds).

In examining effects of the three ad strategy factors on consumer responses to online video advertising, this study focuses on three specific response variables: (1) ad avoidance, (2) attitude toward the ad and toward the brand, and (3) memory of the advertised brand. Ad avoidance is a particularly important dependent variable in the context of online video advertising because, as mentioned earlier, it is an increasingly serious threat to advertising effects and effectiveness. Especially in the context of online video advertising, advertisers can decide whether they would allow viewers to actively avoid their ads or not, by clicking on a skip button. Thus, understanding consumers' avoidance in response to such a strategy and its impact on advertiser-intended ad outcomes are important. Attitude toward the brand and brand memory are examined in connection to ad avoidance because brand memory and attitude toward the brand have been proposed as key outcome variables influenced by ad avoidance in the previous ad avoidance literature (e.g., Bellman, Schweda, and Varan 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001; Zufryden et al. 1993).

In sum, the main objective of this study is to understand key influencing factors and underlying psychological mechanisms of online video advertising avoidance and subsequent ad outcomes. Particularly, this study tests the effects of ad-video similarity and ad location on consumers' ad avoidance and subsequent advertiser-intended outcomes (i.e., attitudes and brand memory) and examines the moderating role of user control option in the effects of the two online video advertising factors. As theoretical frameworks, this study applies perceived ad relevance and perceived manipulativeness as two competing potential psychological mechanisms explaining the effects of ad-video similarity, and psychological reactance as the theoretical mechanism explaining the effects of ad location and user control option.

Given a dearth of systematic and scientific research about online video advertising and lack of clear understanding about the theoretical mechanisms behind effects of commonly used online video ad strategies, this study aims to contribute to both advertising research and practice. Specifically, this study's findings would contribute to advancing the ad avoidance research by expanding the scope of ad avoidance research to online video advertising and by applying a multi-method approach to measuring ad avoidance.

This study would also offer useful practical implications for advertising practitioners as they incorporate new advertising media and forms into their advertising media mix while dealing with increasing ad avoidance trends in the interactive media environment. Particularly, this study's findings would be able to recommend effective ad message and placement strategies to reduce ad avoidance and to generate better

advertiser-intended outcomes. Furthermore, examining the effects of ad-video similarity on ad avoidance and ad outcomes should help to provide an answer to the nagging question in the online advertising industry whether native advertising would generate more positive outcomes because it is perceived as more relevant, or whether it would backfire and generate more negative outcomes because it is perceived as misleading or manipulative.

Dissertation Chapters and Organization

The outline of this dissertation is as follows. Chapter 2 provides a thorough review of research literature on ad avoidance: its conceptualization and definition; its key influencing factors and consequences; and similarities and differences between TV commercial avoidance and online video advertising avoidance. Chapter 3 discusses each of the three online video advertising strategies—ad-video similarity, ad location, and user control option— and reviews relevant empirical research offering suggestive evidence and guidance for this study's investigation of their effects on ad avoidance and advertiser-intended outcomes. Chapter 4 presents theoretical discussion and a review of relevant literature regarding this study's key theoretical frameworks: perceived ad relevance, perceived manipulativeness, and psychological reactance. Chapter 5 presents this study's hypotheses based on theoretical and empirical justifications drawn from the previous chapters' literature review. Chapter 6 describes the details of the research method, followed by Chapter 7 presenting data analysis results. Chapter 8 summarizes and discusses the key findings of this study, and offers theoretical and practical implications of the results, limitations of the study, and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW ON AD AVOIDANCE

Definition and Characteristics of Ad Avoidance

Ad avoidance as a type of consumer response to advertisements has drawn significant research attention since the 1980s, when TV commercial zipping and zapping became a serious problem affecting advertising effects and effectiveness (Wilbur 2008). Naturally, most of the existing studies on ad avoidance tend to focus on TV commercial avoidance (Cronin 1995; Cronin and Menelly 1992; Danaher 1995; Krugman 1983; Moriarty and Everett 1994; Siddarth and Chattopadhyay 1998; Stafford and Stafford 1996; Zufryden et al. 1993), but studies on ad avoidance in other media contexts, including print, online, and mobile, are growing (Baek and Morimoto 2012; Cho and Cheon 2004; Edwards et al. 2002; Morimoto and Chang 2009; Morimoto and Macias 2009; Okazaki et al. 2012).

Ad avoidance, defined as "all actions by media users that differentially reduce their exposure to ad content" (Speck and Elliott 1997, p. 61), has been conceptualized in several different ways in the extant literature in terms of types of actions or inaction, use or non-use of mechanical tools for avoiding ads, and whether the avoidance is indiscriminative blanket avoidance or discriminative avoidance (Abernethy 1991; Cronin 1995; Cronin and Menelly 1992). The most common way to distinguish different types of ad avoidance is cognitive ad avoidance vs. behavioral ad avoidance (Abernethy 1991; Baek and Morimoto 2012; Cho and Cheon 2004; Speck and Elliott 1997), and such way of conceptualization has been applied in diverse advertising contexts, including

traditional advertising (e.g., TV commercials and magazine ads) (Cronin 1995; Cronin and Menelly 1992; Danaher 1995; Krugman 1983; Moriarty and Everett 1994; Siddarth and Chattopadhyay 1998; Stafford and Stafford 1996; Zufryden et al. 1993), Internet advertising (Cho and Cheon 2004; Edwards et al. 2002), personalized advertising (Baek and Morimoto 2012), mobile advertising (Okazaki et al. 2012), and unsolicited commercial e-mails (Morimoto and Chang 2009; Morimoto and Macias 2009). The following sections present an in-depth review and discussion of literature on cognitive and behavioral ad avoidance.

Cognitive Ad Avoidance. Cognitive ad avoidance refers to consumers' inattention to or ignoring ads (Baek and Morimoto 2012; Cho and Cheon 2004; Speck and Elliott 1997). Prior research has used different terms, such as cognitive avoidance or mental avoidance, to describe consumers' tendency to ignore ads especially in the context of TV commercials. For instance, Abernethy (1991) suggested the concept of mental avoidance, which is characterized as tuning out the ad message, and it was later identified as a type of cognitive ad avoidance by Speck and Elliott (1997). Similarly, Cronin and Menelly (1992) described the concept of avoidance as consumers' tuning out ads, which was triggered by the mere perception of a commercial based on learning theory.

Cognitive ad avoidance is usually measured by human observation or machine observation with an eye-tracking device or self-reported measures. First, the extent to which consumers orient their eyes on or off the screen while ads play is considered an indicator of cognitive ad avoidance. For instance, Cronin (1995) found that when consumers were asked to watch a situation comedy at home, their eyes tended not to be

oriented to TV screens during commercial breaks. Similarly, Krugman, Cameron, and McKearney (1995) operationalized ad avoidance as the amount of eyes-off-screen time (i.e., the amount of time an individual's eyes are not oriented to the screen). They found that consumers tended to avoid watching the TV screen 67% of the time during commercial breaks in their homes.

In addition to the human observation method, some studies used an eye-tracking device to capture the exact amount of time that consumers pay attention to ads (Barreto 2013; Hervet et al. 2011; Lapa 2007; Porta et al. 2013) based on the fact that an eye movement is usually accompanied when an individual shifts his/her attention (Shepherd et al. 1986). In other words, an eye movement made to an object indicates that an individual pays attention to the object. Consequently, fixation counts, which refer to the number of times individuals fixate on an object of interest, and fixation duration, which refers to the total duration of each fixation on an object of interest, are good indicators of attention and inattention (Henderson and Hollingworth 1999; Pieters and Wedel 2004; Tobii Technology 2014).

Finally, self-reported measures have also been widely used to capture consumers' general tendency of cognitive ad avoidance in a wide variety of contexts, such as traditional advertising (Speck and Elliott 1997), Internet advertising (Cho and Cheon 2004), mobile advertising (Okazaki et al. 2012), and personalized advertising (Baek and Morimoto 2010). Speck and Elliott's (1997) ad avoidance scales have been widely used to examine consumers' cognitive avoidance of ads across different traditional media platforms, which ask whether respondents ignore newspaper or magazine ads or tune out

TV and radio commercials. Cho and Cheon (2004) adopted Speck and Elliott's (1997) scales and applied them to the Internet advertising context. Similar to human and machine observation methods, self-reported measurement scales are an effective tool to measure the extent to which consumers pay attention to ads. Self-reported measures are the most readily available way of measuring ad avoidance, although they tend to involve consumers' retrospective judgment and are not able to capture consumers' real-time ad avoidance patterns.

Behavioral Ad Avoidance. Behavioral ad avoidance refers to consumers' taking specific actions to avoid ads using either mechanical or non-mechanical means (Baek and Morimoto 2012; Cho and Cheon 2004; Speck and Elliott 1997). Earlier research on TV ad avoidance categorized behavioral ad avoidance into physical ad avoidance and mechanical ad avoidance depending on the use of mechanical means (Abernethy 1991). Physical ad avoidance is characterized as audiences using non-mechanical means to avoid ads, such as leaving the room, whereas mechanical ad avoidance is characterized as audiences using mechanical functions to avoid ad exposure, such as switching channels or fast-forwarding an ad (Abernethy 1991).

Behavioral ad avoidance is usually measured by people-meter data, human and machine observations, or using self-reported measures. First, the people-meter data combine data from a device that records precisely what TV program plays with data from a remote control that records what each person in the household is doing vis-à-vis his/her television viewing (Danaher 1995; van Meurs 1998; Zufryden et al. 1993). Based on data

from the device and remote control, the people-meter data are used as a form of consumers' behavioral ad avoidance using a mechanical means (i.e., a remote control).

Second, observing consumers' actual behavioral responses to ads based on both human and machine observations has been considered a reliable and valid indicator of behavioral ad avoidance. For example, by using the human observation method, Moriarty and Everett (1994) showed that channel changing was stimulated more by commercials than by programs, and that 90 percent of channel changers switched the channel during the commercial breaks. In the domain of pop-up ads, Li et al. (2002) adopted the machine observation method. In particular, they measured behavioral avoidance of pop-up ads by recording if each of the following actions was taken or not: "closed the interstitial before it was over," "made the interstitial into background before it was over," "moved the interstitial around but left it on," and "did not touch the interstitial before it was over," (p. 43).

Finally, similar to cognitive ad avoidance, self-reported measures have been widely adopted by studies examining consumers' behavioral ad avoidance (Baek and Morimoto 2010; Cho and Cheon 2004; Okazaki et al. 2012; Speck and Elliott 1997). Self-reported measures usually ask whether respondents have (a) discarded, skipped, flipped through ads on print media (Baek and Morimoto 2010; Speck and Elliott 1997), (b) switched channels on TV or radio while ads play (Speck and Elliott 1997), or (c) scrolled down, closed, or clicked away from webpages to avoid Internet ads (Cho and Cheon 2004). Using self-reported measures to examine behavioral ad avoidance is beneficial to measuring the extent to which consumers perform actions to avoid ads, as

people-meter data and human and machine observation methods are (Cho and Cheon 2004; Baek and Morimoto 2010; Speck and Elliott 1997). Although self-reported measures usually need to rely on respondents' memory, they can provide respondents' behavioral ad avoidance patterns in a variety of media platforms.

Few studies have incorporated multiple measurement approaches in a single study. Dix and Phau (2010) suggested that researchers should not rely on participants' self-reports only but need to consider employing multi-methods to conduct a valid ad avoidance research. More specifically, integrating observational data and self-reported measures would help better understand the ad avoidance phenomena. Taking a multi-method approach in a single study enables to measure the extent to which consumers pay attention to ads and whether they take actions to avoid ads both in real time and in a retrospective manner. If multiple measures showed consistent findings, those findings would be considered more reliable compared to study findings from a single-method approach.

In sum, ad avoidance is conceptualized as consumers' efforts to reduce the amount of ad exposure (Speck and Elliott 1997) and categorized into cognitive and behavioral ad avoidance (Abernethy 1991; Speck and Elliott 1997). Cognitive ad avoidance is characterized as consumers' not paying attention or ignoring ads, and behavioral ad avoidance is characterized as consumers' taking specific actions to avoid ads (Speck and Elliott 1997). Ad avoidance can be measured by human observation, machine observation with an eye-tracking device, or using self-reported measures (Baek and Morimoto 2010; Cho and Cheon 2004; Cronin 1995; Cronin and Menelly 1992;

Edwards et al. 2002; Krugman et al. 1995; Li et al. 2002; Moriarty and Everett 1994; Okazaki et al. 2012). A more reliable and valid way of measuring ad avoidance is to adopt multiple methods (Dix and Phau 2010), although little research has done so.

Regardless of the type, ad avoidance has become a serious concern for advertisers because consumers who choose to avoid ads are not exposed to ads at all or only minimally exposed. In order to aid advertising practitioners in their efforts to develop strategies for reducing ad avoidance, a great deal of research has investigated various consumer and advertising factors influencing ad avoidance and the psychological mechanisms of their influences. The following section reviews previous literature on the key influencing factors of ad avoidance, including consumer demographics, advertising message and placement characteristics, and consumers' cognitive, affective, and attitudinal responses to ads.

Key Influencing Factors of Ad Avoidance

Previous studies have identified three key influencing factors of ad avoidance: (1) consumer demographics (Heeter and Greenberg 1985; Rojas-Méndez et al. 2009; Speck and Elliott 1997; Zufryden et al. 1993), (2) advertising placement and message factors (Biel and Bridgwater 1990; Danaher 1995; Hussain and Lasage 2014; Lee and Lumpkin 1992; Morimoto and Chang 2009; Morimoto and Macias 2009; Okazaki et al. 2012; Porta et al. 2013; Prendergast et al. 2010; Rojas-Méndez and Davies 2005; Siddarth and Chattopadhyay 1998; Stewart and Furse 1986; Tse and Lee 2001; van Meurs 1998; Yorke and Kitchen 1985), and (3) consumers' cognitive, affective, and attitudinal responses to ads (e.g., Baek and Morimoto 2012; Cho and Cheon 2004; Edwards et al.

2002; Li et al. 2002; Okazaki et al. 2012; Rojas-Méndez and Davies 2005; Speck and Elliott 1997).

First, some studies have found that consumer demographics, specifically age, gender, and income, tend to predict consumers' ad avoidance. Particularly, previous studies have shown that those who are younger, male, affluent, and more educated are more likely to avoid ads. For example, Heeter and Greenberg (1985) found that males, younger adults or kids, and those who had a remote control were more likely to zap commercials. Speck and Elliott (1997) also showed that more affluent people tended to avoid both print and TV ads, and younger people were more likely to avoid broadcast ads. Additionally, Zufryden et al. (1993) showed that those who used VCRs and remote controls and those who had a higher income and education were more likely to avoid ads. Rojas-Méndez et al. (2009) also demonstrated that younger and highly educated consumers were more likely to show behavioral ad avoidance. Additionally, women tended to be more engaged in physical TV ad avoidance (e.g., leaving the room), whereas men tended to be more engaged in mechanical ad avoidance (e.g., zapping) (Rojas-Méndez et al. 2009).

Second, a great deal of research has also focused on the effects of ad placement and message factors on ad avoidance. A vast majority of the previous studies examined the effects of ad placement factors in the TV context. One of the main findings is that when TV commercials are placed in the middle of the program, as compared to those placed at the beginning or at the end of the program, consumers are less likely to avoid

TV commercials (Danaher 1995; Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985).

Specifically, van Meurs (1998) examined the predictors of TV ad avoidance using the people-meter data for 12,278 Dutch commercial breaks. He found that ad placement in the commercial pod significantly predicted consumers' ad avoidance in that TV ratings during the between-program breaks were lower than ratings during within-program breaks. In addition, Yorke and Kitchen (1985) showed a higher likelihood of watching commercials when the commercials were placed in the middle of a TV program compared to when they were placed at the end of the program. Based on the data from a scanner panel of 1,712 households, Siddarth and Chattopadhyay (1998) also found that commercials appearing during the hour or half-hour mark, compared to those placed in the middle of a program, had a higher likelihood of being zapped.

Among the few recent studies in the context of Internet advertising, Edwards et al. (2002) demonstrated an opposite finding. They showed that when pop-up ads were displayed between two pages of a website, as compared to when they interrupted the content of a single webpage, consumers were less likely to avoid the ads. The difference in findings between prior research in the domain of TV commercials and the study by Edwards et al. (2002) is assumed to stem from the fact that consumers tend to have a higher expectation of control over their media use activities on interactive media. When Internet ads appear in the middle of the online content, consumers are more likely to view those ads as interfering with their Internet use and are motivated to avoid the ads to continue to use the Internet. This point will be further discussed in later chapters. In

contrast, consumers tend to have a low level of expectation of control over their media use activities on traditional media. Consequently, placing TV commercials in the middle of a TV program may not necessarily be viewed as interfering, but it may actually be effective in attracting the audience's attention (Danaher 1995; Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985).

In terms of ad message factors, one of the main findings in this line of research is that when ads fit well with the context of the media vehicle and the needs of audience, consumers are less likely to avoid the ads (Biel and Bridgwater 1990; Edwards et al. 2002; Hussain and Lasage 2014; Lee and Lumpkin 1992; Porta et al. 2013; Stewart and Furse 1986). In the context of TV commercials, ads that provided information relevant to the audience were less likely to be zapped (Biel and Bridgwater 1990; Lee and Lumpkin 1992; Stewart and Furse 1986). In the context of Internet advertising as well, Edwards et al. (2002) found that when pop-up ads were congruent (vs. incongruent) with the website editorial content for which participants were asked to look, they were less likely to be perceived as intrusive, resulting in lower ad avoidance. Additionally, Hussain and Lasage (2014) showed that consumers who found online video ads irrelevant to themselves were more likely to avoid them by installing ad-blocker software. Similarly, Porta et al. (2013) showed that consumers tended to pay greater attention to a banner ad when the ad was congruent (vs. incongruent) with the website content.

Third, given that ad avoidance is the outcome of a consumer's conscious efforts to try not to be exposed to ads, one's cognitive, affective, and attitudinal responses to an ad have been examined by many studies as significant influencing factors of ad avoidance

(Baek and Morimoto 2012; Cho and Cheon 2004; Edwards et al. 2002; Li et al. 2002; Okazaki et al. 2012; Rojas-Méndez and Davies 2005; Speck and Elliott 1997; Vakratsas and Ambler 1999). Common findings from these studies indicate that consumers are more likely to avoid ads when they perceive that ads interfere with their media use activities, when they find ads irritating, and when they form negative attitudes toward advertising in general.

Consumers' cognitive responses to an ad have been found to be significant predictors of ad avoidance (Cho and Cheon 2004; Edwards et al. 2002; Speck and Elliott 1997). For example, Edwards et al. (2002) found that pop-up ads that interrupted the content page consumers were viewing (vs. ads displayed between content pages) and ads that were incongruent (vs. congruent) with the editorial content that consumers were looking for were more likely to be perceived as intrusive, resulting in higher cognitive ad avoidance. Cho and Cheon (2004) also reported that consumers who perceived Internet ads as interfering with their goals (i.e., perceived goal impediment) were more likely to avoid ads. Similarly, Speck and Elliott (1997) showed that consumers who considered ads as a hindrance to their information search (i.e., perceived search hindrance) tended to avoid ads more in TV, magazines, newspapers, and radio. The same study also reported that consumers who perceived magazine and newspaper ads as more useful and interesting and less excessive were less likely to avoid magazine and newspaper ads.

In the context of mobile advertising, Okazaki et al. (2012) examined the antecedents of Japanese consumers' mobile ad avoidance intentions. More specifically, they focused on consumer perceptions of the unique feature of mobile advertising –

ubiquity, which refers to the ability to access information from any location (i.e., spatial flexibility) and at anytime (i.e., time saving). The results showed that consumers with a higher level of perceived ubiquity had lower intention to avoid mobile ads.

As an affective response to an ad, ad irritation has been most extensively tested and proven to be positively related to ad avoidance (Baek and Morimoto 2012; Li et al. 2002; Speck and Elliott 1997). For example, Baek and Morimoto (2012) found that ad irritation, which was defined as consumers' perceptions of the extent to which an ad results in the feeling of displeasure, had a direct effect on the avoidance of personalized advertising. Li et al. (2002) also demonstrated that perceived ad irritation directly influenced consumers' cognitive and behavioral avoidance of pop-up ads. Similarly, Speck and Elliott (1997) showed a positive relationship between perceived annoyance and ad avoidance in three types of ad media, namely, television, newspapers, and radio.

Psychological reactance theory (Brehm and Brehm 1981) is often applied as the theoretical mechanism explaining the effects of cognitive and affective responses to ads as the influencing factors of ad avoidance. Psychological reactance theory posits that when individuals experience a threat to their freedom, they are motivated to form a negative attitude toward the threat and to regain their freedom (Brehm and Brehm 1981). Psychological reactance is an aversive motivational state in response to a threat to freedom, and it consists of both cognitive and emotional aspects (Dillard and Shen 2005).

Prior research on ad avoidance supports the applicability of psychological reactance theory to the ad avoidance domain, but different variables and measures have been used representing different aspects of psychological reactance, causing some

confusion. For instance, perceived goal impediment, perceived intrusiveness, and perceived search hindrance are concepts representing the cognitive aspect of psychological reactance, whereas perceived ad irritation or annoyance is representing the emotional aspect of psychological reactance (Cho and Cheon 2004; Edwards et al. 2002; Li et al. 2002; McCoy et al. 2008; Speck and Elliott 1997). Taken together, consumers' cognitive and affective responses to ads can be considered the manifestation of cognitive and emotional aspects of psychological reactance, ultimately resulting in ad avoidance. Psychological reactance theory and its application to the ad avoidance phenomenon will be further discussed in a later chapter.

Lastly, attitude toward advertising in general has been found to significantly predict consumers' avoidance of TV commercials (Lee and Lumpkin 1992; Prendergast et al. 2010; Rojas-Méndez and Davies 2005) and unsolicited commercial e-mails (Morimoto and Chang 2009; Morimoto and Macias 2009). Specifically, Prendergast et al. (2010) investigated the antecedents of ad avoidance for Chinese consumers in the context of traditional advertising (e.g., TV, radio, magazine, and newspaper) and found that attitude toward advertising in general was negatively associated with ad avoidance. Lee and Lumpkin (1992) also showed that consumers with favorable attitude toward television commercials in general were less likely to zip and zap commercials. Morimoto and her colleagues (Morimoto and Chang 2009; Morimoto and Macias 2009), who conducted studies on factors influencing ad avoidance in the domain of unsolicited commercial e-mail, also found a significant negative relationship between consumers'

attitude toward unsolicited commercial e-mails in general and avoidance of such a form of advertising.

In sum, consumer demographics, ad placement and message factors, and consumer responses to ads have been found to influence ad avoidance. More specifically, those who are younger, male, affluent, and more educated are more likely to avoid ads. In terms of ad placement factors, prior research on TV commercial avoidance indicates that ads that are placed in the middle of the media content are less likely to be avoided (Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985), whereas research on Internet ad avoidance indicates that ads that are placed in the middle of the media content are actually more likely to be avoided (Edwards et al. 2002; Li et al. 2002). Such difference seems to be related to the difference in consumers' perceived controllability over media use between the Internet and TV. In terms of ad message factors, ads that are personally relevant to individual consumers or the media content for which consumers actively search are less likely to be avoided (Biel and Bridgwater 1990; Edwards et al. 2002; Hussain and Lasage 2014; Lee and Lumpkin 1992; Porta et al. 2013; Stewart and Furse 1986). In terms of consumer responses to ads, prior research has shown that perceived ad intrusiveness, perceived ad irritation, and negative attitude toward advertising in general are positively related to ad avoidance (Baek and Morimoto 2012; Cho and Cheon 2004; Edwards et al. 2002; Lee and Lumpkin 1992; Morimoto and Chang 2009; Morimoto and Macias 2009; Prendergast et al. 2010; Rojas-Méndez and Davies 2005; Speck and Elliott 1997). The influence of consumers' cognitive, affective,

and attitudinal responses to ads on ad avoidance can be explained by psychological reactance theory (Cho and Cheon 2004; Edwards et al. 2002).

Given that consumers tend to avoid ads in a wide variety of ways in their daily lives, it is not reasonable to expect that consumers would be fully exposed to ads in most cases. However, partially exposed ads or avoided ads are still expected to have some impacts on advertiser-intended outcomes, such as brand memory and attitudes toward the ad and the advertised brand (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001; Zufryden et al. 1993). The following section reviews previous literature on the consequences of ad avoidance.

Consequences of Ad Avoidance

As the development of devices, such as VCR and DVR, has allowed consumers to avoid TV commercials more efficiently (Wilbur 2008), there is a high likelihood of ads being exposed to consumers in the forms of partial exposure or minimal exposure. In this light, some researchers have investigated whether partially exposed ads or avoided ads can still generate ad outcomes (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001; Zufryden et al. 1993). Unlike research on influencing factors of ad avoidance, however, the volume of this line of research is extremely thin.

Previous studies on the consequences of ad avoidance have investigated the impacts of avoided ads on attitudes toward the ad and toward the advertised brand and brand memory (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). However, all of the studies are limited

to comparing full vs. partial exposure to TV commercials due to commercial zipping, zapping, or muting. These studies generally found that partially-exposed TV ads, due to zipping, zapping, or muting, generated similar attitudes toward the ad and toward the brand as did fully-exposed ads, but they were less likely to be remembered (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001).

Specifically, Bellman et al. (2010) presumed that even when consumers cognitively or behaviorally avoided ads (e.g., zapping, zipping, muting, skipping, audio-only, and eyes-off-screen) they would still be partially exposed to those ads, and tested the effects of such partial exposure on attitude toward the ad and brand memory. In a lab experiment with Austrian adults using a digital video recorder, they found that the zipped ad and audio-only ad were significantly inferior to the fully-exposed ad in terms of brand recognition and recall, but they were not different in the level of attitude toward the ad.

Ehrenberg and Twyman (1967) compared the consequences of cognitive ad avoidance with that of behavioral ad avoidance in the context of TV commercials. They found that 54% of participants recalled the ad correctly in response to cognitively-avoided ads, whereas 8% of participants recalled the ad correctly in response to behaviorally-avoided ads (i.e., leaving the room while ads play). The finding suggests more negative consequence of behavioral ad avoidance, compared to that of cognitive ad avoidance, on ad recall.

Using the eyes-on-screen measure in a natural TV viewing session, Thorson and Zhao (1997) examined the differences in ad recall and recognition and ad attitude among

three groups of consumers. The first group included those who watched the entire ad (i.e., full exposure); the second group included those who watched a part of the ad (i.e., partial exposure); and the third group included those who did not watch the ad at all (i.e., no exposure). Watching or not watching the ad was the consumers' own decision. The results demonstrated that ad recall and recognition were the highest for the first group, followed by the second group and the third group. In addition, ad attitude was found to be slightly more positive for the first and second groups than for the third group.

Similarly, Stout and Burda (1989) examined the consequences of zipped ads on advertising effectiveness, such as product recall, brand recognition, recall and recognition of the ad content, and attitudinal responses. Commercial zipping was done not by participants themselves, but by the researcher. Their findings indicate that zipped ads were inferior to fully-exposed ads in terms of product recall, brand recognition, and recall and recognition of the ad content, whereas zipped ads resulted in slightly more positive attitudes toward the ad and toward the brand than did fully-exposed ads. Similar findings regarding the impact of ad avoidance on brand memory are also reported in Tse and Lee's (2001) study in Hong Kong.

In sum, partially exposed ads or avoided ads are not just wasted. Rather, they exert some influences on ad outcomes, such as memory and attitudes toward the ad and the advertised brand. Previous studies have consistently shown that partially exposed ads due to either cognitive or behavioral ad avoidance are likely to be inferior to fully exposed ads in terms of brand memory (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). Some studies

showed no significant difference in attitudinal responses between fully exposed ads and partially exposed ads (Bellman et al. 2010; Thorson and Zhao 1997), whereas others showed slightly more positive attitudinal outcomes when ads were avoided (Stout and Burda 1989).

Unlike the rather consistent impacts of ad avoidance on memory, the mixed findings regarding the impact of ad avoidance on attitudes seem to be linked to controllability over ad exposure. That is, when consumers were allowed to avoid ads through zipping, zapping, or muting (Bellman et al. 2010; Thorson and Zhao 1997), ad avoidance did not influence consumers' attitudinal responses. In contrast, when consumers were not allowed to control their ad exposure (i.e., they were asked to either watch the entire ad or the researcher fast-forwarded the ad depending on the experimental condition) (Stout and Burda 1989), zipped ads produced slightly more positive attitudes toward the ad and toward the brand than did fully-exposed ads.

Taken together, the literature on the impacts of ad avoidance on ad outcomes demonstrates that the consequences of ad avoidance vary depending on ad outcomes. It is consistently demonstrated that fully exposed ads are better remembered than partially exposed or avoided ads (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). However, the impact of ad avoidance on the attitudinal outcomes does not seem to be as clear (Bellman et al. 2010; Thorson and Zhao 1997).

Ad Avoidance in Online Video Advertising vs. TV Commercials

A majority of the previously discussed studies on the antecedents and consequences of ad avoidance were set in the context of TV commercials, and other advertising contexts have received much less research attention. While several studies examined ad avoidance in personalized advertising (Baek and Morimoto 2012), mobile advertising (Okazaki et al. 2012), Internet advertising (Cho and Cheon 2004; Edwards et al. 2002), and unsolicited commercial e-mail (Morimoto and Chang 2009; Morimoto and Macias 2009), to the best of the author's knowledge, only one study exists on ad avoidance in the context of online video advertising (Hussain and Lasage 2014).

The study by Hussain and Lasage (2014) focused on the role of the concepts of relevance and intrusiveness in influencing consumers' avoidance of online video ads. The finding showed that consumers who viewed online video ads as irrelevant to themselves and intrusive tended to use an ad-blocker software not to be exposed to online video ads. In line with previous studies in Internet advertising (Cho and Cheon 2004; Edwards et al. 2002) and unsolicited commercial e-mail (Morimoto and Chang 2009; Morimoto and Macias 2009), the finding suggests that creating relevant ad content and not interrupting consumers' media use experiences contributes to reducing ad avoidance.

Would the knowledge gained from the traditional TV commercial avoidance studies be directly applicable to online video advertising and other online digital advertising contexts? Most ad avoidance studies in the contexts of digital media seem to show consistent results that are in line with findings from ad avoidance research conducted in the traditional advertising context, except for the effect of the the ad

placement factor on ad avoidance. While TV commercials interrupting TV programs are less likely to be avoided (Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985), the same ad placement strategy in the Internet ads seems to generate the opposite result (Edwards et al. 2002). These conflicting findings suggest potential differences between traditional and digital, interactive media advertising. Thus, it is important to review and discuss similarities and differences between traditional media advertising (especially TV commercials) and online video advertising in order to apply the previous research findings to the current study in a more thoughtful manner.

As the "Internet provides analogies to all forms of traditional media" (Faber, Lee, and Nan 2004, p. 460), online video ads share some similar characteristics with TV commercials, while there are some significant differences as well. Online video ads and TV commercials are similar in four specific ways. First, both tend to completely block the media content that consumers intend to watch. In other words, once consumers are exposed to an online video ad or a TV commercial, it would be impossible for consumers not to consciously aware of the ad exposure. Second, just like TV ads, online video ads typically take forms of 15-, 30-, or 60-second spots and can appear at the beginning, in the middle, or at the end of the video content (IAB 2008). Third, online video ads without an option to skip the ad do not allow consumers to zap ads while those ads play, just like TV commercials cannot be zapped without a mechanical means enabling such actions. In other words, both forms of advertising are characterized as forced ad exposure unless mechanical means are available (IAB 2008; Logan 2013). Finally, both types of ads

usually use the same content materials. In other words, the same ad can be placed in TV or online video alone or in both media (IAB 2012).

In contrast, online video ads and TV commercials are different in several aspects. Interactivity is one of the most unique characteristics distinguishing online video ads from TV commercials. According to Liu and Shrum (2002), interactivity refers to "the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized" (p. 54). As indicated in this definition, interactivity is a multi-faceted concept, consisting of three elements: (1) two-way communications, which refer to reciprocal communication between two or more communication parties; (2) user control, which refers to "voluntary and instrumental action that directly influences the controller's experience" (Liu and Shrum 2002, p. 54); and (3) synchronicity, which refers to a real-time communication without a time delay (Liu and Shrum 2002; McMillan and Hwang 2002).

On the basis of interactivity, online video ads and TV commercials are different in three aspects. First, online video ads are placed in the context of online video content where two-way communications are achievable and expected in that consumers actively search for the video content they want to watch. In other words, online video ads are presented in the interactive media environment where individually unique media content is actively pulled by consumers. In contrast, TV commercials are placed in the context of TV programs where one-way communications from broadcasting companies to the mass audience are the dominant form of communication. In other words, TV ads are presented

in the traditional mass media environment where standardized media content is pushed to the mass audience.

Second, online video ads are characterized as giving consumers a higher level of user control in terms of ad exposure. For instance, some online video ads provide consumers with an option to skip the ad (Ad Age 2012). YouTube, one of the largest video-sharing websites, supports both non-skippable ads and skippable ads (YouTube 2014). In the skippable ad format, consumers have an option to skip the ad or watch the remainder of the ad after the first five seconds. Hulu, one of the biggest video-streaming websites, has also developed the Ad Selector, which refers to "an ad unit that allows the user to control their entire ad experience during video playback" (Hulu 2011, p. 7). Hulu users have a control over choosing a type of product to be advertised. For instance, a Hulu user is asked to choose whether they would like to be exposed to an ad promoting Dunkin' Donuts' Eggs Benedict or an ad promoting Dunkin' Donuts' iced coffee. As illustrated in these examples, a higher user control in the digital and interactive media environment has enabled consumers to have some control over their ad exposure as well, which is typically not the case for TV commercials.

Third, consumers are able to respond to online video ads synchronously (i.e., without any time delay), and online advertisers and marketers can track their responses synchronously as well. While consumers are exposed to an online video ad, they can immediately click on the ad and check detailed information about the product or service or even purchase it. Online advertisers and marketers can also track the number of consumers who are exposed to their ads and their subsequent interactions (e.g., visiting

their websites). Additionally, when TV viewers choose to switch channels during a commercial break, they have to wait until the commercial break ends and the TV program resumes, but when consumers choose to skip an online video ad after the first few seconds, they can continue to watch the video content right way without delay or further ad interruption. Online advertisers and marketers can also obtain data whether consumers choose to skip the ad, and if so, when they click on the skip button in real time. This synchronicity contributes to changing the ways in which a video-sharing website charges advertisers from a cost-per-impression basis (i.e., the standard TV advertising payment model) to a cost-per-view basis. For example, YouTube's TrueView provides advertisers with an option to make the ad skippable or non-skippable and allows advertisers pay for an ad only when viewers choose to watch the entire ad (YouTube 2012).

Reflecting the similarities between TV commercials and online video ads, the forms of avoidance occurring in the online video advertising context are quite similar to those of TV commercials. Similar to TV commercials, cognitive online video ad avoidance can be performed by not paying attention to or ignoring ads. Additionally, behavioral online video ad avoidance can be done by leaving the room or looking away from the computer or tablet screen. This can be considered behavioral ad avoidance using non-mechanical means, which resembles leaving the room while TV commercials play. Additionally, leaving the webpage or scrolling down the webpage while an online video ad plays is an example of behavioral online video ad avoidance using mechanical means, which resembles consumers' switching TV channels during commercial breaks.

Clicking on a skip button is another example of behavioral online video ad avoidance using mechanical means, which appear to be similar to consumers' zapping TV commercials using a DVR. However, the two are different in two aspects. First, while TV commercial zapping requires consumers to have a special device (e.g., DVR), skipping online video ads does not require any special device because the skip option comes with the online video ad itself. Second, the skip option is provided by advertisers, not consumers. Additionally, unlike TV commercials that can be zapped at anytime, online video ads can be usually skipped after the first five seconds. In other words, advertisers, who choose to give up their controllability over ad exposure by giving consumers an option to skip their ads, still can force consumers to be exposed to the ads at least for five seconds.

The presence of the user control option that enables consumers to skip ads after a certain amount of time produces a range of interesting ad avoidance scenarios that are unique to the online video advertising context. Even when the skip option is available, some consumers may choose to continue watching and to pay attention to the entire ad (i.e., no ad avoidance). On the other hand, some consumers who choose not to click on the skip button and let the ad play may not pay any attention to or ignore the ad (i.e., cognitive ad avoidance), or scroll down the webpage or leave the webpage (i.e., behavioral ad avoidance). When consumers choose to click on the skip button at some point, (1) they may pay attention to the ad for the first five seconds of forced ad exposure and skip the ad immediately after the skip option becomes active (i.e., five seconds of forced ad exposure followed by behavioral ad avoidance); (2) they may pay attention to

the ad for more than five seconds and skip the ad (i.e., five seconds of forced ad exposure and additional seconds of voluntary ad exposure followed by behavioral ad avoidance); or (3) they may not pay attention to or ignore the ad during the first five seconds of forced ad exposure and skip the ad immediately after the skip option becomes active (i.e., cognitive and behavioral ad avoidance).

Taken together, as TV commercials and online video advertising share some similarities, the forms of consumers' avoidance of both TV commercials and online video ads are characterized as cognitive and behavioral avoidance. Stemming from similarities, most previous ad avoidance studies in traditional and Internet advertising contexts are readily applicable to the online video advertising context. Consumers' relatively higher level of perceived controllability over ad and media exposure in the interactive media environment, however, makes a slight difference between TV commercial avoidance and online video ad avoidance. In fact, advertisers sometimes give consumers an option to skip online video ads, which contributes to increasing actually higher consumer control over their ad exposure. This unique difference in ad avoidance between TV commercials and online video ads would play an important role in applying some studies testing the effect of the ad placement factor on ad avoidance in the traditional advertising context to the online video advertising context

Chapter Summary

In order to lay the groundwork for this dissertation, this chapter reviewed prior research on ad avoidance. Ad avoidance is defined as "all actions by media users that differentially reduce their exposure to ad content" (Speck and Elliott 1997, p. 61). Ad

avoidance is conceptualized as cognitive and behavioral avoidance depending on the audience's avoidance strategy. Cognitive ad avoidance refers to consumers' not paying attention to or intentionally ignoring ads, and behavioral ad avoidance refers to consumers' taking specific actions to avoid ads by using either mechanical or non-mechanical means.

Advertising message or placement factors, including relevance between ads and surrounding media content or audience's needs (Edwards et al. 2002; Hussain and Lasage 2014; Porta et al. 2013) and ad placement (Danaher 1995; Edwards et al. 2002; Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985), play an important role in influencing ad avoidance. Consumers' cognitive and affective responses to ads and attitude toward advertising in general have also been identified as the antecedents of ad avoidance (Edwards et al. 2002; Li et al. 2002; Okazaki et al. 2012; Rojas-Méndez and Davies 2005; Speck and Elliott 1997).

Regarding the relationship between ad avoidance and ad outcomes, previous studies have demonstrated that partially exposed TV ads due to zipping, zapping, or muting tend to generate similar attitudes toward the ad and toward the brand to those in full exposure situations (Bellman et al. 2010; Thorson and Zhao 1997). However, consumers who are partially exposed to ads due to zipping or muting are less likely to remember the advertised products and brands than those who are fully exposed to ads (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001).

The previous research literature on ad avoidance in the context of traditional mass media context provides important insights regarding the conceptualization and characteristics of ad avoidance, influencing factors, and the consequences of ad avoidance, and offers useful guidance for the current study. However, the unique nature of online video advertising that is different from other forms of advertising raises a question about the applicability of the previous findings. Particularly, consumers' higher level of perceived controllability over media use in the interactive media environment makes online video advertising different from traditional advertising. Consequently, online video advertising strategies that intend to reduce ad avoidance by interrupting consumers' video watching (e.g., placing online video ads in the middle of the video content) may actually generate higher ad avoidance, although a similar TV commercial placement strategy has been found to reduce ad avoidance (Danaher 1995; Siddarth and Chattopadhyay 1998; van Meurs 1998; Yorke and Kitchen 1985). Another unique characteristic of online video advertising is that advertisers are the ones who provide consumers with the tool to behaviorally avoid their ads by clicking on the skip button, resulting in actually higher consumer control over their ad exposure. Particularly, the presence of user control option in terms of skipping online video ads allows consumers to engage in the mix of cognitive and behavioral ad avoidance.

As reviewed in this chapter, certain ad message and placement factors play an important role in the likelihood and degree of ad avoidance. Among them, this study specifically focuses on the effects of ad-video similarity, ad location, and user control option on online video ad avoidance and ad outcomes. Ad-video similarity and ad

location factors have been examined in traditional and Internet ad avoidance contexts. In various ad avoidance contexts, research findings showed that similarity between ads and the media context helped reduce ad avoidance, which should be directly applicable to the online video advertising context. When it comes to the ad location factor, previous studies in the traditional ad avoidance context found that placing ads in the middle of the media content reduced ad avoidance, whereas studies in the Internet ad avoidance context found the that such placement strategy actually increased ad avoidance. The findings from Internet ad avoidance studies are more applicable to the online video advertising context as placing online video ads in the middle of the video clip would undermine consumers' perceived controllability over media use. On the other hand, the user control option factor in terms of providing a skip option is unique to online video advertising and its effects on ad avoidance and ad outcomes have not been tested previously.

The following chapter will present detailed discussion of the three online video ad strategy factors, and review relevant research literature regarding the effects of those three factors on ad avoidance, attitudinal outcomes, and brand memory.

CHAPTER 3

LITERATURE REVIEW: ADVERTISING STRATEGIES AND EFFECTS

The previous chapter reviewed research literature on ad avoidance, providing an overview of the definition and characteristics, influencing factors, and consequences of ad avoidance. It also discussed similarities and differences between ad avoidance in TV commercials and online video advertising, and implications for applying the previous research finings to the examination of specific advertising strategies' effects on online video ad avoidance and outcomes. The current chapter presents an in-depth review of literature on this study's key independent factors that are considered to exert important influence on online video advertising avoidance, namely, ad-video similarity, ad location, and user control option. For each independent factor, conceptual definitions are discussed and a review of relevant research literature is presented.

Ad-Video Similarity

As mentioned in the Introduction chapter, in the current study ad-video similarity is defined as the extent to which an online video ad is similar to the video content where it is placed in terms of context, content, execution styles, or topic (Li and Lo 2014; Mei et al. 2007, 2009; Moorman et al. 2002; Simola et al. 2013). This definition is derived from two different conceptualization approaches to the general concept of ad-media similarity in the advertising research: (1) ad-media congruence or relevance in general advertising contexts and (2) native advertising in the online advertising context.

First, the definition is partially originated from previous research on the effects of congruence, relevance, or fit between an ad and the surrounding media context on

consumer responses (Jeong and King 2010; Kim and Sundar 2010, 2012; Li and Lo 2014; Moore et al. 2005; Moorman et al. 2002; Porta et al. 2013; Simola et al. 2013; Tutaj and van Reijmersdal 2012; van Reijmersdal et al. 2005; Yaveroglu and Donthu 2008; Zanjani et al. 2011). Although previous studies have used different terms to describe ad-media similarity, the gist of their conceptual definitions is the extent to which an ad and its media context are similar in terms of their theme, content, or context. This conceptualization approach has been operationalized in forms of print ads (Moorman et al. 2002; Simola et al. 2013; van Reijmersdal et al. 2005) or banner ads (Moore et al. 2005; Porta et al. 2013; Yaveroglu and Donthu 2008; Zanjani et al. 2011) that share a high vs. low level of similarity with magazines or websites where those ads are placed based on their themes, contents, or contexts.

The second conceptualization approach is that of native advertising. According to IAB (2013), native ads are defined as "paid ads that are so cohesive with the page content, assimilated into the design, and consistent with the platform behavior that the viewer simply feels that they belong" (p. 3). This definition of native ads highlights the executional similarity between the ad and the media content, which has not been covered in prior research on ad-media congruence, relevance, or fit. The examples of native advertising include in-feed ads on social media (e.g., Suggested Post on Facebook and Promoted Tweet on Twitter) and search ads (e.g., AdChoices on Google) (IAB 2013).

Integrating these two conceptualization approaches is beneficial for developing a comprehensive conceptual definition of similarity between an online video ad and the video where it is placed, which covers the whole range of manifestation of the concept,

including contextual, content-wise, topic-wise, and executional similarities. The following examples illustrate online video ads that are similar to the video content: Suppose that you are trying to find an online video about a pasta recipe on YouTube. You enter the search term, "pasta recipe," and click on the first video on the YouTube search results. You expect the intended video that you just clicked on to start playing immediately, but an ad promoting a pasta sauce, which looks like a recipe video, plays instead. Additionally, suppose that you try to watch a funny online video about cats on YouTube by entering the search term, "funny cats." After clicking on one of the videos on the search results and watching it for a couple seconds, you realize that you have been watching an ad promoting cat food, instead of a funny cat video. Given that those ads are similar to the video content in terms of theme, topic, context, and execution style, they would look like a part of the video content at first glance, and you might be mistaken to think that it is the intended video you just clicked on.

When consumers are exposed to an ad that is similar to the intended video content, they may find the ad not so much interrupting as relevant, and thus, they may produce positive responses to the ad. In contrast, as alluded in the aforementioned examples, when an ad looks too similar to the video, consumers may mistakenly watch the ad while thinking that the ad is the intended video clip, resulting in negative consumer responses to the ad. This study tests these two competing possibilities for the effects of ad-video similarity on consumer responses and ad avoidance. Due to the lack of research on online video advertising, however, the literature review of this study focuses on previous studies on the effects of ad-media similarity on consumer responses in a wide

variety of advertising contexts. The following two sections review empirical evidence regarding the positive and negative effects of ad-media similarity on consumer responses.

Positive Effects of Ad-Media Similarity on Ad Avoidance and Ad Outcomes. A number of previous studies have tested the effects of ad-media context similarity on consumer responses. The findings from these previous studies suggest relatively positive effects of ad-media context similarity on consumer responses in the context of print advertising (Moorman et al. 2002; Simola et al. 2013), TV commercials (Bellman et al. 2013), Internet advertising (Edwards et al. 2002; Hussain and Lasage 2014; Jeong and King 2010; Kim and Sundar 2010, 2012; Moore et al. 2005; Porta et al. 2013; Rodgers 2003; Shamdasani et al. 2001; Tutaj and van Reijmersdal 2012; Yaveroglu and Donthu 2008; Ying et al. 2009; Zanjani et al. 2011), and advergames (Wise et al. 2008). The effects of ad-media context similarity have been tested mostly on brand memory and attitudes, and also on ad avoidance to a much lesser degree.

First, a great deal of research has examined whether ad-media similarity enhances memory and findings seem to suggest that consumers show better memory outcomes when ads are thematically, contextually, and executionally similar to the media context (Moorman et al. 2002; Porta et al. 2013; Rodgers 2003; Simola et al. 2013; Yaveroglu and Donthu 2008; Zanjani et al. 2011). For instance, in the domain of print advertising, Simola et al. (2013) used the term ad-editorial congruency to test the effects of thematic similarity between an ad and the editorial content on memory. They found that individuals exposed to congruent magazine ads (e.g., a beer ad placed next to an article about beer) showed better ad and brand recognition than those exposed to incongruent

ads. Moorman et al. (2002) also showed that thematically congruent magazine ads (e.g., a clothes ad placed in a lifestyle magazine) produced higher recognition scores than thematically incongruent ads (e.g., a clothes ad placed in a health magazine).

In the Internet advertising context, Porta et al. (2013) reported that a banner ad matching the content of the online newspaper article where it was placed generated better brand memory than did unmatched ads. Similarly, Yaveroglu and Donthu (2008) found that brand name recall was higher when ads were placed in a content-relevant website (e.g., ads promoting technological products placed in a PCWorld website) than when ads were placed in a content-irrelevant website (i.e., the same set of ads placed in a CNN website including articles about Golden Globe winners and astronomy). Zanjani et al. (2011) also showed that information seekers tended to show higher levels of ad recall and recognition in response to thematically congruent ads (e.g., ads promoting technology products placed in an e-magazine about technologies) than thematically incongruent ads (e.g., ads promoting technology products that are placed in an e-magazine about travel). In a context of online sponsorship, Rodgers (2003) also found that when a sponsor's product was relevant to the website content, consumers better remembered the sponsor's name.

Regarding perceptual and attitudinal outcomes as well, previous studies suggest consistent findings that ads similar to the media context tend to be perceived more positively (Tutaj and van Reijmersdal 2012; van Reijmersdal et al. 2005; Ying et al. 2009) and generate more positive attitudinal responses (Jeong and King 2010; Kim and Sundar 2010; Moore et al. 2005). For example, van Reijmersdal et al. (2005) found that

magazine subscribers perceived advertorials to be more informative and amusing and less irritating when the advertorials were well blended in the magazine context. Tutaj and van Reijmersdal (2012) examined whether consumer responses to sponsored content would be different from responses to banner ads. Sponsored content was considered to be more similar to the surrounding website, whereas banner ads were considered to be more distinctively different from the website. The findings demonstrated that sponsored content was perceived as more informative, more amusing, and less irritating, compared to banner ads. Additionally, Ying et al. (2009) showed that when the information of interstitial ads and that of the website in which those ads were placed were similar, consumers were less likely to find such ads intrusive.

Kim and Sundar (2010) showed that ads that were relevant to the list of website search results were evaluated more positively than irrelevant ads. In another study, Jeong and King (2010) tested the effects of contextual relevance on consumers' attitudinal responses by comparing the effects of a computer store banner ad and a student loan banner ad, which were placed on computer websites. The results indicated that Internet users evaluated contextually relevant ads (i.e., the computer store ad) more favorably than contextually irrelevant ads (i.e., the student loan ad). In addition, Moore et al. (2005) tested the effects of contextual congruence between a banner ad and a website on attitudes toward the ad, and found that the contextually congruent banner ad produced more positive attitude toward the ad than did the contextually incongruent ad.

Compared to the research on the effects of ad-media similarity on memory and attitudinal outcomes of ads, research on its effects on ad avoidance is much more limited.

However, the few existing studies suggest that ads that are similar to the media context in which they are placed tend to be less avoided (Bellman et al. 2013; Edwards et al. 2002). In the domain of TV commercials, Bellman et al. (2013) showed that consumers exposed to commercials that were more relevant to them, compared to irrelevant ads, were less likely to exhibit behavioral avoidance, which was measured by ad viewing time. In another study situated in the online pop-up ad context, Edwards et al. (2002) found that pop-up ads that were congruent (vs. incongruent) with the website in terms of their content and context were less likely to be perceived as intrusive, resulting in lower ad avoidance.

Taken together, previous research on the effects of ad-media similarity generally supports the idea that an ad similar to the media context is more effective in generating advertiser-intended outcomes and reducing ad avoidance. The concept of perceived ad relevance provides a useful theoretical framework for explaining such effects. According to Celsi and Olson (1988), perceived relevance refers to the degree to which "consumers perceive [an object] to be self-related or in some way to be instrumental in achieving their personal goals and values" (p. 211). Given that similar ads share the topic, theme, content, and execution styles with the media content, they are more likely to be perceived as personally relevant, generating better memory, more positive evaluations, and lower ad avoidance (Edwards et al. 2002; Hussain and Lasage 2014; Zanjani et al. 2011). The concept of perceived ad relevance and the theoretical mechanism by which ad-media similarity generates positive ad outcomes and reduces ad avoidance are further discussed in Chapter 4.

Negative Effects of Ad-Media Similarity on Ad Avoidance and Ad Outcomes. If we apply the findings from the previous research on ad-media similarity effects to the current study, it would be logical to predict the same positive effects for online video ads that are similar to the video contexts. However, the unique characteristics of online video advertising raise a question about the direct applicability of the previous research findings. Previous studies demonstrating positive effects of similar ads on consumer responses have been conducted in advertising contexts different from online video advertising. In most of the examined advertising contexts, the standardized units, styles, formats, and placement of ads make it easy for consumers to distinguish ads from editorial content. Consequently, consumers are aware that they are being exposed to ads regardless of the level of similarity between the ad and the editorial content. In contrast, similar online video ads, at least in the way this study conceptualizes ad-video similarity, have higher likelihood of misleading consumers to believe that they are exposed to the intended media content they originally searched for, at least momentarily.

Blurring the distinction between an ad and the editorial content may attract greater consumer attention (van Reijmersdal et al. 2005). However, once consumers realize the strategy of such ads, not only do they find them misleading (Campbell 1995; eMarketer 2013c), but also evaluate the ad negatively (Campbell 1995; eMarketer 2012b; Lunardo and Mbengue 2013).

For example, let's revisit the earlier example of the online video ad promoting a pasta sauce, which looks similar to the intended pasta recipe video clip. You would likely be easily misled to believe that the pasta sauce ad is the actual intended recipe video, at

least during the first few seconds of the ad. When you finally realize that it is an ad, not the video content that you clicked on, you might find the ad manipulative, rather than relevant. If perceived manipulativeness is a more dominant reaction, similar ads could possibly generate negative boomerang effects, instead of generating positive outcomes. This section discusses the potential negative effects of ad-video similarity as a competing alternative possibility and reviews relevant literature.

While all of the previous studies demonstrating positive ad-media similarity effects on ad outcomes were experimental studies, data suggesting possible boomerang effects of ad-video similarity in the online video ad context are limited to industry survey studies in the context of online native advertising. The findings generally demonstrate that consumers tend to find online video ads that look like the native video content misleading, which may have negative impacts on advertised brands.

For example, a survey with 2,516 adult online survey panel participants conducted by MediaBrix examined consumer responses to three types of online native advertising, namely, online video ads that look similar to the video content, promoted tweets on Twitter, and sponsored stories on Facebook. The survey findings demonstrated that 86 percent of the respondents found online video ads that look similar to the video content misleading, followed by 57 percent and 45 percent of them found sponsored stories and promoted tweets misleading, respectively (eMarketer 2013c). Additionally, 85 percent of the respondents reported that online video ads that look similar to the video content tended to lead them to negatively evaluate brands advertised in those ads (eMarketer 2012b). To the best of the author's knowledge, no study has examined the

potential negative effects of ad-media similarity on ad avoidance in relation to perceived manipulativeness, although it seems reasonable to expect that ads that are perceived as manipulative would be more likely to be avoided.

Taken together, although empirical research is lacking, industry data suggest that an ad similar to the video content could potentially backfire if the ad is perceived manipulative. Perceived manipulativeness refers to "consumer inferences that the advertiser is attempting to persuade by inappropriate, unfair, or manipulative means" (Campbell 1995, p. 228). The concept of perceived manipulativeness and its role in consumers' negative responses to advertising can be explained by the persuasion knowledge model (Friestad and Wright 1994), which will be discussed in detail in Chapter 4.

In sum, when it comes to effects of ad-video similarity, the previous research on ad-media context similarity effects through the mechanism of perceived ad relevance suggests that ads that are similar (vs. not similar) to the media context tend to generate better brand memory and more positive attitudes toward the ad and the advertised brand, and reduce ad avoidance. On the other hand, an alternative prediction is also possible based on industry survey data suggesting potential negative effects of online video ads that look similar to online videos and the theoretical mechanism of perceived manipulativeness and the persuasion knowledge model. Blurring the distinction between ads and editorial content by making the two look similar might lead consumers to perceive similar ads as manipulative, rather than relevant, resulting in negative attitudinal responses and greater ad avoidance. In other words, advertisers' efforts to make ads blend

into the media content could be evaluated negatively by consumers and more likely to be avoided due to their manipulative intent.

Ad Location

This section reviews previous research relevant to the potential effects of online video advertising's ad location factor. The effects of different ad locations on ad avoidance and ad outcomes have been widely studied in the context of TV commercials (Jeong 2011; Moorman et al. 2005; Pieters and Bijmolt 1997; Siddarth and Chattopadhyay 1998; Tse and Lee 2001; van Meurs 1998; Yorke and Kitchen 1985). Some studies compared the effects of commercial blocks placed before or after the TV program with those placed in the middle of the program (Jeong 2011; Moorman et al. 2005; Pieters and Bijmolt 1997; Siddarth and Chattopadhyay 1998; Yorke and Kitchen 1985). Other studies focused on the location of individual commercials within a commercial pod (Tse and Lee 2001; van Meurs 1998).

Regardless of the focus and the ways in which previous studies tested the effects of ad location on consumer responses, findings in the context of TV commercials indicate that ads placed in the middle of the program, as compared to ads placed at the beginning or at the end of the program, tend to generate better ad memory because they are considered more unexpected and thus attract more attention (Krugman 1983; Moorman et al. 2005). For instance, Moorman et al. (2005) showed that ads placed in the middle of the programs, as compared to ads placed in blocks in-between programs (i.e., shoulder blocks), were more likely to be remembered because consumers tended to pay more attention to television during a program. Similarly, Krugman (1983) argued that

interrupting blocks, as compared to in-between blocks, were more effective in terms of memory based on his speculation that the momentum created by the television program leads viewers to be more attentive to commercials placed in the middle of the program than those placed in shoulder blocks.

Similar findings are reported in the context of Internet advertising, such as pop-up ads (Chatterjee 2008) and e-newspaper ads (Rodgers et al. 2005), and online video advertising (Li and Lo 2014). Chatterjee (2008) found that pop-up ads generated significantly higher brand recall and recognition scores than banner ads, since a larger amount of attention was devoted to pop-up ads that interfered with web browsing, compared to banner ads that were not interfering with web browsing. Rodgers et al. (2005) also found placing an ad in the middle of a news story, compared to placing it below the masthead and above the news story or at the end of the news story, produced the highest level of brand and product recall and recognition. This finding was explained by that the ad placed in the middle of the news story was more likely to interrupt readers' cognitive processing of the news story, which made the ad more memorable.

A study by Li and Lo (2014) is one of the few studies testing the effects of ad positions and ad-context congruity on brand name recognition in the context of online in-stream video advertising. In defining ad positions as the location of ads (i.e., pre-roll, mid-roll, and post-roll) and ad-context congruity as thematic congruence between the topic of online videos and the product category of advertised brand, they found that mid-roll video ads generated the highest level of brand name recognition compared to pre-roll and post-roll video ads only when ad-context congruity was high. They explained this

finding in that "consumers use online media with specific goals in mind… and thus are more likely to experience irrelevant information as annoying and attempt to consciously disengage from processing the incongruent information" (Li and Lo 2014, p. 7). In other words, Li and Lo (2014) showed the conditional positive effect of mid-roll ads on brand memory and suggested the possibility of mid-roll ads being more likely to be avoided than pre-roll or post-roll ads.

Contrary to the positive effects of ad placement in the middle of media content on ad and brand memory, when it comes to ad placement effects on attitudes, unexpected ad placement could produce negative consumer responses (Chatterjee 2008; Edwards et al. 2002; Pieters and Bijmolt 1997; Ritter and Cho 2009; Rodgers et al. 2005; van Reijmersdal 2009; Ying et al. 2009). For instance, ads placed in the middle of TV programs tended to be evaluated less positively because they unexpectedly interrupted consumers' media use (Pieters and Bijmolt 1997).

In the context of pop-up ads, Chatterjee (2008) found that pop-up ads produced more negative attitudes toward the brand than banner ads. This was because pop-up ads were more likely to hinder Internet users' activities, resulting in users' negative responses to the advertised brand. Additionally, Edwards et al. (2002) showed that, when pop-up ads were displayed in the middle of a webpage, as compared to those placed between two pages of a website, consumers were more likely to perceive those ads as intrusive. Perceived ad intrusiveness, in turn, led consumers to cognitively avoid those pop-up ads (Edwards et al. 2002). Ying et al. (2009) also showed that interstitial ads interrupting the

website content (e.g., pop-up ads) were perceived to be more intrusive than ads that appeared between breaks in web editorial content pages (e.g., pop-under ads).

In sum, previous research on ad placement strategy effects demonstrates that ads placed in the middle of consumers' media use and primary attention field tend to generate a higher level of memory because they are more likely to interfere with consumers' media use activities and thus draw higher initial involuntary attention. On the other hand, those ads could generate negative attitudinal responses and higher ad avoidance because consumers would likely find such ads more intrusive and irritating. The negative effects of unexpected and more intrusive ad placement strategies can be explained by psychological reactance theory. According to the psychological reactance theory (Brehm and Brehm 1981), an ad placement strategy that is more likely to hinder consumers' freedom to enjoy their intended media use activities would generate negative responses and motivate consumers to avoid the ad. This theoretical mechanism will be discussed in detail in Chapter 4.

User Control Option

Online video advertising has a unique ad strategy option, namely, user control option in terms of providing ad skip options. It should be noted, however, that providing consumers with user control options does not necessary mean no ad exposure. Rather, a certain level of exposure still occurs when online video ads provide user control options because consumers still have to watch the first few seconds of those ads. The concept of user control over ad exposure provided by the advertiser is unique to online video advertising, although some levels of consumer control over their ad exposure experience

have existed even before the online video advertising ad skip option. The historical development of electronic media devices, such as remote control, videocassette recorder (VCR), and digital video recorder (DVR), has given consumers greater user control over their ad exposure, enabling more active behavioral ad avoidance (Bellman et al. 2010; Danaher 1995; Heeter and Greenberg 1985; Hulu 2011; Kaplan 1985; Speck and Elliott 1997; Wilbur 2008). User control by skipping ads in online video ads is just one of the most recent mechanical means for consumers to perform behavioral ad avoidance.

To the best of the author's knowledge, no previous studies have tested the effects of user control option in terms of skipping online video ads on consumer responses. Thus, this section reviews previous research on the effects of user control options on consumer responses in the TV commercial and Internet advertising contexts.

Previous research on the effects of various user control options on ad avoidance has been conducted primarily about TV commercial avoidance and revealed that providing user control options played an essential role in increasing ad avoidance. For instance, Danaher (1995) examined several factors that can increase or decrease consumers' behavioral avoidance of TV commercials, including the presence of a VCR and a remote control, the type of program where commercials are placed, ad placement, number of 15-second ads, and program rating. The findings showed that the most significant predictor of behavioral ad avoidance was the presence of a VCR and a remote control. In other words, those who had user control options to control their ad exposure were more likely to behaviorally avoid ads. Similarly, Heeter and Greenberg (1985)

found that individuals who had a remote control were more likely to zap commercials than those who did not.

Regarding the effects of user control options on memory outcomes of the ad, prior research indicates that ads providing user control options would likely produce inferior memory outcomes than ads without such options (Bellman et al. 2010, 2012; Chatterjee 2011; Cho et al. 2001; McCoy et al. 2008; Shavitt et al. 2004; Stout and Burda 1989). For instance, Chatterjee (2011) compared the effects of self-selected ads with those of forced ads on brand recall. Self-selected ads refer to ads that allow consumers to control the pace of ad exposure (e.g., print ads or banner ads). In contrast, forced ads refer to ads that do not allow consumers to control the pace of ad exposure (e.g., TV commercials or pop-up ads), if it were not for mechanical means (e.g., a remote control or a 'remove' button). The results showed that the brand recall score of forced ads was higher than that of self-selected ads. Other studies also demonstrated that, when consumers had user control options to avoid ads through zipping, zapping, or muting, they were less likely to remember the advertised brand in the context of TV watching using DVR (Bellman et al. 2010, 2012) and VCR (Stout and Burda 1989).

In addition, a study by McCoy et al. (2008) examined the moderating role of user control options in the effects of ad message factor on ad recognition. The finding showed that the difference in the level of ad recognition between ads completely obscuring the page content and ads not obscuring the page content was smaller when a user control option was present. In other words, when a user control option was given, the effects of the ad message factor did not play an important role in influencing ad recognition. In

contrast, when a user control option was not given, the ad completely obscuring the page content generated the highest ad recognition.

Despite the negative effects of user control options on memory, studies examining their effects on consumer perceptions and attitudes have suggested positive effects of user control options on attitudinal outcomes (Chang et al. 2013; Kusse 2013; McCoy et al. 2008). For instance, McCoy et al. (2008) found that, when consumers were given a user control option to remove pop-up ads, they perceived those ads less intrusive than ads without such an option. A lower level of ad intrusiveness resulting from the user control option, in turn, led to a lower level of ad irritation and relatively more positive attitudes toward the website in which the ad was placed (McCoy et al. 2008). In the context of email advertising, Chang et al. (2013) categorized email advertising into two types depending on the level of user control option over receiving email ads. Permission-based email advertising is a type of email advertising with a higher level of user control over exposure to email ads, whereas spam email advertising is a type of advertising with a lower level of user control. They found that Internet users viewed permission-based email advertising as less intrusive and more favorable than spam email advertising.

Kusse (2013) is the only study that examined the effects of user control options on consumers' attitudinal responses in the context of online video advertising. Particularly, Kusse (2013) showed that a skippable pre-roll video ad generated more positive attitudes toward the advertised brand than did a non-skippable pre-roll video ad. Kusse (2013) explained this finding in that consumers' higher level of perceived loss of control in

response to the non-skippable pre-roll video ad would have a negative impact on their attitude toward the advertised brand.

In sum, although giving a user control option would generate weaker memory and increase the likelihood of ads being avoided, providing consumers with such an option can contribute to improving consumers' attitudinal responses to ads and advertised brands (Chang et al. 2013; Kusse 2013; McCoy et al. 2008).

As in the case of the ad location factor, the effects of providing user control option to skip ads on advertiser-intended outcomes and ad avoidance can be explained by psychological reactance theory (Brehm and Brehm 1981). Ads without user control options are likely to generate a higher level of perceived restriction of freedom to enjoy the media content (i.e., psychological reactance) and, consequently, negative evaluations of those ads. This point will be discussed further in connection to psychological reactance in Chapter 4.

Chapter Summary

This chapter discussed the three advertising strategy factors, ad-media similarity, ad location, and user control option, and reviewed prior research on the effects of each factor on ad avoidance and advertiser-intended outcomes in various media contexts. Although only a few studies have been conducted to test the effects of these advertising strategy factors on ad avoidance and ad outcomes in the domain of online video advertising (Kusse 2013; Li and Lo 2014), previous studies in different advertising contexts provide applicable and useful guidance for this study.

Regarding the effects of ad-video similarity, most of the experimental studies testing ad-media context similar effects have suggested positive effects of ad-video similarity (Bellman et al. 2013; Edwards et al. 2002; Jeong and King 2010; Kim and Sundar 2010; Moore et al. 2005; Moorman et al. 2002; Porta et al. 2013; Simola et al. 2013; Tutaj and van Reijmersdal 2012; Yaveroglu and Donthu 2008; Ying et al. 2009; Zanjani et al. 2011), whereas industry survey data seem to suggest negative effects of ad-video similarity of high levels of ad-video similarity can be perceived by consumers as manipulative (eMarketer 2012b, 2013c). Based on these somewhat contradictory findings, two alternative competing possibilities about the effects of ad-video similarity can be drawn. As consumers actively search for online videos, an online video ad similar to the online video where it is placed in terms of its content, theme, or execution style is more likely to be perceived as relevant, resulting in lower ad avoidance and more positive ad outcomes. In contrast, given that a similar online video ad is more likely to mislead consumers to mistakenly think the ad as the intended video content, it may generate more negative consumer responses and higher ad avoidance.

When it comes to the effects of ad location, research in the contexts of TV commercials and Internet advertising (Chatterjee 2008; Edwards et al. 2002; Krugman 1983; Li and Lo 2014; Moorman et al. 2005; Ritter and Cho 2009; Rodgers et al. 2005; van Reijmersdal 2009; Ying et al. 2009) provides useful insight. These studies have generally supported that ads placed in the middle of the media content were more likely to attract attention and produce better memory outcomes, but those ads tended to generate more negative attitudinal responses. Based on the reviewed literature, consumers are

more likely to find mid-roll online video ads intrusive and irritating, due to increased level of psychological reactance, which would result in more negative reactions to those ads and greater ad avoidance. Although mid-roll ads might be effective in producing better brand memory when ads are similar to the video context (Li and Lo 2014), a higher level of ad avoidance in response to mid-roll ads would have a negative impact on brand memory.

When it comes to the effects of user control options, prior research about the effects of user control options, such as an option to remove pop-up ads (Cho et al. 2001; McCoy et al. 2008), remote control (Bellman et al. 2010; Stout and Burda 1989), and an online video advertising skip option (Kusse 2013), suggests that giving consumers a user control option has a drawback of increasing the likelihood of the ad being behaviorally avoided and less remembered. However, user control options would likely to contribute to improving consumers' attitudinal responses to ads.

In order to provide theoretical explanations regarding the empirical findings reviewed in this chapter, the next chapter is devoted to discussing the psychological mechanisms by which each advertising strategy factor exerts influences on ad avoidance and advertiser-intended outcomes. More specifically, perceived ad relevance and perceived manipulativeness will be discussed in relation to the effects of ad-video (media) similarity and psychological reactance theory will be discussed in relation to the effects of ad location and user control option.

CHAPTER 4

THEORETICAL UNDERPINNINGS

The previous chapter reviewed research on the effects of ad-media context similarity, ad location, and user control option on advertiser-intended outcomes and ad avoidance. This chapter discusses theories explaining the psychological mechanisms by which those advertising strategy factors influence ad outcomes and ad avoidance.

Theories Explaining the Ad-Media Similarity Effects

As discussed in the previous chapter, a great deal of research on ad-media context similarity has shown that similarity between an ad and the media context where it is placed can contribute to generating better memory and more positive attitudinal responses and reducing ad avoidance. This is because ads that are similar to the media context are more likely to attract consumer attention and consumers would likely view such ads as more relevant to them, especially when they actively seek out the media content. In the context of online video advertising, however, there is a likelihood of ads that are similar to the media context generating negative boomerang effects. Seeing an ad that looks very similar to the media context, consumers may mistakenly believe that they are exposed to the intended media content, not an ad, at least temporarily. When they realize that it is an ad, they might feel misled or manipulated, resulting in negative reactions.

The predicted positive effects on the cognitive and attitudinal ad outcomes and ad avoidance can be explained by perceived relevance (Celsi and Olson 1988). Consumers' perception that ads are relevant to them or their current task at any given moment plays

an essential role in generating positive ad outcomes and reducing ad avoidance. The alternative negative boomerang effect hypothesis can be explained by the persuasion knowledge model (PKM) (Friestad and Wright 1994, 1995). According to PKM, a set of beliefs regarding persuasion in general and appropriateness of persuasion tactics in particular might lead consumers to evaluate ads similar to the media content manipulative, resulting in more negative ad outcomes and greater ad avoidance (Campbell 1995; Friestad and Wright 1994). The following section first discusses the theoretical framework explaining the potential positive effects through perceived relevance.

Perceived Relevance. As mentioned earlier in Chapter 3, according to Celsi and Olson (1988) perceived relevance refers to the degree to which "consumers perceive [an object] to be self-related or in some way to be instrumental in achieving their personal goals and values" (p. 211). As such, the sources of perceived relevance come from either intrinsic personal characteristics (e.g., demographics) or situation characteristics (e.g., current objectives or tasks). Perceived ad relevance has been considered an important determinant of consumers' cognitive, attitudinal, and behavioral changes (Cho 1999; Kim and Sundar 2010, 2012; Petty, Cacioppo, and Schumann 1983) and found to contribute to positive advertising effects and effectiveness (MacInnis, Moorman, and Jaworski 1991; Moorman et al. 2002).

As mentioned in Celsi and Olson's (1988) definition, consumers would find an object personally relevant if the object is of intrinsic (or internal) importance or situational (or external) importance (Greenwald and Leavitt 1984; Vidnyánszky and Sohn

2004; Zaichkowsky 1985, 1994). On the one hand, consumers would perceive an object to be relevant to themselves if it generally provides hedonic benefits or satisfactions (Houston and Rothschild 1978; Laurent and Kapferer 1985). In other words, the object is of intrinsic (or internal) importance, if consumers have a long-term or intrinsic interest in an object, which may have nothing to do with consumers' current situations or goals (Celsi and Olson 1988; Houston and Rothschild 1978).

On the other hand, consumers would perceive an object to be relevant to themselves if it is perceived to be useful in achieving a specific goal in or for a given situation (Hoffman and Novak 1996; Houston and Rothschild 1978). In other words, when consumers have a short-term or externally motivated interest in an object, the object is of situational (or external) importance, being perceived as relevant to their current tasks (Celsi and Olson 1988; Higie and Feick 1989; Houston and Rothschild 1978). Taken together, personal relevance is conceptualized as perceived importance or involvement, and it can be self-specific or situation-specific.

Both personal and situational relevance would reduce ad avoidance and generate positive ad outcomes, although the two conceptualization approaches may operate through different psychological mechanisms. First, a personally relevant ad tends to help consumers identify themselves with the ad so that the ad can be processed more easily and fluently, resulting in positive advertiser-intended outcomes. The self-referencing effects, which refer to an information processing strategy that a consumer processes information by relating him/herself to the information presented in the media (Burnkrant and Unnava 1995; Rogers, Kuiper, and Kirker 1977), explain the positive effects of

perceived personal relevance on ad outcomes. In addition, a situationally relevant ad induces a situationally motivated attention (Huang 2006), leading consumers to allocate a greater amount of cognitive resources to process the ad (Celsi and Olson 1988; Zaichkowsky 1994). Greater cognitive resources contribute to generating a higher number of thoughts related to the ad and the advertised brand. In this thought-generation process, if consumers find the ad useful in achieving their task at the given situation, such perceived task relevance would produce positive ad outcomes and reduce ad avoidance.

The concept of perceived relevance attracted both advertising researchers' and practitioners' attention because of its ability to generate positive ad outcomes. However, in the context of traditional advertising, it is challenging for advertisers to tailor ad messages to individual consumers (Moriarty, Mitchell, and Wells 2009). In contrast, in the context of digital and interactive advertising, it becomes more achievable because the digital and interactive media technologies enable advertisers to target individual consumers and tailor ad messages based on their demographics and behavioral characteristics (Heeter 2000; Liu and Shrum 2002). For instance, the emergence and popularity of online behavioral advertising illustrates that online advertisers and marketers can create ad messages relevant to individual consumers, which contributes to producing positive ad outcomes (Baek and Morimoto 2012; Kim 2013; Turow et al. 2009).

Between two sources of perceived relevance, as consumers tend to use online media with specific objectives in mind (Ha and McCann 2008), situational or task relevance has become an important factor to make ads relevant to individual consumers

in the domain of digital, interactive advertising. In a goal-oriented or task-oriented situation where consumers use online media with a particular goal, such as searching for information, not only is the editorial content perceived to be (situationally) relevant to their goal or task, but any other objects (e.g., ads) that can contribute to achieving the goal or task would also be perceived to be relevant (Petty et al. 1983; Zaichkowsky 1994).

Relevant ads tend to lead consumers to pay greater attention to the ad messages (Celsi and Olson 1988; Greenwald and Leavitt 1984) and are better remembered (Burnkrant and Unnava 1995). For instance, Burnkrant and Unnava (1995) showed that a personally relevant ad was more likely to help consumers relate themselves to the ad and produce higher ad message recall than a personally irrelevant ad.

A number of previous studies have demonstrated positive effects of perceived ad relevance on consumers' attitudinal responses as well. Perceived relevance tended to generate more positive attitudes toward the ad and the advertised brand (Campbell and Wright 2008; Debevec and Iyer 1988; Kim 2013; Martin, Lee, and Yang 2004). Some of the studies focused on the intrinsic personal characteristics as a source of perceived relevance (Debevec and Iyer 1988; Martin et al. 2004). For instance, Martin et al. (2004) showed that Asian consumers exposed to an ad endorsed by an Asian model, as compared to those exposed to an ad endorsed by a White model, found the ad more relevant to themselves, and in turn, generated more positive attitudes toward the ad and toward the advertised brand. In addition, in focusing on consumers' gender, Debevec and Iyer (1988) found that when the gender of an endorser was the same as that of the target

consumers, compared to when the gender of an endorser was not the same, the ad generated more positive attitudes toward the ad and toward the advertised product.

Other studies focusing on the external situational characteristics as a source of perceived relevance (Campbell and Wright 2008; Kim 2013) also present similar findings. In particular, Campbell and Wright (2008) found that, when consumers were involved in a task of buying a vacation package on a travel agency website, pop-up ads promoting a vacation package to Cancun, compared to ads promoting furniture, were perceived to be more relevant to themselves, resulting in more positive attitudes toward the ad and the advertised product. In the context of online behavioral advertising, where consumers are exposed to ads reflecting their previous Internet use activities, Kim (2013) found that consumers who found online behavioral advertising personally relevant to themselves were more likely to have positive attitudes toward the ad.

Regarding the relationship between perceived relevance and ad avoidance, previous studies have suggested that perceived relevance had a potential to reduce ad avoidance (Baek and Morimoto 2012; Bellman et al. 2013; Edwards et al. 2002). In an experimental study on ad avoidance, Edwards et al. (2002) found that, when consumers were asked to find information on websites, pop-up ads congruent with the website where ads were placed were perceived as significantly more relevant than incongruent ads, resulting in a lower level of ad avoidance. Bellman et al. (2013) also showed that consumers exposed to TV commercials incorporating individual consumers' previous web browsing behaviors were less likely to switch channel while commercials played. In

the domain of personalized advertising, Baek and Morimoto (2012) demonstrated that ads tailored to individual consumers were less likely to be avoided.

The following section discusses the persuasion knowledge model, which provides theoretical explanations for the alternative negative boomerang effect hypothesis for the ad-media context similarity.

Persuasion Knowledge Model and Perceived Manipulativeness. Blurring the distinction between an ad and the editorial content may be effective in terms of attracting strong attention from consumers (van Reijmersdal et al. 2005). Such a strategy may backfire, however, if consumers perceive the strategy as having manipulative intent (Campbell 1995; eMarketer 2012b, 2013c; Lunardo and Mbengue 2013).

Perceived manipulativeness refers to "consumer inferences that the advertiser is attempting to persuade by inappropriate, unfair, or manipulative means" (Campbell 1995, p. 228). The presumed negative effects of ad-media similarity on ad outcomes and ad avoidance due to perceived manipulativeness can be understood within the theoretical framework of the persuasion knowledge model (PKM) (Friestad and Wright 1994). The PKM posits that consumers develop a set of interrelated beliefs regarding persuasion processes and underlying psychological mechanisms to interpret, evaluate, and cope with marketers' persuasion attempts (Friestad and Wright 1994). It provides explanation for the ways in which consumers view and respond to marketers' or advertisers' persuasion activities (Friestad and Wright 1994; Nelson and Ham 2012).

There are three key components in PKM: target, agent, and persuasion attempt. First, the target refers to consumers, or "those people for whom a persuasion attempt is

intended" (Friestad and Wright 1994, p. 2). Second, the agent refers to marketers and advertisers, or "whomever a target identifies as being responsible for designing and constructing a persuasion attempt" (Friestad and Wright 1994, p. 2). Third, the persuasion attempt refers to agents' persuasion attempts to change targets' beliefs, attitudes, and behaviors.

According to PKM, three knowledge structures influence persuasion outcomes: agent (vs. target) knowledge, topic knowledge, and persuasion knowledge (Friestad and Wright 1994). First, agent knowledge refers to the target's beliefs about the motives and goals of the persuasion agent (e.g., an advertiser), whereas target knowledge refers to the agent's beliefs about the goals and characteristics of the target (e.g., consumers). Second, topic knowledge refers to an individual's beliefs regarding the topic of the persuasion messages. Third, persuasion knowledge includes consumers' beliefs about marketers' goals, motives, strategies, and tactics, the effectiveness and appropriateness of persuasion tactics, their own goals and coping tactics, and psychological mediators of tactic effectiveness (Friestad and Wright 1994, 1995).

Once target consumers recognize a persuasion tactic, their persuasion knowledge would be activated and they would evaluate the persuasion tactic based on the persuasion knowledge (Friestad and Wright 1994). Targets evaluate a persuasion tactic in two ways: (a) whether the persuasion tactic would have effects on themselves (i.e., tactic effectiveness) and (b) whether the tactic is viewed as appropriate and not manipulative (i.e., appropriateness of the tactic). When a persuasive tactic is perceived to be effective and appropriate, it is likely to exert positive influence on targets' attitudes and behaviors.

However, when a persuasion tactic is perceived ineffective or inappropriate, it would likely produce negative effects (Campbell and Kirmani 2000; Friestad and Wright 1994; Wei et al. 2008).

Since advertising messages are designed to persuade consumers, consumers who realize that they are exposed to ad messages are likely to experience the change-of-meaning process and evaluate the effectiveness and appropriateness of the ads (Friestad and Wright 1994, 1995). If an ad were perceived to be manipulative based on consumers' persuasion knowledge in terms of the appropriateness of the tactic, consumers would likely have negative attitudinal responses to the ad and try to avoid it as much as they could (de Pelsmacker and Neijens 2012; Friestad and Wright 1994; Wei et al. 2008; Yoo 2009). As such, the concept of perceived manipulativeness is particularly relevant to perceived tactic appropriateness in PKM. It should be noted, however, that the two are different in that perceived tactic appropriateness is considered one of the socially-learned macro beliefs about persuasion (Friestad and Wright 1994, 1995) whereas perceived manipulativeness is a consumers' perceptual response to a particular ad message (Campbell 1995; Lunardo and Mbengue 2013).

Previous research based on PKM has found that persuasion knowledge in general and perceived appropriateness of a persuasion tactic in particular can affect consumers' attitudinal responses to persuasion attempts (Campbell 1995; Lunardo and Mbengue 2013; Wei et al. 2008; Yoo 2009). For example, Campbell (1995) found that commercials not beginning with brand identification, as compared to those beginning with brand identification, were more likely to cause consumers to perceive them as manipulative.

Perceived manipulativeness, in turn, generated more negative attitudes toward the ad and toward the brand. Similarly, Wei et al. (2008) found that, when individuals were told that a college radio show was sponsored by a brand, as compared to when they were not told so, the audience's evaluation of the sponsoring brand became negative. The changes in brand evaluations were found to be more prominent when individuals evaluated the brand's tactic as inappropriate. In the context of retail marketing, when consumers perceived a retailer to have a manipulative intent, they were likely to have more negative attitudes toward the retailer (Lunardo and Mbengue 2013).

A study by Yoo (2009) focused on the effects of perceived tactic appropriateness on behavioral outcomes in the context of keyword search ads. Particularly, he examined the moderating role of perceived tactic appropriateness in the effects of keyword search ads on click-through behaviors. The findings showed that, when consumers were aware of advertisers' persuasion attempts, they were less likely to click on keyword search ads. However, when they perceived the use of keyword search ads as an appropriate persuasion tactic, the negative effects on click-through rates were reduced. Although little research has directly tested the impact of perceived manipulativeness on ad avoidance, it seems reasonable to expect that consumers would try to avoid ads that are perceived to be manipulative.

Psychological Reactance Theory Explaining the Ad Location and User Control Option Effects

Ads generally interrupt individuals' intended media use activities to some degree. This would be more prominent when an ad is placed in the middle of media content.

Placing an ad in the middle of the media content (e.g., TV program or an online video clip), instead of placing it at the beginning or at the end of the media content, is more likely to interrupt consumers' media consumption behaviors. Such an ad-placement strategy would be perceived as a threat to consumers' media use freedom, and consequently, more likely to generate negative responses (Chatterjee 2008; Edwards et al. 2002; Pieters and Bijmolt 1997; Ritter and Cho 2009; Rodgers et al. 2005; Ying et al. 2009).

Psychological reactance theory provides an explanation for why an ad that is placed in the middle of the media content would likely generate more negative attitudinal responses and higher ad avoidance than would ads placed between contents (Brehm and Brehm 1981). Psychological reactance theory posits that when people experience a threat to their freedom, they are motivated to regain their freedom by evaluating the threat negatively and trying to remove it (Brehm and Brehm 1981). According to Brehm and Brehm (1981), psychological reactance theory consists of four fundamental elements: freedom, threat to freedom, reactance, and restoration of freedom. First, freedom includes individuals' attitudinal, emotional, and behavioral freedom. Individuals who have a high level of freedom tend to believe that they can form an attitude, express an emotion, and perform a behavior freely at any given moment. Second, any factors including social influences, impersonal influences (e.g., weather), and persuasive attempts that affect individuals' attitudinal, emotional, or behavioral freedom can be considered as a threat to freedom (Brehm and Brehm 1981; Clee and Wicklund 1980; Dillard and Shen 2005).

Third, reactance is "the motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination" (Brehm and Brehm 1981, p. 37), and it consists of cognitive and affective components (Dillard and Shen 2005). Although Brehm and Brehm (1981) initially conceptualized reactance as a hypothetical variable that was not directly measurable, Dillard and Shen (2005) showed that the concept of reactance could be captured through measuring its cognitive and affective aspects that are intertwined. In other words, psychological reactance is an aversive motivational state that is manifested as cognitive and affective outcomes, motivating individuals to regain their freedom (Dillard and Shen 2005; Quick and Stephenson 2007).

Finally, individuals whose psychological reactance is activated are likely to act to restore freedom. There are three ways to restore freedom: direct restoration, indirect restoration, and vicarious restoration. Direct restoration refers to individuals' engagement in the threatened behavior (Brehm and Brehm 1981; Worchel and Brehm 1970). Indirect restoration refers to individuals' heightened preference for the threatened behavior or decreased evaluation of the threat (Brehm and Brehm 1981; Wicklund 1974). Vicarious restoration reflects individuals' observing others' performing the threatened behavior (Wicklund 1974).

In the advertising research, ad avoidance has been often conceptualized as an outcome of psychological reactance toward ads. As psychological reactance is manifested as cognitive and affective responses, ad avoidance is conceptualized as the outcome of (a) the extent to which consumers perceive their media use activities are hindered by ads (i.e., cognitive aspect) (Cho and Cheon 2004; Edwards et al. 2002; Li et al. 2002; Speck

and Elliott 1997) and (b) the extent to which consumers feel irritated by ads (i.e., affective aspect) (Aaker and Bruzzone 1985; Li et al. 2002; Ritter and Cho 2009; Speck and Elliott 1997). Although previous studies have used different terms and concepts representing different aspects of psychological reactance, they consistently supported the applicability of psychological reactance theory to explaining ad avoidance.

Regarding the cognitive predictor of ad avoidance, for instance, Li et al. (2002) defined perceived ad intrusiveness as "a psychological reaction to ads that interfere with a consumer's ongoing cognitive processes" (p. 39) and found that perceived ad intrusiveness significantly and positively predicted ad avoidance. Speck and Elliott (1997) proposed and tested search hindrance, which refers to consumer perception that ads interfere with their media use (e.g., making it difficult for consumers to read a magazine). Search hindrance was found to increase ad avoidance in traditional media, namely, magazines, newspapers, television, and radio. Cho and Cheon (2004) tested the effects of goal impediment on Internet ad avoidance. Goal impediment was defined as the extent to which consumers perceive ads interrupting their goals in relation to media use activities and included multiple dimensions, such as search hindrance (i.e., impairing search for the intended media content), disruption (i.e., interrupting media use activities), and distraction (i.e., affecting the quality of processing of the intended media content). Goal impediment was found to lead consumers to dislike Internet ads and to increase Internet ad avoidance.

Previous studies have tested ad irritation or ad annoyance as representation of the affective aspect of psychological reactance influencing ad avoidance. Ad irritation refers

to "an emotional response that is an … affective experience describing the feeling of annoyance, impatience, or even anger" (Aaker and Bruzzone 1985; Ritter and Cho 2009, p. 533). Li et al. (2002) found that perceived ad irritation was elicited due to perceived ad intrusiveness, and it significantly and positively predicted ad avoidance. Similarly, Speck and Elliott (1997) showed that perceived annoyance was significantly and positively related to ad avoidance in television, newspaper, and radio.

Although prior advertising research has applied psychological reactance to ad avoidance, little research has tested the mediating role of psychological reactance in the effects of specific ad message factors on ad avoidance. However, some studies in the health communication field provide relevant empirical evidence supporting that psychological reactance can serve as the mediating mechanism by which certain types of advertising message factors produce different communication outcomes (Dillard and Shen 2005; Quick and Stephenson 2007; Rains and Turner 2007). For instance, Dillard and Shen (2005) showed that health messages describing the negative consequences of not flossing and binge drinking were more likely to generate negative attitude toward the message and lower behavioral intentions to floss and limit alcohol consumption, which was mediated by negative cognitions and anger in response to those messages. Additionally, Quick and Stephenson (2007) revealed that television ads promoting condom use generated psychological reactance, which was manifested as negative cognitions and anger, and such psychological reactance produced lower ad persuasiveness.

Applied to the current study, psychological reactance theory can also explain potential positive effects of the user control option factor. When ads interrupt consumers' media content consumption and thus generate psychological reactance, giving consumers a user control option to control their ad exposure experience would likely alleviate consumers' negative reaction to the ads (Chang et al. 2013; Kusse 2013; McCoy et al. 2008). That is, giving consumers an option to have control over ads would be perceived as an easy way to restore their freedom to continue enjoying their media consumption that was threatened by ads, and the convenient restoration of freedom would likely lead to more positive attitudinal responses.

Chapter Summary

This chapter discussed the theoretical underpinnings for potential effects of the three advertising strategy factors, namely, ad-media similarity, ad location, and user control option on ad avoidance and advertiser-intended outcomes. Specifically, three different theories were discussed, including: (1) perceived relevance; (2) PKM; and (3) psychological reactance.

Perceived relevance explains the positive effects of ad-media similarity on cognitive and attitudinal ad outcome and ad avoidance. Perceived relevance refers to consumers' perception of ads being relevant to them or their tasks or goals at a given situation (Celsi and Olson 1988). Previous studies suggest that incorporating target audience's demographics and tasks or past behaviors related to those tasks into ad messages is an effective way to increase perceived relevance and, ultimately, to generate more positive ad outcomes and lower ad avoidance (Baek and Morimoto 2012; Bellman

et al. 2013; Burnkrant and Unnava 1995; Campbell and Wright 2008; Debevec and Iyer 1988; Edwards et al. 2002; Kim 2013; Martin et al. 2004).

Alternatively, PKM serves as a theoretical underpinning for potential negative effects of ad-media similarity on attitudinal ad outcomes and ad avoidance due to perceived manipulativeness. PKM posits that consumers use a set of macro beliefs regarding persuasion to evaluate and respond to advertisers' and marketers' persuasion attempts (Friestad and Wright 1994). In particular, one of the consumers' persuasion knowledge dimensions, perceived tactic appropriateness, would guide consumers to evaluate ads seamlessly blending in with media content as manipulative and generate negative ad outcomes (Campbell 1995; eMarketer 2012b, 2013c; Lunardo and Mbengue 2013; Wei et al. 2008; Yoo 2009). Thus, PKM would explain potential boomerang effects of ad-media similarity on attitudinal responses and ad avoidance due to heightened level of perceived manipulativeness.

Psychological reactance theory explains the ways in which ad location and user control options influence ad outcomes and ad avoidance. In the advertising context, psychological reactance would be manifested as consumers' perceived intrusiveness of the ad (i.e., cognitive manifestation) and perceived irritation toward the ad (i.e., affective manifestation) (Cho and Cheon 2004; Li et al. 2002; Speck and Elliott 1997). Increased psychological reactance in response to ads that more severely interfere with consumer media consumption would motivate consumers to produce negative attitudes toward the ads and to avoid them (Dillard and Shen 2005; Li et al. 2002; Speck and Elliott 1997; Ritter and Cho 2009). Particularly, ads that are placed in the middle of the media content

or that do not provide any user control option are likely to increase psychological reactance, generating negative consumer responses (Chatterjee 2008; Chang et al. 2013; Edwards et al. 2002; Kusse 2013; McCoy et al. 2008; Ritter and Cho 2009; Rodgers et al. 2005).

On the basis of these theoretical underpinnings and the previous chapters' reviews of relevant research, the next chapter will pose this study's hypotheses to test the effects of ad-video similarity, ad location, and user control option on ad avoidance and ad outcomes in the context of online video advertising, and the psychological mechanisms by which each factor influences ad avoidance and ad outcomes.

CHAPTER 5

HYPOTHESES

The previous chapters reviewed prior research on ad avoidance, the effects of three advertising strategy factors (i.e., ad-media similarity, ad location, and user control option) on ad voidance and advertiser-intended outcomes, and discussed the psychological mechanisms involved in such effects. Based on the literature review and theoretical discussions, this chapter proposes 16 hypotheses testing the effects of ad-video similarity, ad location, and user control option on online video ad avoidance and subsequent advertiser-intended outcomes (i.e., brand memory and attitudinal responses), and examining the psychological mechanisms in relation to those effects.

The first two sections of this chapter will apply previous empirical findings regarding the effects of ad-media similarity and ad location to the online video advertising context. This will lead to hypotheses predicting main effects of ad-video similarity and ad location on ad avoidance and subsequent advertiser-intended outcomes (brand memory and attitudes toward the ad and the brand) and mediation hypotheses explaining those main effects. The third section will present interaction hypotheses by integrating previous studies on the effects of ad-media similarity into those of ad location. Finally, the last section will pose hypotheses predicting the moderating role of user control options in the effects of ad-video similarity and ad location on attitudinal outcomes.

Effects of Ad-Video Similarity on Ad Avoidance and Outcomes

Two competing sets of hypotheses are posed predicting the effects of ad-video similarity on ad avoidance and ad outcomes, which would operate through different theoretical mechanisms. The first four hypotheses test whether ad-video similarity has positive or negative impacts on ad avoidance and advertiser-intended outcomes (i.e., brand memory and attitudes toward the ad and the brand), and whether perceived ad relevance or perceived manipulativeness would operate as the psychological mechanism. The other four hypotheses are posed to examine the mediating role of ad avoidance in the effects of ad-video similarity on brand memory and attitude toward the brand**,** and the mediating role of attitude toward the ad in the effects of ad-video similarity on attitude toward the brand.

Positive Effects of Ad-Video Similarity on Ad Avoidance and Outcomes. This study predicts that an online video ad that is similar (vs. dissimilar) to the video context would be less likely to be avoided and more likely to be remembered, and generate more positive attitudinal responses. The positive effects of ad-video similarity on ad avoidance and ad outcomes can be explained by perceived ad relevance.

Previous studies have found that perceived ad relevance tend to enhance brand memory and generate more positive attitudes toward the ad and the advertised brand and lower ad avoidance (Bellman et al. 2013; Burnkrant and Unnava 1995; Campbell and Wright 2008; Edwards et al. 2002; Hussain and Lasage 2014; Kim and Sundar 2010, 2012). The theoretical explanation regarding the positive effects of perceived relevance on ad outcomes is based on two different, but interrelated, conceptualization of relevance.

An ad can be perceived relevant because its message or features are personally relevant (e.g., same gender or racial models), evoking consumers' identification with the ad (Burnkrant and Unnava 1995). Another ad can be perceived relevant because it is situationally relevant to specific tasks or goals that consumers are engaged in at the given moment (Celsi and Olson 1988; Zaichkowsky 1994).

Focusing on a situation where consumers watch an online video for the purpose of obtaining information from it (i.e., task- and goal-oriented watch mode), the current study conceptualizes perceived ad relevance as the extent to which consumers find an online video ad relevant and useful in achieving their information-searching goals. A higher level of perceived ad relevance in response to a similar online video ad is expected to generate more positive responses and to reduce ad avoidance (Edwards et al. 2002; Jeong and King 2010; Kim and Sundar 2010; Moore et al. 2005) because it would be perceived to be useful for achieving their goals. Furthermore, based on research about the consequences of ad avoidance, lower ad avoidance due to a higher level of perceived relevance would likely generate higher levels of brand memory because of better ad exposure (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). Additionally, higher perceived relevance and lower ad avoidance would likely lead consumers to evaluate the advertised brand more positively (Duff and Faber 2011; Thorson and Zhao 1997). Consumers' positive evaluation of the ad due to heightened perceived relevance would also generate a more positive attitude toward the brand (Mackenzie et al. 1986; MacKenzie and Lutz 1989). Thus, the following four hypotheses are posed:

H1: An online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate (a) higher perceived relevance, (b) more positive attitude toward the ad, (c) lower ad avoidance, (d) higher brand memory, and (e) more positive attitude toward the brand.

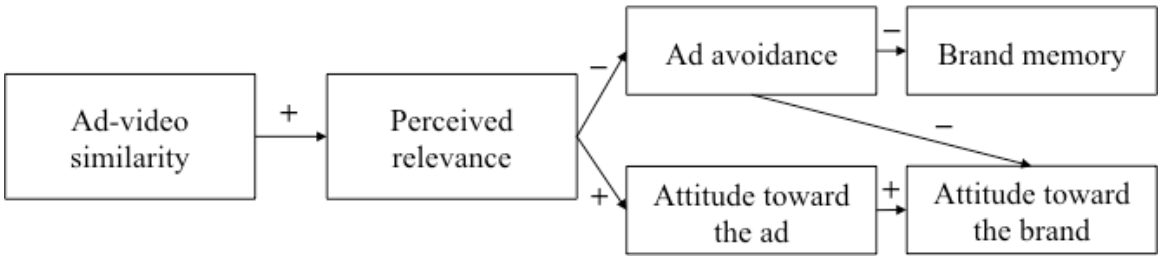
H2: Perceived relevance will mediate the effects of ad-video similarity on (a) attitude toward the ad, (b) ad avoidance, (c) brand memory, and (d) attitude toward the brand.

H3: Ad avoidance will mediate the effects of ad-video similarity on (a) brand memory and (b) attitude toward the brand. More specifically, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate lower ad avoidance, resulting in (a) higher brand memory and (b) more positive attitude toward the brand.

H4: Attitude toward the ad will mediate the effect of ad-video similarity on attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate more positive attitude toward the ad, resulting in more positive attitude toward the brand.

Figure 1 illustrates the four hypotheses.

Figure 1. Hypothesized Positive Effects of Ad-Video Similarity on Ad Avoidance and Ad Outcomes through Perceived Relevance (H1 through H4)



Negative Effects of Ad-Video Similarity on Ad Avoidance and Outcomes. If ad units, styles, formats, and placement were standardized, it would be easy for consumers to distinguish ads from media content, even when the ads are very similar to the media content. As this is not the case in the online video advertising context, it is likely for

consumers exposed to similar online video ads to think that they are exposed to the intended video content they originally searched for, at least temporarily.

Due to this unique characteristic of online video advertising, this study alternatively predicts that an online video ad that is similar (vs. dissimilar) to the video content could generate a higher level of ad avoidance and produce lower brand memory and more negative attitudinal responses. These potential negative effects of ad-video similarity on ad avoidance and ad outcomes are attributed to higher likelihood of perceived manipulativeness.

When consumers cannot easily distinguish a similar ad from online video content, they may attribute their confusion to advertisers' manipulative ad tactics. Perceived manipulativeness has been found to negatively influence attitudinal responses in the contexts of TV commercials (Campbell 1995) and marketing (Lunardo and Mbengue 2013; Wei et al. 2008). In line with these findings, a similar online video ad would likely be evaluated negatively if advertisers' efforts to make the ad look similar to the online video content were perceived to be manipulative. Little research has directly tested the effect of perceived manipulativeness on ad avoidance, yet it seems reasonable to expect that ads that are viewed as manipulative would be more likely to be avoided.

The theoretical explanation is based on PKM (Friestad and Wright 1994, 1995). Persuasion knowledge is a set of learned and conceived macro beliefs about persuasive attempts in general (Friestad and Wright 1994, 1995), and it helps consumers evaluate whether specific ads use manipulative or inappropriate strategies and form attitudes toward those ads and the advertised brands. According to PKM and related empirical

research, when consumers perceive an ad as highly manipulative and inappropriate based on their persuasion knowledge, they would form negative attitudes toward the ad (e.g., Campbell 1995; Lunardo and Mbengue 2013; Wei et al. 2008; Yoo 2009).

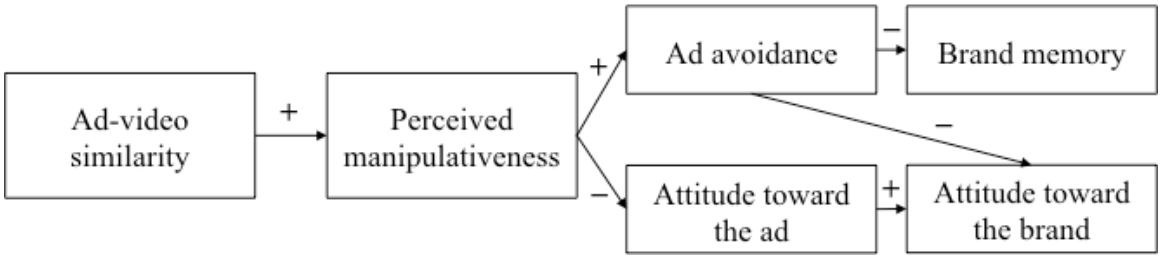
Taken together, consumers may perceive a similar online video ad to be highly manipulative because of the potential consumer confusion between the ad and the intended online video content. If this is the case, increased perceived manipulativeness is expected to lead consumers to evaluate the similar ad negatively and avoid it. Ad avoidance due to increased perceived manipulativeness would likely generate a lower level of brand memory due to diminished exposure (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001) and a more negative attitude toward the brand (Duff and Faber 2011; Thorson and Zhao 1997). In addition, negative evaluation of the ad due to heightened perceived manipulativeness would cause the brand to be evaluated negatively (Mackenzie et al. 1986; MacKenzie and Lutz 1989). Thus, the following four hypotheses are posed as alternative hypotheses parallel to H1 through H4:

> **H5**: An online video ad that is similar to the video content, as compared to a dissimilar ad, will generate (a) higher perceived manipulativeness, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.
>
> **H6**: Perceived manipulativeness will mediate the effects of ad-video similarity on (a) attitude toward the ad and (b) ad avoidance.
>
> **H7:** Ad avoidance will mediate the effects of ad-video similarity on (a) brand memory and (b) attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate higher ad avoidance, resulting in (a) lower brand memory and (b) more negative attitude toward the brand.

H8: Attitude toward the ad will mediate the effect of ad-video similarity on attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate more negative attitude toward the ad, resulting in more negative attitude toward the brand.

Figure 2 shows the visual illustration of the hypotheses.

Figure 2. Hypothesized Negative Effects of Ad-Video Similarity on Ad Avoidance and Ad Outcomes through Perceived Manipulativeness (H5 through H8)



Effects of Ad Location on Ad Avoidance and Outcomes

This section presents four hypotheses to test the effects of ad location on ad avoidance and ad outcomes. Two of them examine whether a mid-roll online video ad (vs. a pre-roll ad) generates greater ad avoidance, lower brand memory, and more negative attitudinal responses due to a higher level of psychological reactance. The remaining two hypotheses are posed to test the mediating role of ad avoidance in the effects of ad location on brand memory and attitude toward the brand**,** and the mediating role of attitude toward the ad in the effect of ad location on attitude toward the brand.

This study predicts that mid-roll online video ads, as compared to pre-roll ads, would be more likely to generate more negative attitudinal responses and greater ad avoidance. Such predictions are based on psychological reactance theory (Brehm and

Brehm 1981). Mid-roll (vs. pre-roll) online video ads are more likely to limit consumers' freedom to watch the intended online video content and subsequently generate a higher level of psychological reactance toward the ad. In the domain of online video advertising, psychological reactance refers to the extent to which consumers find online video ads a hindrance to watching an online video clip (i.e., cognitive psychological reactance) and irritating or annoying (i.e., affective psychological reactance) (Cho and Cheon 2004; Edwards et al. 2002; Li et al. 2002; Ritter and Cho 2009; Speck and Elliott 1997).

A higher level of psychological reactance in response to mid-roll online video ads is expected to motivate consumers to evaluate the ad and the advertised brand negatively and to avoid the ad in order to restore their freedom to continue watching the video clip. A higher likelihood of ad avoidance in response to mid-roll online video ads would lead consumers to pay less voluntary attention to brand cues, and in turn, not remember the advertised brand well (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001), and to form negative attitude toward the brand (Duff and Faber 2011; Thorson and Zhao 1997). Additionally, consumers' negative attitude toward the ad because of heightened psychological reactance would be transferred to their negative evaluation of the brand (Mackenzie et al. 1986; MacKenzie and Lutz 1989). Based on psychological reactance theory and related empirical research findings, the following four hypotheses are posed:

> **H9**: A mid-roll online video ad, as compared to a pre-roll ad, will generate (a) higher psychological reactance, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.

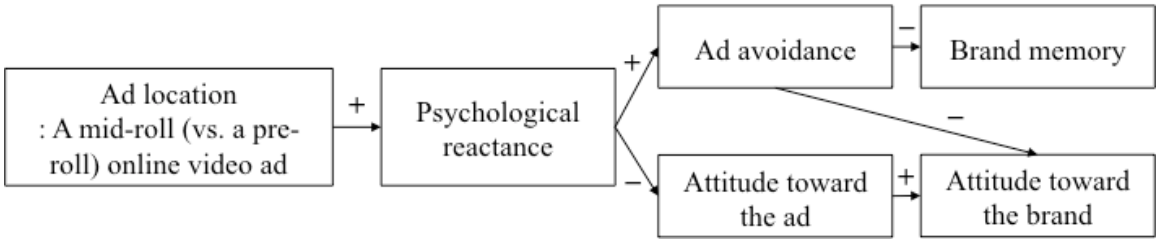
H10: Psychological reactance will mediate the effects of ad location on (a) attitude toward the ad and (b) ad avoidance.

H11: Ad avoidance will mediate the effects of ad location on (a) brand memory and (b) attitude toward the brand. Particularly, a mid-roll online video ad, as compared to a pre-roll ad, will generate higher ad avoidance, resulting in (a) lower brand memory and (b) more negative attitude toward the brand.

H12: Attitude toward the ad will mediate the effect of ad location on attitude toward the brand. Particularly, a mid-roll online video ad, as compared to a pre-roll ad, will generate more negative attitude toward the ad, resulting in more negative attitude toward the brand.

Figure 3 visualizes the four hypotheses.

Figure 3. Hypothesized Effects of Ad Location on Ad Avoidance and Ad Outcomes through Psychological Reactance (H9 through H12)



Interaction between Ad-Video Similarity and Ad Location

Two alternative interaction hypotheses are posed predicting the effects of interaction between ad-video similarity and ad location on ad avoidance and attitudinal responses, due to the two alternative hypotheses for the effects of ad-video similarity. If similar online video ads reduce ad avoidance and generate more positive attitudinal outcomes because of perceived ad relevance, the potential negative effects of a mid-roll ad on attitudinal responses and ad avoidance would likely be attenuated when the ad is similar to the video content. In other words, similar (vs. dissimilar) online video ads

would be more likely to help consumers focus on the flow of the online video clip they are watching because of a higher level of task relevance, which would decrease the differences in attitudes toward the ad and the brand and ad avoidance between mid-roll and pre-roll ads. However, dissimilar online video ads would more severely interfere with consumers' online video watching than similar ads, which would result in more negative attitudes toward the ad and the brand and higher ad avoidance, especially when ads are unexpectedly placed in the middle of the video content. Thus, the following hypothesis is posed:

> **H13**: The differences in (a) attitude toward the ad, (b) ad avoidance, and (c) attitude toward the brand between mid-roll and pre-roll online video ads will be smaller when the ad is similar to the video content, as compared to when it is dissimilar to the video content.

In contrast, if similar online video ads increase ad avoidance and generate more negative consumer responses because of perceived manipulativeness, the potential negative effects of a mid-roll ad on ad avoidance and attitudinal responses would likely be more prominent when the online video ad is similar to the video content. A higher level of perceived manipulativeness in response to similar online video ads is assumed to result from the fact that similar ads may mislead consumers to think that they are exposed to the intended media content they originally searched for. Because of the momentum created by online video watching, mid-roll online video ads similar to the video content, compared to similar pre-roll ads, have a higher likelihood of being seamlessly integrated into the flow of the online video. Consequently, similar mid-roll online video ads, compared to similar pre-roll ads, would be more likely to make consumers confused, generating more negative responses. In contrast, dissimilar online video ads would

generate a lower level of perceived manipulativeness than similar ads, regardless of ad location because dissimilar ads can be more easily distinguished from the online video content. Consequently, when ads are dissimilar to the online video content, the differences in attitudes toward the ad and the brand and ad avoidance between mid-roll and pre-roll ads would be less prominent. Thus, the following hypothesis is posed:

> **H14**: The differences in (a) attitude toward the ad, (b) ad avoidance, and (c) attitude toward the brand between mid-roll and pre-roll online video ads will be greater when the ad is similar to the video content, as compared to when it is dissimilar.

User Control Option as a Moderator

This section presents two hypotheses predicting the moderating role of the user control ad skip option in the effects of ad-video similarity and ad location on attitudinal responses. First, the moderating effects of user control option on the effects of ad-video similarity are likely to be different depending on which of the two competing hypotheses turn out to be true. Similar online video ads, as compared to dissimilar ads, could generate more positive attitudinal responses because of heightened perceived relevance. Alternatively, similar ads could generate more negative attitudinal responses because they can be viewed as manipulative. The moderating role of user control option in the effects of ad-video similarity on attitudinal responses would vary depending on the psychological mechanism by which ad-video similarity exerts influences on attitudinal outcomes.

Specifically, if ad-video similarity exerts positive effects on attitudinal outcomes through perceived relevance, the differences in attitudes toward the ad and toward the

brand between similar and dissimilar ads would not likely vary by user control option. This is because in a situation where consumers are motivated to achieve an information-searching goal by watching an online video, ads similar to the video and the advertised brands would be evaluated positively, no matter whether a user control option is present or absent. On the contrary, if ad-video similarity negatively influences attitudes through perceived manipulativeness, the presence of a user control option would help consumers relieve their negative reactions to the ad, reducing relatively more negative effects of similar ads on attitudes toward the ad and toward the brand. However, the absence of a user control option might be viewed as another manipulative tactic, increasing the differences in attitudes toward the ad and toward the brand between similar and dissimilar ads. Thus, the following hypothesis is posed:

> **H15**: The differences in (a) attitude toward the ad and (b) attitude toward the brand between similar and dissimilar online video ads will be smaller when the user control option (i.e., skip option) is present in the ad. However, this will be observed only when ad-video similarity exerts negative influence on attitudes through perceived manipulativeness..

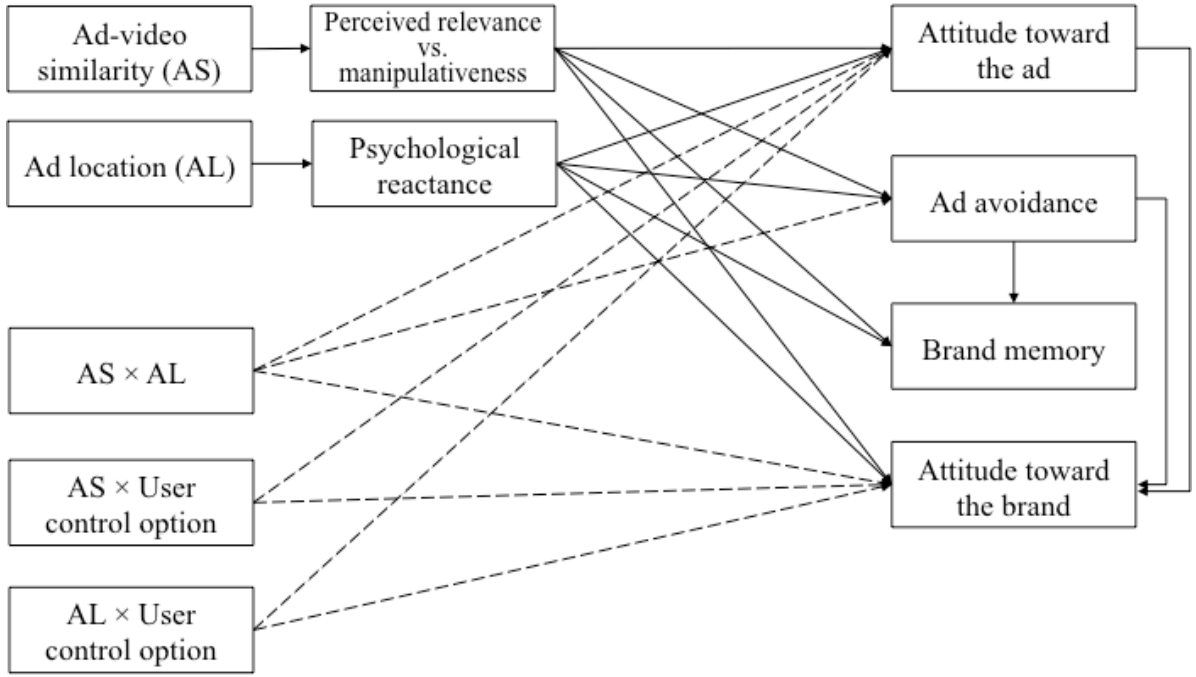
Regarding the user control option's moderating effects on the ad location factor effects as well, similar moderation of the negative effects of mid-roll ads is likely to occur. As hypothesized before, mid-roll online video ads are likely to generate more negative attitudinal responses due to heightened psychological reactance than pre-roll ads. However, when the user control option is present, consumers can have freedom to end or continue their ad exposure after only a short period of time. Consequently, when advertisers provide consumers with the user control option, the differences in consumers'

attitudinal responses between mid-roll and pre-roll ads would diminish. Therefore, the following hypothesis is posed:

> **H16**: The differences in (a) attitude toward the ad and (b) attitude toward the brand between mid-roll and pre-roll online video ads will be smaller when the user control option (i.e., skip option) is present in the ad.

Figure 4 presents the overall hypothesized relationships.

Figure 4. Hypothesized Effects of Ad-Video Similarity, Ad Location, and User Control Option on Ad Avoidance and Ad Outcomes



Note: A solid line indicates the effects of each independent variable on a mediator and dependent variables, whereas a dashed line indicates the effects of interaction variables on dependent variables.

CHAPTER 6

METHOD

A lab experiment was conducted in two separate experimental phases: Experimental Phase 1 in the context of ads with no user control (i.e., non-skippable ads) and Experimental Phase 2 in the context of ads with user control (i.e., skippable ads). Each experimental phase used a 2 (ad-video similarity: a similar vs. dissimilar online video ad) × 2 (ad location: a pre-roll vs. mid-roll ad) factorial-design. For each experimental phase, undergraduate students who were enrolled in mass communication courses or participating in the subject pool run by the School of Journalism and Mass Communication at the University of Minnesota were recruited, and the participants were randomly assigned to one of the four conditions.

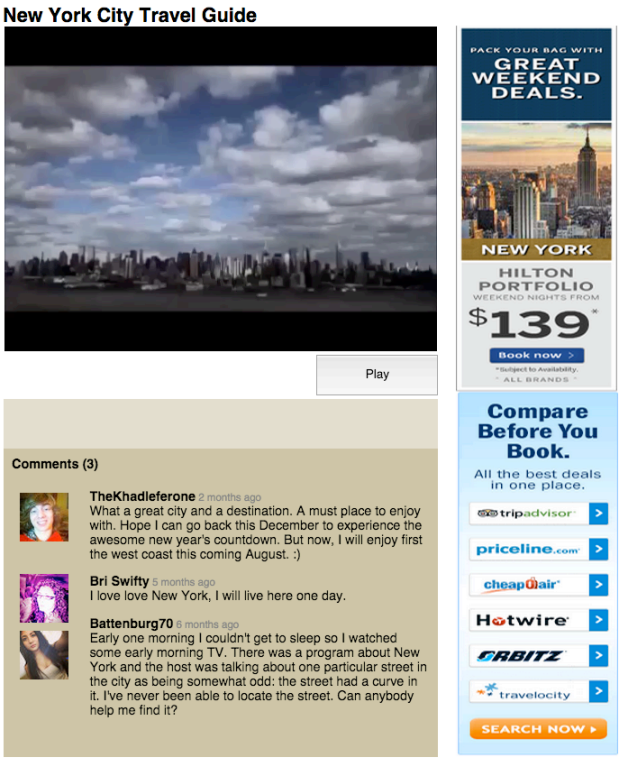
Experimental Stimuli

For the experimental stimuli, a fictitious video-sharing website was set up. As the intended video content, which participants were asked to watch, a six-minute New York City (NYC) travel guide video clip taken from Expedia was used. This video clip shows various tourist attractions in NYC with informative narration. The viewing situation was manipulated under the guise of synthesizing travel information from the travel guide video clip and putting together an itinerary for one day in New York City.

The reasons for why the travel guide video clip was selected and such a viewing situation was created are as follows. First, planning a trip often requires a lot of research. It was believed that this would be the case especially for New York City with numerous tourist attractions. Therefore, asking participants to watch the New York City travel guide

video clip and putting together an itinerary for one day in New York City would create a goal-oriented watching situation. Second, since participants were taking undergraduate mass communication courses at the time of data collection, it was easy to disguise the original intention of this study as examining how students who are taking undergraduate mass communication courses use and synthesize information obtained from online media. Figure 5 shows the fictitious online video website created for the experiment.

Figure 5. Screenshot of the Fictitious Online Video Website



As experimental stimuli, this study used two online video ads promoting an airline company, Pel-Air (unknown to the U.S. market). An online video ad that is similar to the intended video content was created by using an existing 90-second Turkish Airlines New York commercial (https://www.youtube.com/watch?v=yR3G_TMMEtc).

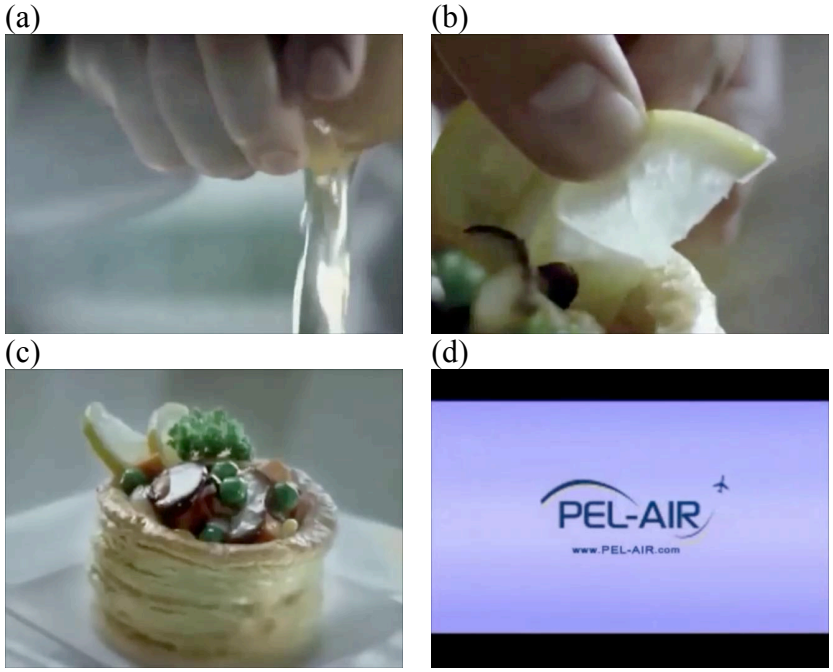
An online video ad that is not similar to the intended video content was created by using a 30-second Qatar Airways commercial (http://www.youtube.com/watch?v=l5cgqSIKc9o). The content of these two online video ads was edited based on the conceptual definition of ad-video similarity. Brand logos or any other cues that may refer to either Turkish Airlines or Qatar Airways were discarded. To control for extraneous factors other than the level of similarity between the ad and the intended video content, both ads were created as 30-second commercials, used the same background music, and promoted the same airline brand. For the brand that was being promoted in both ads, Pel-Air (http://www.pelair.com.au/), which does not have presence in the U.S., was used to control for consumers' existing attitudes toward the brand.

Ad-Video Similarity Manipulation. As discussed earlier, ad-video similarity in this study is conceptualized as similarity between the ad and the video in terms of context, topic, execution styles, and content (Li and Lo 2014; Moorman et al. 2002). The similar online video ad shows New York City attractions (e.g., Empire State Building and Statue of Liberty) and ends with the brand logo. As both the ad and the intended video content featured New York City attractions, the similar ad indeed looked very similar to the Expedia travel guide video. Consequently, it would be hard for participants to notice the difference between the ad and the video content at a quick glance. In contrast, the dissimilar online video ad shows Pel-Air's in-flight food selections and ends with the brand logo. Since the dissimilar ad is designed to look distinctively different from the Expedia travel guide video, participants were expected to be able to easily distinguish the

ad from the video content. Figures 6 and 7 respectively show screenshots of similar and dissimilar online video ads.

Figure 6. Screenshots of the Similar Online Video Ad

Figure 7. Screenshots of the Dissimilar Online Video Ad



Ad Location Manipulation. Ad location within the video was manipulated by placing an online video ad at the beginning and in the middle of the video content. In the pre-roll condition, the embedded ad appears before the Expedia video clip plays, whereas in the mid-roll condition, the ad appears in the middle of the video clip (about half way through the six-minute video clip).

User Control Manipulation. User control was manipulated by either providing an ad skip option or not providing such an option for the embedded experimental ads. Experimental Phase 1 used online video ads without the user control option (i.e., non-skippable ads) only, forcing all participants to see the ad in order to watch the intended travel guide video. While the ad played, a message, "Your video will automatically resume in [the remaining] seconds," appeared. In contrast, all participants in

Experimental Phase 2 were presented with a skip button at the bottom of the video player with a message, "You can skip this ad in 5 seconds."

Pilot Test of the Instruments and Results

After developing the ad stimuli and the first draft of the questionnaire, a pilot test was conducted. The purposes of the pilot test were threefold: (1) checking whether ad stimuli performed as intended; (2) checking the participants' video watching mode to make sure it is goal-oriented as intended; and (3) pretesting the questionnaire. In particular, the first purpose was to check (1) whether the manipulation of ad-video similarity was successful as intended; (2) whether participants were not familiar with the brand (i.e., Pel-Air) used in the experimental ads; and (3) whether participants did not mistake the Expedia's New York City travel guide video clip for the experimental ads. The second was to ensure that (1) participants were in a goal-oriented situation where they were paying attention to the New York City travel guide video clip; and (2) participants experienced neither extremely positive nor negative mood while watching the video clip, since consumers' mood generated by the clip may influence their responses to ads (Kamins, Marks, and Skinner 1991; Mathur and Chattopadhyay 1991). The third purpose was to detect any potential issues in the questionnaire and to make sure the questionnaire was easy to read and follow, and all question instructions and measurement scales were clear.

For the pilot test, a 2 (ad-video similarity: a similar vs. dissimilar ad) × 2 (ad location: a pre-roll vs. mid-roll ad) between-subjects factorial-design experiment was conducted. The experiment was conducted without the user control option (i.e., non-

skippable ads only). A total of 131 participants from the research subject pool run by the School of Journalism and Mass Communication at the University of Minnesota participated in the pilot study, and they received extra credit in exchange for their voluntary participation.

The average age of the pilot test participants was 20.38 (SD = 2.04). Females (69.9%) outnumbered males (30.1%). Most of the participants were non-Hispanic White Americans (64.6%), followed by Asians/Asian Americans (23.9%), Hispanic or Latino (2.7%), African Americans (1.8%), and others (7%).

Participants were randomly assigned to one of the four conditions and completed an online questionnaire after watching the assigned video clip. The similar and pre-roll ad condition had 34 participants, the dissimilar and pre-roll ad condition had 31 participants, the similar and mid-roll ad condition had 34 participants, and the dissimilar and mid-roll ad condition had 32 participants.

Participants were asked to imagine a situation where they are planning to visit New York City and thus search for a travel guide video online to know more about the city. They were asked to watch the New York City travel guide video clip and put together an itinerary for one day in New York City in this hypothetical information search situation. Participants were also informed that Expedia created the travel guide video clip that they were about to watch. After watching the video clip, participants were directed to the online survey and asked to complete the questionnaire, which included questions measuring ad-video similarity manipulation, brand familiarity, viewing mode, and mood.

The first question in the questionnaire asked the participants whether they remember seeing any ad inserted at the beginning or in the middle of the New York City travel guide video clip, in order to screen participants who saw the experimental ad. Among the 131 participants, 113 indicated that they remember seeing the inserted ad. Only these 113 participants were included in the data analysis. As a result, the similar and pre-roll ad condition had 26 participants, the dissimilar and pre-roll ad condition had 29 participants, the similar and mid-roll ad condition had 28 participants, and the dissimilar and mid-roll ad condition had 30 participants.

First, to check the ad-video similarity manipulation, perceived ad-video similarity, which asked participants' first impression when they saw the ad, was measured using four seven-point Likert scales. The four items include: (1) "The ad looked similar to the New York City travel guide video clip"; (2) "The content of the ad seemed similar to that of the New York City travel guide video clip"; (3) "The distinction between the ad and New York City travel guide video clip was blurry"; and (4) "The ad was distinctively different from the New York City travel guide video clip (reverse-coded)." The inter-item consistency was acceptable, and the responses were averaged across the four items (Cronbach's $\alpha = .86$).

Second, to check whether participants were familiar with the brand (i.e., Pel-Air) used in the experimental ads, brand familiarity was measured using three seven-point semantic differential scales (Machleit, Allen, and Madden 1993). The three items include: (1) "unfamiliar – familiar"; (2) "I have no prior experience with the brand – I have extensive experience with the brand"; and (3) "I'm not knowledgeable about the brand –

I'm extremely knowledgeable about the brand." The inter-item consistency was acceptable, and the responses were averaged across the three items (Cronbach's $\alpha = .93$).

Third, to check whether participants did not mistake the Expedia's New York City travel guide video clip for the experimental ads, participants were asked to answer a Yes/No question "Do you remember that New York City travel guide video clip showed the Expedia logo all the way through it?

Fourth, to check whether participants were in a goal-oriented situation, the viewing mode was measured using three seven-point Likert scales. The three items include: "While the New York City travel guide video clip played, I was": (1) "task-oriented to get information from the video clip"; (2) "goal-oriented to get information from the video clip"; and (3) "paying attention to information in the video clip." The inter-item consistency was acceptable, and the responses were averaged across the three items (Cronbach's $\alpha = .70$).

Finally, to make sure that participants experience neutral or mildly positive or negative mood while watching the video clip, mood was measured using five seven-point semantic differential scales (Goldberg and Gorn 1987; Lord, Burnkrant, and Unnava 2001), asking participants' feelings that they had while they watched the video clip. The five items include: (1) "sad – happy"; (2) "not pleasant – pleasant"; (3) "negative – positive"; (4) "depressing – uplifting"; and (5) "not very interesting – interesting." The inter-item consistency was acceptable, and the responses were averaged across the five items (Cronbach's $\alpha = .88$).

The manipulation of the independent variable ad-video similarity was first checked by performing a one-way ANOVA. The results demonstrated that participants who watched the similar online video ad showed a significantly higher level of perceived ad-video similarity (M = 5.35, SD = 1.19) than those who watched the dissimilar online video ad (M = 3.91, SD = 1.45) (F (1, 111) = 32.60, $p < .01$, partial $\eta^2 = .23$), indicating that the manipulation of ad-video similarity was successful.

Next, brand familiarity was checked to confirm that participants were not familiar with the brand and no between-group difference existed. A one-way ANOVA was conducted and the descriptive statistics and test statistics are presented in Table 1. The mean scores across the experimental groups indicated the study participants were not familiar with the brand, Pel-Air, and no significant between-group difference was found (F (3, 109) = 1.73, $p = .17$).

Table 1. Pilot Test Results of ANOVAs and Chi-square Test Across Experimental Conditions

Dependent variables	Similar ad (n = 54)		Dissimilar ad (n = 59)		F / χ^2	p
	Pre-roll (n = 26)	Mid-roll (n = 28)	Pre-roll (n = 29)	Mid-roll (n = 30)		
	M (SD) / n (%)	M (SD) / n (%)	M (SD) / n (%)	M (SD) / n (%)		
Brand familiarity	1.96 (1.31)	1.69 (1.00)	1.84 (1.13)	1.36 (.80)	1.73	.17
Remembering the Expedia logo†	n = 24 (92.3%)	n = 28 (100%)	n = 28 (96.6%)	n = 29 (96.7%)	2.35	.50
Viewing mode	6.17 (.85)	5.68 (.75)	5.68 (.79)	5.63 (1.03)	2.28	.08
Mood	5.42 (.74)	5.54 (.90)	5.39 (1.10)	5.65 (.91)	.50	.69

† Chi-square test

Whether participants remembered the Expedia logo appeared in the travel guide video clip was checked to confirm that participants did not mistake the video clip for experimental ads and no between-group difference existed. A chi-square test showed that a majority of participants (96.5 percent, n = 109) remembered the Expedia logo appeared in the travel guide video clip, and no significant between-group difference was found (χ^2 = 2.35, *df* = 3, *p* = .50).

Viewing mode was checked to make sure that participants were relatively goal-oriented while they were watching the travel guide video clip. A one-sample t-test was conducted by setting the test value at four, which is the middle point of the seven-point Likert scale measurement. The results showed that the mean score for viewing mode was significantly higher than the middle point (M = 5.78, SD = .88, *t* = 21.48, *df* = 112, *p* < .01). Additionally, as shown in Table 1, a one-way ANOVA demonstrated that participants' viewing mode was not different across the four experimental conditions (*F* (3, 109) = 2.28, *p* = .08). The results indicate, as intended, participants were in a goal-oriented viewing mode while they were watching the New York City travel guide video clip.

Additionally, mood was checked to ensure that participants did not experience extremely positive or negative feelings while they were watching the New York City travel guide video clip. In order to test the valence of participants' mood, a one-sample t-test was conducted by setting the test value at four, which is the middle point of the seven-point semantic differential scale measurement. The mean score for mood fell significantly above the middle point (M = 5.50, SD = .92, *t* = 17.36, *df* = 112, *p* < .01),

indicating that participants experienced a mildly positive mood while watching the video clip. Perhaps thinking of traveling to New York City might have led participants to be in a relatively good mood. However, a one-way ANOVA showed that the level of mood was not extremely and no between-group difference was found (F (3, 109) = .50, p = .69) (see Table 1). The results indicate that all participants were in a mildly positive mood while watching the video clip.

The questionnaire was also found to work well. None of the participants raised questions or concerns about any of the questions, and question wordings and instructions were clear and easy to understand. Thus, overall, the pilot test results demonstrated that the questionnaire and the experimental stimuli worked well as intended.

Main Study Sample

A total of 318 participants were recruited for Experimental Phase 1 (non-skippable ads only) and Experimental Phase 2 (skippable ads only) from the subject pool run by the School of Journalism and Mass Communication at the University of Minnesota. The Experimental Phase 1 had 162 participants and they were randomly assigned to one of the four experimental conditions: 42 in the similar and pre-roll ad condition, 43 in the dissimilar and pre-roll ad condition, 38 in the similar and mid-roll ad condition, and 39 in the dissimilar and mid-roll ad condition. A total of 156 participants were recruited for Experimental Phase 2, and they were randomly assigned to one of the four experimental conditions. The similar and pre-roll ad condition had 41 participants, the dissimilar and pre-roll ad condition 39, the similar and mid-roll ad condition 39, and the dissimilar and mid-roll ad condition 37 participants.

Data Collection Procedure of the Main Study

Participants were invited to a research lab to participate in a study on synthesizing information delivered by online media. Upon arriving at the research lab, participants were seated in front of a computer with an eye-tracking device. This study used Tobii X60, which records eye movements at a rate of 60 Hz (i.e., 60 gaze data points per second are collected from each eye of the participant) (Tobii Technology 2010). A binocular camera was placed at the bottom of a 23" wide-screen monitor with a resolution of 1280 × 1024 pixels. As suggested by Tobii Technology (2010), the tracking distance between participants' eyes and the eye-tracking device was kept between 50cm to 80cm. Given that one of the key outcomes this study focuses on is consumers' ad avoidance while watching the online video clip, various secondary attention objects were placed on the desk including magazines and some pictures.

Once participants were seated, the researcher first thanked them, informed them of their rights as a research participant, and told them that they would be participating in a study about assessing students' ability to learn information delivered by a short online video clip. In order to create a goal-oriented situation, participants were asked to carefully watch the New York City travel guide video clip and put together an itinerary for one day in New York City using the information from the video clip. Participants were also informed that the travel guide video clip was created by Expedia.

Next, participants were also informed that their eye-movement would be recorded. Participants were then told that the eye-tracking device needs a calibration procedure so that the device can measure the arrangement of their eyes and pupil in

relation to the device. Before starting the experiment, all participants went through the calibration procedure using a 9-point calibration slide displayed on the computer monitor. In case the calibration procedure was not successful (e.g., a mismatch between a gaze point captured by the eye-tracking device and the actual dot position), participants went through the recalibration procedure.

Once the calibration process was completed, the experimental webpage was open. Participants were instructed to put headphones on and click the play button whenever they were ready. At this moment, the researcher left the room. Immediately after watching the video clip, participants were directed to an online survey site to answer questions. Once the questionnaire was completed, participants were debriefed and thanked again for their participation.

Measurements

The questionnaire includes measures for the New York City travel guide video clips to mask the original intention of this study and this study's key variables, such as (1) screening question – ad recognition, (2) brand recall and recognition, (3) perceived ad relevance, (3) perceived manipulativeness, (4) psychological reactance, (5) attitude toward the ad, (6) attitude toward the brand, (7) cognitive ad avoidance, (8) manipulation check variables (perceived ad-video similarity and perceived user control), and (9) covariates, including demographics and individuals' reactance proneness and persuasion knowledge.

Questions regarding the New York City Travel Guide Video Clip. The first set of questions in the questionnaire was related to the New York City travel guide video clip to

ensure participants believe that the objective of this study was to test their ability to comprehend information from the video clip and to complete the assigned task.

The first question was a Yes/No question, asking, "Have you ever been to New York City?" The second question measured New York City familiarity by asking, "Please indicate the degree to which you find New York City to be familiar on the following attributes," by using three seven-point semantic differential scales (Machleit et al. 1993). The three items include: "unfamiliar – familiar"; "I have no prior experience with New York City – I have extensive experience with New York City"; and "I'm not knowledgeable about New York City – I'm extremely knowledgeable about New York City." The third question asked participants to put together an itinerary for one day in New York City. The following instruction was provided: "As suggested in the video clip that you have just watched, New York City has a wide variety of places to visit. Suppose that you have one day in New York City and want to get the most out of the city. Based on the information about New York City that was presented in the video clip that you just watched, please think about places in New York City you would like to visit and put together an itinerary for one day in New York City."

Screening Question – Ad Recognition. Ad recognition was used as a screening question. It was measured by asking, "Do you remember seeing the ad inserted at the beginning or in the middle of the New York City travel guide video clip?" Participants who responded "Yes" were directed to proceed to the remaining questions. Participants who responded "No" were directed to the last section of the questionnaire, which

includes the measures for individuals' reactance proneness and persuasion knowledge and demographics.

Brand Recall. Brand recall was assessed by an open-ended question asking, "What was the brand name being promoted in the ad?" Participants were instructed to type in the brand name.

Brand Recognition. Brand recognition was measured by presenting participants with several brand names, one of which was the correct brand that appeared in the ad and others were incorrect. The question asked, "Please choose the correct brand name being promoted in the ad." The response options included: (1) Pearl Air; (2) Pel-Air; (3) Pac Air; (4) Polo-Air; (5) Pat Bay Air; (6) None of the above; and (7) Don't know. The answer indicating (2) "Pel-Air," was coded as "1" for correct brand recognition and all other answers were coded as "0" meaning incorrect brand recognition.

Perceived Ad Relevance. Perceived ad relevance was measured using three seven-point semantic differential scales adapted from Laczniak and Muehling (1993). The instruction was provided as follows: "Please indicate the degree to which you found the ad to be relevant to your task of making a list of places to visit in New York City on the following attributes. For each item, click the number that best represents your opinion." The items included: (1) "not at all relevant to my task – very relevant to my task"; (2) "not helpful in fulfilling my task – helpful in fulfilling my task"; and (3) "useless in completing my task – useful in completing my task."

Perceived Manipulativeness. Perceived manipulativeness was measured in two ways. First, it was measured using four seven-point Likert scales adapted from Campbell

(1995). The items included: (1) “The ad strategy seems misleading”; (2) “The ad seems to try to deceive the viewer”; (3) “The advertiser seems to try to make the ad appear to be a part of the video content to attract the viewer’s attention”; and (4) “I was annoyed by the ad because the advertiser seemed to have tried to make the ad appear to be a part of the video content.” Second, participants were asked to type in the thoughts that crossed their mind as they were watching the New York City travel guide video clip and the ad and to evaluate each thought as positive, negative, or neutral.

Psychological Reactance. Psychological reactance was measured in both cognitive and affective aspects (Dillard and Shen 2005). To measure the cognitive component of psychological reactance, the same open-ended question measuring perceived manipulativeness was used. In addition to the open-ended measure for cognitive psychological reactance, participants were asked to indicate the degree to which they believe the ad was intrusive by using six seven-point Likert scales (Li et al. 2002). As discussed earlier, ad intrusiveness is conceptualized as the cognitive outcome of psychological reactance and as an influencing factor of ad avoidance (Edwards et al. 2002; Li et al. 2002). The items included: I felt the ad was (1) “interfering with my video watching”; (2) intrusive; (3) obtrusive; (4) bothersome; (5) invasive; and (6) distracting.

To measure the affective aspect of psychological reactance, participants were asked to indicate the degree to which they experienced positive or negative feelings about the ad by using five seven-point Likert scales. Given the conceptual similarity between the affective component of psychological reactance and ad irritation, Ducoffe’s (1996)

five-item ad irritation scale was used. The items included: I felt the ad was (1) "insulting my intelligence"; (2) "annoying"; (3) "irritating"; (4) "deceptive"; and (5) "confusing."

Attitudes toward the Ad. Attitude toward the ad was measured using five seven-point semantic differential scales asking, "Please rate the ad on the following attributes" (Mackenzie et al. 1986). The five items included: (1) "bad – good", (2) "unfavorable – favorable", (3) "dislike – like", (4) "worthless – valuable", and (5) "negative – positive."

Attitudes toward the Brand. Attitude toward the advertised brand was also measured using five seven-point semantic differential scales asking, "Please rate the advertised brand on the following attributes" (Mackenzie et al. 1986). The five items included: (1) "bad – good", (2) "unfavorable – favorable", (3) "dislike – like", (4) "worthless – valuable", and (5) "negative – positive."

Ad Avoidance. As previously discussed, ad avoidance is categorized into two types: cognitive and behavioral ad avoidance. The Experimental Phase 1 measured cognitive ad avoidance only because there was no ad skip option available. In contrast, the Experimental Phase 2 measured both cognitive and behavioral ad avoidance.

Cognitive ad avoidance. Cognitive avoidance was measured using two different approaches: mechanical observation by the eye-tracking device and self-reported measurement. An eye-tracking software program called, Tobii Studio version 3.2, was used to display the experimental website, to record participants' eye movements, and to obtain two eye-movement metrics – fixation count and fixation duration. In particular, the experimental webpage was divided into two areas. One was the area of interest (AOI) representing the video player, which took about half of the computer screen. The other

was the area outside of the AOI, which showed fictitious users' comments about the video clip and fake vertical banner ads. Fixation count and fixation duration were calculated based on AOI: (1) The AOI fixation count "measures the number of times the participant fixates on an AOI" while the ad plays (Tobii Technology 2014, p. 103); and (2) the AOI fixation duration "measures the duration of each individual fixation within an AOI" while the ad plays (Tobii Technology 2014, p. 101). Higher AOI fixation count and AOI fixation duration indicate lower cognitive ad avoidance.

In addition to eye-movement data, self-reported cognitive ad avoidance was measured by two seven-point Likert scales adapted from Speck and Elliott (1997) and Cho and Cheon (2004). The items included: "I intentionally ignored the inserted video ad" and "I intentionally did not pay attention to the inserted video ad."

Behavioral ad avoidance. Behavioral ad avoidance was measured by observing participants' actual behavior saved on the experimental web server. The first behavioral ad avoidance variable, skipping, was dichotomously coded (1 = "no" and 2 = "yes"). The second behavioral ad avoidance variable was measured by checking the ad exposure duration. It was recorded on the server, ranging from five seconds to 30 seconds. The five seconds of ad exposure indicates that participants were exposed to the ad for the first five seconds only and skipped the ad immediately after the skip option became active. In contrast, 30 seconds of ad exposure indicates that participants were exposed to the ad for the first five seconds and continued to watch the entire ad until it ended. Longer duration of ad exposure indicates lower behavioral ad avoidance.

Covariates. The covariate measures were asked of all the participants, including participants who did not remember seeing the experimental ad. Covariates included consumer demographics, such as age, gender, and household income, individuals' reactance proneness (Dillard and Shen 2005; Shen and Dillard 2005), and persuasion knowledge (Bearden et al. 2001). In addition, consumers' NYC familiarity that was included in the section of questions regarding the New York City Travel guide video clip was used as a potential covariate. Demographics are considered potential covariates because consumers who are younger (Danaher 1995; Heeter and Greenberg 1985; Speck and Elliott 1997), male (Heeter and Greenberg 1985), and with higher household income (Zufryden et al. 1993), are more likely to avoid ads. Individuals with a higher level of reactance proneness may find online video ads more intrusive and irritating, resulting in a higher likelihood of performing ad avoidance. Individuals with a higher level of persuasion knowledge would be more likely to evaluate similar online video ads more negatively and avoid them because of their extensive knowledge in terms of advertisers' use of manipulative persuasion tactics (Wei et al. 2008; Yoo 2009).

Reactance proneness was measured by using Shen and Dillard's (2005) 11 seven-point Likert scales. The measurement items included: (1) "I become frustrated when I am unable to make free and independent decisions"; (2) It irritates me when someone points out things which are obvious to me"; (3) "I become angry when my freedom of choice is restricted"; (4) "Regulations trigger a sense of resistance in me"; (5) "I find contradicting others stimulating"; (6) "When something is prohibited, I usually think, 'That's exactly what I am going to do'"; (7) "I resist the attempts of others to influence me"; (8) "It

makes me angry when another person is held up as a role model for me to follow"; (9) "When someone forces me to do something, I feel like doing the opposite"; (10) "I consider advice from others to be an intrusion"; and (11) "Advice and recommendations usually induce me to do just the opposite."

Persuasion knowledge was measured by using Bearden et al.'s (2001) six seven-point Likert scales. The measurement items included: (1) "I know when an offer is 'too good to be true'"; (2) "I can tell when an offer has strings attached"; (3) "I have no trouble understanding the bargaining tactics used by salespersons"; (4) "I know when a marketer is pressuring me to buy"; (5) "I can see through sales gimmicks used to get consumers to buy"; and (6) "I can separate fact from fantasy in advertising."

At the end of the questionnaire, participants were asked to answer demographic questions, including their age, gender, race, and household income. Age was measured by an open-ended question, "in what year were you born?" Gender was measure by a closed-ended question, "what is your gender?" The response options included (1) male and (2) female. Race was measured by a closed-ended question, "what is your racial/ethnic background?" The response options included: (1) White or Caucasian (non-Hispanic), (2) Black or African American, (3) Asian, (4) Hispanic or Latino, (5) Native American or Alaska Native, (6) Native Hawaiian or other Pacific Islander, and (7) Other or mixed race. Household income was measured by a closed-ended question, "before taxes, which of the following categories did your family income fall into last year?" The response options included: (1) less than $10,000, (2) $10,000 – under $20,000, (3) $20,000 – under

$30,000, (4) $30,000 – under $50,000, (5) $50,000 – under $75,000, (6) $75,000 – under $100,000, (7) $100,000 to under $200,000, (8) $200,000 or more, and (9) Don't know.

Manipulation Check Measures. For checking the ad-video similarity manipulation, participants were asked to answer the question asking, "Please click the number that best represents your first impression when you saw the ad," by using four seven-point Likert scales. The items included: (1) "The ad looked similar to the New York City travel guide video clip"; (2) "The content of the ad seemed similar to that of the New York City travel guide video clip"; (3) "The distinction between the ad and New York City travel guide video clip was blurry"; and (4) "The ad was distinctively different from the New York City travel guide video clip (reverse-coded)."

For checking the user control factor, perceived user control was measured by asking, "Please indicate the degree to which you thought you had an option to skip the ad to watch the New York City travel guide video clip. For each item, click the number that best represents your opinion," using three seven-point Likert scales. These scales were adapted from Wu's (2005) perceived interactivity scales. The items included: (1) "I was in control of skipping the ad to watch the New York City travel guide video clip"; (2) "I had some control over watching the New York City travel guide video clip by skipping the ad"; and (3) "I had an option to skip the ad to watch the New York City travel guide video clip."

CHAPTER 7

DATA ANALYSIS AND RESULTS

Variable Construction and Reliability Tests

Brand Recall. The open-ended brand recall data were coded by two independent coders who were blind to the experimental conditions. Correct and slightly misspelled answers were coded "2." Incorrect and partial (e.g., only first letter of the brand) answers and no answer were coded as "1." Inter-coder reliability showed perfect agreement between two coders (i.e., Scott's $\pi = 1$).

Perceived Ad Relevance. A summated perceived ad relevance score was computed by averaging the three measurement items. A Cronbach's alpha test demonstrated acceptable measurement reliability (Cronbach's $\alpha = .96$).

Perceived Manipulativeness. As described in the Method chapter, perceived manipulativeness was measured in two ways: (1) a closed-ended question with four Likert scales and (2) an open-ended question. However, the open-ended measure was unusable because a majority of participants (90.4 percent, $n = 245$) did not type in any thought regarding perceived manipulativeness. Thus, a summated perceived manipulativeness score was computed by averaging the four Likert scale measurement items (Cronbach's $\alpha = .72$).

Psychological Reactance. Cognitive and affective dimensions of psychological reactance were measured by three sets of questions. The open-ended cognitive psychological reactance data were coded by two independent coders following the method used by Dillard and Shen (2005). First, given that the affective aspect of

psychological reactance was measured by other questions, affective responses were removed. Classifying data as affective responses was guided by a list of feeling terms suggested by Shaver et al. (1987). Second, coders eliminated any cognitive responses that were not relevant to the ad. Finally, coders counted the number of times negative thoughts related to the ad were mentioned. Specifically, coders counted total number of negative thoughts about ad-video similarity (e.g., "Was confused if it was ad or video"), negative thoughts related to user control (e.g., "I wish I could skip it"), and negative thoughts about the ad content, such as background music, the advertised brand, and ad placement (e.g., "Why is this in the middle of the video?"). The total count of all negative thoughts was computed to form a cognitive psychological reactance score. A few minor disagreements occurred between the two coders, and re-checking and recounting were performed until the coders reached agreement for all. As a result, inter-coder reliability showed perfect agreement between two coders (Krippendorff's $\alpha = 1$). As another indicator of cognitive psychological reactance, a perceived ad intrusiveness score was computed by averaging the six measurement items (Cronbach's $\alpha = .91$). Next, for the affective psychological reactance, an ad irritation score was computed by averaging the five measurement items (Cronbach's $\alpha = .75$).

Attitudes toward the Ad and the Brand. Two summated attitude scores, attitude toward the ad (A_{ad}) and attitude toward the brand (A_{brand}), were created by averaging the five measurement items for each attitude type. Both attitude toward the ad (A_{ad}) and attitude toward the brand (A_{brand}) had acceptable reliability (A_{ad}: Cronbach's $\alpha = .89$; A_{brand}: Cronbach's $\alpha = .93$).

Cognitive Ad Avoidance. First, from the eye-movement data, AOI fixation count and AOI fixation duration were obtained as cognitive ad avoidance variables. The AOI fixation count data ranged from two to 106 counts, and the AOI fixation duration data ranged from 0 to 30 seconds. Additionally, for Experimental Phase 2, standardized fixation count and standardized fixation duration scores were calculated to control for the individual variance in the total duration of ad exposure among the participants due to the availability of the ad skip option. The standardized fixation count was obtained by multiplying the raw fixation count by 30 seconds divided by the participant's ad exposure duration (standardized fixation count = raw fixation count × (30 ÷ ad exposure duration)). The standardized fixation duration was obtained by dividing the raw fixation duration by 30 seconds (standardized fixation duration = raw fixation duration × 1/30).

In addition to the eye-movement data, a self-reported cognitive ad avoidance score was computed by averaging the two measurement items. A Pearson's correlation coefficient demonstrated acceptable measurement reliability (Pearson's $r = .88$).

Behavioral Ad Avoidance. Behavioral ad avoidance was measured only in the Phase 2 where the ad skip option was available and two different behavioral avoidance variables were created from this. First, a dichotomous ad skip variable was constructed by observing whether participants clicked on the skip button or not. When the participant clicked on the skip button, the response was coded as "2," indicating presence of behavioral ad avoidance. In contrast, when the participant did not click on the skip button, the response was coded as "1," indicating absence of behavioral ad avoidance. Second, the variable of ad exposure duration was constructed based on when participants

clicked on the skip button. The ad exposure variable ranged from five seconds (behavioral ad avoidance occurred immediately when the skip option became active) to 30 seconds (behavioral ad avoidance did not occur and the ad viewing was complete).

Covariates. First, the reactance proneness score was created by averaging the 11 measurement items (Cronbach's $\alpha = .81$). Second, the persuasion knowledge score was created by averaging the six measurement items (Cronbach's $\alpha = .86$). Third, NYC familiarity score was computed by averaging three measurement items (Cronbach's $\alpha = .82$).

Manipulation Check Variables. Two manipulation check variables were created. First, the perceived ad-video similarity score was computed by averaging the four measurement items (Cronbach's $\alpha = .87$). Second, the perceived user control score was computed by averaging the three measurement items (Cronbach's $\alpha = .96$).

Sample Characteristics

Among the 318 participants, 271 (85.2%) indicated that they remembered seeing the ad at the beginning or in the middle of the video clip and only these respondents were included in the data analyses. Within the 162 participants who were recruited for Experimental Phase 1 (non-skippable ad condition hereafter), 139 participants (85.8%) indicated that they remembered seeing the ad inserted in the New York City travel guide video clip. The similar and pre-roll ad condition had 33 participants who passed the screening, the dissimilar and pre-roll ad condition had 36, the similar and mid-roll ad condition had 33, and the dissimilar and mid-roll ad condition had 37.

Among the 156 participants who were recruited for Experimental Phase 2 (skippable ad condition hereafter), 132 participants (84.6%) indicated that they remembered seeing the ad. The similar and pre-roll ad condition had 28 participants who passed the screening, the dissimilar and pre-roll ad condition had 35, the similar and mid-roll ad condition had 36, and the dissimilar and mid-roll ad condition had 33.

Table 2 summarizes the demographic characteristics of (1) the total sample, (2) the non-skippable ad condition sample, and (3) the skippable ad condition sample, after the screening. The average age of the total sample was 20.3. The overall sample was predominantly female (total sample: 69.3 percent; non-skippable ad condition sample: 67.4 percent; skippable ad condition sample: 71.2 percent). A majority of the sample was White (total sample: 78.6 percent; non-skippable ad condition sample: 71.2 percent; skippable ad condition sample: 86.4 percent). More than half of the sample had household income above $75,000.

Table 2. Demographic Characteristics of the Sample

	Total sample (N = 271)		Non-skippable ad sample (N = 139)		Skippable ad sample (N = 132)	
Age (mean)	20.3 (SD = 1.8)		20.4 (SD = 2.2)		20.1 (SD = 1.3)	
	n	%	n	%	n	%
Gender						
Male	83	30.7	45	32.6	38	28.8
Female	187	69.3	93	67.4	94	71.2
Total	270	100.0	138	100.0	132	100.0
Race						
White or Caucasian (non-Hispanic)	213	78.6	99	71.2	114	86.4
Black or African American	9	3.3	7	5.0	2	1.5
Asian	32	11.8	24	17.3	8	6.1
Hispanic or Latino	8	3.0	4	2.9	4	3.0
Native American or Alaska Native	-	-	-	-	-	-
Native Hawaiian or other Pacific Islander	-	-	-	-	-	-
Other or mixed race	9	3.3	5	3.6	4	3.0
Total	271	100.0	139	100.0	132	100.0
Household income						
Less than $10,000	15	5.5	6	4.3	9	6.8
$10,000 – under $20,000	7	2.6	5	3.6	2	1.5
$20,000 – under $30,000	8	3.0	6	4.3	2	1.5
$30,000 – under $50,000	15	5.5	8	5.8	7	5.3
$50,000 – under $75,000	24	8.8	15	10.8	9	6.8
$75,000 – under $100,000	40	14.8	20	14.4	20	15.2
$100,000 to under $200,000	75	27.7	35	25.1	40	30.3
$200,000 or more	39	14.4	19	13.7	20	15.2
Don’t know	48	17.7	25	18.0	23	17.4
Total	271	100.0	139	100.0	132	100.0

Randomization Check

Before testing hypotheses, a series of chi-square tests and ANOVAs was performed to examine differences in covariates and demographic characteristics among the eight experimental conditions (non-skippable and skippable ad conditions combined)

or across the four experimental conditions within each of the non-skippable and skippable ad conditions. Randomization check was performed with both the combined and separate samples because data analyses testing H15 and H16 would involve the combined sample, whereas all other data analyses would involve the separate samples. Covariates included individuals' reactance proneness, persuasion knowledge, and NYC familiarity. Demographics included age, gender, race, and household income. Race and household income were recoded into fewer categories, since some cells had less than five participants. In particular, race was recoded into two groups (white and non-white). Household income was recoded into three groups (less than 50,000, 50,000 to under 100,000, and 100,000 or more).

As shown in Table 3, in each of the ad skip conditions, none of these variables were significantly different among the four experimental conditions. However, when non-skippable and skippable ad conditions were combined, race was significantly different among the eight experimental conditions. Nonetheless, there is neither theoretical justification nor empirical evidence suggesting the possibility of race having any influence on the dependent variables. Thus, no covariate was included in testing hypotheses.

Table 3. Results of ANOVAs and Chi-square Tests of Covariates and Demographics Across Experimental Conditions

Variables	*df*	*F* / Chi-square	*p*
Combined test			
Reactance proneness	7, 263	.94	.48
Persuasion knowledge	7, 263	1.07	.38
NYC familiarity	7, 263	.50	.84
Age	7, 260	1.22	.29
Gender†	7	7.37	.39
Race†	7	17.94	.01*
Household income†	14	13.30	.50
Non-skippable ad condition only			
Reactance proneness	3, 135	.90	.45
Persuasion knowledge	3, 135	1.69	.17
NYC familiarity	3, 135	.89	.45
Age	3, 133	1.18	.32
Gender†	3	3.74	.29
Race†	3	5.22	.16
Household income†	6	9.23	.16
Skippable ad condition only			
Reactance proneness	3, 128	1.33	.27
Persuasion knowledge	3, 128	.54	.66
NYC familiarity	3, 128	.13	.94
Age	3, 127	.30	.83
Gender†	3	3.16	.37
Race†	3	3.36	.34
Household income†	6	2.56	.86

* $p < .05$; † Chi-square test

Manipulation Check

A series of one-way ANOVAs was performed to examine the difference in perceived ad-video similarity between the similar ad and the dissimilar ad conditions and the difference in perceived user control between the non-skippable ad and the skippable ad conditions.

The results demonstrated that the difference in perceived ad-video similarity between the similar ad (M = 5.38, SD = 1.02) and the dissimilar ad conditions (M = 3.50, SD = 1.39) was significant (F (1, 269) = 158.71, $p < .01$, partial $\eta^2 = .37$). This held true when the manipulation check was conducted separately for the non-skippable ad condition ($M_{similar\ ad} = 5.28$, $SD_{similar\ ad} = .97$, $M_{dissimilar\ ad} = 3.54$, $SD_{dissimilar\ ad} = 1.38$, F (1, 137) = 72.50, $p < .01$, partial $\eta^2 = .35$) and skippable ad condition ($M_{similar\ ad} = 5.49$, $SD_{similar\ ad} = 1.07$, $M_{dissimilar\ ad} = 3.46$, $SD_{dissimilar\ ad} = 1.42$, F (1, 130) = 85.72, $p < .01$, partial $\eta^2 = .40$). The results showed that participants in the similar ad condition perceived the ad to be more similar to the video clip than those in the dissimilar ad condition, indicating that the manipulation of ad-video similarity was successful.

The difference in perceived user control between the non-skippable ad (M = 1.86, SD = 1.32) and the skippable ad conditions (M = 4.70, SD = 2.02) was also found to be significant (F (1, 268) = 189.43, $p < .01$, partial $\eta^2 = .41$), indicating that participants in the skippable ad condition, as compared to those in the non-skippable ad condition, perceived that the ad provided users with a higher level of controllability in terms of skipping the ad. Thus, the manipulation was successful as intended.

Hypotheses Testing Part 1: Effects of Ad-Video Similarity on Ad Avoidance and Outcomes

H1 through H8 test the main effects of ad-video similarity on ad avoidance and ad outcomes (i.e., brand memory and attitudes toward the ad and the brand) and the psychological mechanisms involved in such effects. Particularly, H1 predicts that ad-

video similarity would have positive impacts on ad avoidance and ad outcomes, whereas H5 predicts the opposite.

H2 posits that perceived relevance would mediate the positive effects of ad-video similarity on ad avoidance and ad outcomes. H3 predicts the mediating role of ad avoidance in the positive effects of ad-video similarity on brand memory and attitude toward the brand, such that a similar online video ad would lower ad avoidance, resulting in higher brand memory and more positive attitude toward the brand. H4 predicts the mediating role of attitude toward the ad in the positive effect of ad-video similarity on attitude toward the brand, in that a similar online video ad would generate more positive attitude toward the ad, and subsequently more positive attitude toward the brand.

On the contrary, H6 posits that perceived manipulativeness would mediate the negative effects of ad-video similarity on ad avoidance and ad outcomes. H7 predicts that a similar online video ad would increase ad avoidance, resulting in lower brand memory and more negative attitude toward the brand. H8 hypothesizes negative effect of a similar online video ad on attitude toward the brand through the mediating process of its negative impact on attitude toward the ad.

The following sections will present the results of H1 and H5 testing, separately for the non-skippable and skippable ad conditions. These test results will reveal which of the two competing hypotheses is supported and, therefore, determine which of the subsequent mediating hypotheses should be tested. For example, if the test results provide support for H1, not H5, subsequent mediating effect tests will be performed for H2 through H4, and H6 through H8 will be dropped. In contrast, if the results support H5,

subsequent mediating analyses will test H6 through H8, and H2 through H4 will be dropped.

H1 and H5: Positive (H1) or Negative (H5) Effects of Ad-Video Similarity. H1 predicted that a similar (vs. dissimilar) online video ad would generate (a) higher perceived relevance, (b) more positive attitude toward the ad, (c) lower ad avoidance, (d) higher brand memory, and (e) more positive attitude toward the brand. In contrast, H5 predicted that a similar (vs. dissimilar) online video ad would generate (a) higher perceived manipulativeness, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.

First, a series of one-way ANOVAs was conducted for continuous dependent variables (perceived relevance, perceived manipulativeness, self-reported cognitive ad avoidance, fixation count, fixation duration, ad exposure duration, attitudes toward the ad, and attitude toward the brand). For categorical dependent variables (brand recall and recognition, and ad skipping), chi-square tests were performed. All tests were done separately for the non-skippable and skippable ad conditions. For analyzing the eye-movement data indicating cognitive ad avoidance (fixation count and fixation duration), raw fixation count and fixation duration scores were analyzed in the non-skippable ad condition, but in the skippable ad condition both raw and standardized scores were analyzed to control for the individual variance in the total duration of ad exposure among the participants due to the availability of the ad skip option.

Non-Skippable Ad Condition. Table 4 shows the results of one-way ANOVAs and chi-square tests for the non-skippable ad condition. The results demonstrated that the

similar ad condition generated (a) higher perceived relevance (F (1, 137) = 21.76, p < .01, partial η^2 = .14), (b) more positive attitude toward the ad (F (1, 137) = 8.18, p < .01, partial η^2 = .06), and (c) lower self-reported cognitive ad avoidance (F (1, 137) = 10.27, p < .01, partial η^2 = .07), higher fixation count (F (1, 134) = 48.44, p < .01, partial η^2 = .27), and higher fixation duration (F (1, 134) = 9.32, p < .01, partial η^2 = .07), compared to the dissimilar ad condition. The findings indicate that, when online video ads are non-skippable, a similar ad is perceived to be more relevant and generates more positive attitudes toward the ad and lower ad avoidance than a dissimilar ad.

Table 4. Results of One-Way ANOVAs and Chi-square Tests between Similar and Dissimilar Ads (Non-skippable Ad Condition, N = 139)

Dependent variables	Similar ad (n = 66) M (SD) / n (%)	Dissimilar ad (n = 73) M (SD) / n (%)	*df*	F / χ^2	*p*
H1a					
Perceived relevance	4.18 (1.72)	2.71 (1.96)	1, 137	21.76**	.00
H5a					
Perceived manipulativeness	4.29 (1.28)	4.24 (1.25)	1, 137	.04	.84
H1b and H5b					
Attitude toward the ad	5.19 (.94)	4.65 (1.24)	1, 137	8.18**	.00
H1c and H5c					
Self-reported cognitive ad avoidance	2.86 (1.64)	3.90 (2.10)	1, 137	10.27**	.00
Fixation count	63.56 (20.15)	40.01 (19.28)	1, 134	48.44**	.00
Fixation duration	19.82 (6.35)	15.90 (8.36)	1, 134	9.32**	.00
H1d and H5d					
Correct brand recall†	n = 12 (18.2%)	n = 14 (19.2%)	1	.02	.88
Correct brand recognition†	n = 37 (56.1%)	n = 36 (49.3%)	1	.63	.43
H1e and H5e					
Attitude toward the brand	4.61 (1.06)	4.32 (1.14)	1, 137	2.43	.12

† Chi-square test; * $p < .05$; ** $p < .01$

Skippable Ad Condition. As shown in Table 5, similar patterns were found in the skippable ad condition. The similar ad condition, as compared to the dissimilar ad condition, generated (a) higher perceived relevance (F (1, 130) = 42.90, $p < .01$, partial η^2 = .25), (b) more positive attitude toward the ad (F (1, 130) = 6.48, $p < .05$, partial η^2 = .05), (c) lower self-reported cognitive ad avoidance (F (1, 130) = 24.58, $p < .01$, partial η^2

= .16), higher fixation count (F (1, 128) = 114.15, p < .01, partial η^2 = .47), higher standardized fixation count (F (1, 128) = 91.77, p < .01, partial η^2 = .42), higher fixation duration (F (1, 128) = 58.43, p < .01, partial η^2 = .31), higher standardized fixation duration (F (1, 128) = 40.38, p < .01, partial η^2 = .24), longer ad exposure (F (1, 130) = 47.45, p < .01, partial η^2 = .27), and lower ad skipping rate (χ^2 = 36.52, df = 1, p < .01), (d) higher brand recognition (χ^2 = 7.64, df = 1, p < .01), and (e) more positive attitude toward the brand (F (1, 130) = 8.53, p < .01, partial η^2 = .06). The findings indicate that, when online video ads are skippable, similar ads are perceived to be more relevant and generate more positive attitude toward the ad, lower ad avoidance, higher brand memory, and more positive attitude toward the brand than dissimilar ads.

Table 5. Results of One-Way ANOVAs and Chi-square Tests between Similar and Dissimilar Ads (Skippable Ad Condition, N = 132)

Dependent variables	Similar ad (n = 64) M (SD) / n (%)	Dissimilar ad (n = 68) M (SD) / n (%)	*df*	F / χ^2	*p*
H1a					
Perceived relevance	4.54 (1.80)	2.50 (1.78)	1, 130	42.90**	.00
H5a					
Perceived manipulativeness	4.46 (1.16)	4.15 (1.24)	1, 130	2.20	.14
H1b and H5b					
Attitude toward the ad	4.93 (1.08)	4.45 (1.10)	1, 130	6.48*	.01
H1c and H5c					
Self-reported cognitive ad avoidance	3.13 (1.63)	4.78 (2.13)	1, 130	24.58**	.00
FC	64.81 (19.37)	26.48 (21.40)	1, 128	114.15**	.00
Standardized FC	65.45 (17.85)	36.30 (16.84)	1, 128	91.77**	.00
FD	19.80 (5.88)	9.67 (8.84)	1, 128	58.43**	.00
Standardized FD	.66 (.18)	.42 (.25)	1, 128	40.38**	.00
Ad exposure duration	29.40 (3.42)	19.61 (10.88)	1, 130	47.54**	.00
Ad skipping†	n = 2 (3.1%)	n = 34 (50%)	1	36.52**	.00
H1d and H5d					
Correct brand recall†	n = 13 (20.3%)	n = 8 (11.8%)	1	1.80	.18
Correct brand recognition†	n = 36 (56.3%)	n = 22 (32.4%)	1	7.64*	.01
H1e and H5e					
Attitude toward the brand	4.56 (1.21)	3.99 (1.04)	1, 130	8.53**	.00

Note: FC = fixation count; FD = fixation duration

† Chi-square test; * $p < .05$; ** $p < .01$

Next, a series of two-way ANOVAs and logistic regression analyses was performed to examine the effects of ad-video similarity after controlling for the ad location factor and the interaction term (ad-video similarity × ad location). Two-way

ANOVAs were conducted for continuous dependent variables (perceived relevance, perceived manipulativeness, self-reported cognitive ad avoidance, fixation count, fixation duration, ad exposure duration, attitudes toward the ad, and attitude toward the brand) with ad-video similarity, ad location, and the interaction term as independent variables. For categorical dependent variables (brand recall and recognition, and ad skipping), a series of logistic regression analyses was performed with dummy-coded ad-video similarity (0 = dissimilar ad and 1 = similar ad), ad location (0 = mid-roll ad and 1 = pre-roll ad), and the interaction term (ad-video similarity × ad location) as independent variables.

Non-Skippable Ad Condition. Tables 6 shows the results of two-way ANOVAs for the non-skippable ad condition. The result demonstrated that, in line with the findings from the previous one-way ANOVA results, the mean scores for perceived relevance were significantly different between the similar ad (M = 4.18, SD = 1.72) and dissimilar ad conditions (M = 2.71, SD = 1.96) (F (1, 135) = 21.49, $p < .01$, partial $\eta^2 = .14$). In contrast, the mean scores for perceived manipulativeness were not significantly different between the similar ad (M = 4.29, SD = 1.28) and dissimilar ad conditions (M = 4.24, SD = 1.25) (F (1, 135) = .04, $p = .84$). This indicates that similar ads are not perceived to be more manipulative, but to be more relevant. Thus, H1a is supported, whereas H5a is not supported.

Table 6. Two-Way ANOVAs Testing the Effects of Ad-Video Similarity (Non-skippable Ad Condition, N = 139)

Dependent variables	Similar ad (n = 66)		Dissimilar ad (n = 73)		*F* (*p*-value)		
	Pre-roll ad (n=33)	Mid-roll ad (n=33)	Pre-roll ad (n=36)	Mid-roll ad (n=37)	AS	AL	AS × AL
	M (SD)	M (SD)	M (SD)	M (SD)			
H1a							
Perceived relevance	4.31 (1.75)	4.04 (1.72)	2.74 (1.86)	2.68 (2.09)	21.49**	.28 (.60)	.11 (.74)
H5a							
Perceived manipulativeness	4.03 (1.27)	4.55 (1.25)	4.18 (1.33)	4.31 (1.18)	.04 (.84)	2.25 (.14)	.83 (.36)
H1b and H5b							
Attitude toward the ad	5.23 (.96)	5.15 (.95)	4.54 (1.36)	4.75 (1.12)	8.15**	.10 (.75)	.60 (.44)
H1c and H5c							
Self-reported cognitive ad avoidance	2.94 (1.84)	2.79 (1.43)	4.08 (2.08)	3.72 (2.15)	10.22**	.64 (.43)	.11 (.74)
Fixation count	62.13 (19.90)	65.00 (20.60)	37.89 (17.42)	42.14 (21.01)	48.14**	1.10 (.30)	.04 (.84)
Fixation duration	19.85 (6.54)	19.79 (6.26)	15.56 (7.89)	16.23 (8.90)	9.20**	.06 (.81)	.08 (.78)
H1e and H5e							
Attitude toward the brand	4.55 (.84)	4.68 (1.26)	4.13 (1.08)	4.51 (1.18)	2.48 (.12)	1.89 (.17)	.44 (.51)

Note: AS = ad-video similarity; AL = ad location
* $p < .05$; ** $p < .01$

As shown in Table 6, a two-way ANOVA also showed that attitude toward the ad was significantly different between the similar ad (M = 5.19, SD = .94) and dissimilar ad conditions (M = 4.65, SD = 1.24) (F (1, 135) = 8.15, $p < .01$, partial $\eta^2 = .06$). That is, similar ads, as compared to dissimilar ads, tend to generate more positive attitude toward the ad. Thus, H1b is supported, whereas H5b is not supported.

Given that the non-skippable ad condition did not allow participants to avoid the ad behaviorally, the main effects of ad-video similarity on ad avoidance for the non-skippable ad condition were tested for cognitive ad avoidance only. A series of two-way ANOVAs was performed to examine the main effects of ad-video similarity on the self-reported cognitive ad avoidance, fixation count, and fixation duration. As shown in Table 6, the self-reported cognitive ad avoidance was found to be significantly different between the similar ad (M = 2.86, SD = 1.64) and dissimilar ad conditions (M = 3.90, SD = 2.10) (F (1, 135) = 10.22, $p < .01$, partial $\eta^2 = .07$). In other words, participants exposed to the similar ad condition were less likely to cognitively avoid the ad than those exposed to the dissimilar ad.

The eye-movement data showed a similar pattern. That is, fixation counts were found to be higher for the similar ad (M = 63.56, SD = 20.15) than the dissimilar ad conditions (M = 40.01, SD = 19.28) (F (1, 132) = 48.14, $p < .01$, partial $\eta^2 = .27$). Fixation duration was also found to be higher for the similar ad (M = 19.82 seconds, SD = 6.35) than the dissimilar ad conditions (M = 15.90 seconds, SD = 8.36) (F (1, 132) = 9.20, $p < .01$, partial $\eta^2 = .07$). That is, participants exposed to the similar ad condition tended to pay more attention to the ad or were less likely to avoid the ad cognitively than

those exposed to the dissimilar ad condition. Both self-reported cognitive ad avoidance and eye-movement data indicate that similar ads, as compared to dissimilar ads, tend to generate lower ad avoidance. Thus, the finding provides support for H1c, but not H5c.

Logistic regression analyses were performed to examine the main effects of ad-video similarity on brand recall and brand recognition. The results are presented in Table 7. The similar and dissimilar ad conditions did not show significantly different percentages of correct brand recall (B = -.18, SE = .57, Wald = .10, *df* = 1, Exp (B) = .84, *p* = .76) or correct brand recognition (B = .51, SE = .49, Wald = 1.103, *df* = 1, Exp (B) = .60, *p* = .29). Therefore, neither H1d nor H5d are supported.

Table 7. Logistic Regression Analyses Testing the Effects of Ad-Video Similarity (Non-skippable Ad Condition, N = 139)

Dependent variables	Similar ad (n = 66)		Dissimilar ad (n = 73)		B (*p*-value)								
					AS			AL			AS × AL		
	Pre-roll ad (n=33)	Mid-roll ad (n=33)	Pre-roll ad (n=36)	Mid-roll ad (n=37)									
	n (%)	n (%)	n (%)	n (%)	B	SE	*p*	B	SE	*p*	B	SE	*p*
H1d and H5d													
Brand recall	5 (15.2%)	7 (21.2%)	5 (13.9%)	9 (24.3%)	-.18	.57	.76	-.69	.62	.26	.28	.89	.76
	−2 log likelihood = 132.24, $df = 3$, $\chi^2 = 1.73$, $p = .63$												
Brand recognition	17 (51.5%)	20 (60.6%)	14 (38.9%)	22 (59.5%)	.51	.49	.29	-.84	.48	.08	.47	.69	.50
	−2 log likelihood = 188.04, $df = 3$, $\chi^2 = 4.30$, $p = .23$												

Note: AS = ad-video similarity; AL = ad location

Finally, a two-way ANOVA was performed to test the effect of ad-video similarity on attitude toward the brand. The result, which is included in Table 6, showed that mean scores for attitude toward the brand were not significantly different between the similar ad (M = 4.61, SD = 1.06) and dissimilar ad conditions (M = 4.32, SD = 1.14) (F (1, 135) = 2.48, p = .12). Thus, neither H1e nor H5e is supported.

In sum, in the non-skippable ad condition, H1a, H1b, and H1c were supported, whereas H5a, H5b, and H5c were rejected. When it comes to brand recall, brand recognition, and attitude toward the brand, no significant difference was found between the similar and dissimilar ad conditions, and thus, H1d, H1e, H5d, and H5e were not supported. The results from testing H1 and H5 in the non-skippable ad condition indicate that, in the non-skippable online video ad situation, an ad that is similar to the online video is more likely to be perceived as relevant to consumers, not as manipulative, and the similar ad generates more positive attitude toward the ad and lower cognitive ad avoidance.

Skippable Ad Condition. The same two-way ANOVAs were performed with continuous dependent variables for the skippable ad condition and the results are presented in Table 8. Consistent with the findings from the non-skippable ad condition, the result demonstrated that the mean scores for perceived relevance were significantly different between the similar ad (M = 4.54, SD = 1.80) and dissimilar ad conditions (M = 2.50, SD = 1.78) (F (1, 128) = 41.18, $p < .01$, partial $\eta^2 = .24$). In contrast, the mean scores for perceived manipulativeness were not significantly different between the similar ad (M = 4.46, SD = 1.16) and dissimilar ad conditions (M = 4.15, SD = 1.24) (F (1, 128)

= 2.04, p = .16). This indicates that similar ads are not perceived to be more manipulative, but to be more relevant, than dissimilar ads. Thus, in the skippable ad condition as well, H1a is supported, whereas H5a is not supported.

Table 8. Two-Way ANOVAs Testing the Effects of Ad-Video Similarity (Skippable Ad Condition, N = 132)

Dependent variables	Similar ad (n = 64)		Dissimilar ad (n = 68)		*F* (*p*-value)		
	Pre-roll ad (n=28)	Mid-roll ad (n=36)	Pre-roll ad (n=35)	Mid-roll ad (n=33)	AS	AL	AS × AL
	M (SD)	M (SD)	M (SD)	M (SD)			
H1a							
Perceived relevance	3.94 (1.42)	5.01 (1.94)	2.61 (1.68)	2.38 (1.90)	41.18**	1.87 (.17)	4.41*
H5a							
Perceived manipulativeness	4.42 (1.03)	4.50 (1.27)	4.01 (1.03)	4.30 (1.44)	2.04 (.16)	.74 (.39)	.26 (.61)
H1b and H5b							
Attitude toward the ad	4.88 (1.09)	4.97 (1.09)	4.56 (1.21)	4.32 (.98)	6.32*	.15 (.70)	.77 (.38)
H1c and H5c							
Self-reported cognitive ad avoidance	3.11 (1.77)	3.15 (1.55)	4.99 (2.15)	4.56 (2.13)	24.05**	.32 (.57)	.49 (.48)
FC	65.14 (23.20)	65.54 (16.02)	24.26 (16.97)	28.91 (25.45)	111.90**	.31 (.58)	.53 (.47)
Standardized FC	66.58 (20.15)	64.54 (16.02)	33.81 (13.88)	39.02 (19.44)	90.87**	.27 (.61)	1.40 (.24)
FD	20.07 (6.55)	19.58 (5.37)	8.21 (7.16)	11.26 (10.26)	57.89**	.94 (.34)	1.77 (.19)
Standardized FD	.68 (.19)	.65 (.18)	.36 (.21)	.48 (.28)	40.85**	1.78 (.19)	4.02*
Ad exposure duration	28.64 (5.11)	30.00 (.00)	20.53 (10.44)	18.63 (11.41)	46.27**	.04 (.85)	1.30 (.26)
H1e and H5e							
Attitude toward the brand	4.56 (1.06)	4.55 (1.33)	4.06 (1.10)	3.91 (.97)	8.43**	.17 (.68)	.11 (.74)

Note: AS = ad-video similarity; AL = ad location; FC = fixation count; FD = fixation duration

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

As shown in Table 8, a two-way ANOVA also showed that attitude toward the ad was significantly different between the similar ad (M = 4.93, SD = 1.08) and dissimilar ad conditions (M = 4.45, SD = 1.10) (F (1, 128) = 6.32, $p < .05$, partial $\eta^2 = .05$). That is, a similar ad, as compared to a dissimilar ad, tends to generate more positive attitude toward the ad. Thus, H1b is supported, whereas H5b is not supported.

A series of two-way ANOVAs was performed to examine the main effects of ad-video similarity on ad avoidance (see Table 8). First, the self-reported cognitive ad avoidance was found to be significantly different between the similar ad (M = 3.13, SD = 1.63) and dissimilar ad conditions (M = 4.78, SD = 2.13) (F (1, 128) = 24.05, $p < .01$, partial $\eta^2 = .16$). In other words, participants exposed to the similar ad condition were less likely to cognitively avoid the ad than those exposed to the dissimilar ad.

The eye-movement data showed a similar pattern. That is, both raw and standardized fixation counts were found to be higher for the similar ad (FC: M = 64.81, SD = 19.37; standardized FC: M = 65.45, SD = 17.85) than dissimilar ad conditions (FC: M = 26.48, SD = 21.40; standardized FC: M = 36.30, SD = 16.84) (FC: F (1, 126) = 111.90, $p < .01$, partial $\eta^2 = .47$; standardized FC: F (1, 126) = 90.87, $p < .01$, partial $\eta^2 = .42$). Fixation duration was also found to be higher for the similar ad (FD: M = 19.80 seconds, SD = 5.88; standardized FD: M = .66, SD = .18) than dissimilar ad conditions (FD: M = 9.67 seconds, SD = 8.84; standardized FD: M = .42, SD = .25) (FD: F (1, 126) = 57.89, $p < .01$, partial $\eta^2 = .32$; standardized FD: (F (1, 126) = 40.85, $p < .01$, partial $\eta^2 = .25$). That is, participants exposed to the similar ad condition tended to pay more

attention to the ad or were less likely to avoid the ad cognitively than those exposed to the dissimilar ad.

With regard to behavioral ad avoidance, the duration of ad exposure was significantly different between the similar ad (M = 29.40 seconds, SD = 3.42) and dissimilar ad conditions (M = 19.61 seconds, SD = 10.88) (F (1, 128) = 46.27, $p < .01$, partial $\eta^2 = .27$) (see Table 8). Additionally, a logistic regression analysis was performed to test the effect of ad-video similarity on ad skipping and the result is presented in Table 9. The result showed that ad-video similarity significantly influenced the percentage of ad skipping (B = -3.43, SE = .76, Wald = 20.39, df = 1, Exp (B) = 30.75, $p < .01$). Only 3.1 percent of participants exposed to the similar ad condition skipped the ad, whereas 50.1 percent of participants exposed to the dissimilar ad condition skipped the ad. The findings indicate that consumers exposed to a similar ad, compared to those exposed to a dissimilar ad, tend to spend a longer time to watch the ad and are less likely to skip the ad, indicating lower levels of behavioral ad avoidance.

Table 9. Logistic Regression Analyses Testing the Effects of Ad-Video Similarity (Skippable Ad Condition, N = 132)

Variables	Similar ad (n = 64)		Dissimilar ad (n = 68)		B (*p*-value)								
					AS			AL			AS × AL		
	Pre-roll ad (n=28)	Mid-roll ad (n=36)	Pre-roll ad (n=35)	Mid-roll ad (n=33)									
	n (%)	n (%)	n (%)	n (%)	B	SE	*p*	B	SE	*p*	B	SE	*p*
H1c and H5c													
Ad skipping	2 (7.1%)	0 (0%)	17 (48.6%)	17 (51.5%)	-3.43**	.76	.00	.13	.46	.77	-	-	-
−2 log likelihood = 111.99, $df = 2$, $\chi^2 = 42.71$, $p = .00$													
H1d and H5d													
Brand recall	3 (10.7%)	10 (27.8%)	2 (5.7%)	6 (18.2%)	.55	.59	.35	-1.30	.86	.13	.14	1.12	.90
−2 log likelihood = 108.23, $df = 3$, $\chi^2 = 7.44$, $p = .06$													
Brand recognition	14 (50%)	22 (61.1%)	9 (25.7%)	13 (39.4%)	1.06*	.54	.04	-.63	.53	.23	.18	.73	.81
−2 log likelihood = 171.09, $df = 3$, $\chi^2 = 9.96$, $p = .02$													

Note: AS = ad-video similarity; AL = ad location

In the logistic regression model predicting the percentage of ad skipping between the similar and dissimilar ad conditions, the interaction term was not included in the model because of the inflated standard error. This is because none of the participants in the similar and mid-roll ad condition skipped the ad.

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

Taken together, the two-way ANOVAs and logistic regression analysis of the effects of ad-video similarity on multiple ad avoidance variables indicate that a similar ad, as compared to a dissimilar ad, generates lower cognitive and behavioral ad avoidance. Thus, the finding provides support for H1c, but not H5c.

Next, the effect of ad-video similarity on brand memory (recall and recognition) was tested using logistic regression analysis. As shown in Table 9, the result demonstrated that the percentage of correct brand recognition was significantly higher for the similar ad than the dissimilar ad (B = 1.06, SE = .54, Wald = 3.85, *df* = 1, Exp (B) = 2.89, $p < .05$). However, the percentage of correct brand recall was not significantly different between the similar and dissimilar ad conditions (B = .55, SE = .59, Wald = .88, *df* = 1, Exp (B) = 1.73, $p = .35$). Thus, H1d is partially supported, whereas H5d is not supported.

Finally, a two-way ANOVA was performed to test the effect of ad-video similarity on attitude toward the brand. The result, which is included in Table 8, showed that mean scores for attitude toward the brand were significantly different between the similar ad (M = 4.56, SD = 1.21) and dissimilar ad conditions (M = 3.99, SD = 1.04) (F (1, 128) = 8.43, $p < .01$, partial $\eta^2 = .06$). That is, a similar ad, as compared to a dissimilar ad, tends to generate more positive attitude toward the brand. Thus, H1e is supported, but H5e is not.

In sum, in the skippable ad condition as well, H1a, H1b, H1c, and H1e were supported, and H1d was partially supported, whereas H5a, H5b, H5c, H5d, and H5e were not supported. The findings indicate that, when online video ads are skippable, an ad that

is similar to the online video is more likely to be perceived as more relevant to consumers, not as more manipulative. Furthermore, similar ads tend to generate more positive attitude toward the ad, lower cognitive and behavioral ad avoidance, higher brand recognition, and more positive attitude toward the brand.

Since the findings in both non-skippable and skippable ad conditions generally support H1, instead of H5, the subsequent mediation hypotheses testing will be performed only for H2, H3, and H4 to understand the psychological mechanisms in the positive effects of ad-video similarity on ad avoidance and ad outcomes.

H2: The Mediating Role of Perceived Relevance in the Effects of Ad-video Similarity. H2 predicted that perceived relevance would mediate the effects of ad-video similarity on (a) attitude toward the ad, (b) ad avoidance, (c) brand memory, and (d) attitude toward the brand. A series of step-down ANOVAs was performed for continuous dependent variables (attitude toward the ad, self-reported cognitive ad avoidance, fixation count, fixation duration, and attitude toward the brand), and hierarchical logistic regression analyses were performed for dichotomous dependent variables (ad skipping, and brand recall and recognition). All tests were conducted separately for the non-skippable and skippable ad conditions.

Non-Skippable Ad Condition. Step-down ANOVAs for continuous dependent variables involve two consecutive *F* tests. The first *F* test was a series of two-way ANOVAs with ad-video similarity, ad location, and the interaction term as independent variables and attitude toward the ad, self-reported cognitive ad avoidance, fixation count, fixation duration, and attitude toward the brand as dependent variables. The second *F* test

was a series of two-way ANOVAs with ad-video similarity, ad location, and the interaction term as independent variables, perceived relevance as a covariate, and attitude toward the ad, self-reported cognitive ad avoidance, fixation count, fixation duration, and attitude toward the brand as dependent variables. The results are presented in Table 10.

Table 10. Step-Down ANOVAs Testing the Mediating Role of Perceived Relevance in the Effects of Ad-Video Similarity (Non-Skippable Ad Condition, N = 139)

Dependent variables	Predictors	Univariate		Step-down	
		F	*p*	*F*	*p*
Attitude toward the ad	Perceived relevance†			9.05**	.00
	AS	8.15**	.00	2.61	.11
	AL	.10	.75	.22	.64
	AS × AL	.60	.44	.50	.48
Self-reported cognitive ad avoidance	Perceived relevance†			.82	.37
	AS	10.22**	.00	6.92*	.01
	AL	.64	.43	.71	.40
	AS × AL	.11	.74	.09	.76
Fixation count	Perceived relevance†			.84	.36
	AS	48.14**	.00	37.84**	.00
	AL	1.10	.30	1.18	.28
	AS × AL	.04	.84	.03	.86
Fixation duration	Perceived relevance†			.05	.82
	AS	9.20**	.00	8.43**	.00
	AL	.06	.81	.05	.82
	AS × AL	.08	.78	.08	.77
Attitude toward the brand	Perceived relevance†			24.90**	.00
	AS	2.48	.12	.07	.79
	AL	1.89	.17	2.96	.09
	AS × AL	.44	.51	.34	.56

Note: AS = ad-video similarity; AL = ad location
†Entered as covariates in the step-down analysis.
* $p < .05$; ** $p < .01$

The first *F* test demonstrated that ad-video similarity significantly influenced attitude toward the ad (F (1, 135) = 8.15, $p < .01$, partial $\eta^2 = .06$), self-reported cognitive ad avoidance (F (1, 135) = 10.22, $p < .01$, partial $\eta^2 = .07$), fixation count (F (1, 132) = 48.14, $p < .01$, partial $\eta^2 = .27$), and fixation duration (F (1, 132) = 9.20, $p < .01$, partial $\eta^2 = .07$).

When perceived relevance was included as a covariate in the second *F* test for attitude toward the ad, the influence of ad-video similarity became non-significant (F (1, 134) = 2.61, $p = .11$), while perceived relevance was found to be a significant positive predictor of attitude toward the ad (F (1, 134) = 9.05, $p < .01$, partial $\eta^2 = .06$). In other words, perceived relevance mediated the effect of ad-video similarity on attitude toward the ad.

However, for self-reported cognitive ad avoidance, fixation count, and fixation duration, even when perceived relevance was included as a covariate in the second *F* test, the influences of ad-video similarity on the dependent variables remained significant, and perceived relevance was not a significant predictor of the dependent variables. In other words, perceived relevance did not mediate the effect of ad-video similarity on ad avoidance. Regarding attitude toward the brand, since the first *F* test showed no significant influence of ad-video similarity on attitude toward the brand (F (1, 135) = 2.48, $p = .12$), perceived relevance did not mediate the effect of ad-video similarity on attitude toward the brand.

Next, hierarchical logistic regressions were conducted for brand recall and brand recognition as dependent variables. Ad-video similarity, ad location, and the interaction

term were entered in the first block using the enter method; and perceived relevance was entered in the second block using the enter method. The results, presented in Table 11, demonstrated that ad-video similarity did not significantly influence brand recall and brand recognition (Model 1). According to Baron and Kenny's (1986) mediation analysis approach, significant influence of an independent variable (ad-video similarity) on the dependent variable (brand recall or brand recognition) is the necessary condition to support a mediation hypothesis. Since the results did not satisfy this first necessary condition, it is concluded that perceived relevance did not mediate the effect of ad-video similarity on brand recall and brand recognition.

Table 11. Hierarchical Logistic Regressions Testing the Mediating Role of Perceived Relevance in the Effects of Ad-Video Similarity (Non-Skippable Ad Condition, N = 139)

Model	Variables	B	SE	*p*
DV: Brand recall				
Model 1	AS	-.18	.57	.76
	AL	-.69	.62	.26
	AS × AL	.28	.89	.76
	−2 log likelihood = 132.24, $df = 3$, $\chi^2 = 1.73$, $p = .63$			
Model 2	AS	-.24	.59	.69
	AL	-.69	.62	.26
	AS × AL	.27	.89	.76
	Perceived relevance	.05	.12	.69
	−2 log likelihood = 132.09, $df = 4$, $\chi^2 = 1.89$, $p = .76$			
DV: Brand recognition				
Model 1	AS	.51	.49	.29
	AL	-.84	.48	.08
	AS × AL	.47	.69	.50
	−2 log likelihood = 188.04, $df = 3$, $\chi^2 = 4.30$, $p = .23$			
Model 2	AS	.18	.52	.74
	AL	-.89	.49	.07
	AS × AL	.45	.70	.53
	Perceived relevance	.23*	.10	.02
	−2 log likelihood =182.60, $df = 4$, $\chi^2 = 9.74$, $p = .04$			

Note: AS = ad-video similarity; AL = ad location
* $p < .05$; ** $p < .01$

In sum, the findings from the non-skippable ad condition provide support for H2a, but not for H2b, H2c, and H2d, which indicate that, in the case of non-skippable online video ads, perceived relevance plays a mediating role only in the effect of ad-video similarity on attitude toward the ad. In other words, a similar online video ad is likely to produce more positive attitude toward the ad than a dissimilar ad through its positive impact on perceived ad relevance. However, the effects of a similar ad on self-reported

cognitive ad avoidance are more likely to be direct effects rather than mediated through perceived relevance. The following section reports the same testing of H2 in the skippable ad condition.

Skippable Ad Condition. Table 12 shows the results of step-down ANOVAs for the continuous dependent variables in the skippable ad condition. The first *F* test was a series of two-way ANOVAs with ad-video similarity, ad location, and the interaction term as independent variables, and attitude toward the ad, self-reported cognitive ad avoidance, fixation count, standardized fixation count, fixation duration, standardized fixation duration, ad exposure duration, and attitude toward the brand as dependent variables. The second *F* test was a series of two-way ANOVAs with the same independent and dependent variables, and perceived relevance as a covariate.

Table 12. Step-Down ANOVAs Testing the Mediating Role of Perceived Relevance in the Effects of Ad-Video Similarity (Skippable Ad Condition, N = 132)

Dependent variables	Predictors	Univariate		Step-down	
		F	*p*	*F*	*p*
Attitude toward the ad	Perceived relevance†			8.66**	.00
	AS	6.32*	.01	.64	.43
	AL	.15	.70	.56	.45
	AS × AL	.77	.38	.12	.73
Self-reported cognitive ad avoidance	Perceived relevance†			3.24	.07
	AS	24.05**	.00	11.66**	.00
	AL	.32	.57	.12	.73
	AS × AL	.49	.48	1.05	.31
FC	Perceived relevance†			1.23	.27
	AS	111.90**	.00	73.44**	.00
	AL	.31	.58	.16	.69
	AS × AL	.53	.47	.87	.35
Standardized FC	Perceived relevance†			1.48	.23
	AS	90.87**	.00	58.09**	.00
	AL	.27	.61	.12	.73
	AS × AL	1.40	.24	1.97	.16
FD	Perceived relevance†			.51	.48
	AS	57.89**	.00	38.27**	.00
	AL	.94	.34	.74	.39
	AS × AL	1.77	.19	2.08	.15
Standardized FD	Perceived relevance†			.90	.34
	AS	40.85**	.00	25.30**	.00
	AL	1.78	.19	1.42	.24
	AS × AL	4.02*	.04	4.63*	.03

Note: AS = ad-video similarity; AL = ad location; FC = fixation count; FD = fixation duration

†Entered as covariates in the step-down analysis.

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

Table 12 (Continued). Step-Down ANOVAs Testing the Mediating Role of Perceived Relevance in the Effects of Ad-Video Similarity (Skippable Ad Condition, N = 132)

Dependent variables	Predictors	Univariate		Step-down	
		F	*p*	*F*	*p*
Ad exposure duration	Perceived relevance†			.51	.48
	AS	46.27**	.00	30.84**	.00
	AL	.04	.85	.07	.79
	AS × AL	1.30	.26	.98	.33
Attitude toward the brand	Perceived relevance†			15.50**	.00
	AS	8.43**	.00	.52	.47
	AL	.17	.68	.81	.37
	AS × AL	.11	.74	.14	.71

Note: AS = ad-video similarity; AL = ad location
†Entered as covariates in the step-down analysis.
** $p < .01$

The first *F* tests demonstrated that ad-video similarity significantly influenced attitude toward the ad (F (1, 128) = 6.32, $p < .05$, partial $\eta^2 = .05$), self-reported cognitive ad avoidance (F (1, 128) = 24.05, $p < .01$, partial $\eta^2 = .16$), fixation count (F (1, 126) = 111.90, $p < .01$, partial $\eta^2 = .47$), standardized fixation count (F (1, 126) = 90.87, $p < .01$, partial $\eta^2 = .42$), fixation duration (F (1, 126) = 57.89, $p < .01$, partial $\eta^2 = .32$), standardized fixation duration (F (1, 126) = 40.85, $p < .01$, partial $\eta^2 = .25$), ad exposure duration (F (1, 128) = 46.27, $p < .01$, partial $\eta^2 = .27$), and attitude toward the brand (F (1, 128) = 8.43, $p < .01$, partial $\eta^2 = .06$).

When perceived relevance was included as a covariate in the second *F* test for attitude toward the ad, the influence of ad-video similarity became non-significant (F (1, 127) = .64, $p = .43$), while perceived relevance was found to be a significant positive predictor of attitude toward the ad (F (1, 127) = 8.66, $p < .01$, partial $\eta^2 = .06$). For attitude toward the brand as well, the influence of ad-video similarity became non-

significant (F (1, 127) = .52, p = .47), while perceived relevance was found to be the significant positive predictor of attitude toward the brand (F (1, 127) = 15.50, p < .01, partial η^2 = .11). Taken together, perceived relevance mediated the effects of ad-video similarity on attitudes toward the ad and toward the brand.

In contrast, when perceived relevance was included as a covariate in the second F test for self-reported cognitive ad avoidance, fixation count, standardized fixation count, fixation duration, standardized fixation duration, and ad exposure duration, the influence of ad-video similarity on each ad avoidance variable remained significant, and perceived relevance was not a significant predictor of any of the ad avoidance variables. Taken together, perceived relevance did not mediate the effect of ad-video similarity on ad avoidance.

Table 13 shows the results of hierarchical logistic regressions with ad skipping, brand recall, and brand recognition as dependent variables. For ad skipping, ad-video similarity and ad location were entered in the first block using the enter method, and perceived relevance was entered in the second block using the enter method. The interaction term was not included in the model because of the variable's inflated standard error. The results demonstrated that ad-video similarity negatively influenced ad skipping (B = -3.43, SE = .76, Wald = 20.39, df = 1, Exp (B) = .03, p < .01) (Model 1), but perceived relevance did not significantly influence ad skipping (B = -.11, SE = .13, Wald = .70, df = 1, Exp (B) = .90, p = .40). In other words, perceived relevance did not mediate the effect of ad-video similarity on ad skipping.

Table 13. Hierarchical Logistic Regressions Testing the Mediating Role of Perceived Relevance in the Effects of Ad-Video Similarity (Skippable Ad Condition, N = 132)

Model	Variables	B	SE	*p*
DV: Ad skipping				
Model 1	AS	-3.43**	.76	.00
	AL	.13	.46	.77
	−2 log likelihood = 111.99, *df* = 2, χ^2 = 42.71, *p* = .00.			
Model 2	AS	-3.22**	.79	.00
	AL	.15	.46	.75
	Perceived relevance	-.11	.13	.40
	−2 log likelihood = 111.27, *df* = 3, χ^2 = 43.42, *p* = .00.			
DV: Brand recall				
Model 1	AS	.55	.59	.35
	AL	-1.30	.86	.13
	AS × AL	.14	1.12	.90
	−2 log likelihood = 108.23, *df* = 3, χ^2 = 7.44, *p* = .06.			
Model 2	AS	.41	.68	.55
	AL	-1.31	.86	.13
	AS × AL	.20	1.13	.86
	Perceived relevance	.05	.14	.69
	−2 log likelihood = 108.08, *df* = 4, χ^2 = 7.60, *p* = .11			
DV: Brand recognition				
Model 1	AS	1.06*	.54	.04
	AL	-.63	.53	.23
	AS × AL	.18	.73	.81
	−2 log likelihood = 171.09, *df* = 3, χ^2 = 9.96, *p* = .02			
Model 2	AS	.95	.56	.09
	AL	-.65	.53	.22
	AS × AL	.29	.75	.70
	Perceived relevance	.09	.10	.41
	−2 log likelihood = 170.42, *df* = 4, χ^2 = 10.63, *p* = .03			

Note: AS = ad-video similarity; AL = ad location
* $p < .05$; ** $p < .01$

For brand recall and recognition as dependent variables, the same hierarchical logistic regressions were conducted. The results are presented in Table13. The result for brand recall demonstrated that ad-video similarity did not significantly influence brand recall (B = .55, SE = .59, Wald = .88, *df* = 1, Exp (B) = 1.73, *p* = .35) (Model 1). Since there was no significant influence of the independent variable on the dependent variable, no mediation effect existed (Baron and Kenny 1986).

The result for brand recognition demonstrated that ad-video similarity positively influenced brand recognition (B = 1.06, SE = .54, Wald = 3.85, *df* = 1, Exp (B) = 2.89, *p* < .05) (Model 1), but perceived relevance did not significantly influence the dependent variable (B = .09, SE = .10, Wald = .67, *df* = 1, Exp (B) = 1.09, *p* = .41). Thus, perceived relevance did not mediate the effect of ad-video similarity on brand recognition.

In sum, the findings from H2 test results in the skippable ad condition provide support for H2a and H2d but not for H2b and H2c. The results indicate that, in the case of skippable online video ads, perceived relevance plays a mediating role in the effects of ad-video similarity on attitudes toward the ad and the brand. In other words, a similar online video ad is likely to generate more positive attitudes toward the ad and toward the brand through its influence on perceived ad relevance. Such mediating effects of perceived ad relevance was not observed for brand memory or ad avoidance.

H3: The Mediating Role of Ad Avoidance in the Effects of Ad-Video Similarity on Brand Memory and Attitude toward the Brand. H3 predicted that ad avoidance would mediate the effects of ad-video similarity on (a) brand memory and (b) attitude toward the brand. More specifically, a similar (vs. dissimilar) online video ad would

generate lower ad avoidance, resulting in (a) higher brand memory and (b) more positive attitude toward the brand. The hypothesis was tested using a series of hierarchical logistic regression analyses for the dichotomous dependent variable (brand recognition) and step-down ANOVA for the continuous dependent variable (attitude toward the brand). The tests were performed only for the skippable ad condition because the previous H1 test results (see Tables 6 and 7) in the non-skippable ad condition revealed no significant effects of ad-video similarity on brand recall, brand recognition, and attitude toward the brand.

Skippable Ad Condition. As shown in the previous H1 test results in the skippable ad condition (see Table 9), when the online video ad is skippable, ad-video similarity significantly influences brand recognition, but not brand recall. Consequently, testing the mediating role of ad avoidance in the effect of ad-video similarity on brand memory is limited to brand recognition.

This study measured seven ad avoidance variables (self-reported cognitive ad avoidance, fixation count, standardized fixation count, fixation duration, standardized fixation duration, ad exposure duration, and ad skipping), and all of these ad avoidance variables were strongly correlated to one other (see Table 14). Therefore, conducting a single hierarchical logistic regression with all ad avoidance variables in the model was not considered an ideal data analysis approach due to the multicollinearity issue. Therefore, seven hierarchical logistic regressions were performed. Ad-video similarity, ad location, and the interaction term were entered in the first block using the enter

method, and each ad avoidance variable was entered in the second block using the enter method.

Table 14. Bivariate Correlations of Ad Avoidance Variables (Skippable Ad Condition, N = 132)

	1	2	3	4	5	6	7
1. Self-reported cognitive ad avoidance	–						
2. FC	-.54**	–					
3. Standardized FC	-.43**	.94**	–				
4. FD	-.61**	.83**	.72**	–			
5. Standardized FD	-.53**	.74**	.71**	.95**	–		
6. Ad exposure duration	-.66**	.77**	.56**	.79**	.61**	–	
7. Ad skipping	.67**	-.77	-.56	-.78	-.60**	-.97**	–

Note: FC = fixation count; FD = fixation duration
** $p < .01$

Table 15 shows the results of seven hierarchical logistic regressions with brand recognition as the dependent variable. The hypothesis predicting the mediating role of ad avoidance in the positive effect of ad-video similarity on brand recognition was supported based on Baron and Kenny's (1986) mediation analysis framework. First, ad-video similarity positively influenced brand recognition (B = 1.06, SE = .54, $p < .05$), indicating that the similar ad generated a higher level of brand recognition than the dissimilar ad.

Table 15. Hierarchical Logistic Regressions Testing the Mediating Role of Ad Avoidance in the Effect of Ad-Video Similarity on Brand Recognition (Skippable Ad Condition, N = 132)

Model	Variables	B	SE	*p*
Mediator 1: Self-reported cognitive ad avoidance				
Model 1	AS	1.06*	.54	.04
	AL	-.63	.53	.23
	AS × AL	.18	.73	.81
	−2 log likelihood = 171.09, $df = 3$, $\chi^2 = 9.96$, $p = .02$			
Model 2	AS	.39	.60	.52
	AL	-.56	.58	.34
	AS × AL	.01	.79	.99
	Self-reported cognitive ad avoidance	-.45**	.11	.00
	−2 log likelihood = 152.22, $df = 4$, $\chi^2 = 28.82$, $p = .00$			
Mediator 2: Fixation count				
Model 1	AS	1.06*	.54	.04
	AL	-.68	.53	.20
	AS × AL	.28	.74	.71
	−2 log likelihood = 169.06, $df = 3$, $\chi^2 = 9.18$, $p = .03$			
Model 2	AS	.63	.72	.38
	AL	-.53	.58	.36
	AS × AL	.01	.80	.99
	Fixation count	.04**	.01	.00
	−2 log likelihood = 150.12, $df = 4$, $\chi^2 = 28.13$, $p = .00$			
Mediator 3: Standardized fixation count				
Model 1	AS	1.06*	.54	.04
	AL	-.68	.53	.20
	AS × AL	.28	.74	.71
	−2 log likelihood = 169.06, $df = 3$, $\chi^2 = 9.18$, $p = .03$			
Model 2	AS	.07	.66	.92
	AL	-.54	.55	.33
	AS × AL	.03	.77	.97
	Standardized FC	.03**	.01	.00
	−2 log likelihood = 161.01, $df = 4$, $\chi^2 = 17.24$, $p = .00$			

Note: AS = ad-video similarity; AL = ad location; FC = fixation count
* $p < .05$; ** $p < .01$

Table 15 (Continued). Hierarchical Logistic Regressions Testing the Mediating Role of Ad Avoidance in the Effect of Ad-Video Similarity on Brand Recognition (Skippable Ad Condition, N = 132)

Model	Variables	B	SE	*p*
Mediator 4: Fixation duration				
Model 1	AS	1.06*	.54	.04
	AL	-.68	.53	.20
	AS × AL	.28	.74	.71
	−2 log likelihood = 169.06, $df = 3$, $\chi^2 = 9.18$, $p = .03$			
Model 2	AS	.50	.68	.47
	AL	-.31	.63	.63
	AS × AL	.27	.84	.75
	Fixation duration	.14**	.03	.00
	−2 log likelihood = 142.48, $df = 4$, $\chi^2 = 35.76$, $p = .00$			
Mediator 5: Standardized fixation duration				
Model 1	AS	1.06*	.54	.04
	AL	-.68	.53	.20
	AS × AL	.28	.74	.71
	−2 log likelihood = 196.06, $df = 3$, $\chi^2 = 9.18$, $p = .03$			
Model 2	AS	.02	.64	.97
	AL	-.25	.59	.67
	AS × AL	.31	.80	.70
	Standardized FD	3.63**	.98	.00
	−2 log likelihood = 153.18, $df = 4$, $\chi^2 = 25.07$, $p = .00$			
Mediator 6: Ad exposure duration				
Model 1	AS	1.06*	.54	.04
	AL	-.63	.53	.23
	AS × AL	.18	.73	.81
	−2 log likelihood = 171.09, $df = 3$, $\chi^2 = 9.96$, $p = .02$			
Model 2	AS	.27	.60	.66
	AL	-1.28	.70	.07
	AS × AL	.97	.88	.27
	Ad exposure duration	.20**	.05	.00
	−2 log likelihood = 137.25, $df = 4$, $\chi^2 = 43.80$, $p = .00$			

Note: AS = ad-video similarity; AL = ad location; FD = fixation duration
* $p < .05$; ** $p < .01$

Table 15 (Continued). Hierarchical Logistic Regressions Testing the Mediating Role of Ad Avoidance in the Effect of Ad-Video Similarity on Brand Recognition (Skippable Ad Condition, N = 132)

Model	Variables	B	SE	p
Mediator 7: Ad skipping				
Model 1	AS	1.06*	.54	.04
	AL	-.63	.53	.23
	AS × AL	.18	.73	.81
	−2 log likelihood = 171.09, $df = 3$, $\chi^2 = 9.96$, $p = .02$			
Model 2	AS	.20	.61	.74
	AL	-1.24	.72	.09
	AS × AL	.93	.89	.30
	Ad skipping	-4.27**	1.11	.00
	−2 log likelihood = 135.19, $df = 4$, $\chi^2 = 45.86$, $p = .00$			

Note: AS = ad-video similarity; AL = ad location
* $p < .05$; ** $p < .01$

Second, ad-video similarity (1) negatively influenced self-reported cognitive ad avoidance (B = -1.41, SE = .46, $p < .01$, $R^2 = .17$), (2) positively influenced fixation count (B = 35.64, SE = 5.02, $p < .01$, $R^2 = .48$), (3) positively influenced standardized fixation count (B = 25.53, SE = 4.25, $p < .01$, $R^2 = .43$), (4) positively influenced fixation duration (B = 8.33, SE = 1.84, $p < .01$, $R^2 = .33$), (5) positively influenced standardized fixation duration (B = .17, SE = .05, $p < .01$, $R^2 = .27$), (6) positively influenced ad exposure duration (B = 11.37, SE = 1.97, $p < .01$, $R^2 = .28$), and (7) negatively influenced ad skipping (B = -3.43, SE = .76, Wald = 20.39, Exp (B) = .03, $p < .01$). The second step of mediation analysis indicated that the similar ad generated a lower level of cognitive and behavioral ad avoidance than the dissimilar ad.

Third, brand recognition was (1) negatively influenced by self-reported cognitive ad avoidance (B = -.45, SE = .11, Wald = 16.34, $df = 1$, Exp (B) = .64, $p < .01$), (2)

positively influenced by fixation count (B = .04, SE = .01, Wald = 15.64, *df* = 1, Exp (B) = 1.04, $p < .01$), (3) positively influenced by standardized fixation count (B = .03, SE = .01, Wald = 7.39, *df* = 1, Exp (B) = 1.03, $p < .01$), (4) positively influenced by fixation duration (B = .14, SE = .03, Wald = 20.72, *df* = 1, Exp (B) = 1.15, $p < .01$), (5) positively influenced by standardized fixation duration (B = 3.63, SE = .98, Wald = 13.60, *df* = 1, Exp (B) = 37.72, $p < .01$), (6) positively influenced by ad exposure duration (B = .20, SE = .05, Wald = 14.25, *df* = 1, Exp (B) = 1.22, $p < .01$), and (7) negatively influenced by ad skipping (B = -4.27, SE = 1.11, Wald = 14.80, *df* = 1, Exp (B) = .01, $p < .01$). The third step of mediation analysis indicated that those who avoided the ad were less likely to remember the advertised brand correctly.

Finally, the influence of ad-video similarity on brand recognition became non-significant, (1) when self-reported cognitive ad avoidance variable was entered (B = .39, SE = .60, Wald = .42, *df* = 1, Exp (B) = 1.47, $p = .52$); (2) when fixation count variable was entered (B = .63, SE = .72, Wald = .77, *df* = 1, Exp (B) = .53, $p = .38$); (3) when standardized fixation count variable was entered (B = .07, SE = .66, Wald = .01, *df* = 1, Exp (B) = 1.07, $p = .92$); (4) when fixation duration variable was entered (B = .50, SE = .68, Wald = .53, *df* = 1, Exp (B) = .61, $p = .47$); (5) when standardized fixation duration variable was entered (B = .02, SE = .64, Wald = .00, *df* = 1, Exp (B) = .98, $p = .97$); (6) when ad exposure duration variable was entered (B = .27, SE = .60, Wald = .20, *df* = 1, Exp (B) = 1.31, $p = .66$); and (7) when ad skipping variable was entered (B = .20, SE = .61, Wald = .11, df = 1, Exp (B) = 1.22, $p = .74$).

Taken together, the results indicate that ad avoidance fully mediates the effect of ad-video similarity on brand recognition, although ad avoidance does not mediate the effect of ad-video similarity on brand recall. Thus, H3a is partially supported.

Next, a step-down ANOVA was conducted with attitude toward the brand as the dependent variable. The first *F* test was a series of two-way ANOVAs with ad-video similarity, ad location, and the interaction term as independent variables and attitude toward the brand as the dependent variable. The second *F* test was a series of two-way ANOVAs with the same independent and dependent variables, and each of the seven ad avoidance variables (self-reported cognitive ad avoidance, fixation count, standardized fixation count, fixation duration, standardized fixation duration, ad exposure duration, and ad skipping) as a covariate. The results are presented in Table 16.

Table 16. Step-Down ANOVAs Predicting the Mediating Role of Ad Avoidance in the Effect of Ad-Video Similarity on Attitude toward the Brand (Skippable Ad Condition, N = 132)

	Univariate		Step-down	
Predictors	*F*	*p*	*F*	*p*
Self-reported cognitive ad avoidance †			7.79**	.00
AS	8.43**	.00	2.64	.11
AL	.17	.68	.31	.58
AS × AL	.11	.74	.27	.60
Fixation count †			.44	.51
AS	8.43**	.00	2.75	.10
AL	.17	.68	.16	.69
AS × AL	.11	.74	.18	.67
Standardized FC †			.31	.58
AS	8.43**	.00	3.43	.07
AL	.17	.68	.16	.69
AS × AL	.11	.74	.19	.66
Fixation duration †			3.05	.08
AS	8.43**	.00	2.10	.15
AL	.17	.68	.28	.60
AS × AL	.11	.74	.34	.56
Standardized FD †			3.08	.08
AS	8.43**	.00	2.83	.10
AL	.17	.68	.34	.56
AS × AL	.11	.74	.47	.49
Ad exposure duration †			2.75	.10
AS	8.43**	.00	2.72	.10
AL	.17	.68	.15	.70
AS × AL	.11	.74	.03	.86
Ad skipping †			2.27	.13
AS	8.43**	.00	2.90	.09
AL	.17	.68	.21	.65
AS × AL	.11	.74	.06	.81

Note: AS = ad-video similarity; AL = ad location; FC = fixation count; FD = fixation duration; †Entered as covariates in the step-down analysis; * $p < .05$; ** $p < .01$

The first *F* test demonstrated that ad-video similarity significantly influenced attitude toward the brand (F (1, 128) = 8.43, $p < .01$, partial $\eta^2 = .06$). When self-reported cognitive ad avoidance was included as a covariate in the second *F* test, the influence of ad-video similarity on attitude toward the brand became non-significant (F (1, 127) = 2.64, $p = .11$), while self-reported cognitive ad avoidance was found to be a significant negative predictor of attitude toward the brand (F (1, 127) = 7.79, $p < .01$, partial $\eta^2 = .06$). However, for the other six ad avoidance variables, no significant mediation effect was found.

Taken together, the findings provide quite weak support for the hypothesis only for one type of cognitive ad avoidance. Self-reported cognitive ad avoidance mediated the effect of ad-video similarity on attitude toward the brand. Specifically, a similar ad is likely to generate more positive attitude toward the brand than a dissimilar ad through its influence on lowering self-reported cognitive ad avoidance. However, a similar claim cannot be made based on this study's results about the other measures of cognitive ad avoidance and behavioral ad avoidance. Thus, H3b is generally not supported.

In sum, due to the non-significant main effects of ad-video similarity on brand recall and recognition and attitude toward the brand in the non-skippable ad condition, H3 test was conducted in the skippable ad condition only. The findings from the H3 test in the skippable ad condition provide partial support for H3. When the online video ad is skippable, the results indicate that, cognitive and behavioral ad avoidance mediates the effect of ad-video similarity on brand recognition. Additionally, the self-reported cognitive ad avoidance variable was found to mediate the effect of ad-video similarity on

attitude toward the brand, but the remaining six other ad avoidance variables did not show significant mediation effect. Thus, H3a is supported, whereas H3b is generally not supported.

H4: The Mediating Role of Attitude toward the Ad in the Effect of Ad-Video Similarity on Attitude toward the Brand. H4 predicted that attitude toward the ad would mediate the effects of ad-video similarity on attitude toward the brand. In particular, it is predicted that a similar (vs. dissimilar) online video ad would generate more positive attitude toward the brand through its positive influence on attitude toward the ad. The tests were performed only for the skippable ad condition because the previous H1 test results (see Table 6) revealed no significant effect of ad-video similarity on attitude toward the brand in the non-skippable ad condition.

Skippable Ad Condition. Table 17 shows the result of a step-down ANOVA for the skippable ad condition. The step-down analysis involves two consecutive *F* tests. The first *F* test was a two-way ANOVA with ad-video similarity, ad location, and the interaction term as independent variables and attitude toward the brand as the dependent variable. The second *F* test was a two-way ANOVA with the same independent and dependent variables, and attitude toward the ad as a covariate.

Table 17. Step-Down ANOVA Testing the Mediating Role of Attitude toward the Ad in the Effect of Ad-Video Similarity on Attitude toward the Brand (Skippable Ad Condition, N = 132)

	Univariate		Step-down	
Predictors	*F*	*p*	*F*	*p*
Attitude toward the ad			45.54**	.00
AS	8.43**	.00	3.34	.07
AL	.17	.68	.06	.81
AS × AL	.11	.74	.02	.90

Note: AS = ad-video similarity; AL = ad location
* $p < .05$; ** $p < .01$

The first *F* test demonstrated that ad-video similarity significantly influenced attitude toward the brand (F (1, 128) = 8.43, $p < .01$, partial $\eta^2 = .06$). When attitude toward the ad was included as a covariate in the second *F* test, the influence of ad-video similarity on attitude toward the brand became non-significant (F (1, 127) = 3.34, $p = .07$), while attitude toward the ad was found to be a significant positive predictor of attitude toward the brand (F (1, 127) = 45.54, $p < .01$, partial $\eta^2 = .26$). The finding indicates that, when the online video ad is skippable, attitude toward the ad mediates the effect of ad-video similarity on attitude toward the brand, providing support for H4.

Hypotheses Testing Part 2: Effects of Ad Location on Ad Avoidance and Outcomes

H9 through H12 predicted main effects of ad location on ad avoidance and ad outcomes (i.e., brand memory and attitudes toward the ad and the brand), and the psychological mechanism involved in such effects. Guided by psychological reactance theory, H9 predicted that a mid-roll (vs. pre-roll) online video ad would generate stronger psychological reactance and ad avoidance, and more negative ad outcomes. H10 predicted that the negative effects of a mid-roll (vs. pre-roll) online video ad on attitude

toward the ad and ad avoidance could be explained by the heightened level of psychological reactance. In addition, H11 predicted a mediating role of ad avoidance in the effects of ad location on brand memory and attitude toward the brand. Finally, H12 predicted mediation of the ad location effect on attitude toward the brand by its influence on attitude toward the ad.

H9: Effects of Ad Location on Psychological Reactance, Ad Avoidance, and Ad Outcomes. H9 predicted that a mid-roll (vs. pre-roll) online video ad would generate (a) higher psychological reactance, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand. First, a series of one-way ANOVAs was conducted for continuous dependent variables (psychological reactance, self-reported cognitive ad avoidance, fixation count, fixation duration, ad exposure duration, attitudes toward the ad, and attitude toward the brand). For categorical dependent variables (brand recall and recognition, and ad skipping), chi-square tests were performed. All tests were done separately for the non-skippable and skippable ad conditions. For analyzing the eye-movement data indicating cognitive ad avoidance (fixation count and fixation duration), raw fixation count and fixation duration scores were analyzed in the non-skippable ad condition, but in the skippable ad condition both raw and standardized scores were analyzed to control for the individual variance in the total duration of ad exposure among the participants due to the availability of the ad skip option.

Non-Skippable Ad Condition. Table 18 shows the results of one-way ANOVAs and chi-square tests. The results demonstrated that none of the dependent variables were

significantly different between the pre-roll and mid-roll ad conditions. That is, when online video ads are non-skippable, pre-roll and mid-roll ads seem to generate similar levels of (a) psychological reactance, (b) attitude toward the ad, (c) ad avoidance, (d) brand memory, and (e) attitude toward the brand.

Table 18. Results of One-Way ANOVAs and Chi-square Tests between Pre-Roll and Mid-Roll Ads (Non-skippable Ad Condition, N = 139)

Dependent variables	Pre-roll ad (n = 69) M (SD) / n (%)	Mid-roll ad (n = 70) M (SD) / n (%)	*df*	F / χ^2	*p*
H9a					
CPR I	3.60 (1.59)	3.90 (1.48)	1, 137	1.37	.24
CPR II	1.03 (1.19)	1.07 (1.09)	1, 137	.05	.83
APR	3.25 (1.41)	3.45 (1.34)	1, 137	.74	.39
H9b					
Attitude toward the ad	4.87 (1.22)	4.94 (1.05)	1, 137	.11	.74
H9c					
Self-reported cognitive ad avoidance	3.54 (2.04)	3.28 (1.89)	1, 137	.60	.44
Fixation count	49.29 (22.15)	52.90 (23.65)	1, 134	.84	.36
Fixation duration	17.58 (7.55)	17.91 (7.92)	1, 134	.06	.81
H9d					
Correct brand recall†	n=10 (14.5%)	n=16 (22.9%)	1	1.60	.21
Correct brand recognition†	n=31 (44.9%)	n=42 (60%)	1	3.17	.08
H9e					
Attitude toward the brand	4.33 (.99)	4.59 (1.21)	1, 137	1.95	.17

Note: CPR I = close-ended cognitive psychological reactance measure; CPR II = open-ended cognitive psychological reactance measure; APR = affective psychological reactance
† Chi-square test

Skippable Ad Condition. The same analyses were performed for the skippable ad condition and the results are presented in Table 19. The mid-roll ad condition, as compared to the pre-roll ad condition, generated higher cognitive psychological reactance (F (1, 130) = 11.44, $p < .01$, partial $\eta^2 = .08$) and better brand recall ($\chi^2 = 5.73$, $df = 1$, $p < .05$). Thus, the results suggest only weak support for the hypothesis regarding the ad location effects on one aspect of psychological reactance and brand recall, but no support for the other dependent variables.

Table 19. Results of One-Way ANOVAs and Chi-square Tests between Pre-Roll and Mid-Roll Ads (Skippable Ad Condition, N = 132)

Dependent variables	Pre-roll ad (n = 63) M (SD) / n (%)	Mid-roll ad (n = 69) M (SD) / n (%)	*df*	F / χ^2	*p*
H9a					
CPR I	3.49 (1.46)	4.36 (1.49)	1, 130	11.44**	.00
CPR II	1.03 (1.09)	1.19 (1.07)	1, 130	.69	.41
APR	3.37 (1.44)	3.74 (1.42)	1, 130	2.22	.14
H9b					
Attitude toward the ad	4.70 (1.16)	4.66 (1.08)	1, 130	.05	.83
H9c					
Self-reported cognitive ad avoidance	4.15 (2.18)	3.83 (1.97)	1, 130	.81	.37
FC	42.43 (28.49)	47.52 (27.53)	1, 128	1.07	.30
Standardized FC	48.38 (23.49)	52.35 (21.79)	1, 128	1.00	.32
FD	13.48 (9.06)	15.61 (9.05)	1, 128	1.80	.18
Standardized FD	.50 (.26)	.57 (.24)	1, 128	2.73	.10
Ad exposure duration	24.13 (9.36)	24.56 (9.70)	1, 130	.07	.80
Ad skipping†	n=19 (30.2%)	n=17 (24.6%)	1	.51	.47
H9d					
Correct brand recall†	n=5 (7.9%)	n=16 (23.2%)	1	5.73*	.02
Correct brand recognition†	n=23 (36.5%)	n=35 (50.7%)	1	2.70	.10
H9e					
Attitude toward the brand	4.28 (1.10)	4.24 (1.21)	1, 130	.04	.85

Note: CPR I = close-ended cognitive psychological reactance measure; CPR II = open-ended cognitive psychological reactance measure; APR = affective psychological reactance; FC = fixation count; FD = fixation duration
† Chi-square test; * $p < .05$; ** $p < .01$

Next, a series of two-way ANOVAs and logistic regression analyses was performed to examine the effects of ad location, after controlling for the ad-video similarity factor and the interaction term (ad-video similarity × ad location). For two-way ANOVAs, ad-video similarity, ad location, and the interaction term were included as

independent variables. For logistic regression analyses, the dummy-coded ad-video similarity variable (0 = dissimilar ad and 1 = similar ad), ad location (0 = mid-roll ad and 1 = pre-roll ad), and the interaction term were included as independent variables using the enter method. The tests were performed only for the skippable ad condition because the previous one-way ANOVA results (see Table 17) revealed no significant effects of ad location on psychological reactance, ad avoidance, and ad outcomes.

Tables 20 and 21 show the results of two-way ANOVAs and logistic regression analyses. The results demonstrated that the closed-ended cognitive psychological reactance measurement mean scores were significantly different between the pre-roll ad (M = 3.49, SD = 1.46) and mid-roll ad conditions (M = 4.36, SD = 1.49) (F (1, 128) = 15.00, $p < .01$, partial $\eta^2 = .11$). However, none of the other dependent variables showed significant differences between the pre-roll and mid-roll ad conditions. Overall, all of the test results from both non-skippable and skippable ad conditions suggest no significant effect of the ad location factor on psychological reactance, ad avoidance, and ad outcomes. Thus, H9 is not supported. Subsequent mediation hypotheses testing are not performed due to the lack of significant effects of the ad location factor.

Table 20. Two-Way ANOVAs Testing the Effects of Ad Location (Skippable Ad Condition, N = 132)

Dependent variables	Pre-roll ad (n = 63)		Mid-roll ad (n = 69)		*F* (*p*-value)		
	Similar ad (n=28)	Dissimilar ad (n=35)	Similar ad (n=36)	Dissimilar ad (n=33)	AS	AL	AS × AL
	M (SD)	M (SD)	M (SD)	M (SD)			
H9a							
CPR I	2.93 (1.26)	3.93 (1.47)	3.88 (1.49)	4.87 (1.31)	16.75**	15.00**	.00 (.98)
CPR II	.89 (.99)	1.14 (1.17)	1.17 (1.18)	1.21 (.96)	.60 (.44)	.81 (.37)	.29 (.59)
APR	3.18 (1.38)	3.52 (1.48)	3.26 (1.33)	4.27 (1.33)	7.79**	2.89 (.09)	1.89 (.17)
H9b							
Attitude toward the ad	4.88 (1.09)	4.56 (1.21)	4.97 (1.09)	4.32 (.98)	6.32*	.15 (.70)	.77 (.38)
H9c and H9c							
Self-reported cognitive ad avoidance	3.11 (1.77)	4.99 (2.15)	3.15 (1.55)	4.56 (2.13)	24.05**	.32 (.57)	.49 (.48)
FC	65.14 (23.20)	24.26 (16.97)	65.54 (16.02)	28.91 (25.45)	111.90**	.31 (.58)	.53 (.47)
Standardized FC	66.58 (20.15)	33.81 (13.88)	64.54 (16.02)	39.02 (19.44)	90.87**	.27 (.61)	1.40 (.24)
FD	20.07 (6.55)	8.21 (7.16)	19.58 (5.37)	11.26 (10.26)	57.89**	.94 (.34)	1.77 (.19)
Standardized FD	.68 (.19)	.36 (.21)	.65 (.18)	.48 (.28)	40.85**	1.78 (.19)	4.02*
Ad exposure duration	28.64 (5.11)	20.53 (10.44)	30.00 (.00)	18.63 (11.41)	46.27**	.04 (.85)	1.30 (.26)
H9e							
Attitude toward the brand	4.56 (1.06)	4.06 (1.10)	4.55 (1.33)	3.91 (.97)	8.43**	.17 (.68)	.11 (.74)

Note: CPR I = close-ended cognitive psychological reactance measure; CPR II = open-ended cognitive psychological reactance measure; APR = affective psychological reactance; AS = ad-video similarity; AL = ad location; FC = fixation count; FD = fixation duration; * $p < .05$; ** $p < .01$

Table 21. Logistic Regression Analyses Testing the Effects of Ad Location on Ad Skipping and Brand Memory (Skippable Ad Condition, N = 132)

Dependent variables	Pre-roll ad (n = 63)		Mid-roll ad (n = 69)		B (*p*-value)								
					AS			AL			AS × AL		
	Similar ad (n=28)	Dissimilar ad (n=35)	Similar ad (n=36)	Dissimilar ad (n=33)									
	n (%)	n (%)	n (%)	n (%)	B	SE	*p*	B	SE	*p*	B	SE	*p*
H9c													
Ad skipping	2 (7.1%)	17 (48.6%)	0 (0%)	17 (51.5%)	-3.43**	.76	.00	.13	.46	.77	-	-	-
	−2 log likelihood = 111.99, $df = 2$, $\chi^2 = 42.71$, $p = .00$												
H9d													
Brand recall	3 (10.7%)	2 (5.7%)	10 (27.8%)	6 (18.2%)	.55	.59	.35	-1.30	.86	.13	.14	1.12	.90
	−2 log likelihood = 108.23, $df = 3$, $\chi^2 = 7.44$, $p = .06$												
Brand recognition	14 (50%)	9 (25.7%)	22 (61.1%)	13 (39.4%)	1.06*	.54	.04	-.63	.53	.23	.18	.73	.81
	−2 log likelihood = 171.09, $df = 3$, $\chi^2 = 9.96$, $p = .02$												

Note: AS = ad-video similarity; AL = ad location

In the logistic regression model predicting the percentage of ad skipping between the pre-roll and mid-roll conditions, the interaction term was not included in the model because of the inflated standard error. This is because none of the participants in the similar and mid-roll ad condition skipped the ad.

Hypotheses Testing Part 3: Interaction between Ad-Video Similarity and Ad Location

Both H13 and H14 test the effects of interaction between ad-video similarity and ad location on attitudes toward the ad and the brand and ad avoidance, but their directions are opposite. H13 is posed with the assumption of positive effects of ad-video similarity on ad avoidance and ad outcomes through perceived relevance, whereas H14 is posed assuming negative effects of ad-video similarity on ad avoidance and ad outcomes through perceived manipulativeness. Given that ad-video similarity was found to generate positive ad outcomes and lower ad avoidance, H14 is dropped, and the interaction effect is tested only for H13.

H13 predicted that the differences in (a) attitude toward the ad, (b) ad avoidance, and (c) attitude toward the brand between mid-roll and pre-roll online video ads would be smaller, when an online video ad is similar to the video content, as compared to when an online video ad is dissimilar to the video content.

For the non-skippable ad condition, as shown in Table 6 earlier, no significant interaction effects of ad-video similarity and ad location were found for attitude toward the ad, ad avoidance, and attitude toward the brand. For the skippable ad condition, on the other hand, the effect of interaction between ad-video similarity and ad location on standardized fixation duration was found to be significant (F (1, 126) = 4.02, p = .04, partial η^2 = .03), yet none of the other dependent variables showed significant interaction effects (see Table 8).

A follow-up split-sample ANOVA was performed to examine whether the difference in standardized fixation duration between the pre-roll and mid-roll ad conditions would be smaller when the online video ad is similar to the video content. As expected, in the similar ad condition, the standardized fixation duration mean scores were not significantly different between the pre-roll ad (M = .68, SD = .19) and mid-roll ad conditions (M = .65, SD = .18) (F (1, 61) = .30, p = .59). On the other hand, in the dissimilar ad condition, the standardized fixation duration mean scores were significantly different between the pre-roll ad (M = .36, SD = .21) and mid-roll ad conditions (M = .48, SD = .28) (F (1, 65) = 4.59, $p < .05$, partial $\eta^2 = .07$).

However, taking together all test results from both non-skippable and skippable ad conditions, the results suggest no significant interaction effects of ad-video similarity and ad location on attitude toward the ad, ad avoidance, and attitude toward the brand. Thus, H13 is not supported.

The following section presents the results of H15 and H16 testing, which examines the moderating role of the user control option in the effects of ad-video similarity and ad location on attitudes toward the ad and the brand.

Hypotheses Testing Part 4: User Control Option as a Moderator

H15 predicted that the differences in (a) attitude toward the ad and (b) attitude toward the brand between similar and dissimilar online video ads would be smaller when the user control option is present in the ad than when no such option is provided, but such moderating effects would be observed only if ad-video similarity operated through

perceived manipulativeness. As H1 testing showed that the similar ad was found to be relevant, not to be manipulative, H15 was dropped.

H16 predicted that the effects of ad location on (a) attitude toward the ad and (b) attitude toward the brand would be smaller when the user control option is present in the ad than when no such option is provided. A series of three-way ANOVAs was performed to test the hypotheses using the combined sample of non-skippable and skippable ad conditions. Ad-video similarity, ad location, and user control option, three two-way interaction terms (ad-video similarity × ad location, ad-video similarity × user control option, and ad location × user control option), and a three-way interaction term (ad-video similarity × ad location × user control option) were included as independent variables. The dependent variables were attitudes toward the ad and attitude toward the brand. A significant effect of the two-way interaction term, ad location × user control option, would support H16.

The results, presented in Table 22, generally show no support for H16. The two-way interaction term, ad location × user control, was not significantly related to any of the dependent variables. Given that all tests produced non-significant results, H16 is not supported.

Table 22. Three-Way ANOVAs Testing the Moderating Role of User Control Option (N = 271)

Dependent variables	Predictors	*F*	*p*
H16a			
Attitude toward the ad	AS	14.38**	.00
	AL	.00	.96
	UC	3.01	.08
	AS × AL	.01	.93
	AS × UC	.05	.83
	AL × UC	.25	.62
	AS × AL × UC	1.36	.25
H16b			
Attitude toward the brand	AS	10.20**	.00
	AL	.42	.52
	UC	2.05	.15
	AS × AL	.04	.83
	AS × UC	1.05	.31
	AL × UC	1.55	.21
	AS × AL × UC	.49	.48

Note: AS = ad-video similarity; AL = ad location; UC = user control option
* $p < .05$; ** $p < .01$

CHAPTER 8

SUMMARY AND DISCUSSION

Consumers' avoidance of online video ads has been a serious problem (Adobe 2013; Logan 2013; Vindico 2011). Unlike TV commercials where commercial breaks are standardized units, message and placement strategies of online video ads are not yet standardized. In addition, stemming from the unique characteristics of the interactive media environment in which online video ads are placed, some online video ads provide consumers with user control options for actively avoiding ads. If consumers choose to skip ads, those skipped or partially exposed ads may result in negative outcomes. That is, not only are consumers exposed to partially exposed ads (vs. fully exposed ads) less sufficiently, but also partially exposed ads and advertised brands are less likely to be remembered (Bellman et al. 2010; Stout and Burda 1989; Tse and Lee 2001) and could potentially be evaluated more negatively (Duff 2009; Duff and Faber 2011; Thorson and Zhao 1997). Considering the differences between TV commercials and online video ads and the potential negative consequences of avoided online video ads on consumer responses, consumers' online video ad avoidance deserves empirical research attention.

This study tested the effects of key influencing factors on consumers' avoidance of online video ads and those of avoided ads on subsequent advertiser-intended outcomes (i.e., brand memory and attitudes toward the ad and the brand). In doing so, this study aimed to provide practical recommendations to address the ad avoidance issue in the context of online video advertising. As key influencing factors, this study tested the effects of three online video advertising strategy factors – ad-video similarity, ad

location, and user control option in terms of providing skip options – on ad avoidance and subsequent advertiser-intended outcomes (i.e., brand memory and attitudes toward the ad and the brand).

This study also aimed to advance the understanding of the underlying mechanisms by which the three advertising strategy factors influence ad avoidance and ad outcomes. Particularly, this study focused on the concepts of perceived ad relevance and perceived manipulativeness as the alternative explanatory mechanism of the positive and negative effects of ad-video similarity, respectively. Additionally, psychological reactance theory was employed to explain the effects of ad location and user control option on ad avoidance and ad outcomes.

In order to examine the effects of the three online video advertising factors and the psychological mechanisms, this study conducted a two-phase lab experiment. A 2 (ad-video similarity: similar vs. dissimilar online video ad) × 2 (ad location: pre-roll vs. mid-roll online video ad) between-subject factorial design experiment was conducted separately for non-skippable and skippable ad conditions.

Summary of the Findings

Effects of Ad-Video Similarity on Ad Avoidance and Outcomes (H1 – H8). This study posed two alternative sets of hypotheses predicting that (1) a similar online video ad, compared to a dissimilar online video ad, would generate (a) higher perceived relevance, (b) more positive attitude toward the ad, (c) lower ad avoidance, (d) higher brand memory, and (e) more positive attitude toward the brand; or (2) a similar online video ad, compared to a dissimilar online video ad, would generate (a) higher perceived

manipulativeness, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.

In both non-skippable and skippable ad conditions, similar patterns were found. Particularly, the results demonstrated that the similar online video ad, compared to the dissimilar ad, was perceived to be more relevant, instead of more manipulative (both non-skippable and skippable ad conditions), and generated more positive attitude toward the ad (both non-skippable and skippable ad conditions), lower ad avoidance (both non-skippable and skippable ad conditions), more positive attitude toward the brand (skippable ad condition only), and better brand recognition (skippable ad condition only).

Based on the findings of the positive effects of the similar online video ad, this study tested the mediating role of perceived relevance in the effects of ad-video similarity on (a) attitude toward the ad, (b) ad avoidance, (c) brand memory, and (d) attitude toward the brand. The findings showed that, when the online video ad was non-skippable, perceived relevance mediated the positive effect of ad-video similarity on attitude toward the ad only. When the online video ad was skippable, perceived relevance mediated the positive effects of ad-video similarity on attitude toward the ad and toward the brand. In both non-skippable and skippable ad conditions, however, perceived relevance did not mediate the effects of ad-video similarity on ad avoidance and brand memory. The findings generally supported that ad-video similarity had positive impacts on attitudinal outcomes through its influence on perceived relevance, but the effect of ad-video similarity on ad avoidance was more likely to be direct, rather than going through its effect on perceived relevance.

In order to examine the consequences of ad avoidance, this study also examined the mediating role of ad avoidance in the effects of ad-video similarity on brand recall, brand recognition, and attitude toward the brand. In the non-skippable ad condition, due to non-significant effects of ad-video similarity on brand recall, brand recognition, and attitude toward the brand, mediation hypotheses were not tested. When the online video was skippable, ad-video similarity generated lower both cognitive and behavioral ad avoidance, and subsequently, higher brand recognition. In addition, although ad-video similarity reduced cognitive ad avoidance variables (i.e., raw and standardized fixation count and fixation duration scores) and behavioral ad avoidance variables (i.e., ad skipping and ad exposure duration), lower ad avoidance did not have a positive impact on attitude toward the brand. However, there was an exception. That is, ad-video similarity generated a lower level of self-reported cognitive ad avoidance variable, which had a positive impact on attitude toward the brand. The findings generally supported that when the online video ad was skippable, the similar ad was less likely to be avoided than the dissimilar ad, and thus, the brand promoted in the similar (vs. dissimilar) ad was more likely to be remembered. However, lower ad avoidance in response to the similar ad did not generally influence consumers' evaluation of the advertised brand.

Finally, this study tested the mediating role of attitude toward the ad in the effect of ad-video similarity on attitude toward the brand. When the online video was non-skippable, due to the non-significant effect of ad-video similarity on attitude toward the brand, no mediation test was performed. However, when the online video ad was

skippable, attitude toward the ad mediated the effect of ad-video similarity on attitude toward the brand.

The hypotheses testing results are summarized in Table 23. In sum, the study's findings suggest that online video ads that are similar to the video are likely to be perceived as more relevant, rather than more manipulative, and to generate more positive attitude toward the ad and lower ad avoidance. The positive effects of similar online video ads seem to be slightly more robust when the ads are skippable than when they are not skippable. For example, when the ads are skippable, the effects of similar online video ads also included positive impacts on brand recognition and attitude toward the brand.

Unlike what this study predicted, while perceived relevance was one of the key positive outcomes of similar online video ads, its role as the psychological mechanism explaining the positive effects of similar online video ads on advertiser-expected ad outcomes was not widely supported by this study's data. Perceived relevance significantly mediated the effects of ad-video similarity on attitude toward the ad across non-skippable and skippable ad conditions, but the mediation effect was observed on attitude toward the brand only in the skippable ad condition. For other outcomes, the effects of similar online video ads seemed to be more of direct effects rather than going through perceived relevance. Both cognitive and behavioral ad avoidance mediated the effect of ad-video similarity on brand recognition only in the skippable ad condition, indicating that the similar ad was less likely to be cognitively and behaviorally avoided

than the dissimilar ad, which made the brand promoted in the similar (vs. dissimilar) ad be better remembered.

Table 23. Summary of H1 through H8 Testing Results

	Hypotheses	Results	
		Non-skippable ad condition	Skippable ad condition
Positive effects of ad-video similarity on ad avoidance outcomes			
H1	An online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate (a) higher perceived relevance, (b) more positive attitude toward the ad, (c) lower ad avoidance, (d) higher brand memory, and (e) more positive attitude toward the brand.	• H1a, H1b, and H1c supported • H1d and H1e not supported	• H1a, H1b, H1c, and H1e supported • H1d partially supported: Brand recognition only
H2	Perceived relevance will mediate the effects of ad-video similarity on (a) attitude toward the ad, (b) ad avoidance, (c) brand memory, and (d) attitude toward the brand.	• H2a supported • H2b, H2c, and H2d not supported	• H2a and H2d supported • H2b and H2c not supported
H3	Ad avoidance will mediate the effects of ad-video similarity on (a) brand memory and (b) attitude toward the brand. More specifically, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate lower ad avoidance, resulting in (a) higher brand memory and (b) more positive attitude toward the brand.	Not supported	• H3a partially supported: Brand recognition only • H3b not supported
H4	Attitude toward the ad will mediate the effect of ad-video similarity on attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate more positive attitude toward the ad, resulting in more positive attitude toward the brand.	Not supported	Supported

Table 23 (Continued). Summary of H1 through H8 Testing Results

	Hypotheses	Results	
		Non-skippable ad condition	Skippable ad condition
Negative effects of ad-video similarity on ad Avoidance outcomes			
H5	An online video ad that is similar to the video content, as compared to a dissimilar ad, will generate (a) higher perceived manipulativeness, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.	Not supported	Not supported
H6	Perceived manipulativeness will mediate the effects of ad-video similarity on (a) attitude toward the ad and (b) ad avoidance.	Dropped	Dropped
H7	Ad avoidance will mediate the effects of ad-video similarity on (a) brand memory and (b) attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate higher ad avoidance, resulting in (a) lower brand memory and (b) more negative attitude toward the brand.	Dropped	Dropped
H8	Attitude toward the ad will mediate the effect of ad-video similarity on attitude toward the brand. Particularly, an online video ad that is similar to the intended video content, as compared to a dissimilar ad, will generate more negative attitude toward the ad, resulting in more negative attitude toward the brand.	Dropped	Dropped

Effects of Ad Location on Ad Avoidance and Outcomes (H9 – H12). This study predicted that a mid-roll online video ad, compared to a pre-roll online video ad, would

generate (a) higher psychological reactance, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.

The results from both non-skippable and skippable ad conditions generally showed no significant effects of ad location on psychological reactance, ad avoidance, and ad outcomes. Due to the non-significant effects of ad location, subsequent mediation hypotheses were dropped. The hypotheses test results are summarized in Table 24.

Table 24. Summary of H9 through H12 Testing Results

	Hypotheses	Results	
		Non-skippable ad condition	Skippable ad condition
H9	A mid-roll online video ad, as compared to a pre-roll ad, will generate (a) higher psychological reactance, (b) more negative attitude toward the ad, (c) higher ad avoidance, (d) lower brand memory, and (e) more negative attitude toward the brand.	Not supported	Not supported
H10	Psychological reactance will mediate the effects of ad location on (a) attitude toward the ad and (b) ad avoidance.	Dropped	Dropped
H11	Ad avoidance will mediate the effects of ad location on (a) brand memory and (b) attitude toward the brand. Particularly, a mid-roll online video ad, as compared to a pre-roll ad, will generate higher ad avoidance, resulting in (a) lower brand memory and (b) more negative attitude toward the brand.	Dropped	Dropped
H12	Attitude toward the ad will mediate the effect of ad location on attitude toward the brand. Particularly, a mid-roll online video ad, as compared to a pre-roll ad, will generate more negative attitude toward the ad, resulting in more negative attitude toward the brand.	Dropped	Dropped

Interaction between Ad-Video Similarity and Ad Location (H13 – H14). Both H13 and H14 tested the effects of interaction between ad-video similarity and ad location on (a) attitude toward the ad, (b) ad avoidance, and (c) attitude toward the brand. H13 predicted the differences in (a) attitude toward the ad, (b) ad avoidance, and (c) attitude toward the brand between the mid-roll and pre-roll online video ads would be smaller if the similar ad generated a higher level of perceived relevance. In contrast, H14 predicted the differences would be greater if the similar ad generated a higher level of perceived manipulativeness. Given that ad-video similarity was found to generate perceived relevance and positive ad outcomes, the interaction hypotheses were tested only for H13, and H14 was dropped.

In both non-skippable and skippable conditions, the hypothesized interaction effect of ad-video similarity and ad location was not significant. The only significant interaction effect was found in the skippable ad condition for only one type of cognitive avoidance measurement, standardized fixation duration. The non-significant interaction effect seems to be primarily due to the lack of significant effects of ad location on the dependent variables.

User Control Option as a Moderator (H15 – H16). H15 and H16 respectively tested whether the presence of the user control option would reduce the differences in attitudes toward the ad and toward the brand between the similar and dissimilar online video ads and between the mid-roll and pre-roll online video ads. As the effects of interaction between ad-video similarity and user control option on attitudes toward the ad and toward the brand were expected to be observed only when ad-video similarity

operated through perceived manipulativeness, this interaction hypothesis was dropped. The result from testing the interaction effect of ad location and user control option did not support the hypothesis. This result seemed to be mainly due to the non-significant effects of ad location on attitudes toward the ad and toward the brand.

Discussion of the Findings

This study's results suggest that, across skippable and non-skippable ads, online video ads that are similar to the video would likely generate higher perceived relevance, more positive attitude toward the ad, and lower cognitive and behavioral ad avoidance. Additionally, when consumers were given the ad skip option, similar ads would likely generate higher brand recognition and more positive attitude toward the brand than would dissimilar ads. These findings are consistent with previous studies testing the effects of ad-media context similarity on ad outcomes and ad avoidance in various advertising contexts, such as print advertising (Moorman et al. 2002; Simola et al. 2013), TV commercials (Bellman et al. 2013), and Internet advertising (Edwards et al. 2002; Kim and Sundar 2010; Moore et al. 2005; Porta et al. 2013; Tutaj and van Reijmersdal 2012; Yaveroglu and Donthu 2008; Ying et al. 2009; Zanjani et al. 2011).

The fact that the similar online video ad was perceived to be more relevant than the dissimilar ad, rather than being perceived as manipulative, suggests that making an online video ad look similar to the native video content can be an effective ad message strategy, just like in the cases of traditional ads similar to the media context. This appears to contradict with industry survey data about the negative effects of ad-media context similarity in the context of online video advertising (eMarketer 2013c, 2014). These

industry data showed that consumers found similar online video ads misleading and even manipulative and evaluated those ads and advertised brands negatively (eMarketer 2013c, 2014). Unlike the findings from the industry survey, the findings of the current study imply that consumers do not see ads that are similar to and seamlessly integrated into the media environment as manipulative. Rather, consumers seem to have positive reactions to ads that blend into the native content and thus do not interrupt their media use activities. At least, that is the case for online video advertising.

The positive effects of the similar online video ad on attitudinal outcomes are explained by the mechanism of increased perceived ad relevance, which is in line with findings from previous studies (Edwards et al. 2002; Hussain and Lasage 2014; Kim and Sundar 2010). The findings suggest that when consumers are in a task-orientated situation, online video ads that are similar to the task-related video clip are viewed as relevant to their task, resulting in more positive attitudinal responses. However, perceived relevance was not found to be the underlying mechanism by which ad-video similarity reduced ad avoidance. Rather, the ad-video similarity factor had a significant direct impact on reducing ad avoidance, not through perceived relevance.

The positive effects of ad-video similarity on attitude toward the brand and brand recognition were found to be significant only when online video ads were skippable. However, the findings from both non-skippable and skippable ad conditions showed generally similar patterns, suggesting that when online video ads were skippable, as compared to when were are not skippable, the positive effects of ad-video similarity on ad outcomes would be slightly more prominent.

The finding from the skippable ad condition that the consequence of increased ad avoidance in response to the dissimilar (vs. similar) ad was a lower level of brand recognition is consistent with previous studies (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). These previous studies also demonstrated that the brands promoted in non-attended ads were not remembered than those in attended ads. In other words, consumers exposed to the dissimilar ad were more likely to choose to avoid the ad than those exposed to the similar ad. Consequently, consumers exposed to the dissimilar ad were less likely to remember the advertised brand than those exposed to the similar ad.

The ad location factor did not significantly influence psychological reactance, attitudinal outcomes, and ad avoidance. The non-significant effects of ad location factor on ad avoidance and outcomes would be primarily due to the fact that both pre-roll and mid-roll ads did not generate much psychological reactance. Despite the non-significant effects of the ad location factor on psychological reactance, ad avoidance, and ad outcomes, it is worth noting that cognitive psychological reactance was significantly higher in the mid-roll condition than the pre-roll condition, but only when the online video ad was skippable. Previous studies in the context of health communication found that a health advertising message that poses a greater threat to individuals' freedom generated higher levels of both cognitive and affective psychological reactance and subsequently more negative attitudinal responses (Dillard and Shen 2005; Quick and Stephenson 2007; Rains and Turner 2007). Those studies found that cognitive and affective components of psychological reactance were not distinct from each other, but

closely intertwined (Dillard and Shen 2005; Quick and Stephenson 2007; Rains and Turner 2007).

The current study, however, suggests potentially significant differences between cognitive and affective psychological reactance. In fact, a three-way ANOVA with ad-video similarity, ad location, and user control option showed a marginally significant interaction effect of ad location × user control option on cognitive psychological reactance (F (1, 263) = 3.47, p = .06), but a non-significant interaction effect on affective psychological reactance (F (1, 263) = .41, p = .52). In other words, the presence of the skip option seemed to make the mid-roll ad more intrusive, but not necessarily more irritating or annoying. It is possible that the message, "you can skip this ad in five seconds," or the skip button served as a prominent cue to make the inserted mid-roll ad more intrusive than the pre-roll ad, as it interrupted with consumers' ongoing video-watching experience. Perhaps the fact that participants were allowed to skip the ad after the first five seconds might have made them less annoyed by the ad, contributing to reducing the difference in affective psychological reactance between the mid-roll ad (M = 3.74, SD = 1.42) and the pre-roll ad conditions (M = 3.37, SD = 1.44).

Overall, this study found the positive effects of ad-video similarity on ad avoidance and advertiser-intended outcomes, but it did not show the significant effects of ad location factor. Not only the significant effects of the online video ad content strategy on consumers' perceived relevance, ad exposure vs. avoidance, and attitudinal responses, but also the non-significant effects of the ad placement strategy provide important implications for advertising research and practice, which will be discussed next.

Implications for Advertising Research and Practice

This study provides important implications for ad avoidance research by concurrently focusing on both influencing factors and consequences of ad avoidance. A great deal of research on ad avoidance has tested the effects of influencing factors on ad avoidance (Heeter and Greenberg 1985; Okazaki et al. 2012; Porta et al. 2013; Speck and Elliott 1997; van Meurs 1998; Zufryden et al. 1993), and some previous studies have examined the impact of ad avoidance on attitudinal responses and brand memory (Bellman et al. 2010; Ehrenberg and Twyman 1967; Stout and Burda 1989; Thorson and Zhao 1997; Tse and Lee 2001). By merging two streams of ad avoidance research in a single study, this study is uniquely situated in the ad avoidance literature. Given the increasing likelihood of ads being avoided in today's media environment (Vindico 2011), research not only identifying ad message and placement strategies to decrease ad avoidance, but also testing the effects of partially exposed ads on advertiser-intended outcomes is much needed. By doing so, this study provides a bigger picture of ad avoidance than previous studies either focusing on the influencing factors of ad avoidance or the consequences of ad avoidance.

This study also expands the scope of ad avoidance research. Prior research on ad avoidance has mainly focused on TV commercial avoidance (Cronin 1995; Cronin and Menelly 1992; Danaher 1995; Krugman 1983; Moriarty and Everett 1994). Although online video ads share some similar characteristics with TV commercials, they are different in terms of interactivity, such as two-way communication and user control (Liu and Shrum 2002; McMillan and Hwang 2002). Particularly, online video ads are placed

in the context of interactive viewing situations where higher user control and interactions are achievable and expected (Ad Age 2012). Considering similarities between TV commercials and online video ads, previous findings in terms of the positive effects of ad-media context similarity on ad avoidance and outcomes in the context of TV commercials were applied to the online video advertising context. In contrast, stemming from differences between TV commercials and online video ads, this study examined the potential negative effects of ad-video similarity through perceived manipulativeness and focused on the role of user control option in terms of skipping online video ads in generating positive attitudinal outcomes. As this study found the positive effects of ad-video similarity on ad avoidance and outcomes and non-significant effects of user control option in terms of skipping online video ads on attitudinal outcomes, this study's findings seem to suggest that prior TV commercial avoidance research can provide guidance on understanding online video ad avoidance.

One of the unique findings that this study offers is the importance of an ad message strategy in reducing online video advertising avoidance. Interestingly, prior research on ad avoidance in the context of TV commercials has put more emphasis on the effects of ad placement strategies than those of ad message strategies on ad avoidance (Chowdhury et al. 2007; Danaher 1995; Krugman 1983; Moriarty and Everett 1994; Tse and Lee 2001; van Meurs 1998; Yorke and Kitchen 1985). These studies generally found that TV commercials placed in the middle of TV programs were less likely to be avoided than those placed at the beginning or at the end of TV programs. Such findings are explained in that ads placed in the middle of TV programs benefit from the momentum

created by TV programs' narratives or story line, which contributes to better keeping consumers' attention. The primary rationale for the prior TV commercials studies' focus on ad placement strategies is that consumers often engage in blanket ad avoidance, avoiding the entire block of commercials (Wilbur 2008). As TV commercial blocks are standardized units, consumers can easily engage in blanket ad avoidance. In this light, researchers have been motivated to find a commercial block where consumers are least likely to engage in blanket ad avoidance.

Unlike previous studies on TV commercial avoidance, however, the findings of this study suggest that the content of ads are likely to play a more important role in increasing or decreasing ad avoidance than the location of ads. The discrepancy between previous TV commercial avoidance studies and this study can be attributed to the fact that consumers often have a particular objective or task in mind when actively searching for an online video clip to watch. Consequently, whether ads are well incorporated into the video clip of interest influences ad avoidance because the content plays an important role in fulfilling consumers' task. However, due to the unstandardized placement strategies of online video ads, both pre-roll and mid-roll ads seem to interfere consumers' video watching behavior to a similar degree, resulting in no significant difference in psychological reactance. Consequently, whether ads are placed at the beginning or in the middle of the video clip does not seem to be an important determinant of ad avoidance. As this study is one of the few online video ad avoidance studies, future research is needed to further examine the effects of different message and placement strategies of online video ads on ad avoidance.

This study also contributes to advancing methodological aspects of ad avoidance research. Particularly, this study applies a multi-method approach to measuring cognitive and behavioral ad avoidance by utilizing the eye-tracking device, website log data analysis, and self-reported measures. Each methodological approach – human observation method in a naturalistic setting (Cronin 1995; Cronin and Menelly 1992; Krugman et al. 1995), machine observation in a lab setting (Edwards et al. 2002; Li et al. 2002), or self-reported measures (Baek and Morimoto 2012; Cho and Cheon 2004; Morimoto and Chang 2009; Morimoto and Macias 2009; Okazaki et al. 2012; Speck and Elliott 1997) – has been used to examine ad avoidance, but a combination of multiple measures has not been used in any of the previous studies. By combining eye-tracking data, website log data analysis and self-reported measures, this study was able to more precisely capture consumers' cognitive and behavioral ad avoidance than did previous studies with a single-method approach.

This study's multi-method approach to measuring cognitive and behavioral ad avoidance strengthens reliability and provides interesting insight into the ad avoidance literature (Brewer and Hunter 2006; Dix and Phau 2010). Providing generally consistent findings in terms of the significant effects of ad-video similarity on cognitive and behavioral ad avoidance variables, the findings from this study's multi-method approach are more reliable than previous ad avoidance studies using a single-method approach. In addition, researchers in advertising, marketing, and consumer psychology fields have heavily relied on self-reported measures, but have seldom observed consumers' actual behaviors (Baumeister, Vohs, and Funder 2007). The ad avoidance literature is no

exception (Dix and Phau 2010). In this light, this study advances the methodological aspects of ad avoidance literature by incorporating observation methods as well as self-reported measures.

A multi-method approach may produce different findings across different measures. For instance, all cognitive ad avoidance variables (i.e., raw and standardized fixation count and fixation duration scores) and behavioral ad avoidance variables (i.e., ad exposure duration and ad skipping) used in this study showed that the similar ad generated lower cognitive and behavioral ad avoidance, which did not significantly influence attitude toward the brand. However, the similar ad, as compared to the dissimilar ad, generated a lower mean score for self-reported cognitive ad avoidance variable, resulting in more positive attitude toward the brand. If this study were to use self-reported cognitive ad avoidance variable only, such a single-method approach would have produced a different conclusion in that ad avoidance mediated the effect of ad-video similarity on attitude toward the brand. As such, this study suggests not only the benefits of using a multi-method approach to produce reliable findings and but also caution to interpret findings when different measures produce different results.

The findings of this study also provide practical implications for advertisers and agency practitioners, especially for implementing native online video ads on video-sharing websites. Native ads are defined as "paid ads that are so cohesive with the page content, assimilated into the design, and consistent with the platform behavior that the viewer simply feels that they belong" (IAB 2013, p. 3). Due to the executional similarity between ads and their video contexts and seamless integration of ads, native ads have

attracted advertisers' attention with the anticipation that such ads would likely be perceived as less intrusive than non-native ads, possibly generating more positive responses. However, the expected effects of native ads have not gained much research attention and not been empirically tested. Given that the conceptual and operational definition of similar ads in the current study includes nativity as well as congruence, relevance, or fit (IAB 2013; Moorman et al. 2002; Simola et al. 2013; van Reijmersdal et al. 2005), this study's findings suggest that prior research findings about the positive effects of ad congruence, relevance, or fit are directly applicable to native online video advertising effects. In other words, if the content and executional styles of ads were similar to those of the media vehicle, such ads would likely generate superior advertiser-intended outcomes.

This study helps online advertisers and marketers to better understand the benefits and costs of providing consumers with an option to skip ads. The findings of this study suggest that giving consumers an option to skip ads does not necessarily reduce the potential negative effects of dissimilar (vs. similar) online video ads and mid-roll (vs. pre-roll) online video ads on attitudinal outcomes. Since little research has tested the effects of user control option in terms of skipping ads in the context of online video advertising, this study cannot provide a definitive answer whether providing consumers with an option to skip online video ads is helpful in generating advertiser-intended outcomes. Nonetheless, this study's findings suggest that, as long as giving consumers an option to skip online video ads does not play a significant role in generating positive

attitudinal outcomes, not giving such an option might be more beneficial to advertisers in terms of increasing the likelihood of ads being exposed to consumers.

Limitations

This study has some methodological limitations that call for readers' attention. Since this study's sample was recruited from undergraduate students, the findings might not be generalizable to the general adult consumer population. According to YouTube, which is the most popular video-sharing website (Nielsen 2013), consumers whose ages are 18 to 24 take the largest portion of total viewers (41 percent), followed by 25 – 34 age group (26 percent), teenagers (15 percent), 45 – 54 age group (5 percent), and others (13 percent) (Google 2015). Although participants of this study represent a majority of the viewers on the most popular video-sharing website, it would be worth examining consumers' ad avoidance patterns and attitudinal responses with a more diverse sample.

Additionally, the experiment was conducted in a lab setting where the artificial environment may suppress participants' natural ad avoidance tendency. In addition, participants were aware that the eye-tracking device recorded their eye-movements while watching the video clip, which may have forced participants to pay more attention to the video clip, including the ad, than they would normally do. Thus, it is possible that the artificial characteristics of the lab environment may have reduced the degree to which participants avoided the ad.

The video clip used in this study was a short form of online videos (IAB 2012), which limits the applicability of this study's findings to a long form of online videos. As mentioned earlier, according to IAB (2012), the total length of 24 minutes determines

whether an online video is a short-form video or a long-form video. Given that this study used a six-minute travel guide video clip to place an online video ad at the beginning or in the middle of the video, the findings of this study are limited to online video ads that are placed in short-form online videos.

The experimental website has some external validity issues. First, the website did not allow participants to change the video-watching settings, such as fast-forwarding and full screen mode and to control over the pace of video watching. Second, although the website included fictitious viewers' comments regarding the video clip at the bottom of the video player and vertical banner ads on the right side of the video player to mimic existing video-sharing websites, such as YouTube or Dailymotion, the website still lacked some features available in most video-sharing websites. Those features include making a comment on the video clip, replying or liking viewers' comments, searching other videos, and listing other similar videos on the right side of the video player.

Suggestions for Future Research

This study provides several suggestions for future research. First of all, future studies are encouraged to use general adult consumer samples to test ad-video similarity, ad location, user control option, and other advertising strategy factors on ad avoidance in the context of online video ads. As suggested by prior research testing the effects of consumer demographics on ad avoidance, indicating that those who are younger and more educated are more likely to avoid ads (Heeter and Greenberg 1985; Rojas-Méndez et al. 2009; Speck and Elliott 1997; Zufryden et al. 1993), the findings of this study with undergraduate student participants might have been skewed. Therefore, future studies

with a more diverse sample are encouraged to replicate and expand the current study's findings.

Future studies should examine ad avoidance in a more natural environment. Unlike some previous studies on TV commercial avoidance that have been conducted at participants' homes (Cronin 1995; Cronin and Menelly 1992; Krugman et al. 1995), research on Internet ad avoidance has mostly been conducted in a lab setting (Edwards et al. 2002; Li et al. 2002), including this study. Future studies are encouraged to replicate this study by conducting an online experiment to address this methodological limitation.

This study intentionally motivated participants to be in a highly goal-oriented or task-oriented situation, given that most consumers tend to actively search for an online video with specific objectives in mind (Ha and McCann 2008). Consumers, however, might not always be in a highly goal-oriented or task-oriented mode when watching online videos, but might engage in passing time or distraction-seeking (Haridakis and Hanson 2009). Thus, a fruitful avenue for future research is to examine whether the positive effects of similar online video ads on ad avoidance and attitudinal responses would hold true in casual browsing or distraction-seeking media use situations.

Future studies should examine the effects of ad-video similarity, ad location, user control option, and other advertising strategy factors on ad avoidance and ad outcomes by using longer online videos, such as a full episode of a TV show. It is possible that the ad location factor might play an important role in influencing ad avoidance and ad outcomes in longer online videos, although the ad location factor did not influence ad avoidance, brand memory, and attitudinal outcomes in this study with a shorter online video. This

expectation is based on the fact that placing an ad in the middle of a full episode of a show, compared to placing an ad at the beginning of the episode, is more likely to disrupt the storyline and narrative of the show.

Another interesting avenue for future research is to compare the effects of advertising strategy factors on online video ad avoidance with those on TV commercial avoidance. Using an identical episode of a show and an ad, future studies can actually compare the effects of advertising strategy factors on online video ad avoidance and TV commercial avoidance and the consequences of online video ad avoidance and TV commercial avoidance on brand memory and attitudinal outcomes. If future studies found different levels of ad avoidance between online video ads and TV commercials in response to the same ad strategy factor, those findings could make a significant contribution to the ad avoidance research by taking media characteristics into consideration.

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APPENDIX

− MAIN STUDY QUESTIONNAIRE –

Thank you for participating in this study. Please follow instructions carefully and answer questions by typing in your thoughts or opinions or clicking the number that corresponds to the answer closest to your opinion. All individual responses will be kept confidential.

Please imagine that you are planning a trip to New York City during next Spring break. In order to make a travel plan, you have decided to watch a New York City travel guide video clip created by Expedia on a video-sharing website.

With this in mind, please watch the New York City travel guide video clip that the researcher will provide shortly. After watching the video clip, you will be asked to put together an itinerary for one day in New York City based on the information presented in the video clip.

[Watch the New York travel guide video clip]

- - - - - PAGE BREAK - - - - -

1. Have you ever been to New York City?

   (1) Yes
   (2) No

2. Please indicate the degree to which you find New York City to be familiar on the following attributes.

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Unfamiliar Familiar

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
I have no prior experience with New York City — I have extensive experience with New York City

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7

I'm not knowledgeable about New York City — I'm extremely knowledgeable about New York City

3. Do you remember that New York City travel guide video clip showed the Expedia logo all the way through it?

   (1) Yes
   (2) No

4. As suggested in the video clip that you have just watched, New York City has a wide variety of places to visit. Suppose that you have one day in New York City and want to get the most out of the city. Based on the information about New York City that was presented in the video clip that you just watched, please think about places in New York City you would like to visit and put together an itinerary for one day in New York City.

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At the beginning (or in the middle) of the video clip, there was an advertisement. The following sets of questions are related to your memory and feelings about the advertisement that was inserted in the New York City travel guide video clip.

5. Do you remember seeing the ad inserted at the beginning or in the middle of the New York City travel guide video clip?

   (1) Yes → Continue to the next question.
   (2) No → Skip to Q17.

6. Please rate **the ad** on the following attributes.

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Bad Neutral Good

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Negative Neutral Positive

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Unfavorable Neutral Favorable

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Dislike Neutral Like

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Worthless Neutral Valuable

- - - - - PAGE BREAK - - - - -

7. Please type in any thoughts that crossed your mind as you watched the New York City travel guide video clip and the ad and evaluate each thought as positive, negative, or neutral.

Thoughts	Positive	Negative	Neutral
1.			
2.			
3.			
4.			
5.			

The following sets of questions are about your memory, perceptions, thoughts and feelings regarding the advertised brand.

8. What was the brand name being promoted in the ad?

_____

- - - - - PAGE BREAK - - - - -

9. Please choose the correct brand name being promoted in the ad.
   (1) Pearl Air
   (2) Pel-Air
   (3) Pac Air
   (4) Polo-Air
   (5) Pat Bay Air
   (6) None of the above
   (7) Don't know

- - - - - PAGE BREAK - - - - -

10. Please rate **<u>the advertised brand</u>** on the following attributes.

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Bad Neutral Good

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Negative Neutral Positive

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Unfavorable Neutral Favorable

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Dislike Neutral Like

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Worthless Neutral Valuable

11. Please indicate the degree to which you find the advertised brand to be familiar on the following attributes.

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
Unfamiliar Familiar

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
I have no prior experience with the brand — I have extensive experience with the brand

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7
I'm not knowledgeable about the brand — I'm extremely knowledgeable about the brand

- - - - - PAGE BREAK - - - - -

The following sets of questions are about your perceptions and thoughts regarding the ad.

12. Please click the number that best represents your first impression when you saw the ad.

		Strongly Disagree			Neutral			Strongly Agree
1.	The ad looked similar to the New York City travel guide video clip.	1	2	3	4	5	6	7
2.	The content of the ad seemed similar to that of the New York City travel guide video clip.	1	2	3	4	5	6	7
3.	The distinction between the ad and New York City travel guide video clip was blurry.	1	2	3	4	5	6	7
4.	The ad was distinctively different from the New York City travel guide video clip.	1	2	3	4	5	6	7

13. Please indicate the degree to which you found the ad to be relevant to your task of making a list of places to visit in New York City on the following attributes. For each item, click the number that best represents your opinion.

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7

Not at all relevant to my task Relevant to my task

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7

Not helpful in fulfilling my task Helpful in fulfilling my task

___ : ___ : ___ : ___ : ___ : ___ : ___
1 2 3 4 5 6 7

Useless in completing my task Useful in completing my task

- - - - - PAGE BREAK - - - - -

The following sets of questions are related to your reactions to the ad.

14. Please indicate the degree to which you agree or disagree with each statement that may describe your reactions to the ad. For each item, click the number that best represents your reactions.

While the ad played:

	Strongly Disagree			Neutral			Strongly Agree
1. I intentionally ignored the ad.	1	2	3	4	5	6	7
2. I intentionally did not pay attention to the ad.	1	2	3	4	5	6	7

15. Please indicate the degree to which you agree or disagree with each item below.

I felt the ad was:

	Strongly Disagree			Neutral			Strongly Agree
1. Insulting my intelligence	1	2	3	4	5	6	7
2. Annoying	1	2	3	4	5	6	7
3. Irritating	1	2	3	4	5	6	7

4. Deceptive	1	2	3	4	5	6	7
5. Confusing	1	2	3	4	5	6	7
6. Interfering with my video watching	1	2	3	4	5	6	7
7. Intrusive	1	2	3	4	5	6	7
8. Obtrusive	1	2	3	4	5	6	7
9. Bothersome	1	2	3	4	5	6	7
10. Invasive	1	2	3	4	5	6	7
11. Distracting	1	2	3	4	5	6	7
12. Disturbing	1	2	3	4	5	6	7

16. Please indicate what you think about the ad and the advertiser that created the ad on the following attributes. For each item, click the number that best represents your opinion.

	Strongly Disagree			Neutral			Strongly Agree
1. The ad strategy seems misleading.	1	2	3	4	5	6	7
2. The ad seems to try to deceive the viewer.	1	2	3	4	5	6	7
3. The advertiser seems to try to make the ad appear to be a part of the video content to attract the viewer's attention.	1	2	3	4	5	6	7
4. I was annoyed by the ad because the advertiser seemed to have tried to make the ad appear to be a part of the video content.	1	2	3	4	5	6	7

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The following set of questions asks about your personality.

17. Please indicate the degree to which you agree or disagree with each statement that may describe yourself or your beliefs by clicking the number of the item that best represents you.

	Strongly Disagree			Neutral			Strongly Agree
1. I become frustrated when I am unable to make free and independent decisions.	1	2	3	4	5	6	7
2. It irritates me when someone points out things which are obvious to me.	1	2	3	4	5	6	7

3. I become angry when my freedom of choice is restricted.	1	2	3	4	5	6	7
4. Regulations trigger a sense of resistance in me.	1	2	3	4	5	6	7
5. I find contradicting others stimulating.	1	2	3	4	5	6	7
6. When something is prohibited, I usually think, 'That's exactly what I am going to do'.	1	2	3	4	5	6	7
7. I resist the attempts of others to influence me.	1	2	3	4	5	6	7
8. It makes me angry when another person is held up as a role model for me to follow.	1	2	3	4	5	6	7
9. When someone forces me to do something, I feel like doing the opposite.	1	2	3	4	5	6	7
10. I consider advice from others to be an intrusion.	1	2	3	4	5	6	7
11. Advice and recommendations usually induce me to do just the opposite.	1	2	3	4	5	6	7

18. Please indicate the degree to which you agree or disagree with each statement that may describe yourself or your beliefs by clicking the number of the item that best represents you.

	Strongly Disagree			Neutral			Strongly Agree
1. I know when an offer is 'too good to be true'	1	2	3	4	5	6	7
2. I can tell when an offer has strings attached.	1	2	3	4	5	6	7
3. I have no trouble understanding the bargaining tactics used by salespersons.	1	2	3	4	5	6	7
4. I know when a marketer is pressuring me to buy.	1	2	3	4	5	6	7
5. I can see through sales gimmicks used to get consumers to buy.	1	2	3	4	5	6	7
6. I can separate fact from fantasy in advertising.	1	2	3	4	5	6	7

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This is the final section of this questionnaire. Please answer the following questions about yourself. The information will be used only for classification purposes. It will not be used to identify you in any way.

19. In what year were you born? (Please type in)
    1 9 ____ ____

20. What is your gender?
    (1) Male
    (2) Female

21. What is your racial/ethnic background?
    (1) White or Caucasian (non-Hispanic)
    (2) Black or African American
    (3) Asian
    (4) Hispanic or Latino
    (5) Native American or Alaska Native
    (6) Native Hawaiian or other Pacific Islander
    (7) Other or Mixed Race

22. Before taxes, which of the following categories did your total family income fall into last year?

    (1) Less than $10,000
    (2) $10,000 – under $20,000
    (3) $20,000 – under $30,000
    (4) $30,000 – under $50,000
    (5) $50,000 – under $75,000
    (6) $75,000 – under $100,000
    (7) $100,000 – under $200,000
    (8) $200,000 or more
    (9) Don't know

This is the end of this study. Thank you for your time and participation!