

THE EFFECTS OF ACTOR ATTRACTIVENESS AND ADVERTISEMENT CHOICE ON  
MECHANICAL AVOIDANCE BEHAVIORS

by

STEPHEN CHARLES NETTELHORST

B.A., University of California, Los Angeles, 2006  
M.A., California State University, Northridge, 2009

AN ABSTRACT OF A DISSERTATION

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## **Abstract**

Two common types of advertisement avoidance behaviors in digital domains are skipping and zipping. Skipping involves pressing a “skip ad” button when viewing television content online, and zipping involves pressing a fast-forward button when viewing the same content through some type of recording device (e.g. Digital Video Recording device). The purpose of these studies was to examine if specific factors regarding the content of the advertisement, the persuasion context, and characteristics of the viewer reduce occurrences of skipping and zipping behavior. Participants in these two studies saw a combination of television shows and advertisements. One target advertisement marketed a fictional MP3 player while another discussed the dangers of binge drinking. One version each of the MP3 and binge drinking advertisements contained average-looking (i.e. normal) actors, and the other half contained above-average-looking (i.e. attractive) actors. Half of the viewers were allowed to choose which type of advertisements they would watch while the other half were forced to watch a particular type. The results of one study showed that participants were more likely to skip the MP3 advertisement than the binge drinking advertisement after making an advertisement choice when both contained normally attractive actors. These findings demonstrate that the effect of advertisement choice may be more complicated than previously found. Instead of acting as a means to improve avoidance rates, advertisement choice may make the content more salient to participants. Thus, viewers’ perceptions of the advertisement after making an advertisement choice may determine whether avoidance occurs.

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Approved by:

Major Professor  
Laura A. Brannon, Ph.D.

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## Chapter 1 - Advertisement Avoidance

Since the advent of the use of persuasive communications (e.g. advertisements) as a component of television content, advertisers have been trying to prevent or mitigate the impact of one problematic viewer behavior. The behavior is known as advertisement avoidance ( $Ad_{avoid}$ ). Although the term refers specifically to advertisements, this behavior can occur for any type of persuasive communication (public service announcements, infomercials, etc.). Specifically,  $Ad_{avoid}$  will be operationally defined here as any viewer behavior that is initiated in order to prevent self-exposure to a persuasive communication. Bellman, Schweda, and Varan (2010) identify three categories of  $Ad_{avoid}$  behavior: physical, cognitive, and mechanical. Physical avoidance is when a viewer physically removes himself/herself entirely from the television environment to prevent exposure to persuasive content. Cognitive avoidance occurs when a viewer diverts his/her attention away from the persuasive communication and focuses on some other object or task in the environment. Finally, mechanical avoidance is when a viewer uses certain television controls to alter the content being displayed. For the purposes of this dissertation, only certain forms of mechanical avoidance will be examined.

Bellman et al. (2010) identify five mechanical avoidance behaviors that viewers can use when viewing television content either through a television or when streaming content online. These behaviors are: skipping, zapping, muting, blanking, and zipping. Skipping behavior occurs when viewers initially watch a persuasive communication for a limited amount of time but then bypass the remaining content. Zapping behavior occurs when viewers either change the television channel or go to a different webpage when a persuasive communication appears. Muting occurs when viewers mute the audio output of their television or computer when a persuasive communication appears while blinking occurs when viewers intentionally remove the video output of a television or computer when a persuasive communication appears. Finally, zipping behavior occurs when viewers watch the persuasive content at a fast-forwarded speed. With the various mechanical avoidance behaviors defined, examination of all five mechanical avoidance behaviors is not possible given the various limitations (e.g. space) of this dissertation. Thus certain behaviors must be selected. This dissertation is specifically focused on avoidance behaviors that occur without possibly sacrificing video or audio exposure to the television

content that viewers care about. Thus this dissertation is focused on skipping and zipping avoidance behavior specifically. Although skipping and zipping behavior can occur in television and online streaming contexts, each behavior typically occurs in one context. Skipping behavior typically occurs in online streaming contexts where viewers click on a text box shown on the computer screen after a certain amount of commercial time. Zipping behavior, on the other hand, typically occurs in non-online television contexts when the viewer watches recorded programming through the use of a Video Cassette Recording (VCR) or Digital Video Recording (DVR) machine. The number of individuals who engage in this type of behavior, however, varies depending on the source one examines.

### **Occurrence of Mechanical Avoidance**

In general, rates of mechanical avoidance behavior vary a great deal across empirical studies. Findings from Bellman et al. (2010) report that mechanical avoidance rates range from a low of 3% (Cronin & Menelly, 1992) to a high of 53% (Moriarty & Everett, 1994). According to Bellman et al., one reason for the variability in rates reported is due to the methodology used in these studies. Their examination of the literature showed that observational studies of mechanical avoidance yielded rates of 3% (Cronin & Menelly, 1992), 11% (Ritson, 2002), 17% (Krugman, Cameron, & White, 1995), and 53% (Moriarty & Everett, 1994). These rates were on average larger than rates from people-meter studies: 5% (Danaher, 1995), 5.2% (Kaplan, 1985), 5.7% (Kneale, 1988), and 21.5% (van Meurs, 1998). People-meter data was recorded using electronic devices that were electronically connected to participants' television devices (Webster, 2008) while the observational data relied on equipment (e.g. cameras) that lacked any television connectivity. The median of these rates compare nicely to results from Abernethy (1990) which report that roughly 10% of overall commercial time is cognitively avoided by viewers. While this percentage is small in comparison to physical avoidance (about 40% of commercial time according to Abernethy), these rates do not include avoidance estimates through the use of new technologies like DVR players.

Specific estimates of skipping behavior also vary greatly depending on the source being cited. According to Youtube, roughly 30% of their viewers skip advertisement content during the initial phases of TrueView (a marketing strategy giving viewers the ability to skip advertisement content; Fisher, 2011). However, GoPro (a sport camera retail company)

indicated that approximately 65% of viewers watching their advertisements decided to skip during their beta test of TrueView (Liebeskind, 2011). Estimates of zipping behavior, in contrast, are somewhat consistent across multiple sources. A study by Pearson and Barwise (2008) reported that DVR viewers zipped 68% of commercial content while Flint (2005) reports that TiVo estimates that 77% of DVR viewers zipped through such content. Similarly, Rouwenhorst (2009) reports that a CBS study found that 64% of DVR viewers engage in zipping behavior while a report from Nielsen Media Research shows that over 50% of DVR viewers zip through advertisements (Bauder, 2007). Finally, Downey (2007) found that an audience viewing recorded television content decreases by 59% when advertisement content appears. These estimates of skipping and zipping behaviors show that these forms of mechanical avoidance are increasing relative to previous VCR estimates and are becoming a major concern to the advertising community. In addition to increasing rates of mechanical avoidance, these behaviors are problematic to advertisers because of their effects on viewers' cognitive and attitudinal states.

### **Psychological Consequences of Skipping and Zipping**

Due to the relative novelty of skipping as a type of avoidance behavior, empirical investigations on its impact is relatively sparse compared to zipping. In fact, only Bellman et al. (2010) has directly assessed the effect of skipping commercials by comparing it to a full exposure condition. Here the authors measured the difference between the two conditions on advertisement recognition and day-after recall of the advertisement. Advertisement recognition measured whether participants correctly recognized the advertised brand seen during the experiment. This recognition was measured immediately after the experimental session ended. Day-after recall measured whether participants sufficiently described the target advertisement to an experimenter roughly 24 hours after they ended their experimental session. The results showed that skipping commercials did not lead to significant impairments in any of the aforementioned criterion variables (Recognition  $M = 67\%$ , Recall  $M = 26\%$ ) compared to the control condition (Recognition  $M = 82\%$ , Recall  $M = 47\%$ ). In comparison, Bellman et al. found that zipping at 2 (Recognition  $M = 60\%$ , Recall  $M = 24\%$ ) or 8 (Recognition  $M = 45\%$ , Recall  $M = 7\%$ ) times faster than normal significantly lowered advertisement recognition and day-after recall, but not attitude toward the advertisement. The detrimental effect of zipping on various advertisement recognition and recall measures has been replicated in other studies as well

(Brasel & Gips, 2008; Martin, Nguyen, & Wi, 2002; Siefert, Gallent, Jacobs, Levine, Stipp, & Marci, 2008; Stout & Burda, 1989). Contrary to Bellman et al., Rouwenhorst (2009) found that memory impairments due to zipping were moderated by the rate of zipping speed. Here Rouwenhorst found that slower rates of zipping speed (i.e. 300% of normal time) actually increased brand recall while higher rates (i.e. 1800 and 6000% of normal time) significantly decreased brand recall. These detrimental effects of zipping also extend to various attitudinal measures as well.

However much like the research on the effects of skipping behavior, research exploring attitudinal effects using these avoidance behaviors is relatively scarce. Stout and Burda (1989) found that zipping led to the development of more neutral attitudes about the brand ( $A_b$ ) and the advertisement ( $A_{ad}$ ) than watching in real-time. This pattern of results was partially replicated by Rouwenhorst (2009) who found that zipping at 1800% and 6000% (but not 300%) of normal time led to the development of more neutral  $A_{ad}$  compared to the normal time control. Interestingly, Bellman et al. (2010) found that neither skipping nor zipping significantly influence participants'  $A_{ad}$ . However, it should be noted that Bellman et al. found no significant differences in  $A_{ad}$  between any of their six mechanical avoidance conditions and their non-avoidance control condition. The lack of any difference between seven experimental conditions seems fairly implausible and may be due to the actual advertisements used in the study. One major issue is the neutrality of the advertisements themselves. The average  $A_{ad}$  in the control condition was 4.83 using a 7 point scale. This value makes finding significant differences from mechanical avoidance difficult especially when one considers that other research shows that mechanical avoidance behavior leads to more neutral attitude development (in this case a score of 4). Thus Bellman et al. would have benefited from using a more valenced (either positively or negatively) set of advertisements. Because of issues like these, it seems that the attitudinal effects from Bellman et al. should have less weight than those found in Rouwenhorst (2009) or Stout and Burda (1989).

Given the relatively high rates of skipping and zipping and the associated detrimental psychological consequences found in the majority of the literature, finding methods to help prevent these forms of mechanical avoidance from occurring is one priority for current advertisers. Such methods would increase advertisement viewing time, and would help subsequent attitude development and memory formation and retention. These outcomes are

essential for marketing success so finding ways to help them develop in settings where skipping and zipping can occur has become important. However, if prevention of skipping or zipping is not possible in a given situation, a second priority for advertisers is to find ways to mitigate the duration of such behavior during the time length of an advertisement. If possible, these mitigation factors would provide increased exposure of an advertisement, and would improve attitude development and memory formation and retention. The broad purpose of this dissertation is to explore the efficacy of certain contextual and advertisement content factors in preventing or mitigating skipping and zipping avoidance behaviors.

A major decision regarding this dissertation is to choose which contextual and content factors to explore. Given the vast number of variables studied in the psychological, marketing, and mass communication literatures. One key to selecting the target factors is available through examination of the Ad<sub>avoid</sub> literature. This key is exploring and understanding viewers' motivations regarding skipping and zipping behavior as well as factors that predict whether these forms of mechanical avoidance occur.

### **Motivations and Predictors of Skipping and Zipping**

According to Wilbur (2008), there are four main motivations that explain Ad<sub>avoid</sub> behaviors. First, viewers avoid advertisements for products stemming from irrelevant markets. For example, adults with no children are likely to avoid various diaper advertisements because they have no need for that particular product. Second, viewers avoid advertisements that have become worn-out (i.e. viewers have already seen that exact advertisement multiple times). Third, viewers avoid advertisements when the content of the advertisements are not perceived as creative and/or do not contain any desirable visual content. Finally, viewers avoid advertisements when there are other engaging alternative behaviors present during the duration of the advertisement. The effect of displaying creative and visually pleasing advertisements on mechanical avoidance has been demonstrated by Olney (1989) and Olney, Batra, and Holbrook (1990). In situations where participants watching a series of advertisements could zap or zip at their leisure, Olney found that viewing time increased (i.e. less zapping and zipping) when viewers saw advertisements that were rated higher in interestingness and hedonism but lower in utilitarianism by a separate group of judges. Additionally, Olney found that viewing time significantly increased when participants were exposed to advertisements that had greater levels

of aesthetic appeal due to high levels of sexual/erotic content and beauty. Similarly, Olney, Holbrook, and Batra (1991) found that the use of more factual advertisements (which correlate with utilitarianism) was negatively related to viewing time, while the use of feeling-based advertisements (which correlate with hedonism) was positively related to viewing time.

Based on this literature, it seems that a few variables have been empirically tested on skipping and zipping rates for a given advertisement. Two variables that address the third avoidance motivation noted by Wilbur (2008) are the use of sexual appeals and actor physical attractiveness. The impact of these two variables on decreasing avoidance behaviors is demonstrated empirically by Olney (1989), however, it appears that actor physical attractiveness might be provide more generalizable findings for a few reasons. First, the use of attractive physical actors is more generalizable across different product markets compared to sexual appeals. A problem using sexual appeals in advertising is its reliance of actor physical attractiveness to be effective. In theory, the two variables are orthogonal as advertisers can provide sexual appeals with non-attractive actors or attractive actors; however, reality shows that only the second occurs. Because of this issue, actor physical attractiveness is not only more generalizable across marketing contexts, but it is also less dependent on other variables to affect viewers. Thus it seems that empirical investigations exploring the effects of these two variables on avoidance behaviors should prioritize actor physical attractiveness. This dissertation follows that logic, and will explore the effectiveness of actor physical attractiveness as a means of mitigating skipping and zipping behaviors specifically. While it seems that actor physical attractiveness has some impact on various avoidance behaviors, its influence in non-avoidance contexts has not been reviewed. This review can come from two different advertising perspectives. The first examines the role of physical attractiveness from a functional orientation using the Uses and Gratifications Model (UGM; Katz, 1959) while the second examines attractiveness from a persuasion orientation using the Elaboration Likelihood Actor (ELM: Petty & Cacioppo, 1986) and the Heuristic-Systematic Actor (HSM; Chaiken, 1980). A review of the UGM and its connection to attractiveness will precede a review of the dual-process actors of persuasion.

## Uses and Gratifications Model

The main purpose of the UGM is to assess the reasons why individuals consume various forms of media (Katz, 1959). The central tenet of this model is that individuals consume media in order to satisfy various intrapersonal and interpersonal needs. A contemporary description of this model suggests five assumptions regarding viewers' consumption of media (Rubin, 2009). The first assumption is that individuals use the media in a motivated manner, so viewers use various forms of media purposely to achieve their own goals. As a result, the second assumption states that media users are active (not passive) actors within any exposure context. Third, UGM assumes that any media effects on behavior are mediated by various social and psychological factors found within or around the viewer. The fourth assumption is that media exposure is always competing with other forms of communication to attain the viewers' attention. Fifth, UGM assumes that viewers largely determine the type and amount of media exposure rather than elements of the media itself. Researchers, past and present, have used some or all of these assumptions to identify the personal needs that viewers have during media exposure, and what uses and gratification exist to fulfill those needs.

Katz, Gurevitch, and Hass (1973) suggest that there are five types of needs that individuals want satisfied. These needs are: cognitive, affective, integrative (cognitive and affective combined), contact, and escapist. In order to satisfy these needs, UGM proponents suggest that individuals selectively choose certain media (Lometti, Reeves, & Bybee, 1977) or selectively perceive information that comes from media (Katz, 1959). This selection process is assumed to be determined by individuals' interests, values, social roles, etc. (Katz, 1959). From the UGM perspective, media takes on differential roles when satisfying individuals' needs. Thus, media takes a functional role in individuals' everyday lives by being *useful* and *gratifying*. The gratifications that fulfill individuals' needs are hypothesized to originate from three sources: the content of media, the mere exposure of the media, and the context of the media (Katz, Blumler, & Gurevitch, 1973). The content of the media relate to elements (e.g. attractive actors) contained within a particular show that gratify a particular individual. Mere exposure addresses gratifications that are unrelated to a show's content, such as an individual's need to relax. Finally, the context relates to gratifications unrelated to either content or exposure, including being around other likeable viewers or being alone.

One issue concerning UGM research is the heterogeneity in regards to the number and content of gratifications. For example, McQuail, Blumler, and Brown (1972), in an examination of gratifications derived from television quiz shows, found four main forms of gratification: self-rating appeal, basis for social interaction, excitement appeal, and educational appeal. While there is no agreed-upon typology of media gratifications or functions, one popular categorization comes from Lometti et al. (1977). In an investigation of eight media modalities (e.g. television, radio, and newspaper) across three age groups (child, teenager, and young adult), Lometti et al. found three main gratification factors: surveillance/entertainment, affective guidance, and behavioral guidance. Surveillance/entertainment satisfies the need to find factual information through media at the expense of excitement or companionship; affective guidance satisfies the need to use media to determine one's feelings on an issue; and behavioral guidance satisfies the need to use media to determine how to behave. Furthermore, Lometti et al. suggest that all three factors generalize to children, teenagers, and young adults. Additionally, Lometti et al. found that the importance of surveillance/entertainment decreases with age while behavioral guidance increases with age. Katz et al. (1973) found that the effectiveness of need gratification also depends on the type of media being consumed. For example, Katz et al. found that some intrapersonal needs were more effectively gratified by consuming books rather than television or radio content. While the original work on UGM has focused on the function of media or specific modes of media, it did not investigate the functions of advertising in particular. Fortunately more contemporary research has explored advertising's functionality.

Much like the research exploring media's functionality, UGM research in advertising does not have any standard typology of gratifications, as the number and type of gratifications vary from study to study. Alwitt and Prabhaker (1992) suggested that there are four main gratifications used within advertising: hedonic, knowledge, social learning/contact, and value affirmation. The hedonic function satisfies the need to be entertained by advertising; the knowledge function satisfies the need to find information about a product or brand; the social-learning function satisfies the need to learn about one's social environment; and the value-affirmation function satisfies the need to have the value of one's favorite brands or products verified. In contrast, Crosier (1983) identified seven advertising gratifications: product information, entertainment, implied warranty, value addition, post-purchase reassurance, vicarious experience, and involvement. The value-addition function satisfies the need to have

certain values attributed to oneself through the use of a product. For example, some Mercedes-Benz/BMW car owners may have the need to be viewed as affluent through the use of their car. Vicarious experience satisfies the need to experience unavailable lifestyles or situations. Involvement satisfies the need to interact with the advertisement to derive enjoyment.

While the aforementioned researchers focused on the uses and gratifications specifically for marketing purposes, O'Donohoe (1994) divided advertising gratifications into marketing and non-marketing categories. Marketing gratifications are those that affect purchasing behavior while non-marketing gratifications do not. While this structure may seem more parsimonious on the surface, O'Donohoe listed more gratifications within the marketing and non-marketing sections compared to Alwitt and Prabhaker (1992) or Crosier (1983). The marketing gratifications identified by O'Donohoe included: product information, choice/competition/convenience, quality assurance/reassurance, consumption stimulation, added value, and vicarious consumption. The choice/competition/convenience gratification serves individuals' needs to have choices in a purchasing context by encouraging competition among product alternatives and then gaining knowledge about those alternatives. Identified gratifications within the non-marketing category included: structuring time, diversion, entertainment, familiarity, escapism, play, aspirations/role actors, checking out the opposite sex, attitude/value reinforcement, education, surveillance, ego enhancement, family relationships, and peer relationships. Surveillance here is described as satisfying one's need to gain information about the advertised context independent of the actual product. According to O'Donohoe, "They [the viewers] also talked about looking at the clothes or jewelry worn by actors in ads, and were interested in seeing what style of house or kind of room was featured" (pg. 68).

Actor physical attractiveness falls under the hedonic (Alwitt & Prabhake, 1992), entertainment (Crosier, 1983), and checking out the opposite sex (O'Donohoe, 1994) categories of gratifications. O'Donohoe provided the most comprehensive explanation of physical attractiveness functionality (i.e. gratification) within advertising. According to her study, viewers mainly assess opposite sexed actors based on their physical attractiveness; assuming that the viewer is attracted to individuals of the opposite sex. While physically attractive actors are used purposely to improve product marketability, O'Donohoe found that viewers do not use this information to drive marketing decisions. In some cases, O'Donohoe found that viewers do not even make connections between the marketed product and the attractive actor. As indicated by

one participant in O'Donohoe's study, "I forget the name of the tights, I'm too busy looking at her" (p. 66). Thus while physically attractive actors serve as a gratification within the advertising context, its effect on advertising outcomes is not known from a UGM perspective. The reason for this is due to UGM emphasis on exploring the factors that lead to individuals using media rather than exploring how that media influences individuals once they are exposed. In order to understand how advertising, and specifically actor physical attractiveness, influences individuals, it is important to look at various models of persuasion. One class of models worth exploring in detail is dual-process models of persuasion including the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (HSM; Chaiken, 1980).

### **The Elaboration Likelihood Model**

According to the ELM, viewers fall along an elaboration-likelihood continuum every time they watch an advertisement (Petty & Cacioppo, 1986). This continuum, ranging from low to high, determines the probability that a viewer will critically think about or elaborate on the information presented in a particular advertisement. The factors that determine where a viewer lies on this continuum are the person's ability and motivation to think about the specific advertisement s/he is watching. In order to have high elaboration likelihood, a viewer must be both able and motivated to think about the message being presented. When either factor is lacking, the elaboration likelihood for that particular advertisement is theorized to decrease. Various intrapersonal and contextual factors are theorized to affect viewers' ability or motivation to think about an advertisement.

Examples of variables influencing elaboration by affecting individuals' ability to think include the amount of distraction surrounding the individual (Petty, Wells, & Brock, 1976) while variables affecting elaboration through individuals' motivation to think include the personal relevance of the message to the individual (Petty, Cacioppo, & Heesacker, 1981), and an individual's need for cognition (i.e. motivation to think; Haugtvedt, Petty, & Cacioppo, 1992). Once these various factors influence the viewer, that viewer's place along the elaboration likelihood continuum is then theorized to determine the types of information within an advertisement that will have the largest effect on the individual's attitudes. Even though elaboration likelihood falls along a continuum, viewers are hypothesized to predominately use

one of two persuasion routes when they see advertisements. The first, called the central route, theorizes that information specifically concerning the item (e.g. product) being advertised will have the largest impact on persuasion. The second, called the peripheral route, theorizes that information not specifically concerning the advertised item (i.e. not central) will have the largest impact on persuasion. This type of information, labeled cues, can include the expertise (Petty, Cacioppo, & Goldman, 1981) or celebrity status (Petty, Cacioppo, & Schumann, 1983) of a source or actor contained in an advertisement or the mere number of arguments contained within a message or advertisement (Petty & Cacioppo, 1984). According to the ELM, viewers will predominately use the central route when elaboration likelihood is high and the peripheral route when elaboration likelihood is low. Many of the assumptions, factors, and effects found in the ELM are shared by another dual-process model labeled the HSM (Chaiken, 1980).

### **The Heuristic-Systematic Model**

Much like its ELM counterpart, persuasion occurs via two distinct (but not necessarily orthogonal) processes according to the HSM (Chaiken, 1987). The first, labeled systematic processing, is persuasion resulting from viewers' in-depth processing of the product-relevant information. The second, labeled heuristic processing, is persuasion that occurs when viewers allow non-product-related information to sway their attitudes as a result of non-elaborative thinking. The two factors that affect whether viewers use the systematic or heuristic route are viewers' ability and motivation to think about the advertisement they are watching. For systematic processing to occur, a viewer must be sufficiently able and motivated to process the advertisement. When one's ability or motivation to cognitively process an advertisement wanes, then greater heuristic processing is hypothesized to occur. Many of the variables affecting elaboration outlined in Petty and Cacioppo (1986) are theorized in the HSM to also affect systematic or heuristic processing. Likewise, many of the types of information contained in an advertisement are hypothesized to have the same effects in both models. Information such as the quality of an argument within a message is thought to impact attitudes during central or systematic processing, while information such as the mere number of arguments is hypothesized to affect attitudes during peripheral or heuristic processing. Although theoretical differences do occur between the ELM and HSM such as the independence of the two persuasion routes

(Chaiken, 1987), these two models will be treated in concert with one another as they pertain to the physical attractiveness of the actor.

### **Persuasion Effects of Physical Attractiveness**

Early empirical investigations exploring the impact of attractiveness on persuasion before the creation of dual-process models show mixed effects overall. Research manipulating source attractiveness on pre-college-aged students initially found greater persuasion effects stemming from an attractive source (Horai, Naccari, & Fatoullah, 1974). However, a subsequent study using pre-teen participants found that attractiveness effects were moderated the sex of the source and recipient (Dion & Stein, 1978). Specifically, Dion and Stein found that attractiveness led to greater persuasion effects for opposite-sex pairs (i.e. Male source-female recipient and female source-male recipient) than same-sex pairs. In addition, attractiveness had a boomerang effect (i.e. less persuasion) when a male target was paired with a male recipient. Unfortunately, Dion and Stein are the only authors that directly blocked the source and target sex when exploring attractiveness effects. Most research instead typically used male sources and either female targets alone or a combination of male and female targets.

When only using female participants as targets, Maddux and Rogers (1980) found that attractiveness did not have an effect on persuasion. This effect was found in earlier work by Mills and Harvey (1972), as well as by Norman (1976). However, these studies confounded source attractiveness with source expertise, which made their generalizations untenable. When both male and female participants are used as targets, Snyder and Rothbart (1971) found that using an attractive male source led to greater persuasion effects compared to an unattractive source or an unspecified source. In contrast, Howard, Cohen, and Cavior (1974) found that the attractiveness of a male source did not create greater persuasion effects. It should be noted, however, that Howard et al. manipulated attractiveness by varying the appearance of the same male source instead of using two different sources. The utilization of the same individual may have led to a relatively small effect on persuasion despite the fact that their manipulation check for attractiveness was significant. This criticism also applies to Mills and Aronson (1965) who manipulated the attractiveness of the same female source in an attempt to persuade male targets. Like Howard et al. (1974), Mills and Aronson found attractiveness did not have an effect on persuasion despite a significant manipulation check of attractiveness. An important determinant

of their null effect could again have been a relatively small effect of attractiveness stemming from the fact that the same source was used. As a result, the majority of more contemporary work using actor attractiveness uses different individuals altogether (Bower & Landreth, 2001; Chaiken, 1979; Pallak, Murrioni, & Koch, 1983; Petty & Cacioppo, 1981; Shavitt, Swan, Lowrey, & Wänke, 1994). Due to the fact that the results of research exploring the effect of attractiveness on persuasion was mixed by the 1980s (a reflection of the persuasion field in general), the goal for dual-process researchers changed from exploring *if* attractiveness affected persuasion to exploring *when* attractiveness had an effect on persuasion.

According to Petty and Cacioppo (1986), physical attractiveness is considered a peripheral cue that is theorized to have a large impact on persuasion when viewers use the peripheral route rather than the central route. While an early examination of physical attractiveness based on the ELM showed that attractiveness worked both under low and high elaboration conditions, Petty and Cacioppo (1981) suggested that attractiveness does not serve as a peripheral cue when the product concerns one's beauty or appearance but instead serves as an argument. This interpretation was supported by Shavitt et al. (1994) which found that actor attractiveness served as a peripheral cue when participants were exposed to sensory primes but served as a central argument when participants were exposed to image primes. Additionally, it appears that actor attractiveness has a larger impact on persuasion when the product serves to enhance one's current appearance rather than to help address certain attractiveness problems (Bower & Landreth, 2001). The distinction between an enhancement product and a problem-solving product is based on the motivation for its use. Problem-solving products are defined as those used to improve a negatively viewed physical feature, while enhancement products are those used to improve a neutral or positively viewed feature. Interestingly, a recent examination of actor attractiveness in advertisements found that attractiveness serves as a positive cue under low elaboration conditions regardless of whether the product is based on appearance (Trampe, Stapel, Siero, & Mulder, 2010).

From an HSM perspective, viewers use the heuristic process when they use an actor's physical attractiveness to persuade them. Pre-HSM research by Chaiken (1979) found that attractive communicators elicited greater persuasion regardless of the sex of the communicator or target individual (i.e. recipient). Subsequent research by Pallak (1983) showed that the attractiveness of a male source interacted with message quality on persuasion of female targets.

Pallak found that persuasion was greater for high quality messages compared to low when an unattractive source was used, indicating systematic processing. However, persuasion did not differ between the high and low quality messages when an attractive source was used. Thus Pallak showed that source attractiveness can serve as a heuristic within a persuasion context. Furthermore, Pallak et al. (1983) found that source attractiveness served as a peripheral cue for persuasive messages that rely on emotional (i.e. cognitively hot) appeals, but not for messages that rely on rational (i.e. cognitively cold) appeals. Results from their study supported the notion that individuals tend to process emotional appeals more heuristically through increased communicator salience, while processing rational appeals more systematically.

Although actor attractiveness appears to have positive effects on persuasion outcomes specifically, its effect on purchase behavior is less clear. While some research shows that attractive actors increase purchasing behavior (when the actor is female; Caballero & Pride, 1984), other research shows that attractive actors either do not influence purchasing behavior (Caballero, Lumpkin, & Madden, 1989) or decrease purchasing behavior for certain low-involvement products (Caballero & Solomon, 1984). Even though these studies show different effects of attractiveness on purchasing behavior, each suffers from statistical validity concerns. Specifically, each of these studies used ANOVAs to inferentially test nominal dependent variables. While each study referenced past sources suggesting the appropriateness of such tests, the use of this type of inferential test is not considered appropriate under contemporary standards since ANOVAs are appropriate for interval/ratio outcomes only (Tabachnick & Fidell, 2007). A more appropriate analysis for these empirical investigations would have been some type of Chi-square or logistic regression analysis. Thus confidence in these findings is diminished due to validity concerns.

In conclusion, the use of actor physical attractiveness as a means to either prevent or mitigate skipping and zipping behaviors appears to have some promise. Despite contradictions within various literatures pertaining to attractiveness, the majority of research indicates that attractiveness affects avoidance behaviors, is used as a means of gratification by viewers, and affects persuasion (typically acting as a cue or heuristic). Because of its impact in these domains, it seems that actor physical attractiveness has the potential to impact avoidance behaviors by making advertisements more visually desirable. The lack of visually desirable elements in advertisements is noted as one of the main motivations to avoid advertisements

(Wilbur, 2008). The use of actor physical attractiveness, however, is only one variable that addresses one viewer motivation to avoid advertisements. A question that could be asked at this point is whether other factors can affect skipping and zipping behaviors by addressing another motivation listed by Wilbur (2008).

However, an examination of the other motivations shows that advertisers would need to know, or be able to predict, in-depth information concerning their viewers to address these issues. For example, advertisers cannot really know or predict what other behavioral alternatives exist for viewers during a specific commercial break. Even when advertisers might be able to know or predict proxies of behavioral alternatives (e.g. relationship status), that information does not necessarily suggest that that individual will be alone or engaging with another person when a particular advertisement is shown. Thus, it seems that too much uncertainty exists to successfully address the presence of behavioral alternatives. Likewise, addressing the issue of advertisement wear-out seems difficult to address on an individual basis. Wear-out refers to the process of being overly-exposed to any specific advertisement. In contrast, wear-in refers to the process of becoming familiar with the content of any specific advertisement. While research shows that advertisement wear-in and wear-out follows a curvilinear path (Blair, 1987; Calder & Sternthal, 1980), knowing that information on an individual basis is too difficult. Thus, utilization of techniques such as advertisement variation (i.e. changing the content of advertisements; Haugtvedt, Schumann, Schneier, & Warren, 1994; Schumann, Petty, & Clemons, 1990) seems too impractical since viewers are likely to have different degrees of wear-out at any particular time. This leaves the motivation to watch irrelevant advertisements as the remaining issue to address. While addressing this motivation seems to be too difficult for the same reasons as the previously mentioned motivations, there is a way to allow viewers to use their knowledge of their interests to dictate advertisement exposure. This process is called advertisement choice, and its description and effects on various psychological and marketing outcomes will be outlined next.

### **Review of Advertisement Choice**

For viewers of televised content, including those streaming online, advertisement choice is seen as a means to selectively expose themselves to certain types of advertising content (Hart, Albarracín, Eagly, Brechan, Lindberg, & Merrill, 2009). While advertisement choice has been

examined in terms of exposure to any advertisement content (Cho, Lee, & Tharp, 2001), this definition is not pertinent to an examination of choice as a factor or independent variable due to its relevance as a way to avoid advertisements. Thus advertisement choice in this dissertation concerns the ability to choose advertisement *content* rather than advertisement *exposure*. Several studies exploring the phenomenon of selective exposure have found that individuals typically prefer to be exposed to content that is already congruent with their existing attitudes or beliefs. This preference is typically termed confirmation (Jonas, Schulz-Hardt, Frey, & Thelen, 2001) or congeniality bias (Eagly & Chaiken, 1993; 2005). Typically, research exploring choice both outside and within advertising contexts have found various positive effects. In an initial examination of choice, Brehm (1956) found greater persuasion effects concerning products when participants were allowed to choose those products as gifts for their participation. Similarly, Freedman and Steinbruner (1964) found that attitudes became less vulnerable to counter attitudinal information when participants had the ability to choose how they evaluated a target.

These early studies, especially Brehm (1956), use Festinger's (1957) theory of cognitive dissonance to explain their findings. This theory posits that individuals develop a state of cognitive tension when they must make a choice between two objects. The severity of this tension increases as the desirability of the choice becomes more equitable between the options. When this tension develops, Festinger's theory predicts that people will attempt to remove it or decrease its severity by derogating the unchosen alternative and praising the chosen one. In Brehm's study, participants removed their dissonance by raising their attitudes about the chosen product after the choice already occurred.

In more applicable advertising contexts, Schlosser and Shavitt (2009) found that choice of advertisement content led to greater persuasion and greater attitude resiliency about a product. In a subsequent study exploring choice using a different type of manipulation, Nettelhorst and Brannon (2012a) found that choice increased female participants' attention toward an advertisement but not males'. This finding was then replicated in a second study by Nettelhorst and Brannon (2012b). Furthermore, Nettelhorst and Brannon (2012b) extended this work in two ways. First they found that choice increased attention for female participants as well as low need for cognition (LNC) participants (Cacioppo & Petty, 1982). Second, they found that providing a choice is not sufficient to impact attention. According to their research, the choice must be

relatively difficult (i.e. between attractive options) in order to impact attention for females and LNC individuals.

The moderation of sex for choice makes sense when interest in advertising is taken into consideration. Ackerman and Gross (2006), in a study investigating choice in an educational context, found the greatest increase in desire for a hypothetical marketing minor when participants who were initially interested in the minor selected the classes they wanted to take. Thus in this context, choice is moderated by greater interest in the domain where choice occurs. This moderation seems to apply to advertising contexts as well since Ackerman and Gross and Schwartz (2004) suggest a high degree of overlap between educational and advertising contexts. Thus the suggestion is that choice should have larger effects in advertising contexts for individuals who have more interest in that domain. An individual's sex is one variable that seems to indicate differences in interest concerning advertising.

Consumer research has found that females derive more desire from shopping (Alreck & Settle, 2002; Dholakia, 1999) and made more careful decisions by using more time to consider various options (Campbell, 1997; Miller, 1998) compared to males. Additionally, advertising research has shown that females value advertisements (Wolburg & Pokrywezynski, 2001) and experience larger affective and behavioral effects from advertising (Anschutz, Engels, van der Zwaluw, & Van Strien, 2011; Moore, 2007, Okazaki, 2007) compared to males. Because of its relation to interest in advertising contexts, viewer sex should be incorporated into designs that utilize advertisement choice, and thus sex will be used as an additional factor in this dissertation. The discussion of interest as a moderator of choice also draws similarities to an important factor in dual-process actors of persuasion. While it has been noted that viewers may use choice to select which gratifications to address at a particular time, choice can also be used to select advertisements that are believed to be high in personal relevance by choosing advertised products from relevant markets. In this sense, the impact of personal relevance on persuasion from the ELM/HSM perspectives seems useful here.

### **Role of Personal Relevance in Persuasion**

For viewers of televised content, including those streaming online, advertisement choice is seen as a means to selectively expose themselves to certain types of advertising content (Hart, Albarracín, Eagly, Brechan, Lindberg, & Merrill, 2009). While advertisement choice has been

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## **Chapter 2 - Study One (Skipping Behavior)**

### **Research Questions**

RQ1: Does choosing the content of a persuasive message decrease the occurrence of skipping behavior?

RQ2: Does participant gender moderate the effect of choice on skipping?

RQ3: Does the type of communication moderate the effect of choice on skipping?

RQ4: Does the use of attractive actors decrease the occurrence of skipping behavior?

RQ5: Does the type of communication moderate the effect of actor attractiveness on skipping?

### **Hypotheses**

H1: Participants who make a choice of persuasive content will have fewer occurrences of skipping than participants who do not make a choice.

H2: The effect of choice on skipping will occur for both genders, but the effect will be larger for female participants than male participants.

H3: The effect of choice on skipping will occur for both types of communications, but the effect will be larger for the product advertisement than the binge drinking PSA.

H4: There will be fewer instances of skipping behavior for communications that use highly attractive actors than average looking actors.

### **Method**

#### ***Participants***

Three hundred and twenty-two students from Kansas State University, Manhattan participated in this study. One hundred and ninety students were female (59%) while 259 students were Caucasian (80%). Two students did not indicate their ethnicity. The average age for participants was 19 years. Participants completed the study to receive class credit.

#### ***Design***

This study used a 2 x 2 x 2 x 2 between-participant quasi-experimental design. This design was quasi-experimental due to the inability to manipulate (assign) participant sex. The first factor was the use of advertisement choice (present or absent). The second was the sex of

the participant (male or female). The third was the attractiveness of the actors contained within the persuasive message (high or normal). The last factor was the type of communication presented to participants (MP3 advertisement or Binge drinking PSA). The dependent variable was the occurrence of skipping behavior on the part of the participant.

## *Materials*

### *PSA Pretest*

The advertisement choice manipulation required participants to decide which advertisement topic to view. The purpose of this pretest was to empirically determine which topics were most appropriate to use. For the product advertisement, participants chose to watch an advertisement either for an MP3 player or a digital camera. These topics were selected based on the results of a previous pretest consisting of 57 General Psychology students (Nettelhorst & Brannon, 2012a; 2012b). This manipulation of choice was successful in these past investigations of advertisement choice because the vast majority of participants chose the MP3 option. In these past studies, the pretest measured participants' attitudes of over 20 different products. Participants in this pretest rated their general attitude, purchase interest, and enjoyment of commercial watching for each product. General attitude was measured using a nine-point Likert item. The anchors of the item were 1 representing an extremely negative attitude, and 9, representing an extremely positive attitude. Purchase interest was measured using a nine-point Likert item with 1(not interested) and 9 (very interested) as anchors. Last, commercial enjoyment was measured with a final nine-point Likert item. The low anchor (1) represented low enjoyment while the high anchor (9) represented high enjoyment. The pretest showed that their general attitude (MP3 player = 7.61; Camera = 6.96), purchase interest (MP3 player = 6.84; Camera = 6.18), and commercial enjoyment (MP3 player = 6.19; Camera = 5.42) were significantly higher for the MP3 player than the digital camera.

The alternate option for the binge drinking PSA was determined using this same process. A pretest consisting of 39 psychology students from the same participation pool as the main sample participated. This pre-test listed 18 different types of PSAs, including binge drinking, to determine participants' attitudes towards them. Examples of alternate PSA topics included topics such as smoking, recycling, and texting while driving. Three seven-point Likert items measuring participants' general attitude toward the PSA topic, enjoyment of watching the PSA

topic, and amount of exposure to the PSA topic was used for each category (see Appendix B). Anchors for the scales included (1= Extremely negative, 7 = Extremely positive) for attitude, (1 = Low enjoyment, 7 = High enjoyment) for enjoyment, and (1 = Never, 7 = Often) for exposure. Results of paired samples t-tests for the pre-test showed significant differences in attitude,  $t(38) = -2.15, p = .038$ , Cohen's  $d = 0.35$ , enjoyment,  $t(37) = -2.72, p = .010$ , Cohen's  $d = 0.53$ , and exposure,  $t(36) = 6.69, p < .001$ , Cohen's  $d = 1.58$ , between binge drinking and animal abuse PSAs. Attitudes were more positive for the binge drinking PSA ( $M = 3.41, SD = 1.52$ ) than the animal abuse PSA ( $M = 2.79, SD = 1.99$ ). Enjoyment was higher for the binge drinking PSA ( $M = 2.66, SD = 1.68$ ) than the animal abuse PSA ( $M = 1.89, SD = 1.13$ ). Finally, exposure for the binge drinking PSA was lower ( $M = 2.84, SD = 1.54$ ) than animal abuse PSAs ( $M = 5.46, SD = 1.77$ ). These findings indicated that the binge drinking PSA would be chosen much more frequently than the animal abuse alternative.

### ***Actor Attractiveness Pretest***

Another pretest utilizing the same 39 students as above was used to test the differences between the normal and attractive actors. These participants were shown the MP3 advertisement that contained either the normal or attractive actors. Both versions of the advertisement showed the upper-half (i.e. above the waist) of each actor. After watching the video, participants rated the actors' attractiveness using a seven-point Likert scale. The participants were asked, "How attractive was the pair of actors in the video you saw?" (Ohanian, 1990). The scale ranged from 1 (Not attractive) to 7 (Very attractive). The results of an independent samples t-test for the pretest showed a significant difference between the normal and attractive actors on attractiveness,  $t(37) = 2.67, p = .011$ , Cohen's  $d = 0.88$ . The attractive actors ( $M = 4.95, SD = 0.89$ ) was rated significantly higher in attractiveness than the normal actors ( $M = 4.30, SD = 0.66$ ).

### ***Television Shows***

Five videos were shown to participants through a user-created HyperText Markup Language (HTML page). The first three videos were used as television programming while the last two were used as the advertisements. The first video was a 7:12 minute long clip of the Daily Show with Jon Stewart (Twsx, 2010). The clip is a comedy skit mocking the hunting accident of Dick Cheney. The second video was the first 9 minute segment of a documentary

titled “Rome: Rise and fall of an empire” (HQarena, 2012). The third video was the second 9 minute segment of the same Rome documentary. The fourth video was the target advertisement for this study.

### ***Advertisements***

Four different versions of the advertisement were created to test the aforementioned hypotheses. Two versions of the advertisement marketed a fictional MP3 player while the other versions addressed the dangers of binge drinking for college students. All four versions of the advertisement contained a female and a male actor. These actors engaged in a conversation during the communication about either the MP3 or binge drinking topic. In the MP3 advertisement, the actors conversed about the features of the product (e.g. hard drive size, screen size, etc.). In the binge drinking PSA, the actors conversed about the negative health consequences of drinking in excess (e.g. brain cell loss). The scripts for the MP3 and binge drinking PSA can be found in Appendix A. One version of the MP3 advertisement and binge drinking PSA contained a pair of male and female actors who were perceived as average in attractiveness. The other version contained a different pair of actors who were perceived as above-average in attractiveness. The video in all four versions showed the upper-half of each actor as the actors were sitting down when giving their dialogue. All four versions of the target advertisement ranged from 29 to 31 seconds, in keeping with other research exploring  $Ad_{avoid}$  behaviors (Bellman et al., 2010; Rouwenhorst, 2009; Siefert et al., 2008; Stout & Burda, 1989). The final video was a 31 second advertisement for a Miele vacuum cleaner (PrinsBengt, 2007). The advertisement showed a man cleaning a room with the cleaner and thinking he had accidentally sucked up his small dog, which was nearby. These communications were presented as online videos that were viewed through a computer.

### ***HTML Page***

Advertisement choice was presented to participants using a published HTML page created from Adobe Captivate. Captivate allows conditional branching to occur where participants’ responses to particular slides determine which subsequent slides are presented. In this study, participants were or were not given a choice of persuasive content. For those in the choice condition, advertisement choice occurred by giving participants two options of persuasive content. The measurement of skipping behavior was conducted using a series of skip buttons

embedded within the advertisement videos. A text button was embedded on the bottom-right corner of each advertisement to record whether participants decided to skip at any point. The skip button was labeled “Skip Ad”. If selected, the button would link to a separate Uniform Resource Locator (URL) that indicated that the specific button was selected. Afterwards, the experimenter wrote down whether or not a participant skipped the persuasive content as part of a fake experimental survey. This survey, used to deceive participants about the nature of the experiment, measured participants’ attitudes toward the programming (shows and advertisements) that they saw. This survey also measured participants’ sex by including an open-ended question where participants identified themselves as male or female.

### *Procedure*

Participants were randomly assigned to one of the eight experimental conditions (e.g. choice-attractive PSA) prior to the start of the actual session. After consenting to participate, each participant was told that the purpose of the study is to measure their attitudes toward streamed televised content. Participants were told that their task was to watch a series of television shows like they normally would and indicate how much they liked each part using a television survey. They were told that all of the buttons on the webpage were fully functional and they were permitted to select any button that they desired. They were then told that the most important part of the study was for them to be themselves and to do what they normally do at home. Participants were then told that they could skip answering a question on the fake survey if they could not answer it. Finally, participants were told to leave the web browser open after finishing the study.

Once the experimenter finished giving the instructions, participants watched the Daily Show clip. After the completion of the first clip, participants completed the bogus survey measuring their attitudes toward the comedy clip (see Appendix C). Once the survey was completed, half of the participants made an advertisement choice and subsequently watched the persuasive communication while the other half was immediately exposed to the communication. Within each of the choice conditions, half of the participants saw a MP3 advertisement while half saw a binge drinking PSA. Furthermore, one version of each communication contained attractive male and female actors while the other version contained normal-looking male and female actors. Participants then completed manipulation check items measuring the

attractiveness of the actors if they chose to watch the advertisement. After rating the actors' attractiveness, participants saw the first Rome documentary clip and indicated their attitudes toward it. After watching the documentary clip, participants saw and rated the vacuum advertisement. After the vacuum advertisement, participants saw and rated the second Rome documentary clip. Finally, participants were debriefed and thanked for their participation.

## Results

Of the 322 participants in the original sample, 45 participants chose either the digital camera or animal abuse option. Since they chose the alternative options, they were not exposed to the advertisements that they preferred to see. Thus their data was deleted in a listwise fashion since they could not be appropriately compared to those who chose the MP3 and binge drinking options. After removing these participants, a manipulation check was conducted on the actors' attractiveness. An independent samples t-test showed that participants' ratings of the actors' attractiveness was significantly affected by the attractiveness manipulation itself,  $t(260) = 7.14, p < .001$ , Cohen's  $d = 0.89$ . Attractiveness ratings were significantly higher for the attractive actors ( $M = 4.56, SD = 1.41$ ) than the normal actors ( $M = 3.40, SD = 1.22$ ). Overall, these preliminary tests did not show significant problems with the data itself, thus the author's focus shifted to the main analysis regarding skipping behavior.

A 2 x 2 x 2 x 2 logistic regression was used to test the hypotheses regarding skipping behavior. The predictors included advertisement choice (present or absent), actor attractiveness (attractive or normal), participant sex (male or female), and advertisement type (MP3 or binge drinking). The outcome was the occurrence of skipping behavior (yes or no). Even though the underlying assumptions regarding this analysis are more relaxed compared to analyses involving continuous outcomes, the data were checked for specific issues outlined by Tabachnick and Fidell (2007) before performing the main analysis. The data had an adequate ratio of cases to variables since the main dataset consisted of over 250 participants and four predictor variables. Linearity in the logit was not an issue in this study since all of the predictors were dichotomous and categorical (nominal). A multiway frequency analysis was performed to assess any multicollinearity among the predictor variables. This analysis used a Poisson model and found no significant estimates among the predictor variables. This is not surprising considering that three of the four predictor variables were randomly assigned to participants. Independence of

errors for the outcome variable was not an issue in this data since the design was between-participant. Correlated errors were not possible in this data since participants' responses were independent of each other. Overall, these preliminary checks did not show major issues with the dataset itself, so the primary logistic regression was then performed.

The main logistic regression involving skipping behavior used four hierarchical steps. Each variable was dummy coded as follows prior to conducting the main analysis: skipping behavior (0 = no, 1 = yes), advertisement choice (0 = no, 1 = yes), actor attractiveness (0 = normal, 1 = attractive), advertisement type (0 = binge drinking, 1 = MP3), and participant sex (0 = female, 1 = male). The first step of the analysis included each dummy predictor variable (choice, attractiveness, type, and sex). The second step included the two-way cross-products for the predictor variables. The third step included the three-way cross-products, and the fourth step included the four-way cross-product. The outcome was the occurrence of skipping behavior. A summary of all main effects and interactions can be found Table 2.1.

**Table 2.1 Inferential Statistics of the Four-Step Hierarchical Regression in Study One**

Effect	<i>B</i>	Wald $\chi^2(1)$	<i>p</i>
Advertisement Choice	-0.15	0.23	.631
Actor Attractiveness	-0.01	0.00	.983
Advertisement Type	-0.31	1.02	.321
Participant Sex	0.13	0.16	.685
Choice x Attractiveness	-0.04	0.00	.956
Choice x Type	0.86	1.74	.187
Choice x Sex	-1.00	2.32	.128
Attractiveness x Type	0.23	0.14	.710
Attractiveness x Sex	-0.44	0.47	.492
Type x Sex	-0.01	0.00	.989
<b>Choice x Attractiveness x Type</b>	<b>-2.77</b>	<b>4.13</b>	<b>.042</b>
Choice x Attractiveness x Sex	0.04	0.00	.975
Choice x Type x Sex	-0.44	0.10	.747
Attractiveness x Type x Sex	-1.19	0.79	.373
Choice x Attractiveness x Type x Sex	-0.64	0.05	.817

*Note.* Effect in bold is significant at  $\alpha = .05$ .

### ***Main Effects***

The results of the logistic regression showed no main effect of advertisement choice on skipping behavior,  $b = -0.15$ ,  $\text{Exp}(b) = 0.86$ ,  $\text{Wald } \chi^2(1) = 0.23$ ,  $p = .631$ . The probability of skipping the advertisement was the same for those who did ( $P = .149$ ) and did not ( $P = .169$ ) make an advertisement choice. Actor attractiveness did not affect skipping behavior,  $b = -0.01$ ,  $\text{Exp}(b) = 0.99$ ,  $\text{Wald } \chi^2(1) = 0.00$ ,  $p = .983$ . The probability of skipping the advertisement was the same for those who saw the attractive ( $P = .168$ ) and normal ( $P = .169$ ) actors. The type of advertisement did not affect skipping behavior,  $b = -0.31$ ,  $\text{Exp}(b) = 1.36$ ,  $\text{Wald } \chi^2(1) = 1.02$ ,  $p = .312$ . The probability of skipping the advertisement was the same for those who saw the binge drinking ( $P = .169$ ) and MP3 ( $P = .218$ ) advertisement. Last, participant sex did not affect skipping behavior,  $b = 0.13$ ,  $\text{Exp}(b) = 1.13$ ,  $\text{Wald } \chi^2(1) = 0.16$ ,  $p = .685$ . The probability of skipping the advertisement was the same for female ( $P = .169$ ) and male ( $P = .188$ ) participants.

### ***Two-way Interactions***

Skipping behavior was not affected by the interaction of advertisement choice and actor attractiveness,  $b = -0.04$ ,  $\text{Exp}(b) = 0.97$ , Wald  $\chi^2(1) = 0.00$ ,  $p = .956$ . The difference in skipping rates between the normal and attractive conditions after no advertisement choice equaled the difference between the normal and attractive conditions after the choice was made (see Table 2.2).

**Table 2.2 Interaction of Advertisement Choice and Actor Attractiveness on the Probability of Skipping in Study One**

Advertisement Choice	Actor Attractiveness	
	Normal	Attractive
No	.162	.172
Yes	.142	.146

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

The interaction of advertisement choice and advertisement type was not significant on skipping behavior,  $b = 0.86$ ,  $\text{Exp}(b) = 2.36$ , Wald  $\chi^2(1) = 1.74$ ,  $p = .187$ . Skipping rates were not significantly different between the binge PSA and the MP3 commercial after no advertisement choice was made, nor were the rates changed between the binge drinking and MP3 videos for those who made the advertisement choice (see Table 2.3).

**Table 2.3 Interaction of Advertisement Choice and Advertisement Type on the Probability of Skipping in Study One**

Advertisement Choice	Advertisement Type	
	Binge	MP3
No	.162	.143
Yes	.142	.251

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

The interaction of advertisement choice and participant sex was not significant on skipping behavior,  $b = -1.00$ ,  $\text{Exp}(b) = 0.37$ ,  $\text{Wald } \chi^2(1) = 2.32$ ,  $p = .128$ . The difference in skipping rates between females and males who did not make an advertisement choice equaled the difference between females and males who did make the advertisement choice (see Table 2.4).

**Table 2.4 Interaction of Advertisement Choice and Participant Sex on the Probability of Skipping in Study One**

Advertisement Choice	Participant Sex	
	Female	Male
No	.162	.287
Yes	.142	.113

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

Skipping behavior was not affected by the interaction of actor attractiveness and advertisement type,  $b = 0.23$ ,  $\text{Exp}(b) = 1.26$ ,  $\text{Wald } \chi^2(1) = 0.14$ ,  $p = .710$ . No difference was found between the normal and attractive versions of the binge drinking PSA or the normal and attractive versions of the MP3 commercial (see Table 2.5).

**Table 2.5 Interaction of Actor Attractiveness and Advertisement Type on the Probability of Skipping in Study One**

Actor Attractiveness	Advertisement Type	
	Binge	MP3
Normal	.162	.143
Attractive	.172	.184

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

There was no significant interaction of actor attractiveness and participant sex,  $b = -0.44$ ,  $\text{Exp}(b) = 0.65$ ,  $\text{Wald } \chi^2(1) = 0.47$ ,  $p = .492$ . Skipping rates between the normal and attractive versions of the advertisement for female viewers were the same as those between the normal and attractive versions for male viewers (see Table 2.6).

**Table 2.6 Interaction of Actor Attractiveness and Participant Sex on the Probability of Skipping in Study One**

Actor Attractiveness	Participant Sex	
	Female	Male
Normal	.162	.287
Attractive	.172	.218

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

Last, skipping behavior was not significantly affected by the interaction of advertisement type and participant sex,  $b = -0.01$ ,  $\text{Exp}(b) = 0.99$ ,  $\text{Wald } \chi^2(1) = 0.00$ ,  $p = .989$ . The difference in skipping rates between the binge drinking PSA and the MP3 commercial for female viewers equaled the difference between the binge and MP3 messages for male viewers (see Table 2.7).

**Table 2.7 Interaction of Advertisement Type and Participant Sex on the Probability of Skipping in Study One**

Advertisement Type	Participant Sex	
	Female	Male
Binge	.162	.287
MP3	.143	.255

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

### ***Three-way and Four-way Interactions***

The interaction of advertisement choice, actor attractiveness, and participant sex did not significantly affect skipping behavior,  $b = 0.04$ ,  $\text{Exp}(b) = 1.04$ ,  $\text{Wald } \chi^2(1) = 0.00$ ,  $p = .975$ . The difference in skipping between female and male viewers did not change as a result of the combination of advertisement choice and actor attractiveness (see Table 2.8).

**Table 2.8 Interaction of Advertisement Choice, Actor Attractiveness, and Participant Sex on the Probability of Skipping in Study One**

Advertisement Choice	Actor Attractiveness	Participant Sex	
		Female	Male
No	Normal	.212	.307
	Attractive	.113	.195
Yes	Normal	.101	.068
	Attractive	.181	.147

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

Advertisement choice, advertisement type, and participant sex did not significantly affect skipping behavior as well,  $b = -0.44$ ,  $\text{Exp}(b) = 0.64$ ,  $\text{Wald } \chi^2(1) = 0.10$ ,  $p = .747$ . The combination of advertisement choice and advertisement type did not change the difference in skipping rates between the female and male viewers (see Table 2.9).

**Table 2.9 Interaction of Advertisement Choice, Advertisement Type, and Participant Sex on the Probability of Skipping in Study One**

Advertisement Choice	Advertisement Type	Participant Sex	
		Female	Male
No	Binge	.212	.307
	MP3	.087	.242
Yes	Binge	.101	.068
	MP3	.299	.265

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

Skipping behavior was not affected by the interaction of actor attractiveness, advertisement type, and participant sex,  $b = -1.19$ ,  $\text{Exp}(b) = 0.31$ ,  $\text{Wald } \chi^2(1) = 0.79$ ,  $p = .373$ . Equivalent skipping rates were observed between the female and male viewers across the levels of actor attractiveness and advertisement type (see Table 2.10).

**Table 2.10 Interaction of Actor Attractiveness, Advertisement Type, and Participant Sex on the Probability of Skipping in Study One**

Actor Attractiveness	Advertisement Type	Participant Sex	
		Female	Male
Normal	Binge	.212	.307
	MP3	.087	.242
Attractive	Binge	.113	.195
	MP3	.231	.261

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

Skipping behavior, however, was significantly affected by the interaction of advertisement choice, actor attractiveness, and advertisement type,  $b = -2.77$ ,  $\text{Exp}(b) = 0.06$ , Wald  $\chi^2(1) = 4.13$ ,  $p = .042$  (see Table 2.11).

**Table 2.11 Interaction of Advertisement Choice, Actor Attractiveness, and Advertisement Type on the Probability of Skipping in Study One**

Advertisement Choice	Actor Attractiveness	Advertisement Type	
		Binge	MP3
No	Normal	.212	.087
	Attractive	.113	.231
Yes	Normal	<b>.101</b>	<b>.299</b>
	Attractive	.181	.261

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

To probe this interaction, two simple slopes analyses analyzed the interaction of advertisement choice and advertisement type of average and above-average attractive actors. Skipping behavior was not affected by the interaction of advertisement choice and advertisement type when the actors were attractive,  $b = -0.37$ ,  $\text{Exp}(b) = 0.69$ , Wald  $\chi^2(1) = 0.16$ ,  $p = .689$ . The interaction, however, was significant for normally attractive actors,  $b = 1.99$ ,  $\text{Exp}(b) = 7.31$ , Wald  $\chi^2(1) = 4.69$ ,  $p = .030$ .

The interaction of advertisement choice and advertisement type for normally attractive actors was further probed by exploring the effect of advertisement type on skipping behavior when the choice was present or not. When no choice was present, the type of advertisement had no effect on skipping behavior,  $b = -0.54$ ,  $\text{Exp}(b) = 0.58$ ,  $\text{Wald } \chi^2(1) = 0.96$ ,  $p = .328$ . The probability of skipping the advertisement was the same for those watching the binge drinking ( $P = .212$ ) and MP3 ( $P = .087$ ) advertisements. In contrast, the effect of advertisement type on skipping behavior was significant when participants were given a choice,  $b = 1.45$ ,  $\text{Exp}(b) = 4.27$ ,  $\text{Wald } \chi^2(1) = 3.90$ ,  $p = .048$ . The probability of skipping the advertisement was significantly higher for those watching the MP3 commercial ( $P = .299$ ) than the binge drinking PSA ( $P = .101$ ). Thus participants were approximately **3 times** more likely to skip the MP3 commercial than the binge drinking PSA after making the advertisement choice when the messages contained normally attractive actors. Finally, the four-way interaction of advertisement choice, actor attractiveness, advertisement type, and participant sex did not affect skipping behavior,  $b = -0.77$ ,  $\text{Exp}(b) = 0.46$ ,  $\text{Wald } \chi^2(1) = 0.15$ ,  $p = .697$ . The difference in skipping rates between the female and male viewers did not differ across the levels of advertisement choice, actor attractiveness, and advertisement type (see Table 2.12).

**Table 2.12 Interaction of Advertisement Choice, Actor Attractiveness, Advertisement Type, and Participant Sex on the Probability of Skipping in Study One**

		Actor Attractiveness			
		Normal		Attractive	
		Participant Sex			
Advertisement Choice	Advertisement Type	Female	Male	Female	Male
No	Binge	.208	.313	.118	.190
	MP3	.091	.238	.227	.267
Yes	Binge	.105	.063	.177	.154
	MP3	.294	.273	.267	.091

*Note.* Values indicate the probability (chance) that a participant will skip the target advertisement. Higher values represent a greater likelihood of skipping. Values in bold italics are significantly different from one another.

## Discussion

The results from the logistic regression did not support Hypothesis One. Advertisement choice did not diminish the skipping rates of participants. Skipping rates were the same for participants who did and did not make an advertisement choice. Furthermore, the effect of advertisement choice on skipping rates was not greater for female than male participants which disconfirmed Hypothesis Two. The interaction of advertisement choice and participant sex was not significant, so the difference in skipping rates between females who did and did not make an advertisement choice equaled the difference for males in the choice and no choice conditions. In contrast to Hypothesis Three, skipping rates were not affected by the interaction of advertisement choice and advertisement type. The difference in skipping rates between participants who did or did not make an advertisement choice for the MP3 commercial were the same as the difference for participants who did or did not make a choice for the binge drinking PSA. Finally, in contrast to Hypothesis Four, the effect of actor attractiveness did not affect skipping rates. Skipping rates were the same for participants who saw advertisements containing attractive or normally attractive actors.

Despite not finding support for the hypotheses, the study did find a three-way interaction between advertisement choice, actor attractiveness, and advertisement type. Examination of the interaction showed that advertisement choice and advertisement type affected skipping rates for average attractive actors but not above-average attractive actors. Further examination of the two-way interaction showed that skipping rates were higher for the MP3 commercial than the binge drinking PSA after an advertisement choice was made. No difference was found between the MP3 commercial and the binge drinking PSA for participants who did not make an advertisement choice. In sum, these results showed that skipping was more likely to occur for the MP3 commercial than the binge drinking PSA when the advertisements contained normal looking actors and after participants made an advertisement choice.

However, some caution is required when interpreting this interaction. Due to the complexity of the methodology in Study 1, the hierarchical regression contained a total of 4 main effects and 11 interactions. The number of effects in this study may make finding a spurious effect more likely than simpler analyses even though the analyses may have the same familywise type I error rate. Because of the increased probability to find a false positive result, it is important to see if this interaction is replicated externally.

Although the findings of Study 1 did not support the stated hypotheses, the same research questions were studied on zipping behavior in Study 2. This study was performed to examine the theoretical effects of advertisement choice and actor attractiveness on another type of mechanical avoidance behavior.

## **Chapter 3 - Study Two (Zipping Behavior)**

### **Research Questions**

RQ1: Does choosing the content of a persuasive message decrease the occurrence of skipping behavior?

RQ2: Does participant gender moderate the effect of choice on skipping?

RQ3: Does the type of communication moderate the effect of choice on skipping?

RQ4: Does the use of attractive actors decrease the occurrence of skipping behavior?

### **Hypotheses**

H1: Participants who make a choice of persuasive content will have fewer occurrences of skipping than participants who do not make a choice.

H2: The effect of choice on skipping will occur for both genders, but the effect will be larger for female participants than male participants.

H3: The effect of choice on skipping will occur for both types of communications, but the effect will be larger for the product advertisement than the binge drinking PSA.

H4: There will be fewer instances of skipping behavior for communications that use highly attractive actors than average looking actors.

### **Method**

#### ***Participants***

Two hundred and seventy-eight students from Kansas State University, Manhattan participated in this study. One hundred and seventy-six students were female (63%) while 225 students were Caucasian (81%). The average age for participants was 19 years. Participants completed the study to earn course credit in their respective psychology course.

#### ***Design***

This study used a 2 x 2 x 2 x 2 between-participant quasi-experimental design. The first factor was the use of advertisement choice (present or absent). The second was the sex of the participant (male or female). The third was the attractiveness of the actors contained within the persuasive message (high or normal). The last factor was the type of communication presented

to participants (MP3 advertisement or Binge drinking PSA). The dependent variable was the occurrence of *zipping* (i.e. fast-forwarding) behavior on the part of the participant.

### ***Materials***

The four versions of the target advertisement used in this study were identical to Study 1. Two versions of the advertisement marketed the same fictional MP3 player while the other two versions described some consequences of binge drinking. The scripts for these communications were identical to Study 1 (see Appendix A). The normal and attractive versions of the MP3 and binge drinking advertisements contained the same pair of actors as those used in Study 1. However, different filler content was used in this study compared to Study 1. The other four videos within this study changed because a few participants (who were removed from Study 1's sample) seemed to be disengaged from the television content. For example, some participants would check their phone during the experiment instead of watching the content on the screen. Thus, the videos were changed in an attempt to increase participants' engagement of the displayed content. These new videos were from the same genre as Study 1's videos to maintain as much consistency as possible. The first show, shown before the target advertisement, was a 6:48 minute clip from the Daily Show with Jon Stewart (Imaginaryuniverse, 2010). In this clip, Jon Stewart parodies the style used by Glenn Beck during his Fox News show. The second show, shown after the target advertisement, was a 9:55 clip of the documentary titled, "The Crusades: Crescent & the Cross" (AllHistories, 2009a). This clip documents how the first crusade began during the Middle Ages. The filler advertisement was a 32 second vacuum commercial for Black & Decker (Clpavi, 2008). In this commercial, a small white dog goes under a couple's couch to get a ball, and exits the couch with black fur. The final show was a 9:50 clip of the same documentary concerning the Crusades (AllHistories, 2009b). This clip continues to discuss the beginnings of the first crusade.

Zipping behavior was measured using the same materials as Study 1. However, the avoidance button was labeled Fast Forward instead of Skip Ad. Each embedded button was linked to a URL to specify if the button was selected by participants. Participants' sex was measured using the same open-ended question as the one used in Study 1.

## ***Procedure***

The procedures used in this study were identical to Study 1. Participants were randomly assigned to one of the eight conditions, and they were given the same instructions. Participants started by watching and rating the Jon Stewart clip. After the clip, some participants made an advertisement choice followed by the target advertisement while the other participants were immediately shown the advertisement. At the conclusion of the advertisement, participants saw and rated the first clip concerning the Crusades. Participants then saw the vacuum advertisement followed by the second clip documenting the beginning of the Crusades. Finally, participants indicated their sex, were thanked for their participation, and were debriefed about the purpose of the study.

## **Results**

The process of checking the data in this study was identical to the one used in Study 1. Thirty-two participants from the original sample chose either the animal abuse or binge drinking options. These individuals were removed from the subsequent analyses as a result of choosing the secondary options. The actor attractiveness manipulation was again successful,  $t(243) = 7.26, p < .001$ , Cohen's  $d = 0.93$ . The attractive actors ( $M = 4.81, SD = 1.40$ ) had significantly higher attractiveness ratings than the normal actors ( $M = 3.46, SD = 1.52$ ).

A  $2 \times 2 \times 2 \times 2$  logistic regression was used as the primary analyses to investigate zipping behavior. The predictor and outcome variables were dummy coded the same as Study 1. The data was again checked using Tabachnick and Fidell's (2007) recommendations. Unlike Study 1, the ratio of cases to variables was *not* adequate for the present data. This issue appears when a logistic regression using all four predictors produces high regression coefficients (range: -38 to 20) and standard errors (range: 8751 to 11969). Tabachnick and Fidell recommend increasing the sample size or removing predictors when this happens. The sample size could not be increased for this so, participant sex was removed from the subsequent analyses. Participant sex was removed since it did not affect skipping behavior in Study 1<sup>1</sup>. Linearity of the logit did not affect the analysis since the predictors were not continuous. Multicollinearity among the predictors was assessed using a multiway frequency analysis with a Poisson model. No

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<sup>1</sup> Additional exploratory logistic regressions were conducted to investigate the possible effect of participant sex on zipping rates. The results of these analyses did not find any significant main effect or moderating effect of the variable on zipping.

parameter estimates were significant in this analysis, so multicollinearity did not appear to exist. The errors from the regression were also independent of each other since this study utilized a between-participant design. In sum, the data seemed appropriate for the following logistic regression. Table 3.1 contains a summary of the inferential effects of the logistic regression.

**Table 13 Inferential Statistics of the Three-Step Hierarchical Regression in Study Two**

Effect	<i>B</i>	Wald $\chi^2(1)$	<i>p</i>
Advertisement Choice	0.62	1.51	.219
Actor Attractiveness	-0.23	0.21	.649
Advertisement Type	-0.07	0.02	.889
Choice x Attractiveness	-0.31	0.07	.790
Choice x Type	-1.64	2.03	.154
Attractiveness x Type	1.20	1.13	.289
Choice x Attractiveness x Type	1.59	0.48	.488

*Note.* Effect in bold is significant at  $\alpha = .05$ .

### ***Main Effects***

This regression utilized the same four hierarchical steps as Study 1: each predictor was entered into Step 1, the two-way cross-products into Step 2, the three-way products into Step 3, and the four-way product into Step 4. The occurrence of zipping behavior was the outcome. The results of the logistic regression closely mirror those of Study 1. Advertisement choice did not significantly affect zipping behavior,  $b = 0.62$ ,  $\text{Exp}(b) = 1.86$ ,  $\text{Wald } \chi^2(1) = 1.51$ ,  $p = .219$ . The probability of zipping after making an advertisement choice ( $P = .108$ ) equaled the probability when no choice was made ( $P = .061$ ). Zipping behavior was not affected by the attractiveness of the actor,  $b = -0.23$ ,  $\text{Exp}(b) = 0.80$ ,  $\text{Wald } \chi^2(1) = 0.21$ ,  $p = .649$ . The probability of zipping was the same for attractive ( $P = .050$ ) and normal ( $P = .061$ ) actors. There was no significant main effect of advertisement type on zipping behavior,  $b = -0.07$ ,  $\text{Exp}(b) = 0.93$ ,  $\text{Wald } \chi^2(1) = 0.02$ ,  $p = .889$ . The probability of zipping for the binge drinking PSA ( $P = .061$ ) equaled the probability for the MP3 commercial ( $P = .057$ ).

### *Two-way and Three-way Interactions*

The interaction of advertisement choice and actor attractiveness did not affect zipping behavior,  $b = -0.31$ ,  $\text{Exp}(b) = 0.74$ , Wald  $\chi^2(1) = 0.07$ ,  $p = .790$ . Similar zipping rates were observed between the normal ( $P = .039$ ) and attractive ( $P = .022$ ) versions of the advertisement when no advertisement choice was made and between the normal ( $P = .168$ ) and attractive ( $P = .074$ ) versions after the choice was made (see Table 3.2).

**Table 14 Interaction of Advertisement Choice and Actor Attractiveness on the Probability of Zipping in Study Two**

Advertisement Choice	Actor Attractiveness	
	Normal	Attractive
No	.039	.022
Yes	.168	.074

*Note.* Values indicate the probability (chance) that a participant will zip the target advertisement. Higher values represent a greater likelihood of zipping. Values in bold italics are significantly different from one another.

Zipping behavior was not affected by the interaction of advertisement choice and advertisement type,  $b = -1.64$ ,  $\text{Exp}(b) = 0.19$ , Wald  $\chi^2(1) = 2.03$ ,  $p = .154$ . The difference in zipping rates between the binge drinking PSA ( $P = .039$ ) and the MP3 commercial ( $P = .055$ ) for viewers given no advertisement choice equaled the difference between the binge ( $P = .168$ ) and MP3 ( $P = .052$ ) messages for viewers who made the choice (see Table 3.3).

**Table 15 Interaction of Advertisement Choice and Advertisement Type on the Probability of Zipping in Study Two**

Advertisement Choice	Advertisement Type	
	Binge	MP3
No	.039	.055
Yes	.168	.052

*Note.* Values indicate the probability (chance) that a participant will zip the target advertisement. Higher values represent a greater likelihood of zipping. Values in bold italics are significantly different from one another.

The occurrence of zipping was not affected by the interaction of actor attractiveness and advertisement type,  $b = 1.20$ ,  $\text{Exp}(b) = 3.32$ ,  $\text{Wald } \chi^2(1) = 1.13$ ,  $p = .289$ . Participants who saw the normal version of the binge drinking PSA ( $P = .039$ ) had the same probability of zipping as participants who saw the normal version of the MP3 commercial ( $P = .055$ ; see Table 3.4).

**Table 16 Interaction of Actor Attractiveness and Advertisement Type on the Probability of Zipping in Study Two**

Actor Attractiveness	Advertisement Type	
	Binge	MP3
Normal	.039	.055
Attractive	.022	.094

*Note.* Values indicate the probability (chance) that a participant will zip the target advertisement. Higher values represent a greater likelihood of zipping. Values in bold italics are significantly different from one another.

Likewise, participants who saw the attractive version of the binge drinking PSA ( $P = .022$ ) had the same probability of zipping as participants who saw the attractive version of the MP3 commercial ( $P = .094$ ). Finally, unlike Study 1, the interaction of advertisement choice, actor attractiveness, and advertisement type did not affect zipping behavior,  $b = 1.59$ ,  $\text{Exp}(b) = 4.92$ ,  $\text{Wald } \chi^2(1) = 0.48$ ,  $p = .488$ . The difference in zipping rates between the binge drinking PSA and the MP3 commercial did not vary across the levels of advertisement choice and actor attractiveness (see Table 3.5).

**Table 17 Interaction of Advertisement Choice, Actor Attractiveness, and Advertisement Type on the Probability of Zipping in Study Two**

Advertisement Choice	Actor Attractiveness	Advertisement Type	
		Binge	MP3
No	Normal	.030	.065
	Attractive	.031	.086
Yes	Normal	.176	.040
	Attractive	.065	.080

*Note.* Values indicate the probability (chance) that a participant will zip the target advertisement. Higher values represent a greater likelihood of zipping. Values in bold italics are significantly different from one another.

## Discussion

Hypothesis One was not supported by the findings of this study. Zipping rates did not differ between participants who did and did not make an advertisement choice. Although Hypothesis Two could not be tested using the main analysis because participant sex was removed, the findings from a series of exploratory analysis did not support it. The results of these exploratory analyses showed no significant interaction of advertisement choice and participant sex. The effect of advertisement choice on zipping was equivalent for female and male participants. The data did not support Hypothesis Three in this study. The study found no significant interaction of advertisement choice and advertisement type. The effect of advertisement choice on zipping was the same for participants who saw the MP3 commercial and the binge drinking PSA. Hypothesis Four was not supported by the results of this study. Zipping rates were the same for the attractive and normal-looking versions of the MP3 and binge drinking messages.

## **Chapter 4 - General Discussion**

### **Summary of Findings**

The results of Study 1 found that skipping behavior was affected by the type of advertisement content under a specific viewing context. Instead of affecting skipping behavior generally, the type of advertisement affected skipping behavior only after participants chose to watch a specific advertisement. Interestingly, participants were more likely to skip the MP3 commercial than the binge drinking PSA even though the MP3 option is generally considered a more attractive option (based on pretest values). This difference, however, only occurred when the advertisements contained normally attractive actors.

The findings from Study 2; however, did not replicate the interaction found in Study 1. Considering the inconsistent pattern of results between these two studies, it is possible that the interaction itself may not generalize to the population of viewers in general. However, there are meaningful methodological differences between Study 1 and Study 2 which may have contributed to the non-significant interaction found in Study 2. These differences are noted in the limitation section below. Thus, this dissertation cannot determine whether the interaction found in Study 1 but not found in Study 2 is due to methodological or analytic reasons. Only future research, some possibilities described below, can tease apart this issue.

The pattern of results found in Study 1 contrasts with previous research, but they may suggest a different theoretical mechanism regarding advertisement choice itself. As explained in more detail later in this discussion, this mechanism suggests that advertisement choice itself may not always lead to positive benefits from the viewer. Instead, viewers' responses may be determined by additional properties of the message itself. Thus, the effect of advertisement choice on viewers may be more complex than originally demonstrated by past research.

### **Summary of Advertisement Choice**

The patterns of results found in these studies contrast with what was predicted from past literature. The literature concerning advertisement choice suggested both cognitive and attitudinal benefits from a making such a choice compared to no choice (Nettelhorst & Brannon, 2012a; 2012b; Schlosser & Shavitt, 2009). By extension, this study predicted that rates of Ad<sub>avoid</sub> should benefit from advertisement choice as well. However, the results of these studies

found that both skipping and zipping rates in the advertisement choice and no choice conditions were equivalent. The results of Nettelhorst and Brannon (2012a; 2012b) also found that advertisement choice increased the amount of attention devoted to the advertisement for female but not male participants. These findings suggest that females should be more willing to watch the advertisement while males should avoid the advertisement regardless of making a choice or not. The results across the two studies did not support that pattern. No significant interaction was found between advertisement choice and participant sex in Study 1 or the exploratory analyses conducted in Study 2. This effect indicated that the difference between females who did and did not make an advertisement choice was equal to the difference between males who did and did not make the same choice. The pattern of results for these studies seems to contrast with another aspect of Nettelhorst and Brannon (2012b).

In their second study concerning advertisement choice on attention, Nettelhorst and Brannon (2012b) found that the effect of choice was larger when the choice concerned more attractive options to the participants. The results of the pretest for the choice options showed that the options for the MP3 choice were more attractive than the binge drinking PSA. As a result, the difference in  $Ad_{\text{avoid}}$  should be greater for the MP3 advertisement than the binge drinking PSA. The results in the two present studies, however, do not support that extension of Nettelhorst and Brannon. Both results found no significant interaction of advertisement choice and advertisement type on  $Ad_{\text{avoid}}$ . The difference in avoidance rates between the no choice and choice conditions for the MP3 commercial equaled the difference for the binge drinking PSA.

The inconsistent pattern of results between the present studies and past research regarding the choice-viewer sex interaction could be due to a difference within the viewing context. Participants in previous studies of advertisement choice were forced to watch the message in its entirety. The authors of these studies designed their methodologies to assess the cognitive and attitudinal consequences of *full message* exposure. The present studies, in contrast, were designed to measure whether partial exposure occurred at all. The pattern of results found in these studies suggests that the effect of advertisement choice may be more limited than previously thought. It is possible that advertisement choice elicits certain effects when no mechanical avoidance is performed by viewers. Viewers may show increased attention to or increased persuasion from the message when they decide to watch it in its entirety. The same choice; however, may not be a sufficient means to demotivate viewer avoidance in general.

Viewers may still be motivated to avoid a message, if possible, after making an advertisement choice. The practical implications from this explanation suggest that choice should be given in contexts where an advertiser is confident that viewers will watch the message in full.

### **Summary of Actor Attractiveness**

The pattern of results found in these two studies regarding actor attractiveness contradicts those found in the literature. One noted motivation to avoid advertisements in general is to move onto other content that is perceived to be more creative/desirable to viewers (Wilbur, 2008). O'Donohoe (1994) suggested that having attractive actors within the advertisement is one way to have desirable content and gratify viewers. This notion was supported by Olney (1989), who showed that avoidance rates were lower for advertisements that contained more attractive actors (i.e. more esthetic appeal) than advertisements containing less attractive actors. Olney's findings, however, were not replicated in the present studies. Despite having advertisements with actors who vary in attractiveness (according to the pretest and manipulation checks), this variable did not affect either skipping or zipping rates. Avoidance rates in the present studies were equivalent for both types of actors despite having varying levels of attractiveness.

One possible explanation for the inconsistencies between this dissertation and previous research (e.g. Olney, 1989; Rouwenhorst, 2009) is the nature of the outcome that was measured. These studies measured the effect of attractiveness on avoidance using viewing time as the outcome variable. The use of viewing time allowed these authors to use inferential tests such as ANOVA since the outcome had a ratio level of measurement. The studies in this dissertation; however, used the selection of the avoidance button as the outcome variables. The outcomes in these studies were dichotomous. These categorical outcomes were used since most applied research focuses on the rate of avoidance itself (Bauder, 2007; Fisher, 2011; Liebeskind, 2011). The use of these categorical outcomes in this dissertation; however, prevents the use of specific inferential analyses like ANOVA. Due to its categorical nature, the use of dichotomous outcomes requires an analysis such as logistic regression to be statistically valid. Logistic regression is a less powerful (i.e. sensitive) statistical test in comparison to ANOVA because its outcome is nominal in nature (assuming the unique assumptions of ANOVA are met). The reduced power of the logistic regressions in the present study may have masked an effect that would occur if viewing time was used as the outcome instead. Although the rates of avoidance

in Study 1 and Study 2 were equivalent, it is possible that the timing of the avoidance behavior may have differed between the attractive and normal-looking conditions. This possible difference could be assessed using an ANOVA in future research instead of a logistic regression.

A second noticeable difference between past research and the present studies concerns the type of advertisements used to study the outcome variables. Past research regarding attractiveness used existing advertisements as their experimental stimuli. These studies, in contrast, used fictional advertisements as the stimuli instead. Fictional advertisements were created in this dissertation in order to remove possible confounds that may exist when using real advertisements (e.g. brand favorability). These fictional advertisements contained students from Kansas State University who had acting experience because the author did not have the funds to hire alternative performers. As a result, the attractiveness of the actors in this dissertation was probably lower than those used in most advertisements. Even though the studies in this dissertation found large effects between the normal-looking and attractive conditions, the attractive actors may not have been attractive enough to affect avoidance like those used in past research. As a result, the findings of Study 1 and Study 2 regarding actor attractiveness might have been negatively influenced by the nature of the messages themselves. Despite not finding effects that extend past research, the significant findings regarding skipping behavior present an interesting theoretical prospect regarding the relationships between advertisement choice, the content of the message itself, and avoidance behavior.

### **Alternative Function of Advertisement Choice**

The results of Schlosser and Shavitt (2009) suggest that message choice may act as a positive peripheral cue within the advertising context. Nettelhorst and Brannon (2012) extend this possibility, in part, by noting that females specifically respond favorably to a similar choice. The original theoretical thought regarding advertisement choice suggested that the presence of choice increased viewers' (or some viewers') positive affect since most viewers appreciate its presence. The resulting positive affect was predicted to increase participants' interest or willingness to view the advertisement itself. The results of Study 1, however, suggest that the effect of advertisement choice may be more complicated.

Instead of increasing viewers' positive affect prior to watching the message, advertisement choice may act as a means of increasing viewers' expectations regarding the

advertisement itself. Thus, skipping behavior may depend on whether viewers' expectations of the advertisement are met or not once the choice has been made. When viewers' expectations are met, then they may be more likely to view the advertisement in its entirety, but viewers may be more likely to avoid the advertisement when their expectations are not met. This tendency may become more pronounced when the choice includes options that seem personally relevant to participants. This would explain why skipping rates were higher for the MP3 commercial than the binge drinking PSA. Furthermore, viewers' inclination to skip under these conditions may be mitigated to a degree when the advertisement itself contains certain gratifications (i.e. attractive actors). When such gratifications are not present, however,  $Ad_{\text{avoid}}$  may be maximized under highly relevant choice conditions. This explanation is suggested by the results of Study 1. Participants in Study 1 were more likely to skip the MP3 advertisement than the binge drinking PSA after making the advertisement choice and when the actors were relatively average looking. Thus skipping rates were only influenced when the choice consisted of options that were relatively desirable or interesting and the message itself did not contain gratifying material. This interpretation, however, needs further testing before it can be held with confidence because of the analytic issues described above.

### **Limitations**

One noteworthy limitation of these two studies is the low rates of observed mechanical avoidance behaviors. Although the avoidance rate for Study 1 (19.1%) and Study 2 (7.3%) were higher or equal to most observational (Cronin & Menelly, 1992; Krugman et al. 1995; Ritson, 2002) and people-meter studies (Danaher, 1995; Kaplan, 1985; Kneale, 1988; van Meurs, 1998), the rates were too low to adequately answer the primary research questions. Instead of observing the conditions that diminish  $Ad_{\text{avoid}}$ , the present studies measure the conditions that increase avoidance. Even though these questions are semantically related, they do differ in terms of the perspective used when viewing mechanical avoidance. Since applied estimates of avoidance range from 30% (Fisher, 2011) to 77% (Flint, 2005) with most rates occurring around 60-70% (Downey, 2007; Liebesking, 2011; Pearson & Barwise, 2008; Rouwenhorst, 2009), the rates observed within the present studies seem to underestimate the problem of mechanical avoidance like most research. As a result, these studies seem somewhat unable to help advertisers address the problem of mechanical avoidance when display content through a computer or DVR. Given

the importance of this issue to applied marketers, understanding the potential reasons for the low avoidance rates becomes essential. There are two main explanations for the low observed avoidance rates. One reason concerns the content of the messages, while the second concerns the context of the study.

### *Absence of wear-out*

Novel MP3 advertisements and binge drinking PSAs were created in order to maximize the internal validity of the actor attractiveness manipulation. An important consequence of this decision; however, was the use of advertising content that participants had not been previously exposed to. Not having previous exposure to an advertisement eliminates the possibility of a message becoming worn-out. One known motivation to avoid advertisements in general is to refrain from watching worn-out content (Wilbur, 2008). Using novel content eliminates that motivation from the viewing context. Viewers in this study were not motivated to avoid the target advertisement because they tire of its content. The elimination of this motivation probably limited the rates of skipping in Study 1 and zipping in Study 2. Instead of bypassing the persuasive content, viewers may have been motivated to watch the message due to its novelty. One possibility is that the message's novelty may have increased participants' curiosity of the message itself. This increased curiosity could have become the primary motivation for participants at the time, and its presence could have overrode any avoidance motivation present at the time. Thus, participants in these studies may have decided to watch the MP3 or binge drinking content, in large part, because they were curious about what it contained.

Any impact of message novelty on avoidance behaviors in this dissertation could also be magnified by the perceived relevance of the messages themselves. The messages in Study 1 and Study 2 concerned topics that were either desirable (Nettelhorst & Brannon, 2012a; 2012b) or applicable to the college community (Wechsler et al., 2000). It is possible that many participants in this study decided to watch the messages because they thought the topic was important or useful to them. The use of these topics within the advertisements may have provided sufficient motivation for participants to watch the advertisement regardless of the presence of attractive actors or advertisement choice. Much like the lack of wear-out for the messages themselves, the relevancy of the messages themselves may have overrode any participant motivation to avoid the message.

### ***Presence of Survey Instruments***

Participants' inclination to watch the target advertisement may also be influenced by a certain aspect of the procedure itself. A brief attitude survey was distributed to participants at the beginning of each study. The purpose of the survey was to help deceive participants to the true purpose of the study and to measure some important variables (e.g. a manipulation check for actor attractiveness) regarding the target advertisement if exposure occurred. Participants, however, may have felt pressured to watch the advertisements in order to answer these questions. Although participants were instructed to act as they do at home and told that they could skip any question, they may have felt compelled to watch the advertising content and answer the survey questions in order to appease the experimenter. Thus avoidance rates could have been negatively influenced by these two factors.

### ***Zipping Measurement***

Due to the inconsistent results between Study 1 and Study 2 in regards to the actor attractiveness, advertisement choice, and advertisement type interaction, it is important to note specific methodological issues within Study 2 that may have contributed to its non-significant result. In addition to the presence of novel stimuli and survey questions about the advertisement, zipping rates in Study 2 may also have been influenced by the type of button that was embedded into the target advertisements. By definition, skipping allows viewers to bypass the content of a persuasive message once the mechanical function is selected. This means that viewers can completely avoid any remaining persuasive content once they select the button itself. This method of avoidance was available to participants in Study 1 only. Participants knew that pressing the button would make the message disappear entirely. In contrast, zipping by definition allows viewers to view the message itself at an increased rate once the mechanical function is selected. This means that viewers can avoid some, but not all, of the remaining persuasive content once they select the button itself. This method of avoidance was available to participants in Study 2 only. Participants knew that pressing the button would *not* make the message disappear entirely; it would only go away more quickly. Because zipping did not allow participants in Study 2 to completely remove the advertisement, it is possible that most participants did not develop the motivation to avoid it. This would explain why zipping rates in Study 2 were noticeably lower than skipping rates in Study 1. Thus, one possible explanation for

the null findings in Study 2 can be traced to a strong floor effect that reduced the power of the analysis itself. In addition, other properties of the zip button used in Study 2 may have compounded the issue of partial exposure.

The zip button itself did not specify the rate that the video would be sped up, so participants could not calculate how much time they would save by deciding to zip. Thus, participants could not anticipate how much persuasive material they could bypass by choosing to zip. Although the number of advertisements was not communicated to participants, they could have correctly assumed the presence of only one advertisement since most websites do not show a series of advertisements during breaks. The ambiguity of the button could have diminished participants' motivation to avoid the target advertisement if participants did not expect to remove a large amount of material. For example, participants would still be exposed to 50% of the message when the advertisement is shown twice as fast. For the typical 30 second online commercial, participants would only save 15 seconds of material. Under such conditions, that amount of avoidance may not have been sufficient to elicit the zipping behavior itself. In this sense, the use of only one commercial for Study 2 could have also limited zipping behavior. Most instances of zipping are done on video recording devices (i.e. VCRs and DVRs) where viewers avoid a series (or pod) of persuasive messages. The use of a pod maximizes the probability that a viewer will zip because viewers avoid more material as the number of messages increase. Thus the use of only one message minimizes the chance that any viewer will zip since the amount of time saved may be low (depending on the length of the message).

These limitations are complicated by the fact that zipping is not a common means of  $Ad_{\text{avoid}}$  when using a computer. The novelty of seeing a fast-forward button on the computer may have delegitimized the ecological validity of the viewing context from the participants' perspectives. As a result, some participants may have believed that zipping was not possible over the computer. The disbelief regarding a zip button online may have prevented some motivated participants to performing the behavior itself. These participants may have wanted to remove the advertisement, and may have for a Skip Ad button, but decided not to since they did not expect it to work. As a collection, these specific limitations may have contributed to the low rates of zipping within Study 2. As a result, the power of the logistic regression may not have been sufficient to replicate the interaction found in Study 1. The probable influence of these limitations indicates ways that future research can benefit when studying mechanical avoidance.

## **Future Directions**

First, it appears that studying skipping behavior is a more appropriate means of studying avoidance than zipping behavior when showing television content through a computer. Skipping behavior is not only more common than zipping behavior, it is also more preferred by viewers since it provides complete avoidance. Thus, skipping provides the best means of achieving the highest baseline rates of mechanical avoidance. If measurement of zipping becomes necessary; however, the use of a pod of advertisements is recommended so that the probability of avoidance is maximized. A typical pod of three to four sequential messages should be sufficient to produce zipping behavior if the viewer becomes motivated to do so.

Second, studying the effects of advertisement choice on mechanical avoidance should use advertisements that have been previously exposed (preferably worn-out) to participants. The use of previously exposed material would eliminate participants' willingness to watch advertising content because it is novel. One possible extension of this work could study the interaction of advertisement choice and the degree of advertisement wear-out on skipping behavior. Advertisement wear-out could include levels such as novel, low, and high. Studying this type of interaction could show that using advertisement choice provides more benefits to advertisements with high wear-out compared to the other two. If supported by the data, this pattern would show that advertisement choice should be used as a means of advertisement variation (Haugtvedt et al., 1994; Schumann et al., 1990) by slightly altering the viewing context.

Last, future research on advertisement avoidance should refrain from having visible questions concerning the message itself at the participants' disposal. Instead, researchers could track which participants viewed any target advertisement in its entirety, and provide survey questions about the message at the end of the advertisement itself. A better alternate method for collecting survey data under these circumstances is to use a survey with conditional branching mechanisms included that present different questions depending on participants' responses. For example, the initial question of this hypothetical survey could ask whether participants viewed the advertisement in its entirety. Participants who indicated that they did not watch the entire advertisement could then proceed to the next television show without answering any questions about the advertisement. Participants who indicated that they saw the entire advertisement could then be asked additional questions about it. This method does not forewarn participants about the presence of the advertisement, thus eliminating any unnecessary pressure to watch the

advertisement in order to answer those questions. This method, however, requires a sophisticated method for collecting and storing such data such as an internal server (which was not available to the author for these studies). However, if a survey becomes available to researchers, then this process of survey collection would provide advantages over the more typical methods. These methodological changes should be made when investigating the novel theoretical consequences of advertisement choice.

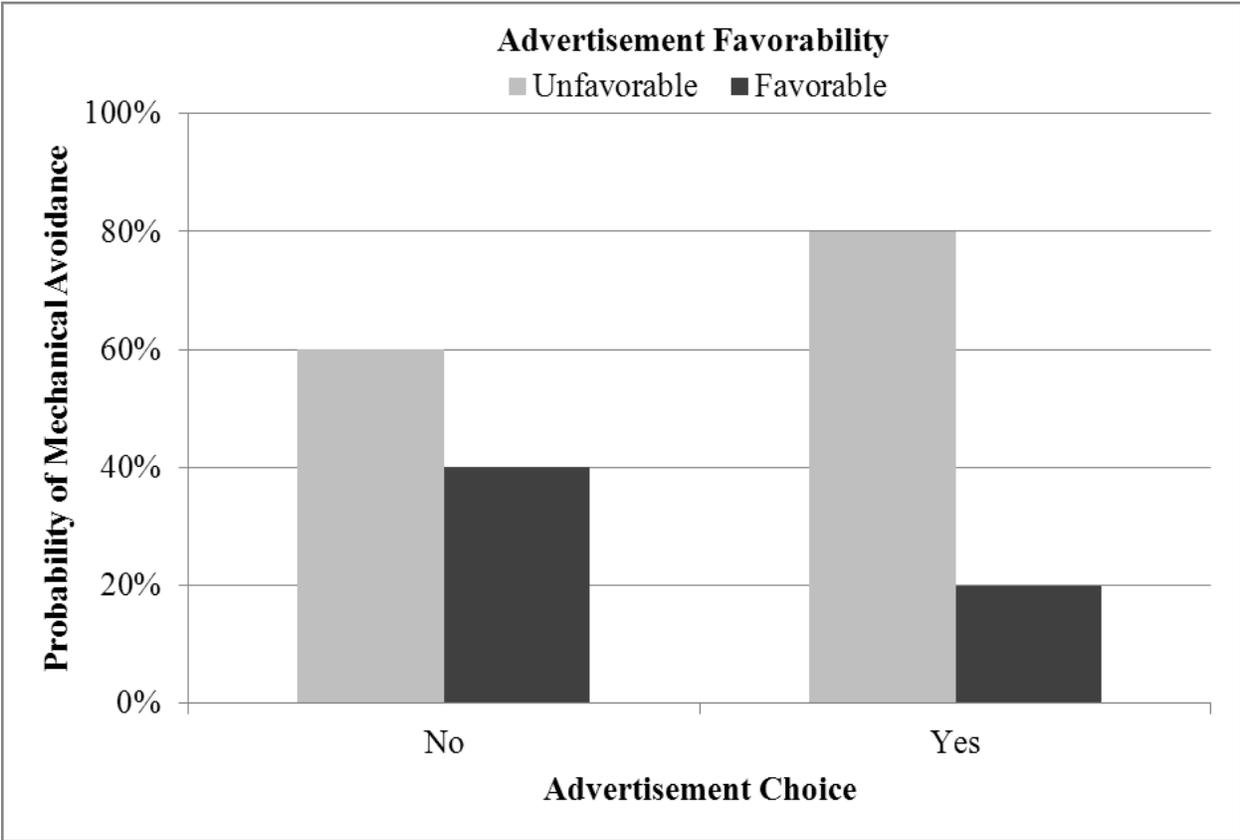
### ***Future Investigations of Advertisement Choice***

To assess the possibility that advertisement choice acts as a means to increase expectations about the upcoming message, research could adapt multiple methodologies. One direct method could ask participants open-ended or close-ended questions about the material they expect to watch. One close-ended method could have participants complete multiple Likert or Semantic Differential items regarding their expectations. After measuring these self-report items, researchers can use a mediation analysis to test for partial or full-mediation of any expectation variable.

One indirect way method of testing the presence of increased expectations is to adopt the methodology of Petty and Cacioppo (1986). One possible way to adopt these recommendations is to study the interaction between advertisement choice and advertisement favorability on mechanical avoidance behaviors. Research stemming from dual-process models show that an advertisement can be viewed positively or negatively for a variety of reasons. For this reason, any manipulation of advertisement favorability is determined empirically through pretests and manipulation checks rather than theoretically. Advertisement choice could contain two levels (present or absent) while advertisement favorability could contain two levels itself (liked or disliked). In this type of design, a specific pattern of results should emerge when testing this interaction. First, a significant main effect of advertisement choice may or may not emerge since the effect of the choice itself on various outcomes is mixed (Nettelhorst & Brannon, 2012a; 2012b; Schlosser & Shavitt, 2009). Second, a significant main effect of advertisement favorability should emerge where avoidance behaviors are more likely for disliked advertisements than liked advertisements. Thus, avoidance should be significantly higher in both the advertisement choice and no choice conditions when the advertisement is perceived negatively than when it is perceived positively. Most importantly, the interaction of

advertisement choice and advertisement favorability should significantly affect avoidance behaviors. Avoidance should be more common for the choice condition than the no choice condition when the advertisement is low in favorability. In contrast, avoidance should be more common for the no choice condition than the choice condition when the advertisement is favorable. This hypothetical pattern of results is displayed in Figure 4.1.

**Figure 4.1 The Predicted Interaction of Advertisement Type and Advertisement Favorability on Mechanical Avoidance**



**Conclusion**

The results of Studies 1 and 2 provide interesting theoretical and methodological considerations regarding the interaction of an advertisement’s content (actor attractiveness and advertisement type), the viewing context (advertisement choice), and characteristics of the viewer (participant sex). The findings from Study 1 suggest that the use of advertisement choice may be more complex than originally thought. The attitudinal and behavioral responses to a chosen advertisement may depend on participants’ perception of the message itself. If the

advertisement is well received by the viewer, then the viewer may be more inclined to watch the message in its entirety and have more positive attitudes about the message itself. Such increased attitudes could then greater intentions to perform the behaviors indicated by the advertisement (e.g. purchasing a particular product). However, if the advertisement is not well received by the viewer, then the viewer may be more inclined to avoid the message or display a boomerang attitudinal effect (Petty & Cacioppo, 1986). In such cases, viewers may become more likely to show psychological reactance to the advocacies of the message itself (e.g. show greater interest in the advertiser's competitors).

Thus the most interesting development of these studies is the possibility that advertisement choice is a double edged sword. On one hand, utilizing advertisement choice may help a company communicate more effectively to its televised audience and lead to increased exposure and persuasion. Advertisement choice, on the other hand, may backfire on a company when it uses advertising content that viewers do not react positively to. This possibility may demonstrate that the possible use of advertisement choice should be carefully considered by various marketers in the digital domain.

Some caution is recommended when considering this interpretation. As noted before, the analysis of Study 1 contained a large amount of effects, so it is possible that the interaction was produced by a false positive result. Additionally, the results of Study 2 did not replicate the interaction. It is impossible to know whether the lack of an interaction in Study 2 was due to methodological issues or not. For this reason, only future research can test whether the theoretical interpretation regarding advertisement choice has merit or not.

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## **Appendix A - Scripts Used in MP3 Commercial and Binge Drinking PSA**

### **Sweex MP3 Player**

Male: So anything new happened lately?

Female: Actually, I just bought a new Sweex MP3 player.

Male: Oh, Nice. Do you like it?

Female: Yeah I really do. It has a 32 gigabyte hard drive, a 2.8 inch color screen, an app store, Wi-Fi capability, and a built in FM radio.

Male: That sounds awesome. Yeah, I needed a new mp3 player. I might have to look into buying that one.

### **Binge Drinking PSA**

Male: So anything new happened lately?

Female: You know, I recently read an article online talking about the consequences of binge drinking.

Male: Well what did it say?

Female: So the University of Cincinnati researchers scanned the brains of 29 binge drinkers and found that binge drinking harms brain cells. It's kinda of scary because I binge drink sometimes.

Male: I binge drink at parties sometimes too but I think I am going to be more careful in the future.

## Appendix B - Pretest Survey for PSA Topics

For each category listed, rate your attitude about each public service announcement topic using the following scale. Extremely negative = 1 and Extremely positive = 7. Rate each category according to public service announcements ABOUT THAT TOPIC instead of any specific announcements you've seen in the past.

- Sexually transmitted diseases \_\_\_\_\_
- Child abuse \_\_\_\_\_
- Animal abuse \_\_\_\_\_
- Binge drinking \_\_\_\_\_
- Abortion \_\_\_\_\_
- Racism \_\_\_\_\_
- Suicide \_\_\_\_\_
- Hate crimes \_\_\_\_\_
- Cancer \_\_\_\_\_
- Fetal alcohol syndrome \_\_\_\_\_
- Autism \_\_\_\_\_
- Homelessness \_\_\_\_\_
- Rape \_\_\_\_\_
- Clean water \_\_\_\_\_
- Sanitation \_\_\_\_\_
- Immigrant health \_\_\_\_\_
- Selling alcohol to minors \_\_\_\_\_
- Handwashing \_\_\_\_\_

For each category listed, rate how much you would enjoy watching public service announcements about that topic using the following scale. Low enjoyment = 1 and High enjoyment = 7. Rate each category according to public service announcements ABOUT THAT TOPIC instead of any specific announcements you've seen in the past.

- Sexually transmitted diseases \_\_\_\_\_
- Child abuse \_\_\_\_\_
- Animal abuse \_\_\_\_\_
- Binge drinking \_\_\_\_\_
- Abortion \_\_\_\_\_
- Racism \_\_\_\_\_
- Suicide \_\_\_\_\_
- Hate crimes \_\_\_\_\_
- Cancer \_\_\_\_\_
- Fetal alcohol syndrome \_\_\_\_\_
- Autism \_\_\_\_\_
- Homelessness \_\_\_\_\_
- Rape \_\_\_\_\_
- Clean water \_\_\_\_\_
- Sanitation \_\_\_\_\_
- Immigrant health \_\_\_\_\_
- Selling to minors \_\_\_\_\_
- Handwashing \_\_\_\_\_

For each category listed, rate how often you have seen public service announcements about that topic using the following scale. Never = 1 and Often = 7. Rate each category according to public service announcements ABOUT THAT TOPIC instead of any specific announcements you've seen in the past.

- Sexually transmitted diseases \_\_\_\_\_
- Child abuse \_\_\_\_\_
- Animal abuse \_\_\_\_\_
- Binge drinking \_\_\_\_\_
- Abortion \_\_\_\_\_
- Racism \_\_\_\_\_
- Suicide \_\_\_\_\_
- Hate crimes \_\_\_\_\_
- Cancer \_\_\_\_\_
- Fetal alcohol syndrome \_\_\_\_\_
- Autism \_\_\_\_\_
- Homelessness \_\_\_\_\_
- Rape \_\_\_\_\_
- Clean water \_\_\_\_\_
- Sanitation \_\_\_\_\_
- Immigrant health \_\_\_\_\_
- Selling to minors \_\_\_\_\_
- Handwashing \_\_\_\_\_

## Appendix C - Survey for Attitudes toward the Television Show

Instructions: Rate the show you watched using the scales below by circling one of the numbers.

How attractive was the show?

1	2	3	4	5	6	7
Unattractive						Attractive

How bad was the show?

1	2	3	4	5	6	7
Good						Bad

How pleasant was the show?

1	2	3	4	5	6	7
Unpleasant						Pleasant

How appealing was the show?

1	2	3	4	5	6	7
Unappealing						Appealing

How dull was the show?

1	2	3	4	5	6	7
Dynamic						Dull

How refreshing was the show?

1	2	3	4	5	6	7
Depressing						Refreshing

How enjoyable was the show?

1	2	3	4	5	6	7
Not Enjoyable						Enjoyable

Did you get an error screen while watching the show?

1	2
Yes	No

