

LET ME SKIP THE ADS! REVISITING THE PSYCHOLOGICAL REACTANCE THEORY
IN AN ADVERTISING CONTEXT THROUGH EXAMINING THE ROLE OF
EXPECTATION

BY

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THESIS

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ABSTRACT

Many young people watch TV content online or with a DVR, giving viewers more control over ads. This thesis hypothesizes that having control over ads placed in the middle of TV shows increases viewers' expectation of the freedom to watch TV without ad interruptions, compared to having no control. It also posits that the increased expectation of freedom will lead to greater reactance and willingness to restore that freedom.

Two pretests and an experiment were conducted, in which participants experienced the freedom to watch TV shows without ad interruptions during the first episode and in which the freedom was taken away during the second episode. The result showed that experiencing freedom led to greater reactance when the freedom was taken away, in consistent with the reactance theory. However, other findings showed that the processes that define reactance theory did not occur. In particular, experiencing freedom did not lead to greater expectation and importance of freedom and reactance did not lead to greater willingness to restore the freedom.

Thus, this thesis emphasizes the need to revisit the reactance theory and re-examine the suggested mediators, such as expectation and importance of freedom. Also, it implies that there might be potential conditions under which reactance does not elicit willingness to restore the freedom. Finally, this thesis addresses limitations of its own as well as of the reactance literature, provides ideas on how to reduce viewers' reactance towards in-program ads, and suggests future research areas.

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Chapter One: Introduction

1.1. Divergent Media Use and Its Impact on Expectation of Freedom and Reactance

As new devices such as digital video recorders (DVR), PCs, smartphones, and tablets develop, the way people watch TV advertising, especially ads placed in the middle of TV shows or in-program ads, is changing. The advent of the DVR has allowed an individual to easily fast-forward ads, and that is why some have predicted “The death of the 30-second commercial” (Yankee Group, 2003), where typical TV advertising will not be as successful as in the past. In support of this, 64% of viewers dislike watching live TV due to the ads, making them one of primary reasons for purchasing a DVR, according to Accenture ¹ (2008). Furthermore, motivations for using a DVR include the desire for more control over television viewing (55%), the desire for instant gratification (54%), and the desire to skip ads (44%) (Beneke, De Lame, Simpson, & Van der Merwe, 2011). DVR’s ad-skip function (Kwak, Andras, & Zinkhan, 2009) is changing the way people watch TV advertising, giving consumers “a major benefit of watching time-shifted television” (Yankee Group, 2003). The skip function of DVRs becomes more important when the number of people who use the device is considered. Seventy-one percent of Telco video subscribers, 63% of satellite TV DBS subscribers, and 42% of cable subscribers have a DVR (Leichtman Research Group, 2012²). This indicates that as the usage of DVR increases more, people’s expectation of being able to watch TV shows without ad interruptions might also become more prevalent.

¹ The Accenture Broadcast Consumer Survey’s report, *Television in Transition*, conducted in 2008, asked about 1000 adults in France, Germany, Italy, Spain, the UK, and the US. A further 500 telephone interviews were done in Brazil and Mexico. Ages of respondents in each country were different.

² These findings are based on a [survey](#) of over 1,300 households throughout the United States, and are part of Leichtman Research Group’s study, *On-Demand TV 2012: A Nationwide Study on VOD and DVRs*.

Watching TV shows via alternative devices, such as PC, smartphones, tablets, and online, gives consumers the expectation to be more able to watch TV programs without ad interruptions (Accenture, 2012³). Three out of 10 adults in Accenture's survey now watch TV content on alternative devices such as laptops or cellphones (Accenture, 2008). Sixty-four percent of the respondents answered that the biggest part they dislike about watching live TV was commercials (Accenture, 2008). Also, 35% of respondents who consume video over the Internet said that reduced advertising would encourage them to pay more for a monthly subscription service for on-demand content (Accenture, 2012). By downloading TV shows to one's PC, smartphone, or tablet, consumers can skip the ads or not have ads at all. Also, online websites, such as YouTube that have TV shows, often have ads only in the beginning of the programs. Hulu even asks users if they prefer to watch whole ads in the beginning or in the middle of the videos. The experience of watching TV shows on alternative devices and having choices to choose when to watch ads may jeopardize expectation for ads that interrupt shows.

Thanks to these new technologies and consumers' different experiences in regard to watching TV in-program ads, consumers are more likely to expect that they possess freedom to watch TV shows without ad interruptions. In other words, consumers are more aware of their freedom as viewers to watch TV shows without ad interruptions and expectation of this freedom is increasing. This expectation of the perceived freedom is very important because it may lead to reactance if that freedom is limited. *Reactance* refers to a motivational state that an individual has when he feels that his freedom is threatened (Brehm, 1966). As a result, reactance brings a boomerang effect that is defined as an individual's resistance or rebellion against an agent that

³ The survey titled "Hearts, minds and wallets" asked 7503 consumers between 24 February and 2 March, 2012, in Argentina, Brazil, France, Germany, Italy, Spain, UK, and US about video-over-Internet consumption.

threatens one's freedom as well as willingness to restore the freedom (Brehm, 1966). The greater the expectation of a certain freedom, the greater the reactance will be when that freedom is limited. Hence, increased expectation of one's freedom to watch TV shows without ad interruptions could lead to greater reactance, which would be the opposite of what advertisers wish to achieve. Therefore, this thesis finds it timely to examine the role of expectation of freedom in reactance towards TV in-program ads. Moreover, as mentioned earlier, reactance evokes resistance against the source of threat and attempts to restore the threatened freedom. Thus, this thesis also investigates possible negative attitudes towards the ads and willingness to restore the freedom by paying more for a DVR/Void or being willing to vote on restrictions for advertisers.

The term *freedom* in this thesis will specifically refer to *the freedom to watch TV shows without ad interruptions*. Some may wonder why it has to be *the freedom to watch TV shows without ad interruptions*, not *the freedom to control ads*. It is because for *the freedom to watch TV shows without ad interruptions*, the agents that threaten this freedom can be ads and thus reactance toward the ads can be studied. However, for *the freedom to control ads*, the agent that threatens this freedom is not ads, but TV device that does not allow fast-forwarding past the ads, unlike devices such as DVR or Void.

Also, this thesis only focuses on ads that interrupt TV shows, not ads at the beginning or end of the shows. There are several terms that refer to these ads, such as in-program ads, commercial breaks, or ads in the middle of TV shows. The term *in-program ads* are used throughout the thesis to indicate “an interruption in a television program for the broadcasting of advertisements.”⁴ This thesis only considers situations in which viewers cannot fast-forward or

⁴ The Free Dictionary. Retrieved from <http://www.thefreedictionary.com/commercial+break>

control ads by any means, as if when they were watching live TV without technologies that enables controlling the ads. Note that the term *in-program ads* only means ads, not product placements shown in TV shows them.

1.2. Generational Differences in Expectation of Freedom

TV viewing experiences and expectations of freedom to watch TV shows without ad interruptions might also differ by generation. It was discussed earlier that the development of new technologies and various media usage might increase the expectation of freedom to watch TV shows without ad interruptions. Young generations, especially who are under the age of 25, are not only more dissatisfied with current TV options, but are more likely to watch content on alternative media, compared to older generations (Accenture, 2008). Whereas the percent of respondents who answered that they are happy with the current TV programming was more than 65% with age group older than 55, it was less than 20% with people less than 25 years old (Accenture, 2008). Proportion of respondents who would choose for any form of payment (excluding advertising) for downloading TV shows was 45% among respondents under 25, but the proportion decreased to 39% for age between 35 to 44, 34% between 45 and 54, and 29% older than 55 (Accenture, 2008). Specifically, among respondents less than 25 years old, 80% and 55% said they would enjoy watching TV content on a PC or mobile device, respectively. The percentages decreased noticeably to less than 50% and 10% among those older than age 55 (Accenture 2008). Additionally, more than 65% of people between age 18 and 24 expressed that the biggest frustration with watching videos content over the Internet is advertising during the program (Accenture, 2012). This percentage dropped to 54% with people between age 25 to 34, 51% between age 35 and 44, and 49% between age 45 and 54 (Accenture, 2012).

Recently, Generation C, a new concept that refers to “a powerful new force in consumer culture who care deeply about creation, duration, connection, and community” (Google, 2013⁵), has been introduced. Generation C, 80% of which are millennial, is twice more likely to be YouTube viewer than the general population and 40% more likely to be a light TV viewer (Gaff MRI, 2012). Also, 80% of generation C with a smartphone watches YouTube and the amount of their time watching YouTube has increased by 74% (YouTube Nielsen, 2012). All these reports indicate that TV is no longer a main device with which young people consume TV content. These also imply that younger generations often face ads in different ways from traditional TV. The different reactions to TV programming and TV advertising depending on generation show that generations’ responses might be different when their freedom to watch TV shows without ad interruptions is taken away.

For these reasons, this thesis will only focus on the young generation, aged between 18 and 29. The previous reports showed this generation is used to watching TV shows via alternative media as well as on traditional TV (e.g., Accenture, 2008). Since the message that this thesis attempts to convey is that current TV viewing experiences through diverse media usage might lead to greater expectation of freedom to watch TV shows without interruptions, which in turn affects reactance towards TV in-program ads and restoration of freedom, it is desirable to have participants who can best reflect the current media use. Also, if different generations participate in the experiments, it might be hard to clarify the relationship between expectation of freedom and reactance, due to their differences in terms of expectation of the freedom that might exist already.

⁵ The generation C does not necessarily mean a specific age group. It refers to a group who has particular mindsets such as connecting on YouTube on all screens. Nevertheless, 80% of the Generation C is made up with millennials (Forrester Technographics, 2012) and it is hard to ignore the characteristics of the Generation C that comes from millennials.

1.3. International Differences in Expectation of Freedom

Different expectations about TV in-program ads may stem from where an individual lives, which is heavily influenced by the country of residence. TV advertising in the US mainly consists of in-program ads as well as ads between different TV shows. The frequency of ad breaks depend on the network and the popularity of TV shows (Zhou, 2004). For example, *Modern Family* is a 20-minute long TV show on the ABC network. It has three ad breaks, each of which lasts about three minutes (based on the author's observation). Each ad break appears after every 7 minutes of an episode. Turkey adopts 4-5 minute long ad break that appear 4 or 5 times within a 2-hour long episode (Television Advertisement, n.d.). In Germany, public channels such as ARD and ZDF do not have ad breaks (Television Advertisement, n.d.). However, private channels' ad breaks last up to 12 minutes per hour, appearing almost every 20 minutes. Due to the long length of ad breaks, it is sometimes necessary to reshow the last three minutes of the previous episode to remind people of the storyline. In Korea, the main terrestrial channels⁶, with audience share of over 70%⁷, do not have in-program ads at all; only non-terrestrial channels show in-program ads. Thus, the scheduling of TV in-program ads varies internationally and depends on each nation's government regulations and how programs are sponsored.

Because expectations of freedom to watch TV shows without ad interruptions may be formed differently by dissimilar experiences, people's responses to the same way of advertising

⁶ Terrestrial channels refer to sending radio waves from broadcasting companies through antennas. In other words, anyone can grab the radio waves that float around in mid-air with antennas and watch television for free. The terrestrial channels include four channels, KBS, MBC, SBS, and EBS. Because anyone can use the channels for free, the public interests are important and the channels consider broadcasting integrity the most (Digital Television Korea, <http://www.dtvkorea.org>).

⁷ According to the Korea Communications Commission's annual 2012 report that analyzes TV viewing of 2011, terrestrial channels accounted for 74.36% of share of audience. On contrary, non-terrestrial channels occupied 37.34% of share of audience.

are assumed to be different. US in-program ads may be less interruptive to Germans because US in-program ad breaks are shorter than German counterparts; on contrary, the same US in-program ads might be annoying to Koreans because Korea do not have in-program ads in many cases. In fact, the Korean government tried to introduce in-programs ads in their terrestrial channels in 2007 and 2010, but the plan foundered as a result of intense opposition (Cho & Sung, 2010). According to public opinion polls, about 70% of Koreans opposed the plan whereas only 15% supported it (Realmeter, 2007). The viewers pointed out that the introduction of in-program ads on the terrestrial channels would invade viewers' freedom to watch TV without interruptions. Thus, different TV advertising practices by country might lead to different expectations of in-program ads, which in turn can affect the magnitude of reactance when the freedom is threatened.

There are not necessarily only negative effects from ad interruptions. Nelson, Meyvis, and Galak (2009) suggested that ad interruptions can actually enhance the enjoyment of TV viewing experience by restarting consumers' enjoyment that is otherwise reduced as program watching time progresses. However, their dependent variable was the enjoyment of TV show, not attitudes towards the ads. Thus, we do not know how people's responses toward the ads are influenced by ad interruptions. We can also question if this study conducted in the US will show universal results regardless of expectations of the freedom. Even if it is true that ad interruptions enhance viewing experience, if the study was done in Korea, resistance by viewers to have their viewing experiences interrupted might be so fierce that the effect of enhancing viewing

enjoyment will not even show.

In-program ads have been pointed out as the main culprit that limits the freedom to watch TV shows without ad interruptions. In short, the development of new devices for watching TV shows, different media usage by generation, and different ways to show in-program ads by country prove it necessary to carefully examine how experience of freedom and expectation of freedom may affect the magnitude of reactance toward in-program ads. The next section will provide literature review on the reactance studies.

Chapter Two: Literature Review

2.1. Overview

Originally, reactance was a physics term that refers to the opposition to alternating currents due to capacitance or inductance⁸. Bringing this term to psychology realm, psychological reactance theory was developed by Brehm (1966) and further refined by Brehm and Brehm (1981). Brehm (1966) defines *reactance* as a motivational state that an individual has when he feels that his freedom is threatened. As a result of the perceived threat to one's freedom, one is motivated to re-establish the limited freedom, and the compensatory or corrective behaviors known as reactance effects are followed. Thus, there are four elements for this process to occur: 1) perceived freedom; 2) threat to that freedom; 3) reactance; and 4) restoration of freedom.

When an individual feels a threat to a behavior perceived as a freedom, he may show his reactance by doing the very behavior that he is told not to do. However, the freedom that one tries to restore does not necessarily have to be the exact freedom that was restricted. Freedom limitation can be recovered when an individual engages in similar behaviors to behaviors that were limited. Also, individuals do not have to directly engage in prohibited behavior to decrease reactance effects (Dowd, 1993). Individuals can exhibit reactance and restore the lost freedom by vicariously experiencing it through others (Buboltz et al., 2003). Finally, even rebelling against the agent that limits their freedom may reduce the reactance effects. Thus, in case of limiting the freedom to watch TV shows without interruptions with in-program ads, it can be assumed that limiting the freedom could not only cause negative attitudes towards the ads, but also less viewing of TV advertising. Indeed, it was shown that the perception of intrusiveness of a pop-up

⁸ [Source: Collins English Dictionary 30th Anniversary Edition](#)

ad was positively related to advertising avoidance (Edwards, Li, & Lee, 2002). Although a correlation does not mean causality, the result indicates that the positive correlation between the intrusiveness of ads and advertising avoidance can be possibly explained by reactance. Avoiding ads would be the last behavior of viewers that advertisers would want. This renders a reason why studying reactance is critical in consumer behavior and the advertising field.

The magnitude of reactance is an important factor in the studies of reactance. Brehm (1966) noted that four mediating variables affect the magnitude of reactance generated: 1) the expectation that the individual possessed freedom to begin with; 2) the importance of the free behaviors threatened; 3) the magnitude of the threat to the free behaviors; and 4) implications of the threat for other freedoms. Similarly, Clee and Wicklund (1980) postulated that there must be two mediators in the reactance process: 1) the expectation of the freedom to begin with and 2) the importance of the freedom threatened. If one does not expect that the freedom would be present, then there would be no reactance even when the freedom is threatened. Therefore, Clee and Wicklund (1980) argue that the level of expectation of freedom can predict whether reactance is experienced or not. Second, the magnitude of reactance differs on how much importance one places on the freedom.

Among these variables, expectation of freedom is especially relevant to the freedom to watch TV shows without ad interruptions. The introduction section showed that the increasing experience of freedom to watch TV shows without ad interruptions, with new technologies, could lead to expectation of that freedom. When viewers watch TV shows on live TV, however, that freedom that they have been experiencing is eliminated. Following sections on literature focusing on the consequences of elimination of freedom addresses the expectation of freedom as a precondition to arouse greater reactance (e.g., Brehm, 1966; Wicklund, Slattum, & Solomon,

1970). Thus, this thesis mainly focuses on the role of expectation of freedom in the reactance process in the context of TV in-program ads.

Although expectation of freedom is the main focus of this thesis, importance of freedom will be examined as well. The importance of freedom was suggested to affect the magnitude of reactance as well as the reactance process itself (Brehm, 1966; Clee & Wicklund, 1980). One might argue that increasing experience of freedom to watch TV shows without ad interruptions can also lead to greater importance of the freedom. Accordingly, importance of freedom is investigated in this thesis in order to not to exclude a possible variable that might play a role in the reactance process. Refer to Appendix A for the reactance process.

2.2. Reactance Research in the Consumer Behavior Context

The idea behind free markets is that consumers have freedom to choose what they want (Clee & Wicklund, 1980). However, when that freedom is restricted, reactance can be elicited. Clee and Wicklund (1980) argue that anything that shows intention to persuade can reduce freedom and arouse reactance. For example, when a salesman pressures customers to choose a particular product, it may reduce the consumer perception of freedom to choose a product they want. Indeed, Wicklund et al. (1970) shows how a salesman can induce one's reactance. In their study, an experimenter who acted as a saleswoman said "if you want to buy a pair [of sunglasses], I'll be glad to handle it, since I get a fifty percent cut off all the orders" to the participants in the "vested interest" experimental condition; and "I don't get anything from it, but I'll be glad to handle the order if you decide to buy [the sunglasses]" in the control condition. Later, participants in the experimental condition gave the recommended sunglasses lower ratings than the participants in the control condition. It is interpreted that the reactance effect, negative

attitudes toward the agent (the saleswoman) that limits freedom, is displayed through giving low ratings to the product being persuaded (Clee & Wicklund, 1980). However, it is not clear if the “vested interest” manipulation indeed limited the participants’ perceived freedom to choose a pair of sunglasses. The lower rating could be the result of annoyance by the salesman’s overt attitude about the reward, not by perceived limited freedom.

Source expertise is one of the elements that consumers refer to when making a purchase. Fitzsimons and Lehmann (2004) show that when a recommendation from an expert is unsolicited and the recommended option is unexpected, it arouses reactance. Moreover, difficulty in making decisions increased if an expert’s advice was different from the dominant option, whereas no effect occurred when non-experts did the same. When an individual was more likely to resist in general and when the expert recommendation conflicted with the expected choice, the participant was more likely to make a choice opposite to the recommendation. The value of this research is to demonstrate that expert recommendations can elicit greater reactance than non-expert recommendations, when the recommendation makes the participant’s decision harder. Overall, this paper supports the process of reactance along with individual differences, but does not measure restoration of freedom as other papers did.

Whereas Fitzsimons and Lehmann looked at cases where the recommendation was unsolicited, White, Zahay, Thorbjørnsen, and Shavitt (2008) focused on solicited emails that are highly personalized. The three elements they considered to affect reactance were: distinctiveness; whether the email specifically targets the recipient; justification; the reason why the email is sent to the recipient; and utility; whether the email contains useful information. They found that when the email was considered useful, the reactance was lower, independent from whether there was a justification why the email contained personal information or not. This finding may help explain

why people's reactance towards useful ads is lower in general despite their limiting of freedoms, which is consistent with other studies (e.g., Edwards et al., 2002). One limitation of this research is that the freedom limited in their study is suggested to be privacy invaded in the personalized emails, but it is not clear whether the participants consider privacy as same as freedom, especially when the emails are solicited. What is threatened might be personal information, rather than one's free behavior.

Even though these studies add new findings to the reactance literature, they lack something in common; they did not fully examine the whole reactance process by not measuring or not correctly measuring perceived freedom, threat to freedom, or restoration of freedom and by only focusing on reactance. As mentioned above, when freedom is restricted, an individual is motivated to re-establish the freedom in different forms, such as giving low rating to a product advertised (Brehm, 1966; Brehm et al., 1966). Thus, it becomes an essential matter to investigate how the restricted freedom is regained.

2.3. Reactance Research in the Media Context

Since this thesis looks at reactance theory in the context of advertising, it is important to know how the theory has been studied in this field. White et al.'s (2008) previously mentioned research can be interpreted in the media context as well. It suggests both utility and justification of emails should be carefully designed to enhance the effectiveness of personalized email messages. What is also interesting about their result is that consumers calculate the trade-offs between the utility and justification of the emails and the amount of their personal information used in the emails.

Baek and Morimoto's (2012) study had a different take from White et al.'s (2008) and

Fitzsimons and Lehmann's (2004) in that they looked at broader types of personalized advertising that are unsolicited. By conducting a survey, Baek and Morimoto (2012) examined the determinants of consumer avoidance of personalized advertising. They found that when people perceive privacy invasion and less freedom to control their private information, that is when reactance increases. They make a convincing argument why privacy invasion can be considered as a loss of freedom to control one's information by explaining that freedom can be seen as control. However, even though they introduce reactance as what accounts for ad avoidance, they only measured perceived privacy concern, not reactance. Thus, Baek and Morimoto (2012) also only measured a part of the reactance process.

Edwards et al. (2002) studied antecedents and consequences of the perceived intrusiveness of pop-up ads. The results indicate that even though limitation of freedom is important in arousing reactance, there must be other factors that can minimize the reactance. Those factors are entertaining and informative ads. Thus, it seems that ads of value can alleviate reactance even if they are also seen as intrusive and irrelevant to the website. This study looked at online pop-up advertising, a context in which pop-up ads can be easily relevant to the websites and in which the participants could voluntarily close the ads that popped up. The TV advertising in this thesis, however, is different from this study in that the environment of having ad interruptions is one-sided, instead of one that is interactive like the online environment.

Again, these previous studies overlooked the whole process of reactance; some only examined reactance, some only measured perceived freedom, and even some seemed to confuse reactance with other concepts such as advertising avoidance. Also, some authors seemed to measure the process of reactance and restoration of freedom when measuring only reactance. For example, it is unclear whether giving low ratings to a product reflects reactance itself or

restoration of freedom. Not only clear understanding of the whole reactance processes, but clear definition between reactance and restoration of freedom as well as measurement of these suggest the need for more attention to the theory.

2.4. The Role of Expectation of Freedom in Driving Reactance

In the early years of reactance theory, there was a study that showed how expectation of freedom affects reactance. Brehm et al. (1966) conducted an experiment in which there were three conditions. In the first condition, the participants were told that they could choose a record from a selection as compensation, but were later told that one record option was missing. In the second (control) condition, participants were told that they would choose any record from a selection, and later were told nothing about the missing record. Participants in the third condition were told that they would be assigned one record by chance and later were told about the missing record. All the participants then re-rated the missing record. Whereas the participants in the third condition gave lower re-evaluation of the missing record, the participants in the first condition rated it higher. According to Clee and Wicklund (1980), the 'sour grapes effect' fits the third condition in that they gave unavailable choice lower scores. However, in the first condition, when people realized that, contrary to their expectation, their choice was limited due to the missing record, they showed reactance by rating it more attractively. Similarly, when people had greater expectation of their ability to choose a product, they were significantly more likely to choose an option that was negatively recommended by an expert, compared to people who had no expectation of their ability (Fitzsimons & Lehmann, 2004). Thus, these studies show that when people perceived a threat to the freedom that they had expected, reactance is sparked and overestimate of the restricted freedom can occur.

This phenomenon can be seen in many everyday events. Recently, the banning of incandescent light bulbs showed how people's reactance can grow against the agent that is perceived as threatening the freedom; in this case, the U.S. government with legislation regulating the type of light bulbs that can be used and sold. Light bulbs, the product that not many had considered dear, made many people upset because people thought that the government was limiting their freedom to choose (Edward, 2011). Similarly, a study by Mazis, Settle, and Leslie (1973) indicated that removing phosphate detergent from market led consumers to consider the product more attractive. Consumers who could not choose their habitual brand anymore because the brand did not produce non-phosphate detergent had greater reactance than consumers whose brands introduced non-phosphate detergent.

In general, studies show that when people expect the availability of a product and realize that it is not available anymore, they experience reactance and evaluate the product more highly. Note that whereas people gave lower ratings to an agent that limits their freedom or to the products being persuaded by the agents (e.g., sunglasses in Wicklund et al.'s study), people gave higher ratings to the products that become unavailable (e.g., missing record in Brehm et al.'s study). The former received lower ratings because of reactance toward the agents that limited their freedom, but the latter received higher ratings because the unavailable products were considered as freedom/choice that is taken away. Initially, the reactance theory defined reactance as a response to limited freedom. Thus, what causes participants' reactance in these experiments is not the unavailable product itself, but the fact that their expected freedom of choice is limited.

2.5. New Emerging Perspectives in Reactance Research

Two new areas of reactance research - whether reactance is conscious and the potential

for physical reactance - have recently been introduced. Wellman and Geers (2009) question if reactance can be unconscious. They found that students who were primed to feel reactance and who received a threat to freedom unconsciously performed worse on a task to demonstrate their reactance; thus, the study indicates that reactance can be unconsciously felt. On the other hand, the group who were primed to feel reactance but not given a threat had no reactance aroused. This complies with the definition of reactance which states that there would be no reactance aroused if there is no threat. Another interesting result was that, even though male and female participants did not differ in feeling reactance, only reactance effect was present in males, not females, possibly because of the perception that males can express their feelings more freely. Also, as students completed their assigned task, their reactance decreased. The authors explain this with goal completion in that the number of errors on the task was negatively correlated with the magnitude of reactance only among the participants who were given a threat and primed reactance (Wellman et al., 2009). However, it is possible that the decreased reactance might be the result of the restoration of freedom, rather than goal completion as argued by the authors. Their study could have more correctly reflected the psychological reactance theory if they also measured the restoration the freedom.

Combining the theories about physical distance and variety seeking, Levav and Zhu (2009) demonstrate that limited freedom can be restored through making varied and unique choices. It was found that narrow (3.5 feet \times 15 feet) aisles made people to seek variety and unique choices more than wide aisles (7 feet \times 15 feet) because narrow aisles limited freedom of physical distance. Also, people who had chronically higher reactance showed greater reactance in the study. However, it is notable that variety and unique seeking behavior is frequently studied with Westerners, and one should be careful about generalizing it to other cultures. As these

studies show, reactance still has a plethora of undiscovered aspects that are worth to examining.

2.6. Focuses of Reactance Research

Initially, it was strongly implied that reactance depends on situational factors (Cherulnik & Citrin, 1974). Recently, however, most research has tended to focus on reactance as an individual trait (Buboltz et al., 2003; Dowd, Milne, & Wise, 1991; Fitzsimons & Lehmann, 2004; Goldsmith, Clark, & Lafferty, 2005; Goldsmith, Clark, & Lafferty, 2006; Graupmann, Jonas, Meier, Hawelka, & Aichhorn, 2012; Jonas et al., 2009; Levav & Zhu, 2009; Seemann et al., 2004; Woller, Buboltz, & Loveland, 2007). In Buboltz et al.'s (2003) research, personality served as an independent variable to affect reactance. Certain personal traits are more closely associated with reactance than others. Introverted-intuiting thinkers in MBTI personality test is one of the traits that lead to significantly higher reactance (Buboltz et al., 2003). Nonconformity, defensiveness, dominance, and aggressiveness are positively linked to reactance and a person with higher tendency of reactance is more likely to be forceful, controlling, domineering, individualistic and less thoughtful about consequences (Fitzsimons & Lehmann 2004; Goldsmith et al., 2005).

Not only individual, but also demographic variables such as gender and ethnicity are studied actively in regard to reactance. Because reactance deals with threats posed to freedom, one's perceived control over his freedom may greatly influence reactance (Woller et al., 2007). In line with this, younger and older people exhibited higher reactance than middle-aged people, and Hispanics, African American, and Asians demonstrated higher reactance than Caucasians (Seemann et al., 2004; Woller et al., 2007). Woller et al. (2007) argue that it is because minority groups, who rated higher in reactance, struggle more to obtain their freedom in a majority

dominated society. Yet, contrasting study results are shown about which demographic variables elicit higher reactance, and which demographic variables arouse higher reactance is not clearly patterned yet.

Culture has gained attention in the study of reactance as well. As in Jonas et al. (2009) and Graupmann et al.'s (2012) studies, culture-difference and self-concept are often considered as combined. In their studies, subjects from collectivist culture had greater reactance toward threats to their collective freedom than toward threats to their individual freedom (Graupmann et al., 2012; Jonas et al., 2009). Also, interdependent people showed more reactance to the threat that came from outgroup than the ingroup threat (Graupmann et al., 2012). What is more surprising is that interdependent people did not regard the ingroup threat as a threat; rather, they accepted the limitation of freedom and tried to assimilate to the ingroup's decision (Graupmann et al., 2012). On the contrary, independent people had a tendency to be more resistant to their ingroup than to their outgroup threat because of their desire to distinguish themselves from their ingroup (Graupmann et al., 2012).

Meanwhile, the self had the mediating role in reactance when independent and interdependent attitudes were activated (Jonas et al., 2009). Interdependent people had more reactance to threat of interdependent choice, and independent people had more reactance to threat of independent choice compared to others, regardless of culture (Graupmann et al., 2012; Jonas et al., 2009). These results imply that self within culture is considered to be a more proximal factor to predict reactance and culture is a more distal factor.

It is often tough to distinguish individual, demographic, and cultural traits. Rather than concluding what is the more effective predictor of reactance, it would be wiser to consider these factors together, like many scholars did.

2.7. Identification of Research Gap

Since its introduction, the psychological reactance theory has been developed and tested in a number of contexts. As shown in the previous sections, some research has examined product unavailability as an influencing element on the magnitude of reactance, and some has looked at reactance in advertising contexts. However, most research on reactance focuses on reactance as an overall outcome and do not specifically address its mediating variables. Even though it was suggested from the early years of the theory that the magnitude of reactance will be mediated by four variables, there is scant research that delves into each of these variables. Specifically, to the author's knowledge, no research has looked at the specific role of expectation in reactance in the advertising context. The examination of the effect of expectation on reactance in the advertising context is very important. Specifically, due to the increased experience of freedom to watch TV shows without ad interruptions using diverse media devices, expectation of that freedom is changing (Accenture, 2008; Beneke et al., 2011; Yankee Group, 2003). The increased experience of freedom as well as expectation of freedom can influence the magnitude of reactance. Thus, this thesis finds it valuable to investigate how expectation of a freedom influences the magnitude of reactance in an advertising context.

Another part that is missing in the previous reactance literature is that much research only focuses on reactance and overlooks the whole process of the reactance theory (e.g., Fitzsimons & Lehmann, 2004; Wicklund et al, 1970). As shown in the definition of reactance, reactance occurs when an individual perceives a free behavior; and when the behavior is threatened by an external agent (Brehm, 1966). When these conditions satisfy, reactance is aroused and reactance effects, such as derogation of the agent or restoration of freedom, operate. In particular, willingness to restore the threatened freedom is important because it reflects one's motivational state. Thus,

examining how the entire reactance process takes place will contribute to the existing literature.

Also, recent research on reactance has steered toward focusing on reactance as an individual trait and has overlooked its situational power (Buboltz et al., 2003). This thesis argues that the situational factors of reactance should be considered as well. People's expectations of freedom related to media or advertising (e.g., viewing online videos without interruptions, being able to control the time they want to watch content) are influenced tremendously by situational factors such as time, place, and technology. This is more so when it comes to people's expectations toward freedom to watch TV shows without ad interruptions, due to alternative media with which people can have more control over what or when they watch TV content. In addition, different media usage by generation and diverse ways of advertising by country make people to have different expectations toward freedom to watch TV without ad interruptions. Based on these, it can be concluded that expectation toward freedom regarding watching TV shows can be the product of situations, such as the introduction of new media devices (e.g., DVR, tablets) or country norms or laws on television advertising practice, rather than individual traits in chronic reactance. This thesis specifically investigates the expectation that an individual has toward freedom to watch TV shows without ad interruptions and the effect of the expectation on the magnitude of reactance by focusing on situational factors. Further, importance of freedom as another mediating variable for the magnitude of reactance and willingness to restore the threatened freedom are examined as well.

Chapter Three: Hypotheses

Based on the literature review and the research gap, this thesis tests the following four hypotheses. In these hypotheses, “freedom” refers specifically to “the freedom to watch TV shows without ad interruptions”. The four hypotheses are: H1) Experiencing freedom will lead to greater expectation of freedom; H2) Experiencing freedom will lead to greater importance on freedom; H3) Greater freedom expectation will lead to greater reactance when the freedom is restricted; H4) Greater reactance will lead to greater willingness to restore freedom.

Chapter Four: Method

4.1. Literature Review of Reactance Measure

Contrary to Brehm (1996)'s initial argument that reactance cannot be measured because it is an individual's state, much research has measured reactance (e.g., Edwards et al., 2002; White et al., 2008). However, there is no prevalent or fixed scale to measure reactance, not to mention perceived freedom, perceived threat, or willingness to restore freedom. Yet, measuring an individual's chronic reactance has been developed more systematically. The two measurements that are the most frequently used are Therapeutic Reactance Scale (TRS) and Hong Reactance scale. The TRS is self-report scales that are introduced by Dowd et al. (1991). The scale is comprised of 28 items, using a 4-point Likert scale (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree). Dowd et al. (1991) mention that, in therapeutic environments, a client's reactance is an important factor to consider in terms of counseling effects. Yet, it is largely ignored and only the effectiveness of therapeutic techniques is frequently emphasized. In response to this shortcoming of the psychotherapy research, the TRS measures an individual's psychological reactance that mediates the effectiveness of therapies. TRS measures one's psychological trait. Examples of TRS items are "It really bothers me when police officers tell people what to do.", "I'm not very tolerant of others' attempts to persuade me", and "I have a strong desire to maintain my personal freedom". Whereas reactance was previously seen as a unitary factor, Dowd et al. (1991) analyzed reactance as having two subscale factors; the scale consists of a total scores (TRS:T) that includes the verbal (TRS:V) and the behavioral factor (TRS:B). The fact that reactance is a multi-dimensional construct has received recent support (Dowd, Pepper, & Seibel, 2001; Woller et al., 2007).

Based on the Merz's (1983) 18-item scale, the Hong Psychological Reactance Scale was developed by Hong and Page (1989). This scale assesses individual's chronic tendency to experience reactance. The scale is refined in 1996 by Hong and Faedda, and what initially had 14 items was reduced to have 11 items, using a 5-point Likert scale (1=strongly disagree; 5=strongly agree). Examples of items are "I resist the attempts of others to influence me", "I become angry when my freedom of choice is restricted", and "I consider advice from others to be an intrusion". Also, the refined scale analyzes the 11 items into four personality measures: emotional response toward restricted choice; reactance to compliance; resisting influence from others; and reactance toward advice and recommendations. This scale has values in that it was tested with general public, instead of just university students.

According to Dillard and Shen (2005), the characteristic of reactance as being mostly cognitive allows reactance to be measured by self-report techniques. This thesis examines the hypotheses with an experiment that will include self-report questionnaires. Two pretests and one main experiment are conducted.

4.2. Pretest 1

Purpose

The purpose of the pretest 1 was 1) to assure that the selected TV episodes are considered involving to the participants and 2) that ads played during the show did not differ from each other in terms of the level of involvement. Note that the participants in the thesis were people aged between 18 and 29. Undergraduate students were recruited because their ages normally range from 18 to 25.

The TV show needs to be relatively involving because if the show is not involving, the participants will not feel that their freedom is taken away when ads play. Thus, it was important to select a TV show that is involving enough to elicit participants' sense that their freedom to watch TV shows without ad interruptions is taken away.

The ads inserted in the TV show should not be different in terms of their involvement level. If some ads are more involving than other ads, then the participants might not feel that their freedom to watch the show without ad interruptions is taken away when those ads appear, compared to when less involving ads appear.

Participants

A total number of 41 students (68% female, $M_{age} = 19.95$, range of age = 18-25) from an undergraduate course at a Midwestern U.S. university participated for partial course credit. The course was a campus-wide elective, so the participants represented a variety of majors and backgrounds.

Stimuli

Stimuli had two components – two TV show episodes and about 50 television advertisements. First, *Modern Family* was selected as a TV show, due to its high rating among the population of this thesis (the ages between 18 and 29) as well as its short length (20 minutes). The show currently is in its fourth season and it airs on every Wednesday at 8pm the central time on the ABC network. Its first season was the sixth highest rated show in America among adults between the ages of 18 and 49 (Andreeva, 2010). Its second season was the highest rated show for Wednesday shows (Robert, 2010) and its rating rose 34% from the previous year among

adults between the ages of 18 and 49 (Gorman, 2010). Its third season was ABC's top-rated premier in six years (Robert, 2011). Two episodes from season 2 were selected as stimuli. One was season 2 episode 14, whose story unfolds about Valentine's Day. Another was season 2 episode 17, which tells a story about the show's characters being mean. The reason for not choosing the most recent episodes was to lessen the high familiarity effect in case some participants have watched it recently and still have memory of the episodes, which might affect their viewing experience.

Ads were another component of stimuli that was to be inserted in the middle of the shows. Because the two episodes selected were aired about two years ago, it was hard to obtain the exact ads aired on live TV. Instead, ads aired during *Modern Family* season 4 episode 13 (aired January 23, 2013 as a new episode, 8pm on ABC) and *Shark Tank* (aired Jan 24, 2013, 8pm on ABC) were extracted. *Shark Tank* is a TV show that airs every Thursday at the same time (8pm) and on the same network (ABC) as *Modern Family*, which airs every Wednesday. Even though ads from *Shark Tank* were not aired during *Modern Family*, it was assumed that there would be no great difference between ads during *Modern Family* and *Shark Tank* if the ads were aired at the same time and on the same network.

During a typical 20-minute *Modern Family* episode, there are three ad breaks almost every seven minutes. The process of the show and ads are: first part of *Modern Family* (7 minutes) → first ad break (3 minutes) → second part of *Modern Family* (7 minutes) → second ad break (3 minutes) → third part of *Modern Family* (7 minutes) → third ad break (3 minutes) → last part of *Modern Family* (30 seconds) that wraps up the episode. Every ad break has about 7-10 ads, adding up to about 25 ads for one entire episode.

After separating the ads from the TV show, 4-5 ads were combined to make one block. A

total of six ad blocks were made to be inserted in each episode. For example, let us say that the advertising brands in the first ad break of the actual show were Toyota, Subway, Verizon, Vicks DayQuil, Beautiful creatures, Lean Cuisine, and Zero Hour. Then the first ad block made for the experiment would be Toyota, Subway, Verizon, and Vicks DayQuil, and the second block would be Beautiful creatures, Lean Cuisine, and Zero Hour. Refer to Appendix B to see how the six ad blocks were made. If there were three ad blocks as on live TV, participants might not feel their freedom is being limited because they are already used to watch three ad blocks. Therefore, six blocks would highlight ad interruptions in the main experiment, thus making it possible to check the hypotheses in the experimental setting. Meanwhile, the total number of ads and the total duration of all ad blocks were kept the same as on live TV. Only the frequency of ad breaks increased from three blocks to six and the duration of each ad break was shortened from about three minutes to one and a half minutes.

The ads extracted from *Shark Tank* were also made into six blocks and thus total of 12 ad blocks were created. Because the purpose of pretest 1 was just to test the stimuli and have participants rate the show and ads themselves, the ads were not inserted into the TV show (inserting ads in the TV show might affect the pure rating of the TV show and ads).

Procedure

Pretest 1 was comprised of three steps: 1) watching and rating one randomly shown ad block; 2) watching and rating a *Modern Family* episode; and 3) watching and rating another randomly shown ad block.

The pretest 1 survey was administered via Qualtrics. The ad blocks were embedded in the Qualtrics survey. The *Modern Family* episodes could not be embedded in the survey due to

the large size, so they were saved on the desktop of each computer.

The participants came to a computer lab where the stimuli were ready. Participants saw the survey's welcome webpage that was already open for each participant. The next page of the survey had the consent form. Then each participant watched one ad block randomly chosen from the pool of 12 ad blocks (six ad blocks from *Modern Family* and *Shark Tank* made 12 ad blocks). Then they were asked to rate to what degree the block was relevant, interesting, exciting and involving to them on a bipolar 7-point scale (irrelevant/relevant; boring/interesting; unexciting/exciting; uninvolving/involving). These four items are the scale for the Personal Involvement Inventory for Advertising (PIIA) (Zaichkowsky, 1994). Zaichkowsky's PIIA has 10 items, but only these four items (relevancy interest, excitement, and involvement) that were considered to be more relevant to this pretest 1 were chosen. Refer to Appendix C for pretest 1 questionnaire.

As a second step in the survey, participants read instructions that told them to minimize the survey website, watch the video file that was already saved on the desktop, and come back to the survey and complete the rest of the questionnaires. No participant misunderstood the instruction and all completed the entire process without difficulty. Each computer had one of the two episodes saved on the desktop. After watching one episode, the participants returned to the website and were asked to rate to what degree the episode was involving on a bipolar 7-point scale compared to five other TV shows. The five TV shows that were examined in comparison were *Today Show*, *Dancing with the Stars*, *Glee*, *How I met your mother*, and *CSI*. Two shows (*Today Show* and *Dancing with the Stars*) that are not popular among college students and three shows (*Glee*, *How I met your mother*, and *CSI*) that are popular among college students were chosen (Hriday, 2012; Rice, 2012). The purpose of these questions was to demonstrate that

Modern Family is less involving than *Today Show* and *Dancing with the Stars*, but similarly involving as *Glee*, *How I met your mother*, and *CSI* for college students, which will indicate that ad blocks will interrupt watching the show that was involving for the participants. If participants were not familiar with the other shows and thus could not compare them with *Modern Family*, they were told to leave the questions blank.

After that, they were asked to rate to what degree the episode was involving, without comparison to other shows. The four items used for rating ads were arrayed on a bipolar 7-point scale (irrelevant/relevant; boring/interesting; unexciting/exciting; uninvolving/ involving) because it was judged that these four items can effectively measure the involvement for the TV show as well (Zaichkowsky, 1994). Then, they were asked to choose which episode (season 2 episode 14 or season 2 episode 22) they had watched just to check if they had watched the show with enough involvement to distinguish the episode they had watched. They also rated their familiarity with *Modern Family* in general and the episode they had watched in particular.

For the third step, the participants watched another ad block. Because watching a block was set up in such a way that one participant would watch one randomly out of 12 different blocks for the first and the final step, it was possible that a participant watched the same ad block twice, which had been told to participants in the instructions. Then they were asked to rate how much the block was relevant, interesting, exciting and involving on a bipolar 7-point scale (Zaichkowsky, 1994).

Finally, they were asked their gender, age, their country of origin, and how many years they have lived in the US. The entire pretest took about 30 minutes.

There were 12 ad blocks and two *Modern Family* episodes. The reason for only showing two ad blocks and one episode to each participant, instead of showing all ad blocks and two

episodes, was not to bore them. If they watched 12 ad blocks and two episodes, it would take 18 minutes to watch the ads and another 40 minutes to watch the episodes.

Results and Analysis

Analysis of Modern Family episodes

The purpose of pretest 1 was to make sure that the chosen show was involving to the participants. First, the composite measure of involvement in *Modern Family* were created (Cronbach's Alpha = 0.88). Then, the involvement scores were analyzed with a test value 4 using one-sample *t*-test. Test value was 4 because it was the midpoint of the 7-point scales. The analysis showed that the episodes were considered to be involving to the participants, compared to the midpoint 4 ($N = 41$, $M = 5.79$, $SD = 1.17$, $t(40) = 9.79$, $p < 0.001$). An alpha level of 0.05 for all statistical tests was used. When each episode was analyzed separately, both episodes were shown to be involving as well ($N_{episode14} = 22$, $M_{episode14} = 5.97$, $SD_{episode14} = 0.91$, $t(21) = 10.13$, $p < 0.001$; $M_{episode22} = 5.59$, $SD_{episode22} = 1.41$, $t(18) = 4.89$, $p < 0.001$). There was no difference between the two episodes in terms of level of involvement ($p = 0.30$).

Then, the analysis of comparing *Modern Family* with other shows was conducted by running one-sample *t*-test with the test value 4. One-sample *t*-test was run because the question asked was "How involving was the episode compared to *Today Show*?" Thus, if a participant chose a point lower than four, it meant that that participant considered *Modern Family* less involving than *Today Show*. If a point higher than four was chosen, that meant that the participant thought *Modern Family* was more involving than *Today Show*. Because there was no difference between the two episodes in terms of level of involvement, ratings of the two episodes were analyzed together. The analysis demonstrated that the episodes were significantly more

involving than *Today Show* ($N = 21$, $M = 5.29$, $SD = 1.58$, $t(20) = 3.72$, $p = 0.01$), *Dancing with the Stars* ($N = 31$, $M = 5.26$, $SD = 1.73$, $t(30) = 4.05$, $p < 0.01$), and *Glee* ($N = 20$, $M = 5.10$, $SD = 1.86$, $t(19) = 2.64$, $p = 0.02$).

However, *Modern Family* episodes were not significantly more involving than *How I met your mother* ($N = 29$, $M = 4.59$, $SD = 1.57$, $t(28) = 2.01$, $p = 0.54$) and *CSI* ($N = 31$, $M = 4.55$, $SD = 1.76$, $t(30) = 1.73$, $p = 0.94$) as expected. In summary, the *Modern Family* is more involving than *Today Show*, *Dancing with the Stars*, and *Glee*, which are considered less popular among people aged between 18 and 29 than older generations, but similarly involving as *How I met your mother* and *CSI*, which are popular people aged between 18 and 29. Thus, it can be concluded that *Modern Family* is the show that ordinary person aged between 18 and 29 would enjoy watching and would feel that the show they enjoy are being interrupted when ads appear.

There was no significant difference between female and male participants in rating the involvement of the episodes ($N_{male} = 13$, $M_{male} = 5.28$, $SD_{male} = 1.04$, vs. $N_{female} = 28$, $M_{female} = 6.03$, $SD_{female} = 1.17$, $p = 0.06$) when independent samples t -test was done. However, there was a significant difference between domestic and international students in terms of involvement ($N_{domestic} = 30$, $M_{domestic} = 6.09$, $SD_{domestic} = 0.92$, vs. $N_{international} = 11$, $M_{international} = 5.00$, $SD_{international} = 1.46$, $p < 0.01$). For all comparisons between domestic and international students, independent samples t -tests were run. Domestic students rated the episodes more involving than international students. The interesting fact was that there were some students who answered they are from other countries, but lived in the US more than 5 or 10 years. Thus, additional analysis were conducted by coding 1) the students who lived in the US more than 5 years as domestic student and 2) the students who lived in the US more than 10 years as domestic students. In both cases, there were no significant differences between the two groups in rating the involvement of

the shows (5 years: $N_{domestic} = 35$, $M_{domestic} = 5.92$, $SD_{domestic} = 1.00$, vs. $N_{international} = 6$, $M_{international} = 5.04$, $SD_{international} = 1.85$, $p < 0.09$; 10 years: $N_{domestic} = 32$, $M_{domestic} = 5.96$, $SD_{domestic} = 1.03$, vs. $N_{international} = 9$, $M_{international} = 5.19$, $SD_{international} = 1.49$, $p < 0.08$). There were no differences after coding some international students as domestic, because the international students who lived in the US more than 5 years and 10 years gave low involvement ratings in general. It is not clear, though, if their low ratings are the result of being internationals or if it happened by chance. A few international students who lived in the US less than 2 years gave low ratings as well, and this might come from not being able to understand English in the show clearly or from cultural differences.

Familiarity of the show did not lead to different involvement ratings when ANOVA was run ($F(4, 36) = 1.29$, $p = 0.29$). However, the more familiar the show was, the higher ratings the show received in terms of involvement ($M_{never\ heard\ of\ show} = 5.07$, $M_{have\ heard\ of\ but\ never\ watched} = 5.75$, $M_{have\ watched\ show,\ not\ the\ particular\ episode} = 5.92$, $M_{have\ watched\ the\ particular\ episode} = 6.45$).

Analysis of the ad blocks

In order to analyze the involvement of ad blocks, the composite measure of involvement (relevancy, interest, excitement, and involvement) for each ad block was created (Cronbach's $\alpha = 0.87$). Then, the univariate analysis between ad blocks was performed. It showed that ad block 4 and 7 were significantly different from each other ($M_{block4} = 3.43$, $SE_{block4} = 0.33$ vs. $M_{block7} = 6.33$, $SE_{block7} = 0.63$, $p < 0.01$). Except for these blocks, no ad blocks differed from each other. If ad block is too involving like the block 7, then when ads appear in the middle of the show, participants would not feel that the ads are limiting their freedom. On the other hand, if ad block is too uninvolved like the block 4, it might elicit unnecessarily great reactance. In order to

avoid these possible effects and to keep the ad blocks as similarly involving, for pretest 2, the ad block 4 and 7 were removed and replaced with combinations of ads in other blocks.

The purpose of the pretest 1 was 1) to assure that the selected TV episodes are considered involving to the participants and 2) that ads played during the show did not differ from each other in terms of the level of involvement. In summary, the *Modern Family* episodes were involving to the participants, and the ad blocks were similarly involving except for ad block 4 and 7. Thus, for pretest 2 and experiment, the ad blocks were inserted in the episodes.

4.3. Pretest 2

Purpose

The hypotheses for the thesis are that experiencing freedom will lead to greater expectation and importance of the freedom, which in turn brings greater reactance and willingness to restore the freedom. Therefore, one purpose of pretest 2 was to make sure that experiencing freedom to watch TV without ad interruptions (being able to fast-forward the ads and thus having freedom to watch the show without ad interruptions) are successfully manipulated. Also, another purpose was to examine H1 and H2. In other words, it examined if being able to fast-forward the ads placed in the middle of TV show – experiencing freedom to watch TV without ad interruptions - led to greater *expectation of freedom to watch TV without ad interruptions* and greater importance on that freedom.

Participants

Forty-four undergraduate students (61% female, mean age = 20.30, range of age = 18-

27) from an undergraduate course at a Midwestern U.S. university participated for partial course credit. The course was a campus-wide elective, so the participants represented a variety of majors and backgrounds.

Stimuli

There were four different kinds of stimuli because there were two different episodes and two extracted ads sets, as explained in the pretest 1 (2 episodes * 2 extracted ads sets). Sets of extracted ads are composed of six ad blocks made out of the extracted ads from *Modern Family* and six ad blocks made out of the extracted ads from *Shark Tank*, explained in pretest 1 stimuli. Appendix D shows how the 12 ad blocks were inserted in the two *Modern Family* episodes. In each episode, six ad blocks were inserted. Because one episode is about 20 minutes, each ad block was inserted approximately every three minutes. Since the two episodes had different storylines and scenes, the exact time when each ad block was inserted were slightly different in two episodes. The order of placing ad blocks in the show followed the order of the ads shown on live TV. Also, we know from pretest 1, ad block 4 was rated the lowest and ad block 7 rated the highest, and they were significantly different from each other in terms of the level of involvement. Therefore, ad block 4 and 7 were substituted with a combination of ads from other blocks.

The reason for making these four different versions of video was because in the experiment, participants will watch two shows. The two shows that they will watch and the ads inserted in each episode should be different to eliminate the boredom or familiarity effect.

Procedure

As Appendix E shows, the pretest 2 included the gray part in the diagram. There were two conditions. Participants were randomly assigned in either the no-skip or skip condition. The reason why pretest 2 was conducted was to measure if greater expectation and importance of freedom are formed after watching the episode with freedom once. If the expectation and importance of freedom are measured after watching the two episodes, it would not be pure expectation and importance because it would be measuring them after their freedom is taken away.

The participants came to a computer lab where the stimuli were ready. When they arrived, the survey welcome page was open, and they read the welcome page and signed the consent form. Then they raised their hand so that the experimenter could come, minimize the survey webpage screen, and open the video file that was already saved on the desktop. The pretest survey was administered via Qualtrics.

To participants who were randomly assigned to the no-skip condition, the experimenter explained about how to change the volume with volume keys, the duration of the show, and that they have to go to the survey after watching the show. All instructions were verbally told by the experimenter and also written instructions were shown in the video in the form of slide before and after the actual show. The entire show was about 30 minutes, the show playing about 20 minutes and all ads playing for a total of about 10 minutes.

Participants who were randomly assigned to the skip condition were told the same but they were also taught how to skip the ads if they want. The experimenter in advance set up 'Alt + right arrow' shortcuts in VLC (the video program that played the shows) as 'short forward.' Therefore, whenever they pressed 'Alt + right arrow' together, they could skip about 3-4 seconds. They were specifically told to skip the ads only, not TV show, and were also told that it

will skip 3-4 seconds per pressing the keys. Also, they were told that they do not have to skip the ads if they do not want. The reason for this was to make the experiment as similar as possible to the real world, in which people do not have to skip the ads if they do not want (e.g., on YouTube). While the entire show was about 30 minutes, the skip condition could feasibly finish watching the show in 20 minutes if they skipped all ads.

After watching the show, participants returned to the survey website that they minimized and completed series of questions. Refer to Appendix F for pretest 2 questionnaires. First, they were asked two questions that measured if manipulating their experiences of freedom to watch the show without ad interruptions was successful. This was measured by “I felt that I had the freedom to watch the TV show without ad interruptions,” and “I felt that I had the freedom to control ads,” on a 9-bipolar scale (1=strongly disagree, 9=strongly agree). Next, three questions to measure their expectation and one question to measure their perceived importance toward the freedom were asked. They were, respectively, 1) “I think that I have the right to watch TV shows without ad interruptions”; 2) “I expect when I watch a TV show to be able to watch without ad interruptions”; 3) “I expect when I watch a TV show to be able to control ad interruptions”; and 4) “I think that the freedom to watch TV shows without ad interruptions is important” (all on 1=strongly disagree, 9=strongly agree).

As in pretest 1, their viewing experience of the TV show was assessed. Participants used 9-point scales to indicate to what degree they agree with the statement, “I enjoyed watching the show” (1 = strongly disagree; 9 = strongly agree). This item was adopted from the study of Nelson, Meyvis, and Galak (2009). Another statement the participants indicated their agreement was “I felt comfortable watching the show.” This statement was created by the experimenter to check if anyone did not feel comfortable with the show. The show has untraditional families such

as a homosexual couple who adopted a daughter from Asia and an old man with a young beautiful wife with her son from her previous husband, so it was possible that one's enjoyment of the show could have been reduced due to discomfort. Whereas pretest 1 assessed the involvement of the show when the show did not have ad breaks, these questions in pretest 2 were asked to check whether the show was still enjoyed despite its having ad breaks. Also, these assessed whether experiencing the freedom to watch TV show without ad interruptions influenced the enjoyment of the show. After this, participants answered which episode they watched and how familiar they were with *Modern Family* in general and the episodes shown in particular. A question about which episode they watched was also asked to ensure that they concentrated on the show enough to choose the correct episode they watched, which could be done by comparing their answers with the record that the experimenter wrote down.

Next, they answered questions that measured their perceived intrusiveness and irritation toward the ads (Edwards, Li, & Lee, 2002). Seven items were included to create an ad intrusiveness index: "When the ads appeared, I thought they were distracting (disturbing, forced, interfering, intrusive, invasive, obtrusive)." Five items were included to create an ad irritation index: "When the ads appeared, I thought they were irritating (phony, ridiculous, stupid, terrible)." All items were asked on bipolar 9-point scales (1=strongly disagree, 9=strongly agree).

Then participants answered if they were able to skip or not skip the ads, and if they actually skipped when they could. The answer options were multiple choices (1= I was told to skip the ads if I want, but I did not skip them, 2= I was told to skip the ads if I want, and I skipped them, 3= I was not told about how to skip the ads, so I did not). The reason for asking this question was to count how many participants actually skipped the ads in the skip condition. Also, the question was asked after all the previous questions were asked, to not to let participants

realize that some participants could and could not skip the ads, which might affect their answers to the previous questions.

Next, they answered series of questions that told them to evaluate the valence of consequences of a ballot that was to make advertisers place ads only in the beginning or end of TV shows instead of placing in the middle. The purpose of this question was to pretest the perceived valence of the consequences in order to use this ballot question in experiment. They rated the degree to which they thought each consequence was positive or negative. They were also provided with an open-ended box to share their thoughts if they could come up with any positive or negative consequence.

Finally, demographic questions were asked. The questions included their gender, age, their country of origin, how many years they have lived in the US, major, and the level of their interestingness in advertising in general. The entire survey took about 5 to 7 minutes, making total study last about 30-40 minutes.

Results and Analysis

Manipulation check

The no-skip condition had 24 participants and the skip condition had 20 participants. First, whether the perception of having freedom was different between the no-skip and skip condition was checked by running an independent samples *t*-test. Compared to those in the no-skip condition ($M = 3.96$, $SD = 3.03$), the participants in the skip condition said that they felt that they had freedom to watch the TV show without ad interruptions ($M = 6.35$, $SD = 2.62$, $t(42) = 2.77$, $p < 0.01$). Also, participants in the skip condition said that they felt that they had freedom to control ads ($M = 6.90$, $SD = 2.69$), which was rated much higher than by those in the no-skip

condition ($M = 2.50$, $SD = 1.79$, $t(42) = 6.47$, $p < 0.001$). Therefore, it can be concluded that the manipulation of experience of freedom to watch TV show without ad interruptions was successful.

Expectation and importance of freedom

Surprisingly, however, the two conditions did not differ in their expectations and importance of the freedom to watch TV show without ad interruptions. Specifically, for expectation, the composite measure of expectation of the freedom was analyzed using independent samples t -test (Cronbach's alpha = 0.83). Refer to Appendix G for results. There was marginally significant difference between the no-skip and the skip conditions ($M_{no-skip} = 5.32$, $SD_{no-skip} = 2.26$ vs. $M_{skip} = 5.75$, $SD_{skip} = 2.29$, $t(42) = 0.63$, $p = 0.54$). To ensure the result, the data to the individual question measuring expectation was analyzed with independent sample t -test. 1) For the question, "I think that I have the right to watch TV shows without ad interruptions," the answers of participants in the skip condition ($M = 6.25$, $SD = 2.45$) did not differ significantly from the no-skip condition ($M = 5.83$, $SD = 2.51$, $t(42) = 0.55$, $p = 0.58$). 2) For question, "I expect when I watch a TV show to be able to watch without ad interruptions," answers of participants in the skip condition ($M = 4.70$, $SD = 2.36$) did not differ significantly from the no-skip condition ($M = 4.92$, $SD = 2.69$, $t(42) = -0.28$, $p = 0.78$). 3) For question, "I expect when I watch a TV show to be able to control ad interruptions," there was no difference between the two conditions either ($M_{skip} = 6.30$, $SD_{skip} = 2.92$ vs. $M_{no-skip} = 5.21$, $SD_{no-skip} = 2.70$, $t(42) = 1.29$, $p = 0.21$).

Along with measuring expectation of freedom, the participants were also asked their importance of freedom to watch TV show without ad interruptions. Analysis of independent

samples *t*-test showed that the importance of freedom did not differ between the two conditions ($M_{skip} = 6.30$, $SD_{skip} = 2.23$ vs. $M_{no-skip} = 6.42$, $SD_{no-skip} = 2.04$, $t(42) = -0.18$, $p = 0.86$). Thus, even though manipulating experiencing freedom to watch TV show without ad interruptions was successful, the experience of freedom did not lead to greater expectation and importance of the freedom.

Investigation of the data was done to check if there were any participants who did not skip the ads, although they were in the skip condition. Four out of 20 participants in the skip condition answered that they did not skip the ads even though they were told they could. Therefore, another independent samples *t*-test analysis was done after dropping those four participants' data. However, the results still were the same in that there was no significant difference between the two conditions in terms of expectation (Cronbach's alpha = 0.85; $N_{skip} = 16$, $M_{skip} = 5.92$, $SD_{skip} = 2.44$ vs. $N_{no-skip} = 24$, $M_{no-skip} = 5.32$, $SD_{no-skip} = 2.26$, $t(38) = 0.79$, $p = 0.43$) and importance of the freedom ($N_{skip} = 16$, $M_{skip} = 6.19$, $SD_{skip} = 2.37$ vs. $N_{no-skip} = 24$, $M_{no-skip} = 6.42$, $SD_{no-skip} = 2.04$, $t(38) = -0.33$, $p = 0.75$). Also, additional independent samples *t*-test analysis was conducted after moving those four participants' data from the skip condition to the no-skip condition. The reason for moving the data to the no-skip condition was because although the four participants were in the skip condition, they behaved the same way as those in the no-skip condition. Still, no difference was shown between the two conditions in terms of expectation (Cronbach's alpha = 0.83; $N_{skip} = 16$, $M_{skip} = 5.92$, $SD_{skip} = 2.44$ vs. $N_{no-skip} = 28$, $M_{no-skip} = 5.29$, $SD_{no-skip} = 2.16$, $t(42) = 0.89$, $p = 0.38$) and importance of the freedom ($N_{skip} = 16$, $M_{skip} = 6.19$, $SD_{skip} = 2.37$ vs. $N_{no-skip} = 28$, $M_{no-skip} = 6.46$, $SD_{no-skip} = 1.97$, $t(42) = -0.42$, $p = 0.68$).

Enjoyment of the show

The degree to which the participants enjoyed the show was analyzed to see if there was a difference between the two conditions. If participants in the two conditions enjoyed the show to different degrees, then that could imply that whether experiencing freedom or not caused different enjoyment. The composite measure of enjoyment (Cronbach's alpha = 0.88) showed that the participants in both conditions enjoyed the show at the same level when analyzed with independent samples t-test ($N_{\text{skip}} = 20$, $M_{\text{skip}} = 7.70$, $SD_{\text{skip}} = 1.81$ vs. $N_{\text{no-skip}} = 24$, $M_{\text{no-skip}} = 7.63$, $SD_{\text{no-skip}} = 1.55$, $t(42) = 0.15$, $p = 0.88$).

Ad intrusiveness and irritation

Independent samples *t*-test was run for intrusiveness and irritation of ads. The composite measure of the seven items measuring intrusiveness of ads (Cronbach's alpha = 0.88) showed no difference between the two conditions ($N_{\text{skip}} = 20$, $M_{\text{skip}} = 4.67$, $SD_{\text{skip}} = 1.40$ vs. $N_{\text{no-skip}} = 24$, $M_{\text{no-skip}} = 5.35$, $SD_{\text{no-skip}} = 1.64$, $t(42) = -1.45$, $p = 0.16$). The composite measure of the five items measuring irritation of ads (Cronbach's alpha = 0.84) also showed no difference between the two conditions ($N_{\text{skip}} = 20$, $M_{\text{skip}} = 3.85$, $SD_{\text{skip}} = 1.41$ vs. $N_{\text{no-skip}} = 24$, $M_{\text{no-skip}} = 4.51$, $SD_{\text{no-skip}} = 1.58$, $t(42) = -1.44$, $p = 0.16$). The fact that the participants in both conditions had similar enjoyment of the show and similar perceived intrusiveness and irritation of the ad breaks might be possible reasons why the two conditions did not differ in expectation and importance of the freedom. If the participants in the skip condition enjoyed the show more and felt greater intrusiveness and irritation of the ads, they could have had greater expectation and importance of the freedom. Perhaps, although the experience of the freedom differed between the two conditions, the ads were not intrusive or irritating enough to elicit differences in terms of expectation and importance of the freedom.

Perceived valences of the consequences of the initiative

Perceived valences of the consequences of the initiative were analyzed to select consequences to be used in experiment. Because each consequence was evaluated on a bipolar 9-point scale, one-sample t -test with midpoint 5 was used for the analysis. The instruction mentioned that the midpoint 5 means neither positive nor negative. The analysis showed that the participants gave four items the scores higher than 5, which means these consequences were considered positive to them. The four positive items were: “Because the ads are placed in the beginning or end, viewers can more easily choose whether to watch the ads by keeping or switching the channel before/after the show” ($M = 6.95$, $SD = 1.89$, $t(43) = 6.85$, $p < 0.001$); “Viewers will not be disturbed by the ads in the middle of the shows” ($M = 6.93$, $SD = 2.06$, $t(43) = 6.22$, $p < 0.001$); “Ads will not interrupt the programs” ($M = 6.82$, $SD = 2.24$, $t(43) = 5.37$, $p < 0.001$); “Without commercial breaks, the time for all TV shows will be shortened” ($M = 5.98$, $SD = 2.32$, $t(43) = 2.80$, $p < 0.01$).

The analysis showed that the participants gave four items the scores lower than 5, which means these consequences were considered positive to them. The four positive items were: “Less money will go to sponsoring TV programs, which might lessen the overall quality of shows” ($M = 3.39$, $SD = 2.51$, $t(43) = -4.27$, $p < 0.001$); “Advertisers will be less likely to advertise on TV and viewers have to look for information by themselves” ($M = 4.23$, $SD = 2.16$, $t(43) = -2.38$, $p = 0.02$); “Viewers will not have time to do other things that they used to do during commercial breaks (ex. going to the restroom, cooking, checking phones)” ($M = 4.28$, $SD = 2.04$, $t(43) = -2.32$, $p = 0.03$); “Advertisers will instead try to advertiser their products/services using other ways such as subliminal marketing or through other media” ($M = 4.60$, $SD = 2.38$, $t(43) = -1.14$, $p < 0.26$).

Because the positively rated items were more positively rated than the negatively items were negatively rated, three relatively equally positively and negatively rated items were selected to be used in experiment.

The first aim of pretest 2 was to manipulate experience of freedom. The second aim was to measure expectation and importance of freedom, which could not be measured with validity if measured in experiment. The analysis of pretest 2 showed that 1) experiencing freedom during only one episode led to greater perceived freedom to watch TV shows without ad interruptions, but 2) it did not lead to greater expectation and importance of freedom. Initially, H3 was designed as “Greater freedom expectation will lead to greater reactance when the freedom is restricted.” Now that pretest 2 showed that experiencing freedom did not lead to greater freedom expectation, H3 was changed to “Greater freedom experience will lead to greater reactance when the freedom is restricted.” This new hypothesis was generated to examine if greater freedom experience still leads to greater reactance even if expectation and importance of freedom do not occur. If this new hypothesis is supported, that might mean that the mediating variables might not work in some situations. Also, pretest 2 only examined the mediating variables of reactance process and did not look at reactance and restoration of freedom. In the following section, the experiment investigates the whole process of reactance theory within the same context that pretest 2 was conducted.

4.4. Experiment

Purpose

In pretest 2, the process between experience of freedom and mediating variables (H1 and H2) was examined. This experiment tests H3: greater freedom experience will lead to greater reactance when the freedom is restricted; and H4: greater reactance will lead to greater willingness to restore freedom. Even though H1 and H2 were not supported in pretest 2, the experiment was conducted to see if experiencing freedom will still lead to greater reactance and greater willingness to restore freedom without the mediating effect of expectation, when the freedom is restricted.

Participants

Seventy-five undergraduate students (60% female, mean age = 19.89, range of age = 18–24) from an undergraduate course at a Midwestern U.S. university participated for partial course credit. The course was a campus-wide elective, so the participants represented a variety of majors and backgrounds.

Stimuli

The four different versions of *Modern Family* used in pretest 2 were used. This time, each participant watched two episodes in order to manipulate his experience of freedom during the first episode and arouse reactance in the second episode. It was important that each participant do not watch the same episode and the ads in order to avoid the boredom effect. Therefore, the stimuli were ordered in such a way that each participant would watch two different episodes and

two different sets of ad blocks.

If person A watched episode 2.14 with ad block set 1 during the first viewing, then he watched episode 2.22 with ad block set 2 during the second viewing. If a person B watched episode 2.22 with ad block set 2 during the first viewing, then he watched episode 2.14 with ad block set 1 during the second viewing.

Procedure

Whereas pretest 2 included the gray part in the Appendix E, this experiment included all process in the Appendix H. There were two conditions: no-skip or skip condition. Participants were randomly assigned in either condition.

The experimenter witnessed a few participants in pretest 2 use their cell phones during the study. Thus, the experiment was more controlled than pretest 2. When participants came to a computer lab, they were led to a room next to the experiment room where they were told to put their jacket, bag, and cellphone. When they came to the experiment room, they did not have anything that would distract them from the experiment.

After they came to the lab, the procedure was the same as the pretest 2 up to the point where the participants would finish watching the first episode. Both the first and the second episodes had ads inserted in them. Participants in the no-skip condition did not know about the short key ('Alt + right arrow' that skips the ads) and watched the first episode without being able to forward. Participants in the no-skip condition took 30 minutes to watch the first episode. Participants in the skip condition were taught that they could use 'Alt + right arrow' to skip the ads if they wanted. Therefore, the time the participants in the skip condition spent on watching the first episode could range from 20 minutes (if they skipped all ads) to 30 minutes (if they

watched all ads).

After watching the first episode, all participants took a one-minute break. The break was given so that the experimenter could disable the short key for the second viewing in the skip condition while the participants rested. To not to make the participant be aware that the experimenter was changing the short key, they were told to rest outside of the lab and all did. When they came back, the screen of the second episode was open on the computer. It was important to make sure that the participants in the skip condition clearly understand that they cannot skip the ads for the second viewing to decrease confusion. Thus, the experimenter approached each participant and explained that they would watch a different episode of *Modern Family*, but this time they cannot skip the ads. To participants in the no-skip condition, the experimenter just told them that they would watch a different episode of *Modern Family*.

After watching the second episode, participants returned to the survey website that they minimized and completed series of questions. The questions largely assessed 1) familiarity of the show; 2) reactance; 3) liking of ads, brands, TV show, and TV network; 4) willingness to restore the freedom; 5) individual chronic reactance; 6) whom they felt reactance toward; 7) their actual skip behaviors; and 8) demographics. See Appendix I for experiment questionnaires.

First, they were asked which episodes they watched for two viewings so that later the experimenter could check if participants chose the correct episodes in order that they actually watched. They were also asked their familiarity with the show in general and the two episodes in particular. The type of these two questions was choosing one answer out of multiple choices. This question was asked first so that the participants' memories of what they watched were not faded when they answer these.

Next, they indicated to what degree they agreed with the statements that measured their

reactance. The statements were: 1) “I felt my freedom to watch the show (in the second episode) was threatened by the ads”; 2) “The ads infringed on my freedom to watch the show (second episode) without interruptions”; 3) “The ads (in the second episode) made me want to fast forward”; and 4) “The ads (in the second episode) made me try to look for a fast forward option” (1 = strongly disagree; 7 = strongly agree). These statements were adopted from Edwards et al. (2002). Because Edwards et al. (2002)’s items were in the context of online pop-up advertising, not all of their items were usable in this experiment’s context. Thus, the items were modified for the experiment. The instructions and the statements in this reactance section specifically mentioned to only think about the second episode. It was because the participants in the skip condition could skip the ads in the first episode. Thus, comparing their answers about the first episode to that of participants in the no-skip condition would not be possible. The first statement focused on the general freedom and the second statement focused on the specific freedom to watch the show without interruptions. In the literature review, reactance was defined as a motivational state that an individual has when he feels that his freedom is threatened (Brehm, 1966). Whereas the first and second statements measured the perception of reactance (freedom threatened by ads), the third and fourth statements assessed the participants’ motivational states (wanting to fast forward and trying to look for a fast forward option). Even though reactance theory argues that people may exhibit resistance towards the agent that threatens their freedom, it cannot be ensured that all the participants thought the same agent (in this thesis, the ads) as a source of threat. To decrease the possibility that participants were answering these questions while thinking about different source of threats as well as gain consistent data about reactance toward ads, all four statements explicitly indicated ads as the source of threat.

Another question assessing reactance was asked as well by having participants rate the

statement, “I think that the freedom to watch TV shows without ad interruptions is important” (1=strongly disagree; 7=strongly agree). It was shown that reactance was expressed by an increase in the ultimate attractiveness of the limited choice (Brehm, 1966; Clee & Wicklund, 1980; Fitzsimons & Lehmann, 2005; Lessne & Notarantonio, 1988; Mazis et al., 1973). Thus, this statement tried to examine if there is a difference between the two conditions in rating the attractiveness of the limited freedom. The word ‘attractive’ is substituted with ‘important,’ because it would sound unnatural if the statement was “I think that the freedom to watch TV shows without ad interruptions is attractive.” Thus, reactance was measured through five items; two measuring perceived threat, two measuring motivational state of reactance, and one measuring increased attractiveness in the limited freedom.

Next, the likings of ads, brands, TV show, and TV network were assessed to see if greater reactance led to more negative attitudes toward sources of threat or agents (Edwards et al., 2002). Four possible agents that participant could have thought that were limiting their freedom were rated. Because there were more than 30 ads in each episode, it would not make sense to ask the liking of each ad and brand. Instead, the statement asked the overall liking of the ads and brands. For example, the statement about liking of ads was “I liked the ads I saw in the second episode.” In the questions asking the liking of ads and brands, the difference between ads and brands was explained to avoid confusion of the meanings of them. Again, the statements instructed to only think about the second episode. The ratings were arrayed on a 7-point bipolar scale (1=strongly disagree; 7=strongly agree).

Then, a series of questions that measured their willingness to restore the freedom was asked. It was assessed in two ways: by measuring the amount of money participants are willing to pay for DVR and VoD and by measuring the degree to which they are willing to vote for an

initiative. First, when the freedom is limited, people want to regain that freedom (Brehm, 1966). The participants in the skip condition had the freedom to watch TV shows without ad interruptions during their first viewing, but the freedom was limited during the second viewing. It was shown that people are encouraged to pay more for their video over Internet services if there were reduced advertising (Accenture, 2012). Therefore, it was derived that people would try to regain that freedom by being willing to pay more for a DVR or a VoD, with which they can have that freedom, compared to those in the no-skip condition. First, the question “Would you be willing to pay for monthly subscription service for a DVR?” was asked (option: Yes or No) with a brief definition of DVR. Then the participants were asked how much they were willing to pay for the service monthly and were given information about the monthly payment range for DVR. The monthly payment range for DVR was given to ease the participants when they do not know it. This question about the payment was asked regardless of whether they answered yes or no to the previous question. If the payment question was contingent to the yes or no question and if only a few people answer yes, comparison analysis would be hard due to lack of data. Next, the question “Do you have a DVR?” was asked to assess the percentage of people who actually own the device. If they said yes, contingency questions were shown on the next page that asked how often they use DVR (an example of choice: everyday) and what are the main reasons why they bought/use DVR (an example of choice: to have more control over TV content). For VoD, the same questions as DVR question were asked. The only differences were the monthly payment range and choices of the question that asked why they bought/use VoD (an example of choice: to watch whatever I want to watch).

Also, participants’ willingness to restore the freedom was assessed by measuring the degree to which they would vote for a proposed ballot initiative. First, they read an instruction

about the initiative, “Imagine that the following is initiated on the ballot in the next election.”

Below the instruction was the initiative, “The initiative is to make advertisers place ads only in the beginning or end of TV shows instead of placing in the middle.” Below the initiative, four positive and negative consequences of enacting the initiative were shown, which were selected based on the analysis of pretest 2. The consequences were shown so that the participants would know clearly what are the benefits and losses. One example of positive and negative consequences, respectively, was “Ads will not interrupt the programs” and “Less money will go to sponsoring TV programs, which might lessen the overall quality of shows.” Then they answered the question, “Will you vote for the initiative?” (1=strongly disagree; 7=strongly agree). The premise of this question was that participants in the skip condition would attempt to regain their freedom by indicating greater willingness to vote for the initiative that gives them the freedom, compared to participants in the no-skip condition.

After this, they completed the Hong Psychological Reactance Scale (1996) that measures individual’s chronic reactance with 11 items (1=strongly disagree; 5=strongly agree). Examples of items are “I become angry when my freedom of choice is restricted,” “Regulations trigger a sense of resistance in me,” and “When someone forces me to do something, I feel doing the opposite.” Examining one’s chronic reactance was not the main focus of the study, but it was asked to check later if it plays a role in arousing reactance.

Then, a question asking to whom they felt reactance toward was assessed. The question was: “If you were irritated/annoyed/disturbed by having to watch the ads, whom/which did you blame?” It was a multiple choice question in which they could check all that apply. The choices were ads, brands from the ads, companies of ads, TV show, TV network, law makers, experimenter, and other: please specify. It was asked to ensure that majority of participants

answer ads as an agent that limits their freedom. If most people felt reactance towards other agents, not the ads, then the entire study would lose its validity. Also, for example, if one participant in the skip condition felt that it is only the TV network that limited his freedom, then his liking toward the ads would not have been affected by having his freedom taken away. The reason why not all choices here were asked in the previous question about likings is because questions such as “Indicate to which degree you liked the experimenter” would not make sense. Therefore, only likings of ads, brands, TV show, and TV network were asked.

Then the participants answered if they actually skipped the ads or not during both episodes. It was asked to check that the majority participants in the skip condition fast-forwarded ads during the first episode and did not during the second episode and that all participants in the no-skip condition did not fast-forward ads during both episodes. These were asked last to not to let participants know that there were two different conditions where one could/could not fast-forward through the ads.

Finally, demographics about their gender, age, country of origin, the number of years they had lived in the US, major, their general level of interest in advertising (1 = not interested at all; 7 = very interested) were asked with an open box for any comments.

The survey took about 5-10 minutes. Thus, participants in the no-skip condition took about 70 minutes and those in the skip condition took about 60 minutes for the entire experiment.

Results and Analysis

All participants in the skip condition fast-forwarded ads in the first episode and not in the second episode. All participants in the no-skip condition did not fast-forward ads in both episodes. This was checked based on the participants' answers to whether they skipped the ads in

the first and second episodes and by comparing their own answers to the experimenter's notes about in which conditions each participant was assigned. There were 37 participants in the no-skip condition and 38 in the skip condition (60% female, mean age = 19.89, range of age = 18 – 24).

Experience of freedom and reactance

Reactance scale was created with five items (Cronbach's $\alpha = 0.78$). Independent samples t -test was run to compare reactance in the no-skip and skip conditions. Participants in the skip condition ($M = 5.09$) felt greater reactance than those in the no-skip condition ($M = 4.46$, $t(73) = -2.26$, $p = 0.03$). See Appendix J for results. In the literature review and hypotheses, it was anticipated that experiencing freedom will lead to greater reactance with expectation and importance of freedom acting as mediators. In pretest 2, it was shown that experiencing freedom did not lead to greater expectation and importance of the freedom (H1 and H2 were not supported). Interestingly, however, this result demonstrates that even though experiencing freedom did not ensue greater expectation and importance of the freedom, it led to greater reactance. This is unexpected because the previous literature has argued that expectation and importance of freedom mediate the magnitude of reactance (e.g., Brehm, 1966). Then what was it that led to greater reactance without greater expectation and importance of freedom? The result suggests that there might be boundary conditions where that process does not occur as known. Or there might be other mediating variables such as the size of threat, as suggested by Brehm (1966). What is apparent from this experiment, though, is that experiencing freedom only once through the first episode was enough to elicit greater reactance when that freedom was threatened during the second episode.

Experience of freedom and likings

However, when the liking of ads, brands from the ads, TV show, and the TV network (ABC) were analyzed with independent samples *t*-test, there were no differences in liking of any potential sources of reactance between the two conditions (liking of ad: $M_{no-skip} = 3.89$, $SD_{no-skip} = 1.78$ vs. $M_{skip} = 4.16$, $SD_{skip} = 1.24$, $t(73) = -0.75$, $p = 0.45$; liking brands from the ads: $M_{no-skip} = 4.57$, $SD_{no-skip} = 0.99$ vs. $M_{skip} = 4.28$, $SD_{skip} = 1.16$, $t(73) = 1.54$, $p = 0.13$; liking of TV show: $M_{no-skip} = 6.24$, $SD_{no-skip} = 0.98$ vs. $M_{skip} = 6.18$, $SD_{skip} = 1.45$, $t(73) = 0.21$, $p = 0.84$; liking of TV network: $M_{no-skip} = 5.59$, $SD_{no-skip} = 1.32$ vs. $M_{skip} = 5.32$, $SD_{skip} = 1.40$, $t(73) = 0.89$, $p = 0.38$). See Appendix K for results. It might be possible that there was no difference in liking of the TV show, in particular, because of the ceiling effect; participants already gave high ratings that were close to the highest point 7 and thus there was low chance of attitude change toward the show. Overall, the result shows that whereas the two conditions differed in reactance toward the ads, it did not go further to lead to differences in likings of ads.

Forty-nine percent and 55% in the no-skip and skip condition respectively answered that it is ads that are limiting their freedom, and 51% in the no-skip and 66% in the skip condition for the TV network (30% and 37% for companies; 21% and 15% for brands; 11% and 8% for the TV show; 8% and 8% for experimenter; 2% and 7% for lawmakers; and 2% and 7% for others, respectively). See Appendix K for results.

Even when only the ratings of the participants who chose a specific agent as the source of threat were analyzed with independent samples *t*-test, there were no differences between conditions in terms of liking of that agent (all p 's > 0.2). For example, for liking of the TV network, only the data of those who chose the TV network as a source of threat was created into another file, and independent samples *t*-test was done between the two conditions. It is surprising

that many participants blamed not only advertisers, but also the TV network for interrupting their viewing experiences, despite no difference in terms of liking of the TV network between the two conditions. This result does not support previous findings in reactance literature that reactance was expressed through giving low ratings to the source of threat (Fitzsimons & Lehmann, 2005; Wicklund et al., 1970).

Reactance and restoration of freedom

Prices willing to pay for DVR and VoD and voting intentions were analyzed to assess willingness to restore the freedom. See Appendix L. One participant in the skip condition did not write monthly fee for both DVR and VoD, so that data was dropped before analyzing. Independent samples *t*-test analysis showed no difference between the two conditions in terms of the monthly fee participants were willing to pay for DVR ($M_{no-skip} = \$11.73$, $SD_{no-skip} = 6.16$ vs. $M_{skip} = \$12.16$, $SD_{skip} = 8.94$, $t(72) = -0.242$, $p = 0.81$). There was no difference between the two conditions in terms of the monthly fee for VoD either ($M_{no-skip} = \$10.76$, $SD_{no-skip} = 6.69$ vs. $M_{skip} = \$12.92$, $SD_{skip} = 8.88$, $t(72) = 1.18$, $p = 0.24$). Only when the data (amount of money they wrote) of participants who answered that they are willing to pay for DVR and VoD subscription monthly, there was no difference between the two conditions in terms of amount of money (all p 's > 0.2).

More than half of participants owned either DVR or VoD. Also, many of them used the devices as often as everyday or 1-2 days a week. Their usage of the devices could have affected the amount of money they were willing to pay for the devices as well as reactance. People who owned DVR were removed and the amount of money for DVR and reactance were compared between the conditions, and the same process was done for VoD. However, independent samples

t -test analysis showed that there was no difference in terms of how much they were willing to pay either for DVR or VoD, or reactance, even after removing the people who own and use the devices (people who do not have DVR: $N_{no-skip} = 16$, $N_{skip} = 24$; people who do not have VoD: $N_{no-skip} = 21$, $N_{skip} = 28$, all p 's > 0.10).

The willingness to vote for the initiative was analyzed. Because the content in the question about the initiative was changed after the first nine subjects (four people in the no-skip and five in the skip condition) completed the study, their data were removed before analyzing it. The independent samples t -test analysis showed that there was no difference between the two conditions in willingness to vote for the initiative ($N_{no-skip} = 33$, $N_{skip} = 33$; $M_{no-skip} = 3.76$, $SD_{no-skip} = 2.06$ vs. $M_{skip} = 4.52$, $SD_{skip} = 1.58$, $t(64) = -1.67$, $p = 0.10$). According to the definition of reactance theory (Brehm, 1966), greater restoration of the freedom should follow greater reactance. However, although participants in the skip condition manifested greater reactance than those in the no-skip condition, they did not appear to show any of the outcomes that generally define reactance.

Individual chronic reactance and state reactance

Note that individual chronic reactance scores and state reactance scores are two different values. Individual chronic reactance scores refer to individual's trait reactance scores measured with the Hong Reactance Scale. State reactance score refer to the state variable that is measured with the five items in the survey. In order to detect a possible relationship between individual chronic reactance and state reactance, chronic reactance scores (Cronbach's $\alpha = 0.64$) and state reactance scores were analyzed together using regression, regardless of conditions. The analysis showed no relationship between the two variables ($b = 0.23$, $t(73) = 0.70$, $p = 0.49$; $R^2 =$

0.007, $F(1, 73) = 0.483, p = 0.49$). Because the regression analysis was done without differentiating the two conditions, another regression analysis of the chronic reactance scores and state reactance scores in each condition was run. Again, regression analysis of each condition showed no relationship between the individual's chronic reactance and state reactance scores ($R^2_{\text{no-skip}} = 0.003, F(1, 35) = 0.095, p = 0.76$; $R^2_{\text{skip}} = 0.053, F(1, 36) = 3.062, p = 0.90$).

Next, instead of regression, one-way ANOVA was conducted to check if there were differences in state reactance when chronic reactance were divided into high and low via median split (median = 2.909). The same values as the median were coded as low reactance. The participants with low chronic reactance in the no-skip condition were coded as 1 and the participants with low chronic reactance in the no-skip condition were coded as 2. Similarly, the participants with low and high chronic reactance in the skip condition were coded 3 and 4. One-way ANOVA analysis showed that there was no difference in terms of state reactance between these four groups ($M_{\text{no-skip and low}} = 4.41, M_{\text{no-skip and high}} = 4.51, M_{\text{skip and low}} = 4.88, M_{\text{skip and high}} = 5.38, F(3, 71) = 2.25, p = 0.09$). Nevertheless, it showed that individuals with skip high had the highest state reactance scores and individuals with no-skip and low had the lowest state reactance scores.

Thus, individual chronic reactance did not seem to relate to the reactance scores. This result is the opposite of the previous research that argued that individuals differ in feeling reactance (e.g., Fitzsimons & Lehmann, 2005; Levav & Zhu, 2009). However, in the experiment, participants were asked the individual chronic reactance questions after they answered the questions about reactance, liking, and restoration of freedom. This order of questions was chosen because answering individual's chronic reactance first might affect their answers to other questions, which are more important parts of the study. At the same time, this order might also

suggest that individual chronic reactance scores were possibly affected by answering previous questions. Despite that, considering that individual chronic scores are traits and thus should not be affected by the order of questions, the individual reactance scores could have been reliable.

Level of interest in advertising and reactance

Participants' level of interest in advertising in general was also measured at the end of the survey. It was asked because if a participant has a high level of interest in advertising, having to watch the ads might not arouse high reactance. First, regression analysis of interest level in advertising and reactance was run with all data, but the effect was not significant ($b = -0.20$, $t(73) = -1.74$, $p = 0.09$; $F(1, 73) = 3.01$, $p = 0.09$). However, when the same regression was run for each condition, there was significant effect in the no-skip condition ($b = -0.49$, $t(35) = -2.49$, $p = 0.02$; $F(1, 35) = 6.22$, $p = 0.02$). The correlation between the level of interest in advertising and reactance was -0.39 . For the skip condition, there was no effect ($b = 0.06$, $t(73) = 0.48$, $p = 0.64$; $F(1, 36) = 0.23$, $p = 0.64$). The correlation between the level of interest in advertising and reactance was 0.08 . This means that in the no-skip condition, the more interested a person was in advertising in general, the less reactance he felt when ads appeared, which is reasonable. However, this relation disappeared in the skip condition. It might be because in the no-skip condition, no one knew about being able to skip the ads; they could have just accepted the ads without questioning why they interrupted the show. In the skip condition, participants first had freedom to watch the show without ad interruptions, but that freedom was taken away during the second episode. Thus, the reactance for those participants could have been great enough to mute the high interest in advertising and led to great reactance when the ads threatened their freedom.

International participants and reactance

As mentioned in the introduction, different expectations about the freedom to watch TV show without ad interruptions are formed depending on which country an individual is from. For example, Korean participants who came to the US recently might have a high expectation to watch TV show without ad interruptions. Thus, analysis of differences between international and domestic participants in terms of reactance was done. First, the domestic participants in the no-skip condition and the skip condition were coded as 0 and 2 respectively. International participants in the no-skip condition and the skip condition were coded as 1 and 3 respectively. One-way ANOVA showed a significant difference in reactance ($F(3, 71) = 3.02, p = 0.04$). Tukey HSD analysis indicated that international participants in the skip condition ($M = 4.48, SD = 1.40$) had significantly higher reactance than domestic participants in the no-skip condition ($M = 5.83, SD = 0.84$). No other significance was found. A possible explanation about this is that international participants in the skip condition felt greater reactance when their freedom was taken away, because ads might not have been interesting to them due to cultural differences. Another plausible reason for no apparent pattern is that some international participants have lived in the US a number of years already. In addition, there might not be huge differences between countries in terms of freedom expectation, because many college students watch TV content via other media devices regardless of country.

The two most important findings of the experiment are that 1) experiencing freedom led to greater reactance without mediating roles of expectation and importance of freedom; and that 2) greater reactance did not lead to greater willingness to restore the freedom. Thus, H3 is supported and H4 is not. See Appendix M for the visualization of the reactance process and which parts are not supported.

Also, it was found that experiencing freedom did not lead to lower liking toward the possible sources of threat. Individual chronic reactance was not correlated with state reactance. Interesting level in advertising was correlated with reactance in the no-skip condition, but not in the skip condition. Lastly, country of origin did not seem to affect reactance in a systematic way, which might need more investigation in future research.

Chapter Five: Discussion

5.1. General Discussion

The objective of this research was to understand the process of psychological reactance theory in an advertising context. Specifically, it examined the role expectation of freedom plays in generating reactance and willingness to restore of freedom by reflecting the change of expectation in terms of TV in-program advertising. Two pretests and one main experiment were conducted. Through pretest 1, involving TV show to the population (*Modern Family*) and similarly involving ad blocks were selected to be used in the following experiments. Pretest 2 provided evidence that only watching one episode with the ability to skip the ads made participants perceive experience of freedom. However, experiencing freedom did not lead to greater expectation and importance of freedom, showing that these two variables did not act as mediators. Finally, experiment demonstrated that experiencing freedom led to greater reactance when the freedom was taken away, but not willingness to restore the freedom.

5.2. Implication

Through these experiments, the current research aims to contribute to the reactance theory and offer theoretical and practical implications. First, it delves into the two mediating variables - the expectation and importance that the individual possessed freedom to begin with - that affect the magnitude of reactance. Much research focusing on reactance considers reactance as an overall effect and little research has directly studied the expectation of freedom. Also, although there are a few existing studies on the effect of expectation of freedom on reactance in terms of product unavailability, there is little research about the expectation of freedom in the

media context. Therefore, examining the role of expectation of freedom in reactance in the context of TV in-program ads can contribute to fill the gap that exists in the literature.

Importantly, the current research showed that only experiencing freedom led to greater reactance without the role of expectation of freedom. Initially, four mediators were introduced by Brehm (1966), but among those four, two mediators were argued to operate by Clee and Wicklund (1980). That was why only these two mediating variables were investigated in this research. Also, even though the focus of this research was on expectation of freedom, importance of freedom was examined as well in order to consider its influence. The findings of this thesis show, though, that these mediators might not act as suggested by other literature (e.g., Brehm, 1966; Clee & Wicklund 1980). One explanation for this is that the mediators do not work as suggested in the advertising context. As suggested by Edwards et al., (2002), advertising might not be a source that considerably threatens our freedom. Another possibility is that the other two mediators introduced by Brehm (1966), the magnitude of threat and implication of the threat for other freedoms, might be other possible mediators that affected the magnitude of reactance in this thesis. If that is the case, measuring all four mediators might shed light on why greater reactance was aroused in the skip condition than in the no-skip condition. Finally, one might argue that experiencing freedom only during one episode was not enough to elicit greater expectation and importance of freedom. However, considering that experiencing freedom only during one episode led to greater reactance, that possibility sounds weak.

Another theoretical implication of this research is that it showed that reactance does not always ensue restoration of freedom. According to the definition of reactance theory, when one's freedom is threatened, he feels reactance and tries to restore the freedom. However, this research did not show any evidence that the participants were willing to regain the freedom (the amount

of money willing to pay DVR/VoD, or voting intention for the initiative) despite obvious evidence of reactance. The reactance did not even lead to less liking of the possible sources of threat, which means it did not change attitudes toward the sources of threat. This was the opposite of findings in the previous literature that showed that ratings of sources of threat were negatively influenced by reactance (e.g., Fitzsimons & Lehmann, 2004; Wicklund et al., 1970). Therefore, this research indicates that the process of reactance theory, especially the process between reactance and restoration of freedom, might not occur in some situations. Perhaps, answering the questions about reactance in the survey indirectly reduced the participants' willingness to restore the freedom, before they actually answered the questions about restoration of freedom. Yet, the findings of this research imply the need to clearly define between reactance and restoration of freedom, re-examine the theory, or identify boundary conditions that the reactance process does not occur as known.

Finally, this thesis showed that situational factor, such as experiencing freedom, was more important than individual factors in arousing reactance. Although some scholars agree that a reactance is not just an individual trait (e.g., Cherulnik & Citrin 1974), the direction of recent reactance research is gearing toward the notion that reactance is trait (e.g., Dowd et al., 1991; Fitzsimons & Lehmann, 2004). This direction is persuasive because most results support that all individuals have different tendency to arouse magnitudes of reactance. However, focusing on reactance as an individual trait makes it easy to overlook that reactance is also a result of situational factors. Indeed, the finding from this thesis that examined individual chronic reactance, state reactance, and countries of origin, showed that reactance was only influenced by situational factors (experience of freedom). This adds a theoretical contribution to the reactance literature in that situational factors should not be underestimated.

Not only that, this thesis also has important practical implications. The more people experience freedom to watch TV shows without ad interruptions, the greater reactance they have toward the ads when the freedom is limited. Thus, advertisers should be aware of the rapidly changing media usage and how this might affect responses toward their ads that possibly threaten viewers' freedoms.

The advertisers might wonder how they can possibly reduce the reactance aroused by having increased experiences of freedom. It would be hard and probably not proper to directly decrease the experience because it is viewers' rights and freedom to enjoy watching TV shows without interruptions. Instead, mitigating reactance can be done by making people expect in advance that programs will be interrupted and why it is inevitable to interrupt it. For example, before a TV program begins, it can show a message that this program is sponsored by companies and it would have been hard to produce and air the program without the sponsorship. That way, people will understand more that there has to be in-program ads. Another way to do so is to show a message, such as "in-program ads will appear in 15 minutes", so that people will expect when the ads will appear and be less annoyed. In previous sections, it was mentioned that when ads are informative or entertaining, viewers have less reactance and even some people stop and watch the ads (Edwards et al., 2002). Therefore, making informative or entertaining ads would be another effective way to lessen reactance.

Good news among bad news to advertisers is that reactance did not manifest itself as the theory predicts and elicit less liking towards the ads, brands, the TV show, or the TV network. Perhaps experiencing the freedom only once was not enough to cause less liking, or liking is not directly influenced by reactance.

5.3. Limitations and Future Research

One limitation and also possible future research about this thesis is that it only looked at a certain group of people who is aged between 18 and 29. The reason for selecting this age group was because this group actively watches TV on traditional TV and with alternative media such as tablet or PC. However, it can be assumed that there would be big differences between this age group and older generations, due to their different usages of media. Thus, it would also be desirable to test the differences of expectations of freedom to watch TV shows without ad interruptions between different age groups.

As mentioned earlier, this thesis investigates only two mediating variables that affect the magnitude of reactance. This might be a reason why restoration of freedom was not elicited in the experiment. In the experiment, the expectation and importance of the freedom were not affected by the experience of freedom; even if they were affected, if a threat posed to the freedom or the implication of the threat to other freedoms were not high enough, it might not lead to restoration of freedom. The freedom to watch TV shows without ad interruptions might not elicit as great reactance as some might predict, as suggested by Edwards et al. (2002). More research on all of the four mediating variables and how those can be applied in the reality is necessary to fully understand reactance. For instance, there might be better ways to reduce reactance toward TV advertising by changing the size of threat to freedom, if changing the expectations of freedom is difficult. Thus, research on other two mediators suggested by Brehm (1966) - the size of threats to freedom and the implication of the threat to other freedoms - can suggest rich areas for future research.

Finally, the limitation of this thesis lies in its measurement of some variables. Initially the scale of reactance was adopted from Edwards et al.'s (2002) and modified. The participants

in Edwards et al.'s study were asked to rate the degree to which they felt their freedom was threatened, that the ad infringed on their freedom, and that the ad forced them to respond. The first two items used in this thesis to measure reactance were 1) "I felt my freedom to watch the show (in the second episode) was threatened by the ads" and 2) "The ads infringed on my freedom to watch the show (second episode) without interruptions." Looking at these again, these scales seem to measure perceived threat to a freedom, rather than reactance. Thus, it is possible that what was argued by greater reactance in this thesis maybe not solely refer to reactance. If the measure used for reactance was a measure that examined both perceived threat and reactance and thus actual reactance aroused was less than what was reported by the participants, then it seems reasonable why restoration of freedom was not elicited by reactance. Perhaps, the threat to the freedom to watch TV shows without ad interruptions was not large enough to lead all the way to higher expectation, higher reactance, and higher restoration of freedom. Then, the notion that mediators affect the magnitude of reactance, as suggested by Brehm (1966) and Clee and Wicklund (1980), might be indeed correct.

The possibility of measurement errors deserves attention in future research. What is missing in this thesis and in the reactance literature is that no one specifically defines the difference between perceived freedom, perceived threat, reactance, and restoration of freedom. It is not clear whether perceived threat already includes reactance or whether reactance and restoration of freedom can be disentangled. For example, it was shown that reactance was expressed by giving lower ratings to the products being advertised (Wicklund et al., 1970), but the very act of giving lower ratings to the products might make people feel as if they restored the freedom. Because of these ambiguous definitions, there have not been clear measurements for these variables. Thus, a worthwhile future research would be to identify each part of reactance

process and develop scales that measure each variable without the overlap of other variables.

The findings of this thesis imply that the reactance theory that is known might not operate as suggested by many scholars. In particular, the facts that experience of freedom did not lead to expectation of freedom and that reactance did not lead to restoration of freedom show that it is necessary to revisit the reactance theory. Also, it might be possible that there are boundary conditions under which reactance does not elicit willingness to restore the freedom. Finally, this thesis addressed limitations of its own as well as of the reactance literature, provided ideas on how to reduce viewers' reactance towards in-program ads, and suggested future research areas.

References

- Accenture (2008). Television in transition: Evolving consumption habits in broadcast media worldwide.
- Accenture (2012). Hearts, minds and wallets: Winning the battle for consumer trust.
- Andreeva, N. (May 27, 2010). Full series rankings for the 2009-10 broadcast season.
Retrieved from <http://www.deadline.com/2010/05/full-series-rankings-for-the-2009-10-broadcast-season/>
- Baek, T., & Morimoto, M (2012). Stay away from me: Examining the determinants of consumer avoidance of personalized advertising. *Journal of Advertising*, 41(1), 59-76.
- Beneke J., De Lane, S., Simpson, V., & Van der Merwe, K. (2011). Marketing in the PVR Era: An exploratory study into changes in viewing habits and brand recognition of young adults in South Africa. *International Retail and Marketing Review*, 7(1), 54-72.
- Brehm, J. W. (1966). A theory of psychological reactance. New York: Academic Press.
- , Stires, L. K., Sensenig, J., & Shaban, (1966), The attractiveness of an eliminated choice alternative, *Journal of Personality and Social Psychology*, 2, 301-13.
- Brehm, J. W., & Brehm, S. S. (1981). Psychological reactance. New York: Wiley and Sons.
- Buboltz, W. C., Williams, D. J., Thomas, A., Seemann, E. A., Soper, B., & Woller, K. (2003). Personality and psychological reactance: Extending the nomological net. *Personality and Individual Differences*, 33, 1167-1177.
- Cherulnik, P. D., & Citrin, M. M. (1974). Individual difference in psychological reactance: The interaction between locus of control and mode of elimination of freedom. *Journal of Personality and Social Psychology*, 29, 398-404.
- Cho, S., & S. H (December 18, 2010). Chosun Biz. Retrieved from

http://biz.chosun.com/site/data/html_dir/2010/12/18/2010121800048.html

Clee, M. A., & Wicklund, R. A. (1980). Consumer behavior and psychological reactance.

Journal of Consumer Research, 6, 389-405.

Dillard, J. P., & Shen, L (2005). On the nature of reactance and its role in persuasive health communication. *Communication Monographs*, 72(2), 144–168.

Dowd, E. T. (1993). Motivational and personality correlates of psychological reactance and implications for cognitive therapy. *Psicologia Conductual*, 1, 131–140.

Dowd, E.T., Milne, C. R., & Wise, S. L. (1991). The therapeutic reactance scale: A measure of psychological reactance. *Journal of Counseling and Development*, 69, 541-545.

Dowd, E. T., Pepper, H., & Seibel, C. A. (2001). Developmental correlates of psychological reactance. *Journal of Cognitive Psychotherapy: An International Quarterly*, 15, 239-252.

Edwards, S. M., Li, H., & Lee, J. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising*, 31(3), 83-95.

Fitzsimons, Gavan J., & Lehmann, Donald R., (2004). Reactance to recommendations: When unsolicited advice yields contrary responses, *Marketing Science*, 23(1), 82-94.

Gfk MRI (2012). Generation C. Retrieved from

<http://www.google.com/think/research-studies/introducing-gen-c-the-youtube-generation.html>

Goldsmith, R. E., Clark, R. A., & Lafferty, B. A. (2005). Tendency to conform: a new measure and its relationship to psychological reactance. *Psychological Reports*: 96, 591-594.

Goldsmith, R. E., Clark, R. A., & Lafferty, B. A. (2006). Intention to oppose animal research:

- The role of individual differences in nonconformity, social behavior and personality. *An International Journal*, 34(8), 955-964.
- Google (2013). Generation C. Retrieved from <http://www.google.com/think/research-studies/introducing-gen-c-the-youtube-generation.html>
- Gorman, Bill (October 21, 2010). *Glee, Dancing, Modern Family, Castle lead season's ratings gainers, CSI:NY, Lie To Me, House lead losers*. TVbythenumbers. Retrieved from <http://tvbythenumbers.zap2it.com/2010/10/21/glee-dancing-modern-family-castle-lead-seasons-ratings-gainers-csiny-lie-to-me-house-lead-losers/69042/>
- Graupmann, V., Jonas, E., Meier, E., Hawelka, S., & Aichhorn, M. (2012). Reactance, the self, and its group: When threats to freedom come from the ingroup versus the outgroup, *European journal of social psychology*, 42, 164-173.
- Hong, S., & Page, S. (1989). A Psychological reactance scale: Development, factor structure and reliability. *Psychological Reports*: 64, 1323-1326.
- Hong, S., & F. S. (1996). Refinement of the Hong psychological reactance scale. *Educational and Psychological Measurement*, 56(1)
- Jonas, E., Graupmann, V., Kayser, D. N, Zanna, M, Traut-Mattausch, E., & Frey, D. (2009). Culture, self, and the emergence of reactance: Is there a “universal” freedom? *Journal of Experimental Social psychology*, 1067-1080.
- Kemburu, H. (December 31, 2012). College students most watched TV shows. Retrieved From <http://collegewiz.com/2012/12/31/college-students-most-watched-tv-shows/>
- Kwak, H., Andras, T., & Zinkhan, G. (2009). Advertising to 'active' viewers. *International Journal of Advertising*, 28(1), 49-75.
- Levav, J., & Zhu, R. (2009). Seeking freedom though variety. *Journal of Consumer Research*,

36, 600-610.

Mazis, M. B., Settle, R. B., & Leslie, D. C. (1973). Elimination of phosphate detergents and psychological reactance. *Journal of Marketing Research*, 10, 390-5.

Merz, J. (1983). Fragebogen zur Messung der psychologischen Reaktanz. *Diagnostica*.

Nelson, L.D., Meyvis, T., & Galak, J. (2009). Enhancing the television-viewing experience through ad interruptions, *Journal of consumer research*, 36, 160-172.

Rice, L. (October 23, 2012). Fall 2012: Most popular shows so far. Retrieved from <http://insidetv.ew.com/2012/10/23/fall-2012-most-popular-shows-so-far-2/>

Realmeter (2007). Retrieved from http://www.realmeter.net/issue/view.asp?table_name=S_News2andN_Num=302andfile_name=20071108am94558.htm

Seidman, R. (September 23, 2010). ABC turns in its strongest Wednesday in nearly 10 months; 'Modern Family' opens as Wednesday's No. 1 TV show". *TVbythenumbers*. Retrieved from <http://tvbythenumbers.zap2it.com/2010/09/23/abc-turns-in-its-strongest-wednesday-in-nearly-10-months-modern-family-opens-as-wednesday%E2%80%99s-no-1-tv-show/64820/>

----- (September 22, 2011). TV ratings Wednesday: 'X Factor' No 'Idol'; 'Modern Family' Premieres Big; 'Revenge' Gets Nice Start; CSI > SVU – Ratings. Retrieved from <http://tvbythenumbers.zap2it.com/2011/09/22/tv-ratings-wednesday-x-factor-no-idol-modern-family-premieres-big-revenge-gets-nice-start-csi-svu/104503/>

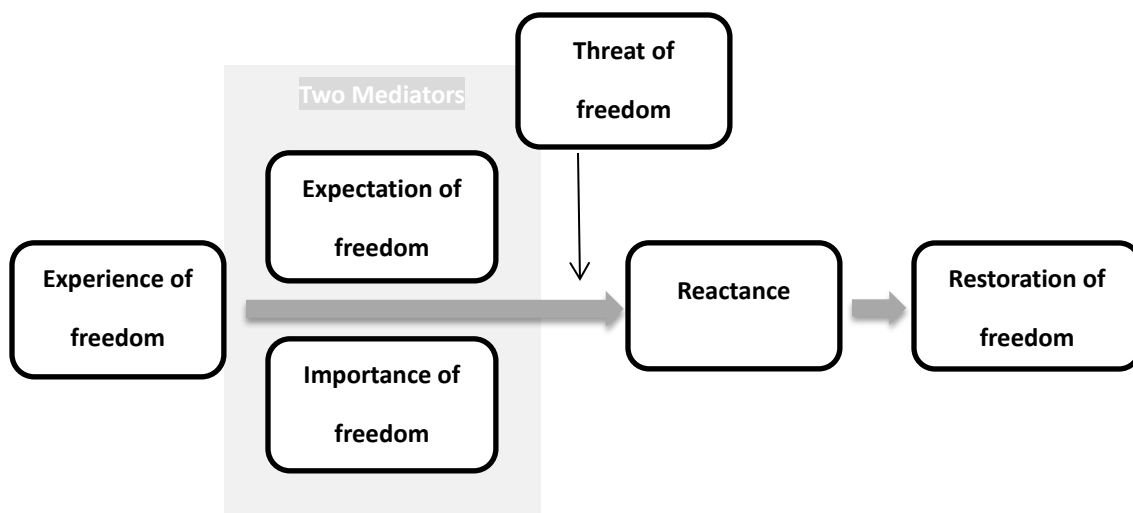
Seemann, E.A., Buboltz, W. C., Jenkins, S. M., Soper, B., & Woller, K. (2004). Ethnic and gender differences in psychological reactance: the importance of reactance in multicultural counseling. *Counselling psychology Quarterly*, 17(2), 167-176.

Television advertisement (n.d.). Retrieved from

http://en.wikipedia.org/wiki/Television_advertisement

- Wellman, J. A. & Geers, A. L. (2009). Rebel without a (conscious) cause: priming a nonconscious goal for psychological reactance. *Basic and applied social psychology*. 3, 9-16.
- White, T. B., Zahay, D. L., Thorbjornsen, H., & Shavitt, S. (2008). Getting too personal: Reactance to highly personalized email solicitations, *Market Letter*, 19, 39-50.
- Wicklund, R. A, Slattum, V., & Solomon, E. (1970). Effects of implied pressure toward commitment on ratings of choice alternatives. *Journal of Experimental Social Psychology*, 6, 449-57.
- Woller, K. M., Buboltz, W. C., & Loveland, J. M. (2007). Psychological reactance: Examination across Age, Ethnicity, and Gender. *The American Journal of Psychology*, 120(1), 15-24.
- Wyatt, E. (2011, March 11). Give up familiar light bulb? Not without fight, some say. *New York Times*. Retrieved from http://www.nytimes.com/2011/03/12/business/energy-environment/12bulb.html?_r=1
- Yankee Group (2003). The death of the 30-second commercial.
- YouTube Nielsen (2012). Generation C. Retrieved from <http://www.google.com/think/research-studies/introducing-gen-c-the-youtube-generation.html>
- Zaichkowsky, J. L. (1994), "The personal involvement inventory: Reduction, revision, and application to advertising," *Journal of Advertising*, 23 (4), 59–70.
- Zhou, W. (2004) The choice of commercial breaks in television programs: The number, length, and timing. *The Journal of Industrial Economics*. 52 (3), pp. 315 – 326.

APPENDIX A
THE PROCESS OF THE REACTANCE THEORY



APPENDIX B
THE WAY AD BLOCKS WERE MADE

Real Show		Ad blocks	
First ad break	Toyota	First ad block	Toyota
	Subway		Subway
	Verizon		Verizon
	Vick DayQuil		Vick DayQuil
	Beautiful Creatures	Second ad block	Beautiful Creatures
	Lean Cuisine		Lean Cuisine
	Zero Hour		Zero Hour
Second ad break	Sprint		Sprint
	Uncle Ben	Third ad block	Uncle Ben
	Claritin-D		Claritin-D
	Ford		Ford
	Yoplait		Yoplait
	Bank of America	Fourth ad block	Bank of America
	Suborgatory		Suborgatory
	Nissan		Nissan
	Casey's Pizza		Casey's Pizza
	Weather		Weather
Third ad break	Olive Garden	Fifth ad block	Olive Garden
	Verizon		Verizon
	BMW		BMW
	TurboTax		TurboTax
	Morning's	Sixth ad block	Morning's
	Verizon		Verizon
	Nashville		Nashville
	Makeover		Makeover

APPENDIX C

PRETEST 1 QUESTIONNAIRE

* The italicized words were not shown to the participants. They were only for the experimenter's use. These are included here in order to easily see what the items were trying to measure. The questions asked were numbered. Other parts that are not numbered are instructions, not questions.

Welcome

Welcome to the Media Study!

Thank you for participating in our study. Please read all instructions in the study carefully.
First, PLEASE TURN OFF YOUR CELLPHONE.

In this study, you will do the following.

- You will watch a block of ads and answer questions about the ads.
- You will watch a TV show, 'Modern Family' and answer questions about the show.
- You will watch another block of ads and answer questions about the ads.

That is it! It will take about 30 minutes. If you have any questions, please let the experimenters know!

Consent Form

Please read this consent form below and indicate your agreement by signing your name.

You can refuse to participate in the study if you do not agree with the form.

Consent Form

You are invited to be in a research study of media use. You were selected as a possible participant. **We ask that you read this form and ask any questions you may have to the researcher before agreeing to be in the study.** This study is being conducted under the supervision of Dr. Brittany Duff, assistant professor, Dept of Advertising (bduff@illinois.edu /

612-325-6114).

Background Information

The purpose of this study is to better understand media use of young people aged between 18 and 29.

Procedures

If you agree to be in this study, we would ask you to do the following things:

- 1) Watch a TV show for about 20 minutes
- 2) Complete questions for about 5 minutes

The anticipated time for the total experiment is 30 minutes.

Risks and Benefits of being in the Study

There are no risks beyond those that exist in daily life associated with participation in the study. There are no direct benefits for you, but your participation in the research will benefit the field of advertising research.

Compensation

You will receive 3 extra credits for “Introduction to Advertising” class; even if you choose to opt out this study, you will still earn the extra credit. Also, if you do not wish to participate in this study, your instructor offers other opportunities for earning extra credit.

Confidentiality

The records of this study will be kept private. No identifying information will be linked to data or revealed in publications, reports, or conference presentations. Research records will be stored securely and only the investigators will have access to the records. The results of the study will be included in Yoojin (Gina) Song’s Master’s thesis and possibly in a publication or conference presentations. However, as mentioned earlier, no identifiable information will be revealed in the data and no identifiable information will be linked to the data.

Voluntary Nature of the Study

All participants must be at least 18 years of age. Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Illinois. Also, you can skip the questions that you prefer not to answer. The decision to participate, decline, or withdraw from participation will have no effect on your status at, or future relations with the University of Illinois. The instructor of “Introduction to Advertising” is not an investigator on the project and will not know who decides or declines to participate in this study. Aggregate extra credit will be given at the end of semester for all extra credit completed. This extra credit will only be added after final grades for all class material are tabulated.

Contacts and Questions

The instructor supervising this experiment is Dr. Brittany Duff. If you have any questions about this study, you may contact Dr. Duff at the email address and phone number (bduff@illinois.edu / 612-325-6114). If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the University of Illinois Institutional Review Board. If you have questions about your rights as a participant in this study, please contact the University of Illinois’ Institutional Review Board at 217-333-2670 (collect calls accepted if you identify yourself as a research participant) or via e-mail at irb@illinois.edu.

Statement of Consent

I have read the above information. I have asked questions that I had and have received answers. I voluntarily agree to participate in this study.

Signature (print your full and official name, as registered in school)

Date (ex. Feb, 1, 2013)

First Ad Block Showing

Now you will watch a block of ads and will be asked questions later.

(They watch an ad block that is randomly chosen out of 12 ad blocks)

Please rate each item below about the ads that you just watched. You watched 4-5 ads. Please rate them overall.

1. The ads that I watched were (on a 7-point bipolar scale)

- irrelevant to me _ _ _ _ _ relevant
- boring _ _ _ _ _ interesting
- unexciting _ _ _ _ _ exciting
- uninvolving _ _ _ _ _ involving

Modern Family Showing

Now you will watch one Modern Family episode and will be asked questions later. The show will play about 20 minutes.

How to watch the show:

- Minimize this survey screen. Just minimize it! DO NOT close it!
- There is a Modern Family file on the desktop.
- Double click it and play/watch it.
- After done watching it, you MUST come back to the survey and complete the rest.

To change the volume, use up and down arrow keys. Feel free to laugh out loud, just like when you are watching TV in your living room!

Modern Family Question

Please rate the Modern Family episode that you just watched.

2. How involving was the episode compared to 'Today Show'?

If you do not know/watch 'Today Show' and thus cannot compare them, just leave this question blank.

- Uninvolving _ _ _ _ _ involving

3. How involving was the episode compared to 'Dancing with the Stars'? If you do not know/watch 'Dancing with the Stars' and thus cannot compare them, just leave this question blank.

- Uninvolving _____ involving

4. How involving was the episode compared to 'Glee'? If you do not know/watch 'Glee' and thus cannot compare them, just leave this question blank.

- Uninvolving _____ involving

5. How involving was the episode compared to 'How I met your mother'? If you do not know/watch 'How I met your mother' and thus cannot compare them, just leave this question blank.

- Uninvolving _____ involving

6. How involving was the episode compared to 'CSI'? If you do not know/watch 'CSI' and thus cannot compare them, just leave this question blank.

- Uninvolving _____ involving

Please rate the Modern Family episode that you just watched. This time, please rate it without comparison with other shows.

7. The episode that I watched was

- irrelevant to me _____ relevant to me
- boring _____ interesting
- unexciting _____ exciting
- uninvolving _____ involving

Show Familiarity

8. You saw one of the following episodes. What was the episode about that you watched?

- Season 2 Episode 14: Valentine's Day
- Season 2 Episode 17: Broken sweather, Lily's name, and Jay's worries
- Season 2 Episode 22: Lady Gaga show, Phil being mean, and Jay getting a dog

9. Please choose one among the following options about your familiarity of the 'Modern Family' show/episode before you started this survey.

- I have never heard of 'Modern Family' before.
- I have heard of 'Modern Family', but never watched any episode before.

- I have watched 'Modern Family', but not this episode in particular.
- I have watched this particular episode before.
- I think I watched this particular episode, but I do not remember well.

Second Ad Block Showing

Now you will watch a block of ads and will be asked questions later.

(They watch an ad block that is randomly chosen out of 12 ad blocks)

Please rate each item below about the ads that you just watched. You watched 4-5 ads. Please rate them overall.

10. The ads that I watched were

- irrelevant to me _____ relevant to me
- boring _____ interesting
- unexciting _____ exciting
- uninvolving _____ involving

Demographic Questions

11. What is your gender?

- Male
- Female

12. What is your age? (open-ended question)

13. Which country are you from? (open-ended question)

14. How many years have you lived in the US? If you have lived in the US for your entire life, just write your age (ex. 21 years). (open-ended question)

APPENDIX D

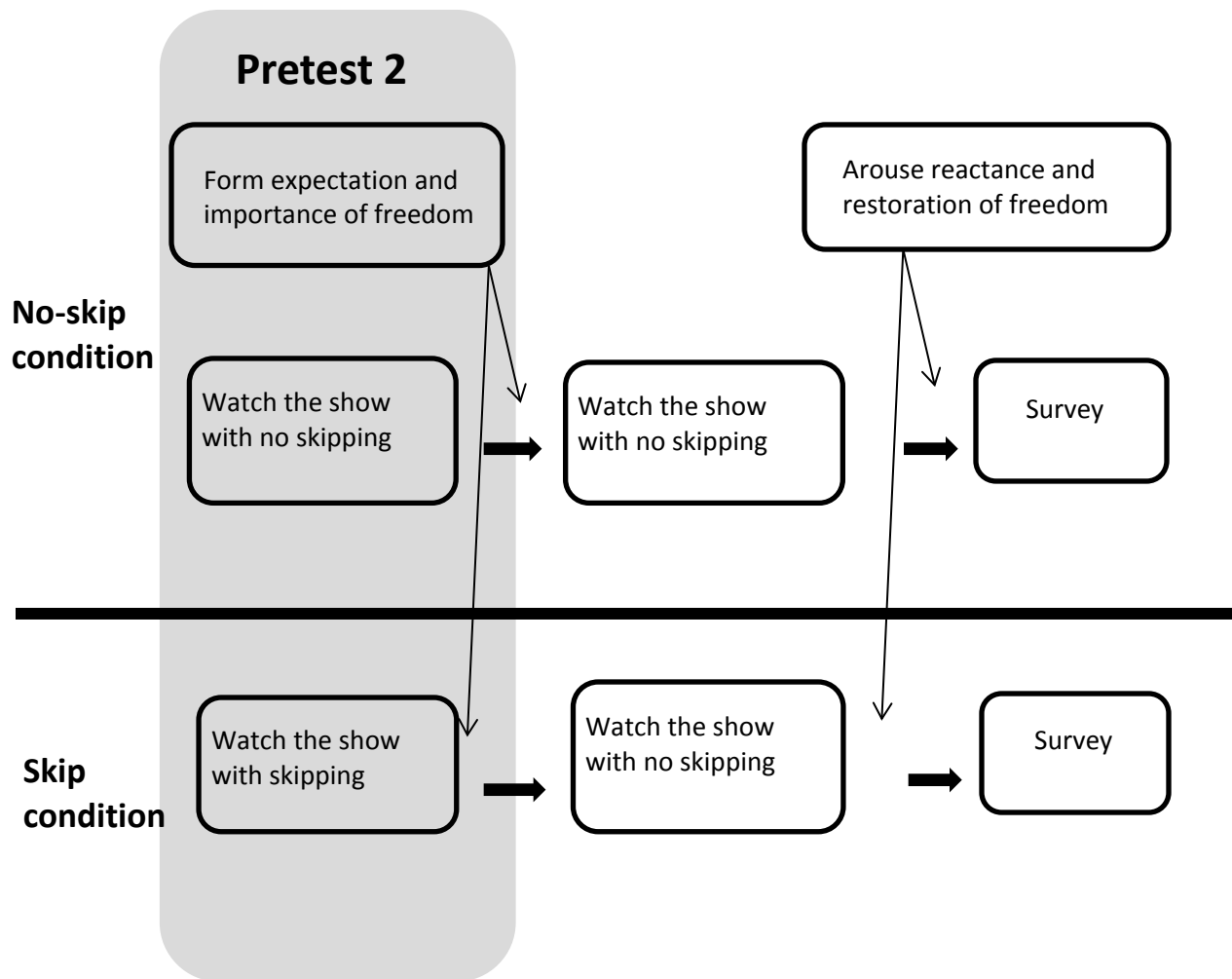
THE WAY AD BLOCKS WERE INSERTED IN THE TWO *MODERN FAMILY* EPISODES

Numbers mean ad block. Ad block 4 and 7 are replaced ones after pretest 1.

Episode	Ad block inserted (each ad block inserted every 3 minutes of episode in average)												
2.14	show	1	show	2	show	3	show	4	show	5	show	6	show
2.14	show	7	show	8	show	9	show	10	show	11	show	12	show
2.22	show	1	show	2	show	3	show	4	show	5	show	6	show
2.22	show	7	show	8	show	9	show	10	show	11	show	12	show

APPENDIX E
THE PROCESS OF PRETEST 2

The gray part is what pretest 2 examines.



APPENDIX F
PRETEST 2 QUESTIONNAIRE

Welcome

Welcome to the Media Study!

Thank you for participating in our study. Please read all instructions in the study carefully.

First, PLEASE TURN OFF YOUR CELLPHONE.

In this study, you will do the following.

- You will read a consent form here and sign your name.
- You will watch a TV show, 'Modern Family', on the desktop.
- Then you will come back to this survey and answer questions.

That is it! It will take about 30-40 minutes. If you have any questions, please let the experimenters know!

Consent Form

(The same as the consent form in pretest 1. It is omitted here for the purpose of saving space.)

Modern Family showing

Now you will watch one Modern Family episode and will be asked questions later. The show will play about 30 minutes.

How to watch the show:

- Minimize this survey screen. Just minimize it! DO NOT close it!
- Raise your hand and the experimenter will come and open the video.
- After done watching it, you MUST come back to the survey and complete the rest.

Feel free to laugh out loud, just like when you are watching TV in your living room!

Experience

Please rate the following statements.

1. I felt that I had the freedom to watch the TV show without ad interruptions (on a 9-point bipolar scale).

- strongly disagree _____ strongly agree

2. I felt that I had the freedom to control ads.

- strongly disagree _____ strongly agree

Expectation

Please rate the following statements.

3. I think that I have the right to watch TV shows without ad interruptions.

- strongly disagree _____ strongly agree

4. I expect when I watch a TV show to be able to watch without ad interruptions.

- strongly disagree _____ strongly agree

5. I expect when I watch a TV show to be able to control ad interruptions.

- strongly disagree _____ strongly agree

6. I think that the freedom to watch TV shows without ad interruptions is important.

- strongly disagree _____ strongly agree

Enjoyment of the Show

Please rate the following statements.

7. I enjoyed watching the show.

- strongly disagree _____ strongly agree

8. I felt comfortable watching the show.

- strongly disagree _____ strongly agree

Show Familiarity

9. You saw one of the following episodes. What was the episode about that you watched?

- Season 2 Episode 14: Valentine's Day
- Season 2 Episode 17: Broken sweather, Lily's name, and Jay's worries
- Season 2 Episode 22: Lady Gaga show, Phil being mean, and Jay getting a dog

10. Please choose one among the following options about your familiarity with the 'Modern Family' show/episode before you started this survey.

- I have never heard of 'Modern Family' before.
- I have heard of 'Modern Family', but never watched any episode before.
- I have watched 'Modern Family', but not this episode in particular.
- I have watched this particular episode before.
- I think I watched this particular episode, but I do not remember well.

Intrusiveness of Ads

Please rate the following statements. When rating the statements, think about the ads you watched as a whole, rather than thinking about each ad.

11. When the ads appeared, I thought they were distracting.

- strongly disagree _____ strongly agree

12. When the ads appeared, I thought they were disturbing.

- strongly disagree _____ strongly agree

13. When the ads appeared, I thought they were forced.

- strongly disagree _____ strongly agree

14. When the ads appeared, I thought they were interfering.

- strongly disagree _____ strongly agree

15. When the ads appeared, I thought they were intrusive.

- strongly disagree _____ strongly agree

16. When the ads appeared, I thought they were invasive.

- strongly disagree _____ strongly agree

17. When the ads appeared, I thought they were obtrusive.

- strongly disagree _____ strongly agree

Irritation of Ads

Please rate the following statements. When rating the statements, think about the ads you watched as a whole, rather than thinking about each ad.

18. When the ads appeared, I thought they were irritating.

- strongly disagree _____ strongly agree

19. When the ads appeared, I thought they were phony.

- strongly disagree _____ strongly agree

20. When the ads appeared, I thought they were ridiculous.

- strongly disagree _____ strongly agree

21. When the ads appeared, I thought they were stupid.

- strongly disagree _____ strongly agree

22. When the ads appeared, I thought they were terrible.

- strongly disagree _____ strongly agree

Check Whether Skipped the Ads or No

23. Did you skip the ads while watching the show?

- I was told to skip the ads if I want, but I did not skip them.
- I was told to skip the ads if I want, and I skipped them.
- I was not told about how to skip the ads, so I did not.

Initiative

Imagine that the following is initiated on the ballot in the next election.

<The initiative is to make advertisers place ads only in the beginning or end of TV shows

instead of placing in the middle.>

The following items are possible consequences if the initiative is enacted and ads are no longer allowed to be shown during a TV program. Please rate your thought on the following consequences regarding how positive or negative the consequences will be.

Items

24. Ads will not interrupt the programs (on a 9-point bipolar scale).

The 5th point in the middle means 'neutral'.

- negative _____ positive

25. Less money will go to sponsoring TV programs, which might lessen the overall quality of shows.

- negative _____ positive

26. Because the ads are placed in the beginning or end, viewers can more easily choose whether to watch the ads by keeping or switching the channel before/after the show.

- negative _____ positive

27. Without commercial breaks, the time for all TV shows will be shortened.

- negative _____ positive

28. Advertisers will be less likely to advertise on TV and viewers have to look for information by themselves.

- negative _____ positive

29. Advertisers will instead try to advertise their products/services using other ways such as subliminal marketing or through other media.

- negative _____ positive

30. Viewers will not be disturbed by the ads in the middle of the shows.

- negative _____ positive

31. Viewers will not have time to do other things that they used to do during commercial breaks (ex. going to the restroom, cooking, checking phones).

- negative _____ positive

32. If you can think about any other positive or negative consequences of the initiative, please share your thoughts! When you do, please mention whether they are positive or negative.

Demographic question

33. What is your gender?

- Male
- Female

34. What is your age? (open-ended question)

35. Which country are you from? (open-ended question)

36. How many years have you lived in the US? If you have lived in the US for your entire life, just write your age. (ex. 21 years) (open-ended question)

37. What is your major? (open-ended question)

38. How much are you interested in advertising in general?

- Not interested at all _ _ _ _ _ Very interested

APPENDIX G

EXPECTATION AND IMPORTANCE OF FREEDOM

First analysis without touching the data

	Expectation of freedom		Importance of freedom	
	No-skip	Skip	No-skip	Skip
Mean	5.32	5.75	6.42	6.30
SD	2.26	2.29	2.04	2.23
Participant N	24	20	24	20

All p's > 0.05

Second analysis after dropping the four participants' data

	Expectation of freedom		Importance of freedom	
	No-skip	Skip	No-skip	Skip
Mean	5.32	5.92	6.42	6.19
SD	2.26	2.44	2.04	2.37
Participant N	24	16	24	16

All p's > 0.05

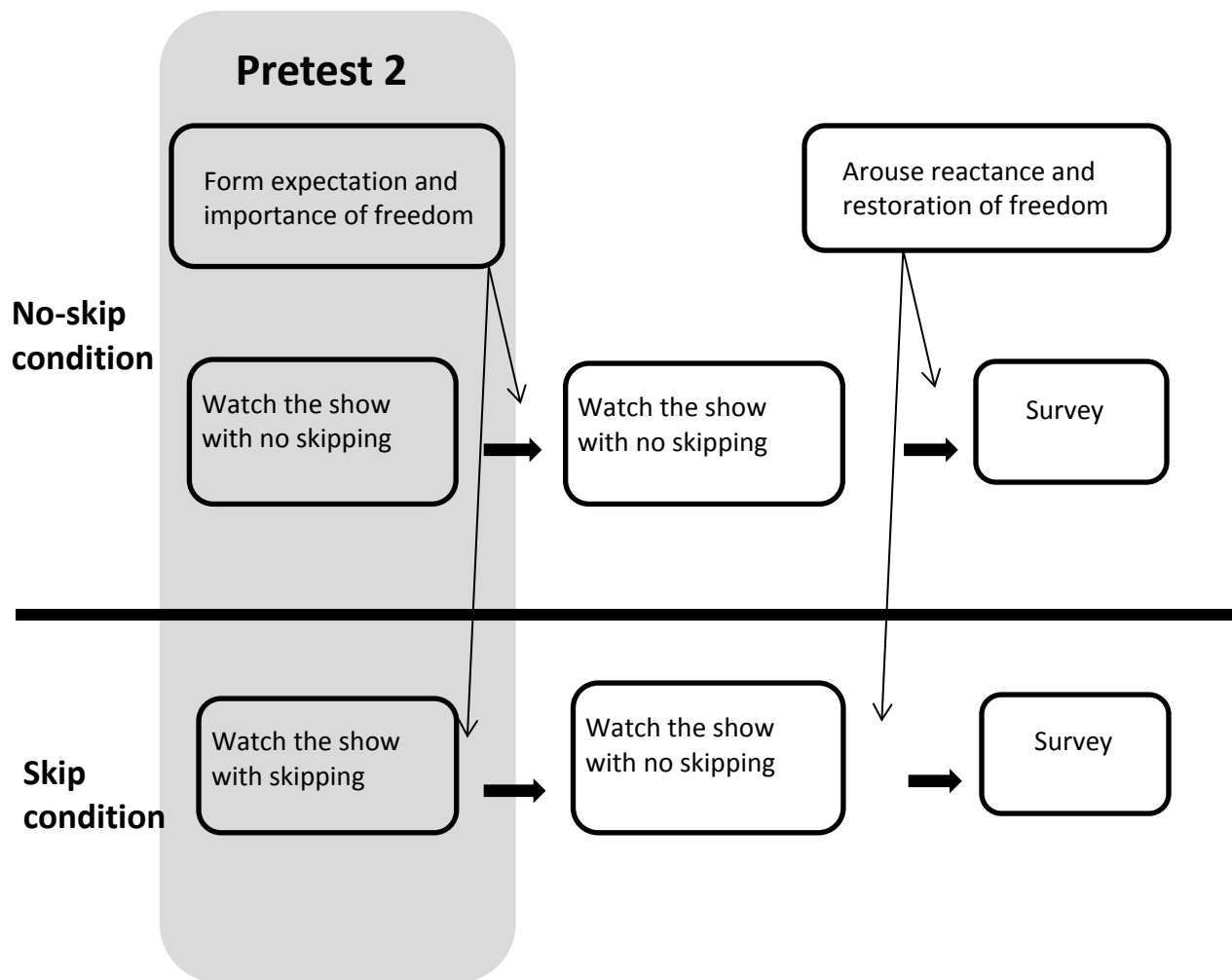
Third analysis after moving the four participants' data from the skip to the no-skip condition

	Expectation of freedom		Importance of freedom	
	No-skip	Skip	No-skip	Skip
Mean	5.29	5.92	6.46	6.19
SD	2.16	2.44	1.97	2.37
Participant N	28	16	28	16

APPENDIX H

THE PROCESS OF EXPERIMENT

The gray part is what experiment examines. The occurrence of expectation and importance of freedom was not supported in pretest 2.



APPENDIX I

EXPERIMENT QUESTIONNAIRE

Welcome

Welcome to the Media Study!

Thank you for participating in our study. Please read all instructions in the study carefully.

First, PLEASE TURN OFF YOUR CELLPHONE.

In this study, you will do the following.

- You will read a consent form here and sign your name.
- You will watch one TV show, 'Modern Family', on the desktop.
- You will take a 1-minute break.
- You will watch one more 'Modern Family', on the desktop.
- Then you will come back to this survey and answer questions.

That is it! It will take about 60-70 minutes. If you have any questions, please let the experimenter know!

Consent Form

(The same as the consent form in pretest 1. It is omitted here for the purpose of saving space.)

Modern Family showing

Now you will watch two Modern Family episodes and will be asked questions later. Each show will play about 30 minutes.

How to watch the show:

- JUST RAISE YOUR HAND and the experimenter will come and open the video.
- DO NOT GO TO THE NEXT PAGE BEFORE YOU WATCH THE SHOW.

After done watching it, you **MUST** come back to the survey and complete the rest.
 Feel free to laugh out loud, just like when you are watching TV in your living room!

Show Familiarity

1. You saw the following episodes. Which one did you watch first and second time?

Season 2 Episode14: Valentine's Day

Season 2 Episode 22: Lady Gaga show, Phil being mean, and Jay getting a dog

- **First time:** Season 2 Episode14; **Second time:** Season 2 Episode 22
- **First time:** Season 2 Episode 22; **Second time:** Season 2 Episode14

2. Please choose one among the following options about your familiarity with the 'Modern Family' show/episodes before you started this survey.

- I have never heard of 'Modern Family' before.
- I have heard of 'Modern Family', but never watched any episode before.
- I have watched 'Modern Family', but not these episodes in particular.
- I have watched at least one of these particular episodes before.

Reactance

Please rate the following statements.

When you answer these questions, **only think about the viewing of the second episode.**

3. I felt my freedom to watch the show (in the second episode) was threatened by the ads (on a 7-point bipolar scale).

- strongly disagree _ _ _ _ _ strongly agree

4. The ads infringed on my freedom to watch the show (second episode) without interruptions.

- strongly disagree _ _ _ _ _ strongly agree

5. The ads (in the second episode) made me want to fast forward.

- strongly disagree _ _ _ _ _ strongly agree

6. The ads (in the second episode) made me try to look for a fast forward option.

- strongly disagree _ _ _ _ _ strongly agree

7. I think that the freedom to watch TV shows without ad interruptions is important.

- strongly disagree _____ strongly agree

Liking of the Ads, Brands, TV Show, and TV Network

Please rate the following statements.

8. I liked the ads I saw in the second episode. Please rate the ads overall, instead of thinking about each ad.

Ads: for example, if you watched an ad about Verizon, then 'ads' here refer to 'the ad of Verizon', not 'Verizon' itself.

- Did not like the ads at all _____ liked the ads very much

9. I liked the brands advertised in the ads in the second episode. Please rate the brands overall, instead of thinking about each brand.

Brands of ads: for example, if you watched an ad about Verizon, then 'brand' here refers to 'Verizon'.

- strongly disagree _____ strongly agree

10. I liked watching the TV show, Modern Family.

- strongly disagree _____ strongly agree

11. I like the ABC network, which airs Modern Family.

(ABC: American Broadcasting Company)

- strongly disagree _____ strongly agree

Restoration of Freedom

12. Would you be willing to pay for monthly subscription service for a DVR?

DVR (Digital Video Recorder): DVR is a device with which you can record TV shows, sports games, and other TV programs and watch it anytime. When you watch the recorded TV show, you can control the content and ads by fast forwarding. You tell the DVR what to record. You can be away from home when the DVR records TV programs.

- Yes
- No

13. How much would you be willing to pay for the service monthly? Please write average amount of money you think is appropriate. Mostly, average monthly payment ranges from \$5 to \$25. Try to write specific amount, instead of a range (ex. \$\$). (open-ended question)

14. Do you have a DVR?

- Yes
- No

If YES

14.1. How often do you use DVR?

- Everyday
- Almost everyday (5~6 days a week)
- 3~4 days a week
- 1~2 days a week
- 1~2 days a month
- Less than once a month
- Never
- Others: please specify

14.2. What were the main reasons that you bought/use DVR? Please check all that apply.

- To have more control over TV content
- To have more control over ads
- To watch it anytime I want
- To spend time with family or friends watching recorded TV shows together
- Others: please specify

15. Would you be willing to pay for monthly subscription service for a VoD?

VoD (Video on Demand): With VideoOn Demand, you select from a menu of hundreds of movies and TV shows. Whereas DVR makes you record already aired TV programs, with VoD

you can watch programs/movies/etc that are not yet aired on TV, as if you are downloading video contents from online.

- Yes
- No

16. How much would you be willing to pay for the service monthly?

Please write average amount of money you think is appropriate. Mostly, average monthly payment ranges from \$10 to \$30. Try to write specific amount, instead of a range (ex. \$\$.).

17. Do you have a VoD?

- Yes
- No

If YES

17.1. How often do you use VoD?

- Everyday
- Almost everyday (5~6 days a week)
- 3~4 days a week
- 1~2 days a week
- 1~2 days a month
- Less than once a month
- Never
- Others: please specify

17.2. What was the main reason that you bought/use VoD? Please check all that apply.

- To watch whatever I want to watch
- To watch whenever I want to watch
- To have more control over content
- To have more control over ads
- Other: please specify

Initiative

Imagine that the following is initiated on the ballot in the next election.

<The initiative is to make advertisers place ads only in the beginning or end of TV shows instead of placing in the middle.>

The following items are possible positive and negative consequences if the initiative is enacted and ads are no longer allowed to be shown during a TV program.

Positive consequences:

- Ads will not interrupt the programs.
- Without commercial breaks, the time for all TV shows will be shortened.
- Viewers will not be disturbed by the ads in the middle of the shows.

Negative consequences:

- Less money will go to sponsoring TV programs, which might lessen the overall quality of shows.
- Advertisers will be less likely to advertise on TV and viewers have to look for information by themselves.
- Viewers will not have time to do other things that they used to do during commercial breaks (ex. going to the restroom, cooking, checking phones).

18. Will you vote for the initiative?

- strongly disagree _ _ _ _ _ strongly agree

Individual Chronic Reactance

Please rate the following statements.

19. I become frustrated when I am unable to make free and independent decisions.

- strongly disagree _ _ _ _ _ strongly agree

20. I become angry when my freedom of choice is restricted.

- strongly disagree _ _ _ _ _ strongly agree

21. It irritates me when someone points out things which are obvious to me.

- strongly disagree _ _ _ _ _ strongly agree

22. Regulations trigger a sense of resistance in me.

- strongly disagree _ _ _ _ _ strongly agree

23. I find contradicting others stimulating.

- strongly disagree _ _ _ _ _ strongly agree

24. When something is prohibited, I usually think "that's exactly what I am going to do."

- strongly disagree _ _ _ _ _ strongly agree

25. I resist the attempts of others to influence me.

- strongly disagree _ _ _ _ _ strongly agree

26. It makes me angry when another person is help up as a model for me to follow.

- strongly disagree _ _ _ _ _ strongly agree

27. When someone forces me to do something, I feel doing the opposite.

- strongly disagree _ _ _ _ _ strongly agree

28. I consider advice from others to be an intrusion.

- strongly disagree _ _ _ _ _ strongly agree

29. Advice and recommendations induce me to do just the opposite.

- strongly disagree _ _ _ _ _ strongly agree

Reactance Toward

30. If you were irritated/annoyed/disturbed by having to watch the ads, whom/which did you blame? Please check all that apply.

- Ads
- Brands of ads
- Companies of ads
- TV show
- TV network
- Law makers
- Experimenter
- Other: please specify

Check Whether Skipped the Ads or No

31. Did you skip the ads while watching the first episode?

- I was not told about how to skip the ads, so I did not.
- I was told to skip the ads if I want, but I did not skip them.
- I was told to skip the ads if I want, and I skipped them.

32. Did you skip the ads while watching the second episode?

- I was not told about how to skip the ads, so I did not.
- I was told to skip the ads if I want, but I did not skip them.
- I was told to skip the ads if I want, and I skipped them.

Demographic Questions

33. What is your gender?

- Male
- Female

34. What is your age? (open-ended question)

35. Which country are you from? (open-ended question)

36. How many years have you lived in the US? If you have lived in the US for your entire life, just write your age (ex. 21 years). (open-ended question)

37. What is your major? (open-ended question)

38. How much are you interested in advertising in general?

- Not interested at all _ _ _ _ _ Very interested

39. If you have any questions or comments about the experiment, survey, or anything else, please share with us. Your comments will be greatly appreciated.

Debrief

Thank you for participating in this study! This study aims to understand how having control or no control over the ads affects people's expectation toward freedom to watch TV without ad interruptions, attitudes toward the ads and the TV show, and willingness to restore that freedom. It also examines how young people between the age of 18 and 29 use media. If you have any

questions or comments about the study, please feel free to contact Dr. Duff (612- 325-6114 or bduff@illinois.edu) or the student researcher Gina Song (ysong41@illinois.edu). The contact information was also given in the announcement on your class compass website.

Best luck with your semester!

APPENDIX J
REACTANCE

	Reactance	
	No-skip	Skip
Mean	4.46	5.09*
SD	1.37	1.03
Participant N	37	38

* $p < 0.05$

APPENDIX K

LIKING OF ADS, TV NETWORK, TV SHOW, AND BRANDS AND PERCENTAGE OF THE
PARTICIPANTS WHO CHOSE POSSIBLE CERTAIN SOURCES OF THREAT

	Ads		TV Network	
	No-skip	Skip	No-skip	Skip
Mean	3.89	4.16	5.59	5.32
SD	1.78	1.24	1.32	1.40
Participant %	49%	55%	51%	66%

All p's > 0.05

	TV Show		Brands	
	No-skip	Skip	No-skip	Skip
Mean	6.24	6.18	4.57	4.28
SD	0.98	1.45	0.99	1.16
Participant %	11%	8%	21%	15%

All p's > 0.05

	No-skip	Skip	No-skip	Skip
	TV Network		Ads	
Participant %	51%	66%	49%	55%
	Companies		Brands	
Participant %	30%	37%	21%	15%
	TV Show		Experimenter	
Participant %	11%	8%	8%	8%
	Lawmakers		Others	
Participant %	2%	7%	2%	7%

APPENDIX L

RESTORATION OF FREEDOM: AMOUNT OF MONEY WILLING TO PAY FOR DVR, VoD,
AND VOTING INTENTION FOR THE INITIATIVE

	DVR		VoD		Initiative	
	No-skip	Skip	No-skip	Skip	No-skip	Skip
Mean	\$11.73	\$12.16	\$10.76	\$12.92	3.76	4.52
SD	6.16	8.94	6.69	8.88	2.06	1.58
N	37	37	37	37	33	33

All p's > 0.05

APPENDIX M
THE PROCESS OF EXPERIMENT AND THE PARTS THAT DID NOT OCCUR

Lines over words indicate the processes that did not occur.

