MESSAGE APPEAL EFFECTIVENESS IN DISTRACTED DRIVING PUBLIC SERVICE ANNOUNCEMENTS

by

Emily Hill

A Thesis Submitted to the Faculty of the Graduate School at

Middle Tennessee State University

in Partial Fulfillment

of the Requirements for the Degree of

Master of Science in Mass Communications

December 2015

Thesis Committee:

Dr. Jason Reineke, Chair

Dr. Ken Blake

Dr. Katherine Foss

ABSTRACT

Message appeal research concerning the effectiveness of Public Service Announcements (PSAs) has yielded inconsistent results across many message subjects, and little research on message appeal effectiveness exists concerning distracted driving PSAs. This study utilized a 2 x 4 factorial design (Question order condition: Distracted driving behavior in pre-test vs. Distracted driving behavior in post-test x Message appeal: Control vs. Empathy vs. Fear vs. Informational) to determine which commonly used message appeal was most effective in changing attitudes and behaviors and whether personal impact or distracted driving behavior had any impact on the effectiveness of the message. The study used the Elaboration Likelihood Model of Persuasion (ELM), which describes the processes through which attitudes change, as a theoretical framework. Analyses revealed that the empathy appeal was the only message that decreased distracted driving acceptance from the pre-test to the post-test. The control appeal increased acceptance from the pre-test to the post-test and there was no significant change in either the fear or informational appeals. After controlling for condition (dummy-coded against control condition) and demographics, there were not statistically significant main effect associations between personal impact or reported behavior and attitude change. However, there were statistically significant interactions such that in the empathy condition: Greater reported distracted driving behavior and greater reported personal impact were both associated with greater reduction in acceptance of distracted driving. Therefore, the empathy condition relative to the control triggers a relationship not seen otherwise. These results lend partial support to the ELM.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE: INTRODUCTION

Statistics regarding injuries and death associated with distracted driving indicate that the phenomenon has become a major public health concern. “More than 9 people are killed and more than 1,153 people are injured in crashes that are reported to involve a distracted driver” each day (Centers for Disease Control [CDC], 2014). In 2012, 3,360 people were killed in distraction-affected crashes and 421,000 were injured (CDC, 2014). Distracted driving is defined by the United States government as “any activity that could divert a person’s attention away from the primary task of driving,” and includes texting or any use of a cell or smart phone, eating and drinking, talking to passengers, grooming, reading, using navigation system, watching a video, and adjusting the radio, CD player or MP3 player (National Highway Traffic Safety Administration [NHTSA], 2014a). While statistics show that fatalities due to distracted driving slightly decreased from 3,360 in 2011 to 3,328 in 2012, the number of people injured increased by 9% from 387,000 in 2011 to 421,000 in 2012 (NHTSA, 2014a). Even with increased efforts to curb distracted driving behaviors, the problem persists.

Several approaches have been used in the hope of changing distracted driving behaviors, such as the enacting of state laws, and creating prevention programs and public service campaigns, which will be discussed later. Public communication campaigns, which can be defined as purposive attempts to inform, persuade or motivate behaviors in large audiences usually within a specified time period using an organized set of communication activities and featuring an array of mediated messages in multiple channels to produce noncommercial benefits to individuals and society (Rice & Atkin,

Rice & Atkin, 2009; Rogers & Storey, 1987), are important to educate viewers about the consequences of distracted driving. Distracted driving public service campaigns have employed several mass communication methods in attempts to curb distracted driving attitudes and behaviors, such as the creation of social media platforms and interactive websites, educational television and public service announcements.

Public Service Announcements and Persuasive Appeals

A public service announcement (PSA) is a "pervasive, yet highly specialized form of communication utilized to disseminate information on public issues to the masses [and] its purpose is to encourage individual response to social problems" (Lynn, 1974, p. 622). PSAs are often utilized to educate and encourage viewers to change unhealthy or risky behaviors in an effort to save the viewers' lives or the lives of others. Many public health issues have been addressed by PSAs, such as smoking and tobacco use, drunk and distracted driving, traffic safety, drug use, wildfires, pollution, and littering. The PSAs that are commonly used to address these behaviors employ a variety of approaches, including fear, empathy, and informational appeals, which are three appeals used in this research. Fear appeals are messages that use scare tactics in an attempt to change unhealthy behaviors, usually by showing the consequences of the behavior with graphic images and videos. . Empathy appeals are messages that play on viewers' emotions usually by showing the consequences of an action on the victim, or the victim's family or friends. Informational appeals provide facts and statistics so that viewers can make a logical decision not to participate in the unhealthy behavior. While a great deal of research exists that examines the effects of the message appeals used in PSAs that focus

on the topics of smoking, drunk driving, and drug use, very little research exists on the issue of distracted driving. This lack of research is troubling in light of the fatalities and injuries caused by distracted driving and because "at any given daylight moment across America, approximately 666,000 drivers are using cell phones or manipulating electronic devices while driving," (NHTSA 2013). Existing research does not provide adequate evidence as to what appeals work well in distracted driving PSAs, or if they are an effective method to change attitudes and behaviors toward distracted driving because increased efforts have not had any significant impact on the problem.

Distracted Driving Countermeasures: Laws, Campaigns and PSAs

The Department of Transportation (DOT) first addressed the issue of distracted driving in 2009, when only 18 states had anti-texting laws (Foxx, 2014). "Today, 43 states have banned texting while driving" (Foxx, 2014), and fines are now being issued in all but four states: These fines range from $20 in California to $10,000 in Alaska (Johnson, 2013). While no state prohibits all cell phone use for all drivers, 38 states and the District of Columbia ban all cell phone use by novice drivers and 20 states and D.C. prohibit all cell phone use for school bus drivers (Governor's Highway Safety Association [GHSA], 2015). However, motor vehicle crashes remain the leading cause of death for American teenagers (CDC, 2014).

The *Faces of Distracted Driving* campaign was launched in November 2010 ("U.S. Department of Transportation", 2011). The PSAs the campaign employs, *Faces of Distracted Driving: Get the Message*, features the faces of individuals who have been killed by distracted driving related accidents, as well as clips from families who have lost

loved ones due to distracted driving. There are also other PSAs in this campaign that feature the stories of specific families who have lost loved ones due to distracted driving. These have each had over 70,000 views on YouTube, with two of them having almost 100,000 views.

The DOT also released the distracted driving PSA *OMG,* which is geared specifically toward teens, in 2011, and it aired nationwide in Regal Cinemas and on gas station pump-top screens (U.S. DOT, 2011). It aired on 6,500 movie screens in 526 theaters across the country (Marchese, 2011). It featured teens playing with their smart phones and talking to a carload of friends before wrecking into large cement like letters spelling out popular texting shorthand like "LOL" for laugh out loud and "L8R" for later.

The next year, in 2012, the DOT partnered with the popular television show *Glee* and its characters to develop both an edutainment episode and a PSA that addressed distracted driving behavior (U.S. DOT, 2012). The *Glee* PSA was part of the DOT's *Stop the Texts Stop the Wrecks* campaign, and has been viewed over 100,000 times on YouTube. This campaign also utilized other PSAs, such as one entitled *5 Seconds*, which informed viewers that reading a text takes your eyes off the road for five seconds on average and it warned of the dangers of not paying attention for those five seconds by ending the PSA with a crash.

The DOT launched the first nationwide distracted driving campaign and law enforcement crackdown with their *U Drive. U Text. U Pay* campaign in 2014 (NHTSA, 2014b), which utilizes a fear appeal message. This is probably the most recent campaign to date, with ads still running today. It has utilized television spots that feature a fear

appeal message. It is a "highly-visible enforcement campaign that combines periods of intense anti-texting enforcement with advertising and media outreach to let people know about the enforcement and convince them to obey the law" (GHSA, 2015). The PSA utilized in this campaign, which is used as the fear appeal condition in this research, features distractions from passengers and texting as the distracted driving behaviors and results in the driver running a stop sign and getting hit by a semi, which is followed by a dramatic scene of slow-motion and sped up video of the accident from inside the car.

Other organizations have developed PSAs in an effort to prevent distracted driving. Several automobile manufacturers, such as Honda and Volkswagen, have developed and sponsored videos (Stone, 2014). AT&T launched the *It Can Wait* campaign in 2009, which now includes the other large mobile carriers Verizon, T-Mobile, and Sprint (Leopold, 2013). The AT&T *It Can Wait* campaign has utilized advertising spots on the radio app Spotify for their *#X* PSAs, which consisted mainly of informative PSAs. The *It Can Wait* campaign also utilized advertising spots on television, primarily using empathy appeals, which featured either distracted drivers, who had caused wrecks that resulted in other's deaths, or family members of victims of distracted driving accidents. It has been reported that nearly 3 million people had sworn off texting while driving due to this campaign (Hall, 2013). Many of these organizations have also encouraged involvement by sponsoring contests via social media asking fans to create their own PSAs; One such contest was held by Ford, as a part of their Ford Driving Skills for Life teen program, and the Arizona Governor's Office of Highway Safety (Macek, 2014).

It seems that many organizations, as well as the DOT are stepping up to address the problem of distracted driving. Each of the campaigns mentioned above, utilize different message appeals in their PSAs to deter distracted driving activities and decrease deaths and injuries associated with distracted driving. Unfortunately, not much evidence exists regarding the effectiveness of any of these campaigns. The Governor's Highway Safety Association (GHSA) released a report that discussed research funded by State Farm on distracted driving countermeasures. It found that laws reduced cell-phone use by about half when they were first implemented, but there is no evidence that they have reduced crashes (GHSA, 2011). In terms of distracted driving campaigns, the research found that a high visibility cell-phone and texting law enforcement campaign reduced cell phone use immediately after the campaign, but long term effects are unknown (GHSA, 2011), The research concluded that though distracted driving communication campaigns have been widely implemented, they have not been evaluated.

Purpose of Study

Due to research suggesting that message appeal effectiveness differs based on subject, the purpose of this study is to determine whether PSAs are an effective measure to change viewer attitude toward distracted driving, and to assess which message appeal, informational, fear, or empathy, works best in changing attitudes toward distracted driving. This research can provide valuable information to distracted driving PSA producers so they have the information necessary to create more effective PSAs, and it can serve as a stepping-stone for future research examining message appeal effectiveness on behavior change.

Theoretical Framework: Elaboration Likelihood Model of Persuasion

The proposed study aims to determine the differences in persuasive effects of distracted driving PSAs under the framework of the elaboration likelihood model of persuasion created by Petty and Cacioppo (1986). Petty and Cacioppo argued that information processing is determined by several factors, including motivation, credibility of the source, need for cognition, relevance, and involvement. The model introduced two routes to persuasive message processing – the central or peripheral route. In the central route, viewers are motivated and have the ability to process the message, and attitude change is a result of logical thought processing of the message. In the peripheral route, viewers of the message are less motivated to process and rely on heuristics cues such as the tone of the message, the attractiveness of the actors/actresses, or the emotions conveyed in the message.

The messages in PSAs are generally considered high involvement issues because they contain information on social and health issues, and viewers tend to pay attention because of the personal implications (Lee & Davie, 1999). In the ELM, when processing a high involvement issue, audiences prefer message content that provides explicit and detailed information about the issue (Petty & Cacioppo, 1986). Therefore, it could be assumed that the informational appeals would be more effective. However, as previous research has shown, fear and empathy appeals are sometimes found to be more effective (Santa & Cochran, 2007), which could suggests that PSAs may not be as highly involving as previously thought. Furthermore, what works for one person may not work for another

due to the relevance of the PSA's topic in their life and their involvement with the message.

An individual's motivation to consider the message can be influenced by many variables, including the perceived personal relevance of the message (Petty and Cacioppo, 1979b). Personal relevance could be related to past experience with the subject of the message. In this case, personal loss or injury due to distracted driving could determine a person's motivation to consider the message. Personal relevance could also be related to the person's frequency of performing the behavior discussed in the message. In this case, distracted driving behavior could determine a person's motivation to process the message.

CHAPTER TWO: LITERATURE REVIEW

Public health organizations have employed many different strategies in their attempts to change unhealthy attitudes and behaviors. While some rely on interpersonal communications, such as encouraging doctors to discuss healthy behaviors with their patients or sponsoring health education classes in the community, or use small media channels, such as the use of brochures and posters, others choose to place their health messages on channels that are more likely to reach larger audiences. These messages can come in a variety of forms, such as educational entertainment (edutainment), on websites or social networking platforms, or public service announcements, and many of these approaches may be employed together in health communication campaigns. Television is one of the most important outlets available to campaign producers because it is the leading source of media information about health issues (Risi et al., 2004). Television health messages most commonly come in two forms: educational entertainment (edutainment) and public service announcements.

Edutainment as an Alternative Method for Persuasion

Edutainment "involves incorporating an educational message into popular entertainment content in order to raise awareness, increase knowledge, create favorable attitudes, and ultimately motivate people to take socially responsible action in their own lives" (Kaiser Family Foundation, 2004, 1). Edutainment narratives have addressed issues of substance abuse, self-harm, eating disorders, cancer, safe sex, among many other important public health and social issues. Research examining educational narratives in television series has found that they are an effective approach to increasing

viewers' knowledge about social issues (Kaiser Family Foundation, 2000; Collins, Elliott, Berry, Kanouse, & Hunter, 2003; Hether et al., 2008). However, exaggerated or unrealistic consequences or storylines can lead to critical interpretations by viewers (Davin, 2003). Furthermore, edutainment narratives can often compete with other unrealistic storylines on the same subject. For example, Morgan, King, Smith & Ivic (2010) examined the impact of organ donations storylines that featured inaccurate representations of information about the process. Their research found that these inaccurate storylines led to more negative attitudes, less accurate knowledge, and perceptions of social and descriptive norms less supportive of organ donation among those who had previously identified as non-donors. Another challenge to edutainment is the process involved in getting a health message written into the television series' storyline because its inclusion is based on the producers' discretion. However, if producers agree to include health messages and work with health officials or affiliated organizations to create realistic and factual representations, then edutainment narratives can be a valuable method to changing attitudes and behaviors toward distracted driving.

In 2012, the Department of Transportation (DOT) teamed up with the Fox television drama *Glee* to produce a distracted driving storyline, which also was edited into a PSA (NHTSA, 2012). In the *Glee* narrative, one of the main characters, Quinn Fabray (Dianna Aagron), is seriously injured after being involved in a car crash caused by reading a text while driving. This narrative is one of very few distracted driving edutainment narratives on television, but as the issue has received more attention more shows have incorporated the narrative into their storylines. Since there are so few

distracted driving edutainment narratives, no previous research has been found that sought to examine how such messages may affect attitude change toward distracted driving. However, as more distracted driving entertainment education narratives appear in television series, their effectiveness on attitude change should be examined to determine whether they are a viable option for attitude and behavior change.

Characteristics of Public Service Announcements

According to the Federal Communication Commission (FCC), Public Service Announcements (PSAs) include "any announcement for which no consideration of any sort (including, but not limited to, cash, goods or services, in-kind contributions, endorsements, favorable treatment) is made to the licensee or any organization or entity associated with the licensee and which promotes programs, activities or services of federal, state or local governments or the programs, activities or services of nonprofit organizations" (Federal Communication Commission [FCC], 2007). PSAs have been used to change the attitudes and behaviors of a variety of unhealthy and dangerous activities such as drunk driving, smoking, and drug use, and have been found to have varying degrees of success (Atkin & Rice, 2013). PSAs are primarily transmitted through television (Roberson, 2001), but sometimes utilize radio and print spots. The most obvious advantage to this method is that the television or radio space is offered free of charge, and therefore, an organization can raise awareness to an issue on a very small budget. However, PSA producers have very little control over when their PSA airs or whether they air on preferred outlets because their messages must compete with other PSAs and paid advertisements for air time.

PSAs as an Effective Method for Reaching Teens and Young Adults. Most public health campaigns consider young adults and teens their target audience or a part of it. Some research suggests that typical public health campaigns' messages are successful in reaching large audiences (Wakefield, et al., 2010, p. 1261), but existing research examining PSA effectiveness across a variety of social issues is conflicting (Atkin, 2001). The majority of research examining PSA effectiveness suggests that PSAs are an effective method in changing both attitudes and behaviors toward a social issue. Karkelas & Muehling (2014) conducted research examining PSA effectiveness on attitudes toward texting and driving and found that those exposed to the anti-texting and driving PSA expressed less favorable attitudes and reduced intentions compared to those in the control group. Zimmerman et al. (2007) found that the areas that received exposure to pro-condom use PSAs saw an increase in condom use, condom-use self efficacy, and increased behavioral intention among the target audience. Becheur et al. (2008) found that the anti-alcohol messages used in their study had a positive impact on persuasion. The Partnership for a Drug-Free America (2008) in testing their National Youth Anti-Drug Media Campaign found that teens rated the campaigns as more efficacious (more aware of the risks and less likely to try drugs) than the teens did in 1998, and significantly more teens said the commercials had given them new information and encouraged them to talk to someone about the risks of using drugs in 2008 compared to the teens' ratings in 1998. Hornik et al. (2008) conducted research examining the same campaign, by measuring viewers attitude change as a result of the campaign rather than relying on participants' ratings as The Partnership for a Drug-Free America did, and found that the

campaign had little to no effect on teens and young adults, and challenged the usefulness of the campaign. Elder's (2004) research suggests that PSAs are less effective than paid advertisings at reaching an audience; He found that mass media campaigns were generally effective in reducing alcohol impaired driving and alcohol related crashes, but the PSAs examined in his study received half as much exposure as the paid advertisements. Other studies examining a variety of other campaigns and PSAs have had similar findings. Lennon et al. (2010) conducted research on graphic PSAs and found that instead of creating a favorable attitude change toward distracted driving, the PSAs produced a boomerang effect causing more distracted driving behaviors by young adults. However, the majority of the more comprehensive studies, looking at a wide variety of PSAs and their effectiveness, have determined that PSAs are effective in changing attitudes and behaviors (Abroms & Maibach; Hornik, 2002; Noar, 2006; Noar et al., 2009; Wakefield et al., 2010). While several studies have not found a relationship between age and the perceived effectiveness of a PSA (Rhodes & Wolitski, 1990; Witte & Allen, 2000), the PSAs that are the most successful in changing attitudes and behaviors tend to be those that are targeted, well-executed, and age-appropriate (Noar, 2006; Wakefield et al., 2010).

Previous Research on Specific Message Appeal Effectiveness

PSAs employ different methods to achieve attitude and behavior change. Some include celebrity spokespersons, facts and statistics, emotional messages, or graphic and startling images in an attempt to appeal to different emotions or ways of thinking to achieve attitude and behavior change. Empathy, fear and informational appeals are

commonly employed in PSAs and will be the appeals examined in this study. Research exists providing conflicting evidence as to what the most effective message appeal type is. This warrants the need for research specifically regarding distracted driving.

Emotional Appeals: Fear & Empathy. Emotional appeals encompass all appeals that utilize either emotional messages or play on the viewers' emotions. They "attempt to stir up either negative or positive emotions that can motivate ... These include fear, guilt and shame appeals that get people to do things they should or stop doing things they shouldn't ... communicators also use positive emotional appeals such as love, humor, pride and joy" (Kotler & Armstrong, 2011, 522). Emotional appeals have been found to be significantly more effective than informational appeals in creating a desire to learn more about the subject of PSAs (Flora and Maibach, 1990). Fear appeals and empathy appeals are the two emotional appeals that will be examined within this research. While many articles were found that compared the effects of these two types of appeals, only one (Santa & Cochran, 2008) was found to compare all of the approaches examined in this study: informational, fear, and empathy.

Fear Appeals. Fear appeals use several strategies to invoke fear and persuade viewers. They use "persuasive messages that arouse fear by depicting a personally relevant and significant threat, followed by a description of feasible recommendations for deterring the threat" (Gore, Madhavan, Curry, McClurg et al., 1998, 34). The use of graphic images in PSAs is highly effective compared to those that do not make use of graphic images (Lennon & Rentfro, 2009). A great deal of research exists examining the use of fear appeals in social marketing and public service announcements. However, the

results have led to contrasting ideas about the effectiveness of fear appeals in public service announcements.

Some research suggests that the use of fear appeals in PSAs has a positive change on behavior (Lennon & Rentfro, 2009) while other research suggests that they have the opposite of the intended effect by creating a boomerang effect, in which the participants report higher intention of engaging in the distracted behavior while driving (Lennon et. al, 2010), or generating little to no effect (Krisher, Darley, and Darley 1973). Some researchers attribute this conflicting evidence to the strength of the fear appeal; either the appeal is too weak (Lennon et. al, 2010) or too extreme (Ray and Wilkie, 1970).

Researchers have found that fear appeal messages are more effective than other emotional appeals because of their ability to prevent audiences from committing unhealthy behaviors (Dillard & Peck, 2000). Supporters of fear appeal use argue that "subjects better remember and more frequently recall ads that portray fear than they do warm or upbeat ads or ads with no emotional content" (LaTour et al., 1996, 60). Shen (2011) found that fear and empathy appeals had a positive, direct effect on persuasion. However, the same research also found that fear had a negative, indirect impact on persuasion by activating psychological reactance (Shen, 2011), in which an individual is psychologically aroused to regain behavioral freedoms after they perceive those freedoms to be threatened. Research has also found fear arousal to be a necessary requirement for behavior change (Schoenbachler & Whittler, 1996).

Existing research on fear appeals in distracted driving PSAs suggests that fear appeals could positively change behaviors about distracted driving, causing viewers to

rate behaviors as more distracting than previously believed, but this finding is from the same research that suggested fear appeals create a boomerang effect regarding the participants' intentions of engaging in the behaviors (Lennon et. al, 2010). The researchers attributed the increased intention of engaging in unsafe driving behaviors to the lack of strength of the fear appeal in the PSA used in the study (Lennon et. al, 2010). The conflicting findings of these two studies coincide with the conflicting findings of fear appeal use in other PSAs and indicate that the inclusion of fear appeals in PSAs should only be done with extreme caution and care.

Past research also suggests that exposure to a fear appeal message that includes the depiction of severe consequences creates a more favorable change in attitude and intention regarding distracted driving behaviors and has found that "a fear appeal message can produce desired outcomes only when the levels of perceived response efficacy and perceived self-efficacy are high enough to overweight the perceived threat" (Chen, 2011, 66). Chen also examined viewers' perception of influence and found that a little over half (51%) of participants perceived themselves to be more influenced than others in United States by the distracted driving message, less than one-fourth (22%) held the classic third-person perception of being less influenced than others, and over one-fourth (27%) perceived no difference between themselves and others in terms of influence of the fear appeal (Chen, 2011).

Empathy Appeals. Empathy, like fear, is a type of emotional appeal. Empathy is the process by which we understand others (Lazarus, 1991). More specifically, it is the ability to recognize and absorb another's feelings, situation, or perspective (Escalas &

Stern, 2003). Empathy appeals often serve as a middle ground between inducing fear and positive stimulation, and draw attention to the consequences that others have suffered in an effort to receive empathy from the audience (Slater, 1999b). Images of victims and families are most often associated with empathy appeals (Roberson, 2001).

A smaller amount of literature exists on the effects of empathy appeals in PSAs than on that of fear appeals. However, the research that does exist suggests that empathy appeals are more effective than fear or informational appeals. Santa and Cochran (2008) found empathy appeals to be the most effective appeal in anti-driving under the influence public service announcements, followed by fear and informational approaches. Shen (2011) found empathy appeals to be potentially more effective than fear-arousing messages in anti-smoking PSAs, but both empathy and fear appeals had a positive, direct effect on persuasion. Shen (2010) found that empathy appeals in professionally produced PSAs had a positive, direct impact on persuasion and also enhanced persuasion by mitigating psychological resistance. Bagozzi & Moore (1994) found that the more emotionally intense anti-child abuse PSAs "stimulated a strong desire to help and contribute to support the goals of the sponsoring organization" (p. 67). Stiff et al. (1998) conducted two studies examining the relationships between empathy, communication, and prosocial behavior. Both yielded results indicating that prosocial behavior is motivated primarily by a concern for other, which is followed by emotional reactions to the perceived distress shown.

It is important to note that while empathy appeals may be effective in changing and reducing unhealthy attitudes and behaviors, they also often use images of individuals

who have suffered as a result of an unhealthy behavior, often resulting in some sort of disability. The issue with this, as discussed by Wang (1998) is that these images and the possible interpretation of these messages as depicting disability as a "fate worse than death" may contribute to the production of stigma of disabled individuals Considering these individuals is important because, according to the Census, 1 in 5 or 19 percent of Americans suffers from some sort of disability, which is 56.7 million people who have the potential to suffer from images and messages utilized in empathy appeals (U.S. Census Bureau, 2012). Thus, empathy appeals may have unintended and undesirable consequences that PSA producers may in turn seek to avoid.

Informational Appeals. An Informational appeal, often referred to as a rational appeal, is defined as an approach to encourage a person to make logical or rational decisions involving serious thought processes (Albers-Miller & Stafford, 1999), that provide facts to the audience (Slater, 1999). Informational appeals often use a celebrity to provide the facts to the audience and endorse the PSA's message (Roberson, 2001). While extensive research exists on informational appeals in advertising, the research concerning their effectiveness in distracted driving PSAs on attitudes is scarce. The informational approach is the most commonly used message appeal in drinking and driving PSAs (Slater, 1999), and are used most commonly in PSAs to convey clear information about high involvement issues, such as AIDS, drugs, and smoking (Flora & Maibach, 1990).

Perse, Nathanson, & McLeod (1996) found that rational appeals in safe-sex PSAs were generally more effective than emotional (fear) appeals. Becker-Olsen & Briones

(2009) found rational appeals were rated as more clear than both the negative (fear) and positive emotional appeal (representing alternative to unhealthy behavior), but that did not necessarily lead to the highest levels of intended compliance. Some research has found that rational appeals are less effective than emotional appeals (fear and empathy) in conveying messages to the audience (Lee & Davie, 1997), while other research suggest no difference, in terms of effectiveness between rational and emotional appeals (Kulkarni, 2009). Evidence has also been found that suggests the informational approach fails to change viewer behavior (DeJong & Wallack, 1999), and Santa & Cochran (2008) found that they were less effective than empathy or fear appeals.

Individual Differences in Response to PSA and Message Appeal

Individual differences and their relation to message appeal effectiveness have been examined in some research and it, too, has returned conflicting results Therefore, it is important to not only examine the effects of message appeals on attitude change, but also to examine the effects that involvement with distracted driving and demographic differences have on attitude change.

Involvement plays a role in the PSA's effectiveness. Santa & Cochran (2008) measured participants experience with DUI, sensation seeking, motivation to change and perception of dangerousness of DUIs and found that they were all good predictors of perceived effectiveness, specifically finding that less experience, lower sensation seeking, higher motivation to change, and higher perception of dangerousness of DUI predicted higher perceived effectiveness of anti-DUI PSAs. Other research has also suggested that for a public health campaign to be effective, it must recognize how the audiences

perceive the topic as personally relevant (LaTour & Rotfeld, 1997, 46). Research examining the effects of anti-underage drinking PSAs found that those who reported a higher frequency of alcohol use also reported lower levels of perceived effectiveness of PSAs, as well as lower levels of skepticism toward both advertising and PSAs (Pinkelton et al., 2001). Some research has even suggested that the different message appeals have different effects on those who have different levels of involvement. For example, Flora and Maibach (1990) found that participants with low involvement remembered emotional messages better than they remembered rational messages, but highly-involved participants exhibited no appeal-related memory differences.

While this research is primarily focused on what message appeal yields the greatest attitude change and whether personal loss or injury due to distracted driving and distracted driving activity affect message appeal effectiveness, it also provides the opportunity to examine if demographic differences such as gender, race, age, etc., affect message appeal effectiveness.

Gender differences in terms of message appeal effectiveness and attitude change have been examined in many areas of research. Witte & Allen (2000) found that individual differences have little impact on how people respond to fear appeals, and this has been observed in research examining other appeals (Santa & Cochran, 2008; Becker-Olsen & Briones, 2009). However, Watson et al. (2007) found that the more recent studies on fear appeals in road safety and safe driving PSAs suggest that individual differences, such as gender, do influence the effectiveness of threatening messages. Shelton (2010) found that fear appeals "were more effective with women viewers in

terms of recalling information than they were with men" (33). Gender differences have been found in reported intentions after exposure to fear appeal message (Lewis et al., 2007). Furthermore, Tay & Ozanne (2002) found fear appeal messages to be effective for female drivers but not for male drivers, and Smith & Stutts (2003) found that females were more influenced than males by fear appeals about the long-term effects of smoking, and males responded more to fear appeals that focus on negative social consequences. Previous research has also found that women rate collectivist message strategies higher than individualistic strategies (Parea & Slater, 1999), suggesting that an empathy approach would be more effective for women. Other research suggests that gender has no impact on message appeal effectiveness in drunk driving PSAs, but did find that women had more positive attitudes toward the PSAs regardless of the message appeal (Pilling & Brannon, 2005). Research on safe-sex PSAs suggests that gender of the spokesperson plays an important role in message appeal effectiveness: Perse, Nathanson, & McLeod (1996) found that the PSA using a female spokesperson and a rational message appeal was associated with the most positive emotional attitudes, whereas the PSA that utilized a female spokesperson paired with an emotional appeal was associated with the least favorable emotional attitudes.

It is unclear whether other demographic differences affect message appeal effectiveness or PSA effectiveness. Some research suggests that demographic differences have no affect on the perceptions of PSAs (Solomon et. al, 2010), but not many studies have examined demographic differences in terms of their influence on PSA effectiveness. This may be due to the fact that many studies, such as this one, rely on participants

gathered from college courses, the majority of whom fall into the same age group. Also, race, ethnicity and religion are likely only examined in PSAs that discuss topics that may be controversial to, or have historically affected, a specific group. Since the majority of PSAs don't discuss controversial topics, research rarely examines whether there are demographic differences.

It is evident from the research examined that there is still much to be learned about how message appeals affect attitudes, specifically in distracted driving PSAs. The research regarding gender differences in relation to attitude change is also interesting and warrants further study, as do other individual differences. This research is important in determining what specifically works in distracted driving PSAs because the research gathered that examines other types of PSAs cannot be used to generalize about distracted driving PSAs.

CHAPTER THREE: METHODS

Research Questions

Considering the conflicting evidence presented above concerning message appeal effectiveness across a variety of topics and the theoretical framework being used, this research seeks to answer the following research questions:

RQ_1: Is there a statistically significant difference in attitude change between message appeals? If so, which appeal is the most effective in decreasing distracted driving acceptance attitudes?

RQ_2: Is personal loss or injury due to distracted driving related to attitude change?

RQ_3: Is distracted driving behavior related to attitude change?

Design

The study was a 2 x 4 factorial design (Question order condition: Distracted driving behavior in pre-test vs. Distracted driving behavior in post-test x Message appeal: Control vs. Empathy vs. Fear vs. Informational). Two versions of each of the four-category conditions were created; one collecting distracted driving behavior before the pre-test measures and the other collecting distracted driving behavior after the post-test measures. This was done to control for priming effects that may be caused by question order.

Participants and Procedure

Data was collected from 384 students at Middle Tennessee State University who participated in a survey as part of the Fall 2015 Communication Research Pool (CRP) – a biannual, multi-session research lab that exposes students enrolled in an introductory

mass communication class to scholarly research. Student participation was completely voluntary. In terms of sex, 52.7 % of the participants were male and 37.3% were female. Their mean age was 19.514 years (*SD* = 3.666). In terms of race, 68.9% identified as white, 20.4% identified as black or African American, 4.2% identified as Asian or Pacific Islander, 2.6% identified as Hispanic/Latino, and 3.1% identified as some other race.

Sign-Up and Setting. Before sessions began, students from eligible classes were directed to sign-up to participate in this research by accessing a sign-up page, which was created using the Sign-Up Genius website. To sign up, students would access the website, choose a session date, a specific session time, and an available seat, where they would enter their name to reserve a seat in that session. All sessions took place in university computer labs. To reduce distractions, each participant used a pair of provided headphones to listen to the audio component of the stimuli.

Google Forms. Surveys (See Appendix A, C, & D) were administered using Google Forms. Eight different forms were created corresponding to the eight conditions. These forms could be accessed by clicking the corresponding link. The videos used in each condition were embedded into the corresponding Google Form, so that participants could easily view the stimuli without having to click off the survey. The data collected from each form were recorded in separate Google documents, which were exported to excel where they received a four-category condition number (1,2,3,4 – Control, Empathy, Fear, Informational). Then, they were compiled together to create the complete data set, which was imported into SPSS.

Consent forms. Consent forms (See Appendix E) were given to participants when they entered the computer lab. Each participant was asked to read and sign the form before continuing. Students were permitted to refuse signing the consent form and would still receive credit for participating. However, there were no students who opted out of participation in this manner.

Identification and Confidentiality. Each participant was given a unique identification number upon entering the computer lab that they were asked to enter on the first page of the survey. This was necessary to identify a participant's data in the event that they wished to withdraw their data from the research at any time. Names, identification numbers and instructor names were also collected for the purpose of providing course credit, but were separated from the rest of the data. Therefore, the participant's identification number served only to distinguish each case in the final, analyzed data set.

Stimuli. Participants in each of the four-category conditions viewed a different advertisement (links in Appendix B). The four stimuli are described below:

1. Control Conditions: Participants in one of these conditions viewed a Lincoln car commercial featuring the actor Matthew McConaughey sitting in the new MKC, which faces a bull. The majority of the advertisement involves no driving, it is not until the end that McConaughey turns the car around and drives the other way. The advertisement involves no distracted driving visuals or any consequences of distracted driving.

2. Empathy Conditions: Participants in one of these conditions viewed a PSA featuring the mother of a child, Xavier, who was paralyzed after getting hit by a driver who was texting. The mother discusses Xavier's condition, what functions he has lost, and questions whether the text was that important. This PSA was part of the AT&T *It Can Wait* campaign. Xavier and his mother were also featured in the DOT's *Faces of Distracted Driving* campaign.
3. Fear Conditions: Participants in one of these conditions viewed a PSA featuring three friends in a car, the driver is participating in distracted driving behaviors, specifically texting and passenger distractions. Reading a text, the driver runs a stop sign and is hit by a semi-truck. The impact of the wreck is shocking and as the car flips, the video switches from slow motion to regular speed to create a more startling effect. This PSA was used as part of the *U Text. U Drive. U Pay.* Campaign.
4. Informational Conditions: Participants in one of these conditions viewed a PSA that showed a fuse burning. Accompanying this visual were various statistics about distracted driving, such as how many crashed, injuries and deaths it causes each year. As the fuse burns down, it leads to a cell phone (instead of a stick of dynamite), and the text on the screen compares the use of a cell phone while driving, either to text

or talk, to a bomb waiting to go off. This PSA was published by the National Safety Council.

Debriefing Information. Debriefing information (See Appendix F) was provided for students upon completion of their session. They were offered a sheet of information that discussed the purpose of the study that they could take with them.

Lab Protocol. The proctor randomly assigned one of the four PSA condition stimuli/survey pages to each computer used in the lab. Headphones were plugged in, volume was checked, and identification numbers and consent forms were present at every station. Participants were permitted to enter the lab and choose a computer station where they were directed to read and sign the consent form before beginning the survey. The proctor collected the consent forms and informed participants that the slip of paper with the number on it was their survey identification number and that they would enter this when beginning the survey. The proctor also informed the participants that they would need to enter their student identification number and instructor's name. Then, participants were instructed to put their headphones on and begin the survey. They would complete the pre-test, view the stimuli, and then complete the post-test. After completion of the surveys, participants were directed to sign a sheet, if they hadn't already, that requested their name, student ID number, and instructor name so that they would receive credit for participating in the CRP. Students only had to show up to receive credit, participation in the research was not necessary. Upon exiting the computer lab, participants were offered a sheet of information explaining the purpose of the research.

Other than an initial pilot session where potential participants did not engage in the research due to technical difficulties (but still received credit), all other participants signed the consent form and completed the surveys. There were no participants who refused to consent, wished to withdraw their data from the study, or wished not to participate.

CHAPTER FOUR: MEASUREMENTS

Independent Variables

There were three main independent variables in this study. They included: (a) experimental condition, (b) distracted driving behavior and (c) personal loss and injury. Experimental condition, the message appeal in the PSA that each participant was presented with at random, is the independent variable for RQ_1. Personal impact, which will be an aggregate score of three items (two personal loss questions and one personal injury question, is the independent variable for RQ_2. Distracted driving behavior, an aggregate score of eight items, is the independent variable for RQ_3.

Experimental Condition. Participants were assigned to one of four conditions, each exposing participants to different distracted driving message appeal stimuli, as described above.

Distracted Driving Behavior. Distracted driving behavior was measured (See Appendix D) with eight Likert items, such as "How often do you talk on the phone while driving," with possible responses ranging from 0 (Never) to 4 (Always) that focused on how often participants took part in distracted driving behaviors ($M = 1.1095$, $SD = 0.56092$, $Median = 1.0625$, $\alpha = 0.793$).

Personal Impact. Personal impact was measured (See Appendix C) by assessing personal loss and injury due to distracted driving through participants answering questions such as "Have you personally ever been injured due to distracted driving?" or "Has someone you know ever been killed due to distracted driving?" Possible answers included 1 (Yes), 2 (No), or 3 (Don't Know) to help determine message involvement.

New variables were created for each of the three questions so that a 'Yes' would be coded as '1' and a 'No' would be coded as '0' to get a personal impact score. Higher scores indicated greater personal impact. (M = 0.7864 , SD = 0.84272).

Dependent Variables

Attitude Change. Attitude change was the only dependent variable that was measured in this research. It was measured with ten Likert items ranging from 0 (Strongly Agree) to 4 (Strongly Disagree) that were answered in both the pre-test and post-test. Some examples of pre and post-test questions include: "Distracted driving is always dangerous," "Too many people are injured or killed in automobile accidents because of distracted driving today," and "Distracted driving is just a part of how things are now and there is no point to trying to stop it." There were two other questions that were similar to the last question example, a total of three, in that their answer scales were numerically coded opposite of the rest of the questions in the pre-test and post-test. Responses to all questions were coded so that a lower attitude change variable reflected less acceptance of distracted driving attitudes and behaviors. Therefore, the responses to the questions with opposite answer scales (2, 9, and 10) were recoded to flip their answers so that lower responses to those questions reflected less acceptance of distracted driving attitudes and behaviors. The average of responses to the post-test measures[1] (M = 1.1221, SD = 0.62147, Cronbach's α = 0.869) was subtracted from the average of responses to the pre-test measures (M = 1.1303 , SD = 0.57066 , Cronbach's α = 0.838) to create the attitude change variable (M = 0.0082, SD = 0.27286). Thus, higher positive

[1] A duplicate question (number 5) was present in the post-test. This was a flaw in the Google Document. Responses to the first question were used in data analyses because

attitude change scores represented a greater decrease in acceptance of distracted driving after exposure to the given stimuli. Negative scores represented an actual increase in acceptance of distracted driving after exposure to the given stimuli.

Analyses

All analyses were conducted using IBM SPSS Statistics 21 for Windows. Analytical techniques employed included paired samples t-tests, ANOVA and multiple linear regression with and without moderation analysis.

CHAPTER FIVE: RESULTS

ANOVA

A one-way ANOVA was conducted as an initial test to answer RQ1, if there were differences between message appeals in attitude change and post-test attitude scores in the control, empathy, fear, and informational conditions. There was a significant difference in attitude change associated with the four message appeal conditions (F = 5.022, df = 3 (380), p < 005). However, there was not a significant difference in post-test scores associated with the four message appeal conditions (F = 1.633, df = 3 (380), p = ns]. ANOVA results are illustrated in Table 1.

T-Tests

Paired sample t-tests were conducted to compare pre-test and post-test attitudes in each condition and determine which appeals had statistically significant attitude changes. There was actually significantly greater acceptance of distracted driving in the post-test (M = 1.1697, SD = 0.59152) than the pre-test (M = 1.1129, SD = 0.57281) for the control condition (t = -2.291, df = 92, p < 0.05). In contrast, there was less acceptance of distracted driving in the post-test (M = 1.0387, SD = 0.59805) than the pre-test (M = 1.1280, SD = 0.51357) for the empathy condition resulting in a positive attitude change (t = 2.648, df = 95, p < 0.01). There were no significant differences in distracted driving acceptance in the fear condition from pre-test (M = 1.0863, SD = 0.61307) to post-test (M = 1.0714, SD = 0.67228) (t = 0.587 , df = 97, p = 0.558). Nor were there any significant differences in the informational condition from pre-test (M = 1.1938, SD = 0.58109) to the post-test (M = 1.2102, SD = 0.61267) (t = -.0662, df = 96, p = 0.510). In sum, these

results suggest that the car advertisement used in the control condition negatively affected distracted driving attitudes resulting in a negative change in attitude, while the PSA used in the empathy appeal positively affected distracted driving attitudes resulting in a positive outcome. T-test results are illustrated in Table 2.

Table 1

ANOVA Results

DV	Condition	M	SD	*df*	F
Post-test DDA	Control	1.1697	0.59152	3(380)	1.633
	Empathy	1.0387	0.59805		
	Fear	1.0714	0.67228		
	Informational	1.2102	0.61267		
Δ Attitude	Control	-0.0568	0.23890	3(380)	5.022*
	Empathy	0.0894	0.33062		
	Fear	0.0149	0.25044		
	Informational	-0.0164	0.24388		

Notes. DDA: Distracted Driving Attitude

Δ Attitude: Change in attitude from pre-test to post-test

df outside parentheses between groups, within parentheses

* $p < 0.005$

Table 2

T-Test Results

	Pre-test	Post-Test	Δ Attitude	*t*	*Df*
Control	1.1129 (0.57281)	1.1697 (0.59152)	-0.05675 (0.23890)	-2.291*	92
Empathy	1.1280 (0.51357)	1.0387 (0.59805)	0.08935 (0.33062)	2.648**	95
Fear	1.0863 (0.61307)	1.0714 (0.67228)	0.01485 (0.25044)	0.587	97
Informational	1.1938 (0.58109)	1.2102 (0.61267)	-0.01638 (0.24388)	-0.662	96

Notes. Standard Deviations appear in parentheses below means

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$

Pearson Correlation

A Pearson correlation was conducted to determine the relationship between pre-test attitudes, distracted driving behavior, and personal loss or injury. Results indicated that greater pre-test acceptance of distracted driving attitudes and behaviors was associated with more distracted driving behavior ($r = 0.321$, $p < .001$), and greater personal impact (loss or injury) was associated with less pre-test acceptance of distracted driving ($r = -0.141$, $p < 0.01$). These results are not surprising considering that those who participate in the behavior are more likely to have attitudes that are more supportive of that behavior, and those who have suffered some personal loss or injury would be less

likely to accept the behavior that caused that loss or injury. Results of the Pearson Correlation are illustrated in Table 3.

Table 3

Pearson Correlation Results Determining Associations

	PRAA	DDB	PI
Pre-Test Acceptance Attitude	--	0.321*	-0.141*
Distracted Driving Behavior	0.321*	--	0.049
Personal Impact	-0.141*	0.049	--

Notes. PRAA: Pre-test acceptance attitude

DDB: Distracted driving behavior

PI: Personal Impact (Personal loss and/or injury)

* $p < .01$

Regression

Regression analyses were conducted to determine the strength of the relationships between the difference variables with statistical control, and to further examine potential interactions between independent variables on attitude change. After controlling for condition and demographics, there were not statistically significant main effect associations between personal impact ($b = 0.029$, $p = 0.085$) or distracted driving behavior ($b = 0.050$, $p = 0.058$) in terms of attitude change. However, there were statistically significant interactions such that in the empathy appeal: Greater distracted

driving behavior was associated with greater attitude change (b = 0.157 , p = 0.007) (See Figure 1), i.e., greater reduction in acceptance of distracted driving. Greater personal impact was associated with greater attitude change (b = 0.115, p = 0.003), so the more a person reported a negative experience of distracted driving, the greater the reduction in their acceptance of distracted diving (See Figure 2). Therefore, empathy condition relative to control triggers a relationship not seen otherwise. The results of these analyses are illustrated in Table 4.

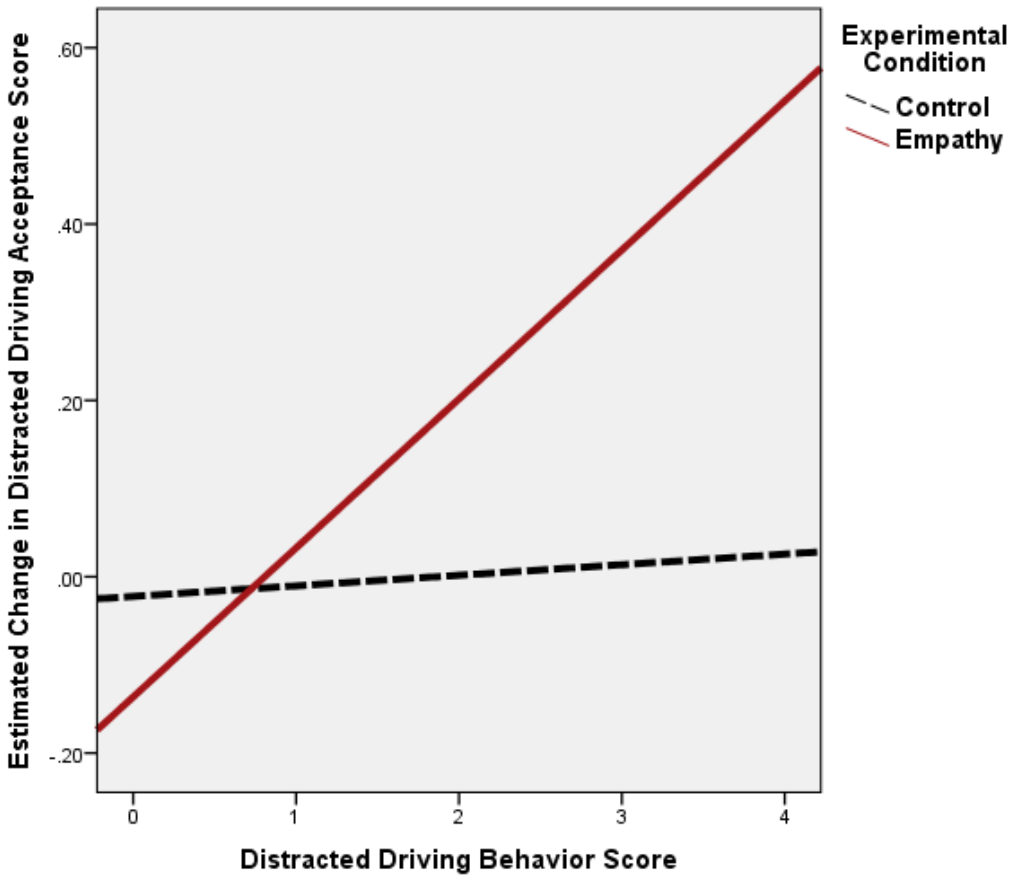

Figure 1. Interaction between distracted driving behavior (DDB) and attitude change (AC) in the empathy condition.

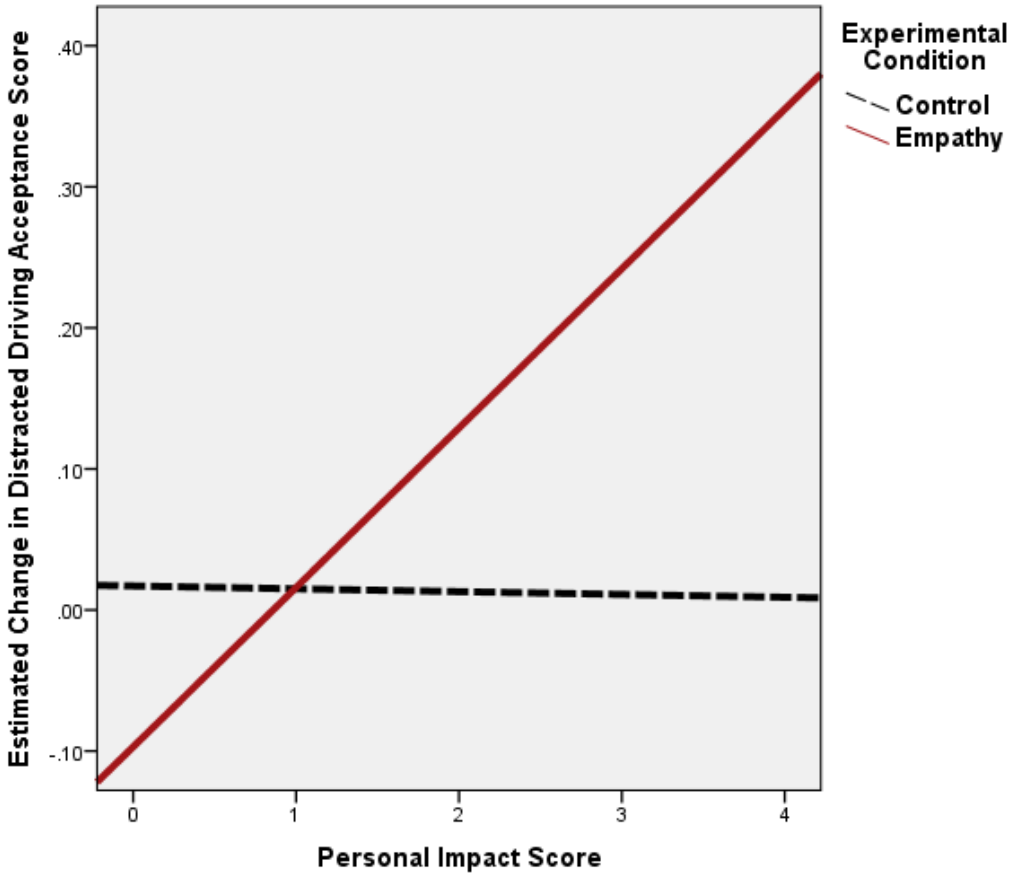

Figure 2. Interaction between personal impact (PI) and attitude change (AC) in the empathy condition.

Table 4

Hierarchical Regression Analysis for Predicting Change in Distracted Driving Acceptance Attitude

Variable	Model 1	Model 2	Model 3
Constant	-0.024	-0.091	-0.040
Empathy Condition	0.149****	0.150****	-0.114
Fear Condition	0.075	0.077	0.072
Information Condition	0.037	0.031	0.034
Recoded Participant Sex	-0.040	-0.033	-0.019
Age	-0.001	-0.001	-0.001
Black or African American	0.002	0.002	-0.010
Hispanic or Latino	0.021	0.022	0.032
Asian or Pacific Islander	0.127	0.156	0.150
Other Race	-0.120	-0.107	-0.090
Personal Impact (PI) Distracted	--	0.029	-0.002
Driving Behavior (DDB)	--	0.050	0.012
Empathy X DDB Interaction	--	--	0.157**
Empathy X PI Interaction	--	--	0.115***
R^2	0.055	0.074	0.120

Notes. Dependent: Change in distracted driving acceptance attitude

All *b* unstandardized

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$

CHAPTER SIX: DISCUSSION

This research was focused on distracted driving PSAs. Little communication research has been done on the issue of distracted driving even though it has recently received increasing public attention. The research that has been done to determine the effectiveness of distracted driving PSAs has focused on fear appeals. These studies have produced evidence suggesting that fear appeal messages are an effective method in changing attitudes and behaviors. However, the present study did not find statistically significant evidence to suggest that fear appeals were effective in decreasing distracted driving acceptance attitudes, nor were informational appeals.

A possible explanation for why the fear and informational appeals were not effective comes from the psychological reactance theory, which argues that if individuals perceive that their behavioral freedoms are threatened or reduced then the individual will be psychologically aroused to regain them (e.g. Brehm, 1966, 1972, 1989). It is possible that the informational and fear appeals caused this reaction in participants, which caused them to hold on to their previously held attitudes. This could also explain why there was a negative attitude change (i.e. greater acceptance of distracted driving) in the control condition. It may have become obvious to the participants in the control condition that the purpose of the study was to persuade them to change their attitudes toward distracted driving, and instead of retaining that same attitude, entrenched themselves further into their existing attitude. There is also the possibility that some variable in the control condition caused the negative attitude change. Future quantitative research could benefit

from a qualitative pairing, where participants take part in focus groups, so that researchers can better understand why the results are the way they are.

There are many other possible explanations for why some of the appeals weren't effective. First, the ineffectiveness of the informational appeal isn't that surprising considering the statistics presented in the message were not paired with a celebrity spokesperson, nor were they paired with any sort of graphics other than a video of a fuse burning. Making this sort of pairing would have possibly made the appeal more effective. However, informational appeals, specifically those that rely solely on statistics, will likely remain ineffective in the media-saturated environment that we live in. Messages must stand out to be noticed, and this approach arguably does not do that. Future research should use several informational appeal messages that employ different methods, such as a celebrity spokesperson or video or images, to determine whether any of these are effective.

Fear appeals have no problem standing out from other media messages, but a possible explanation for why the fear appeal in this research wasn't effective can be drawn from some of the past research on PSAs used in other areas examined earlier in this paper. That research attributed fear appeals' lack of effectiveness to the level of fear induced in the advertisement (Lennon & Rentfro, 2010). The fear appeal message used in this advertisement may have been too weak to produce attitude change. Another possible explanation is that many of the participants have been exposed to graphic images through video games, television, movies, and through the constant use of new media, and that exposure may have desensitized viewers to graphic images. Past research has also found

that viewers may be more affected by social threats than threats of physical harm. For example, research has found that social aspects of anti-smoking advertisements were more effective (Ho, 1998), and that smoking advertisements that focused on stained teeth and bad breath were more effective than ads that focused on cancer (Uusitalo and Niemela-Nyrhinen, 2008). Future research could measure perceived fear appeal strength or use different fear appeals with varying levels of fear to determine whether stronger fear appeals are effective in creating attitude change.

The previous evidence also provides a possible explanation of why the empathy appeal was effective. The image of a paralyzed child plays on the "fate worse than death" mentality, in that becoming permanently paralyzed and a threat to one's quality of life, is worse than dying. However, it could also be that viewers are more impacted by empathy for others than they are by threat to oneself. Future research could examine these two possibilities by using an empathy appeal like the one used in this research to represent threat to others, and one that plays uses social threats and threats to quality of life, to determine which is more effective. While the effectiveness of the empathy appeal is good news to communicators, it is somewhat troubling, because these types of messages have the ability to stigmatize certain groups. The ethical dilemmas that empathy appeals create should be evaluated and considered when producing messages that use this approach.

The results of the empathy appeal suggest that this appeal is an effective appeal for a general audience. The empathy appeal produced statistically significant relationships between both personal impact and distracted driving behavior with attitude change, indicating that higher involvement with the issue produced greater attitude

change. Petty and Cacioppo (1986) argued that under conditions of high-involvement, messages are processed through the central route, so the resulting "attitude is relatively enduring, resistant and predictive of behavior change" (Petty & Cacioppo, 1986, 126). Therefore, according to the ELM, the results of the empathy appeal have implications for behavior change. This would, of course, have to be tested by conducting further research to determine whether the attitude change translated into behavior change, and whether this change is a lasting one.

Considering the results of the empathy appeal on attitude change, specifically associated with personal impact and distracted driving behavior, it isn't very surprising that those who had greater distracted driving behaviors would have greater attitude change because they have more to change. It is surprising, however, that those with greater personal impact had greater attitude change, specifically because personal impact was associated with already low distracted driving acceptance in the pre-test. So, the empathy appeal was capable of further decreasing distracted driving acceptance is those with personal impact, possibly because they identify with the message. There is also the possibility that personally impacted viewers weren't aware of all the activities that are considered distracted driving, and through participation in the research learned that distracted driving is more than just texting; therefore, their post-test answers were different because they had more knowledge about distracted driving. Regardless, these results are especially important because they further reinforce the ideas of those personally impacted by distracted driving and give those individuals evidence that they can use to argue against distracted driving when confronted with dissenting opinions.

However, future research is needed to further understand what makes this appeal work, specifically whether empathy appeals are effective in general or if it is only particular aspects of this message that are effective.

It is difficult to isolate one aspect of a message to use as an independent variable, specifically because many of the PSA employ several different methods and aim to evoke several different feelings as opposed to just one. A manipulation check indicated that there was a large portion of participants who didn't answer correctly when asked about the purpose of the ad; 52.3% of participants answered correctly when asked about what the purpose of the ad was and 47.7% answering incorrectly. This is likely a result of the PSAs not being pure appeals. For instance, while the empathy video may evoke feelings of empathy for victims and their families, it also may evoke feelings of fear due to the thought of becoming paralyzed, or the fear appeal could have informed participants of some of the lesser known behaviors of distracted driving, specifically passenger distraction. Essentially, the appeals don't only fulfill their intended purpose, but also, to some extent, fulfill the intentions of the other appeals as well. I was aware of this issue when choosing the appeals for each condition. However, considering that these are actual PSAs used to deter distracted driving and that many PSAs have used and continue to use these mixed approaches to change unhealthy attitudes and behaviors, it was an important part of this study to determine what is effective in decreasing acceptance of distracted driving and determining how viewers process a "real-life" PSA, instead of one developed purely for research purposes.

There were several aspects of this research that could be redesigned to better test the effectiveness of the three message appeals in distracted driving PSAs. First, there was the issue of floor effects in this research. Participants' pre-test measures indicated that attitudinally there was relatively little acceptance of distracted driving, such that that pre-test scores were low on the whole. So if the pre-test attitude scores indicating acceptance of distracted driving were already low, then there was little room for them to get lower. Future research could be designed to somehow avoid these floor effects. Future research could also include questions that assess whether the participants has ever experienced any damage due to distracted driving as part of the personal impact measure because a collision or fender bender could have an impact on the messages effectiveness.

Future researchers should consider that the participants in this research were all college students, the majority of whom fell within the 18-25 age group. Those under the age of 25 are the most common offenders of distracted driving. They send the most texts and emails while driving, report the highest amount of cell phone use before a crash, and are the most likely to drift out of their lane when texting (NHTSA, 2012). It would be interesting to test this research on a different age group to determine if the empathy appeal is effective across multiple age groups, and if any of the other appeals are useful in those age groups.

Participants' exposure to the message may have had some impact on whether each message appeal was effective or not. In this research 31.2% of participants had previously seen the control stimuli, while 68.8% had not; 44.8% of the participants in the empathy condition had previously seen the stimuli, while 54.2% had not; 49% of the

participants in the fear condition had previously seen the stimuli, while 45.9% had not; 4.1% of the participants in the informational condition had previously seen the stimuli, while 95.9% had not. This is something that should be examined so that message producers and networks can make informed decisions about how often messages should be shown[2].

This research was designed using the Elaboration Likelihood Model as a theoretical rationale. The ELM argues that high-involved viewers will process messages along the central route and low involved viewers will process messages along the peripheral route. If we consider that distracted driving behavior and personal impact suggest involvement, then viewer involvement had no effect on attitude change in the control, fear and informational conditions but viewer involvement was associated with attitude change in the empathy condition. Therefore, the ELM was somewhat supported. This research only sought to measure attitude change and if personal loss and/or injury and distracted driving behavior played a role in message appeal effectiveness. This research is limited in that it measures perceived effectiveness through changes in responses between the pre-test and post-test, which may not necessarily translate into lasting attitude or behavior change. Therefore, there are implications for future research that further tests the Elaboration Likelihood Model of Persuasion by measuring behavior change due to the empathy appeal used in this research.

[2] Data was collected regarding whether participants recalled having seen the ad before.

CHAPTER SEVEN: CONCLUSION

This research was designed to determine effective communication methods for creating a favorable change in distracted driving attitudes by examining three messages that employed commonly used appeals, empathy, fear, and informational. While scholarly research has extensively examined message appeal effectiveness in others areas, such as in decreasing drug use or drunk driving, the examination of previous research suggests that results differ based on the behavior addressed in the message, which fails to produce evidence that one appeal is more effective than another in general. This increases the need to do further research on individual topics to determine which appeals are effective in decreasing the behavior addressed in that PSA. This research should serve as a starting point in learning what is effective in terms of distracted driving PSAs. There is still plenty of room to continue research in this area to help improve distracted driving PSAs. This is crucial to providing distracted driving PSA producers with the information necessary to produce a distracted driving PSA that is effective, and knowing what message appeals have the potential to create a boomerang effect or no effects. The issues in the PSAs used in this study may stem from being too weak or not employing enough variables, but these are things that can be analyzed to learn what needs to be fixed. It is my hope that this research can be expanded upon to determine effective methods of communicating distracted driving pro-social messages to learn how to better prevent injuries and fatalities and save lives.

REFERENCES

Abroms, L.C. & Maibach, E.W. (2008). The effectiveness of mass communication to change public behavior. *Annual Review of Public Health, 29*, 219-234.

Albers-Miller, N.D. & Stafford, M.R. (1999). An international analysis of emotional and rational appeals in services vs goods advertising. *Journal of Consumer Marketing, 16*(1). 42-57.

Atkin, C. (2001). *Impact of public service advertising: Research evidence and effective strategies*. Oakland, CA: Kaiser Family Foundation.

Atkin, C.K. & Rice, R.E. (2013). *Public Communication Campaigns (4th ed.)*. Thousand Oaks, CA: Sage Publications, Inc.

Bagozzi, R.P. & Moore D.J. (1994). Public service advertisements: Emotions and empathy guide PSAs. *Journal of Marketing, 58*(1), 56-70.

Becker-Olsen, K. & Briones, R. L. (2009). Towards a drug free America: Guilt processing and drug prevention. *Journal of Research for Consumers, 16*, 1-6.

Brehm, J. W. (1966). *A theory of psychological reactance*. New York: Academic Press.

Brehm, J. W. (1972). *Responses to loss of freedom: A theory of psychological reactance*. Morristown, NJ: General Learning Press.

Brehm, J. W. (1989). Psychological reactance: Theory and applications. *Advances in Consumer Research, 16*, 72–75.

Chen, M. (2011). *Examining the effectiveness of a fear appeal message regarding calling while driving: The role of perceived behavioral control, social norms,*

and third-person perception (Master Thesis). University of Houston, Houston, TX.

Collins, R.L., Elliot, M.N., Berry, S.H., Kanouse, D.E., Hunter, S.B. (2003). Entertainment television as a healthy sex educator: The impact of condom-efficacy information in an episode of *Friends*. *Pediatrics*, *112*, 1115-1121.

DeJong, W. & Wallack, L. (1999). A critical perspective on the drug czar's antidrug media campaign. *Journal of Health Communication, 4*(2), 155-160.

Dillard, J.P. & Peck, E. (2000). Affect and persuasion: Emotional responses to public service announcements. *Communication Research, 27*(4), 461-495.

Centers for Disease Control and Prevention (CDC). (2014). Teen drivers: Get the facts. Retrieved from http://www.cdc.gov/motorvehiclesafety/teen_drivers/teendrivers_factsheet.html

Centers for Disease Control and Prevention (CDC). (2015). Distracted driving. Retrieved from http://www.cdc.gov/motorvehiclesafety/distracted_driving/

Elder, R.W., Shults, R.A., Sleet, D., Nichols, J.L., Thompson, R.S., Rajab, W. (2004). Effectiveness of mass media campaigns for reducing drinking and driving and alcohol-involved crashes. *American Journal of Preventive Medicine, 27,* 57-65.

Escalas, J., & Stern, B. B. (2003). Sympathy and empathy: Emotional responses to advertising dramas. *Journal Of Consumer Research, 29*(4), 566-578.

Federal Communications Commission (FCC). (2007). *Standardized television disclosure form* (FCC 07-205). Retrieved from http://www.wvpt.net/pi/Proposed_Form355.pdf

Flora, J.A. & Maibach, E.W. (1990). Cognitive responses to AIDS information: The effects of issue involvement and message appeal. *Communication Research, 17*(6), 759-774.

Foxx, A. (2014, April 3). Distracted driving awareness month: U drive. U text. U pay. *U.S. Department of Transportation*. Retrieved from http://www.dot.gov/fastlane/april-distracted-driving-awareness-month-u-drive-u-text-u-pay

Gore, P., Madhavan, S., Curry, D., McClurg, G., et al. (1998). Persuasive messages. *Marketing Health Services, 18*(4), 32-43.

Governors Highway Safety Association (GHSA). (2011). *Distracted driving: What research shows and what states can do*. Retrieved from http://ghsa.org/html/files/pubs/sfdist11.pdf

Governors Highway Safety Association (GHSA). (2015, April). *Distracted driving laws*. Retrieved from http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html

Grube, J.W. (1993). Alcohol portrayals and alcohol advertising on television: Content and effects on children and adolescents. *Alcohol Health & Research World, 17*, 61-66.

Hall, C. (2013, September 21). AT&T spending millions to get It Can Wait message across. *The Dallas Morning News*. Retrieved from http://www.dallasnews.com/business/columnists/cheryl-hall/20130921-att-spending-millions-to-get-it-can-wait-message-across.ece

Hayden, J. (2009). *Introduction to health behavior theory*. Burlington, MA: Jones & Bartlett Learning.

Hether, H.J., Huang, G.C., Beck, V., Murphy, S.T., & Valentine, T.W. (2008). Entertainment-education in a media saturated environment: Examining the impact of single and multiple exposures to breast cancer storylines on two popular medical dramas. *Journal of Health Communication*, *13*, 808-823.

Ho, R. (1998). The intention to give up smoking: Disease versus social dimensions. *Journal of Social Psychology*, *138*, 368-380.

Hornik, R.C. (2002). *Public health communication: Evidence for behavior change*. Mahwah, NJ: Lawrence Earlbaum.

Hornik, R., Jacobsohn, L., Orwin, R., Piesse, A., & Kalton, G. (2008). Effects of the National Youth Anti-Drug Media Campaign on youths. *American Journal of Public Health, 98*(12), 1-8.

Johnson, D. (2013, November 6). The penalty for texting while driving in your state. *CBS News*. Retrieved from http://www.cbsnews.com/news/the-penalty-for-texting-and-driving-in-your-state/

Kaiser Family Foundation. (2000). Teens and sex: The role of popular television. Fact sheet. Menlo Park, CA: Kaiser Family Foundation.

Kaiser Family Foundation. (2004). Entertainment education and health in the United States. Issue Brief. Menlo Park, CA: Kaiser Family Foundation

Karkelas, I. & Muehling, D.D. (2014). Addressing the texting and driving epidemic: Mortality salience priming effects on attitudes and behavioral intentions. *Journal of Consumer Affairs, 48*(2), 223-250.

Kotler, P. & Armstrong, G. (2001). *Principles of marketing*. 9th ed. Englewood Cliffs,

NJ: Prentice-Hall.

Krisher, H. P., Darley, S.A., & Darley, J.M. (1973). Fear provoking recommendations, intentions to take preventive actions and actual preventive actions. *Journal of Personality and Social Psychology, 26*(2), 301-308.

Kulkarni, A. (2009). *Impact of endorser and message appeal on the success of an online AIDS PSA*. Baton Rouge, LA: Louisiana State University.

LaTour, M.S., Rotfeld, H.J. (1997). There are threats and (maybe) fear-caused arousal: Theory and confusion of appeals to fear and fear arousal itself. *Journal of Advertising, 26*(3), 49-59.

LaTour, M., Snipes, R. & Bliss, S. (1996). Don't be afraid to use fear appeals: An experimental study. *Journal of Advertising Research, 36*(2), 59-67.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

Lee, S., & Davie R. W. (1997). Audience recall of AIDS PSAs among U.S. and international college students. *Journalism and Mass Communication Quarterly, 74*(1), 7-22.

Lennon, R. & Rentfro, R. (2010). Are young adults fear appeal effectiveness ratings explained by fear arousal, perceived threat and perceived efficacy? *Innovative Marketing, 6*(1), 56-63.

Lennon, R., & Rentfro, R. (2009). A study of the effectiveness of fear appeals PSA's on young adults. *Academic and Business Research Institute Conference*. Orlando, FL.

Leopold, T. (2013, Aug. 16). Film legend Herzog takes on texting and driving. *CNN*.

Retrieved from http://www.cnn.com/2013/08/16/tech/mobile/werner-herzog-texting-driving/

Lynn, J.R. (1974). Effects of persuasive appeals in public service advertising. *Journalism Quarterly*, *51*, 622-630.

Macek, K. (2014, May 30). States receive teen driving grants to address risky behaviors. Governors Highway Safety Association. Retrieved from http://www.ghsa.org/html/media/pressreleases/2014/20140529dsfl_stategrants.html

Marchese, D. (2011, November 28). 'OMG' campaign warns teens against distracted driving. *Washington's Top News*. Retrieved from http://wtop.com/news/2011/11/omg-campaign-warns-teens-against-distracted-driving/

Morgan, S.E., King, A.J., Smith, J.R., & Ivic, R. (2010). A kernel of truth? The impact of television storylines exploiting myths about organ donation on the public's willingness to donate. *Journal of Communication, 60*(4), 778-796.

National Highway Traffic Safety Administration (NHTSA), Department of Transportation. (2012). *Young drivers report the highest level of phone involvement in crash or near-crash incidences* (DOT HS 811 611). Retrieved from http://www.distraction.gov/download/811611.pdf

National Highway Traffic Safety Administration (NHTSA). (2012, Aug. 22). U.S. Department of Transportation unveils new distracted driving PSAs featuring cast of the hit FOX TV show 'Glee' (DOT 97-12). Retrieved from http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/U.S.+Department+of

+Transportation+Unveils+New+Distracted+Driving+PSAs+Featuring+Cast+of+the+Hit+FOX+TV+Show+Glee

National Highway Traffic Safety Administration (NHTSA), Department of Transportation. (2013). *Driver electronic device use in 2011* (DOT HS 811 719). Retrieved from http://www-nrd.nhtsa.dot.gov/Pubs/811719.pdf

National Highway Traffic Safety Administration (NHTSA). (2014a). What is Distracted Driving? Retrieved from http://www.distraction.gov/content/get-the-facts/facts-and-statistics.html

National Highway Traffic Safety Administration (NHTSA). (2014b). U.S. DOT launches first-ever national distracted driving enforcement and advertising campaign (NHTSA 10-14). Retrieved from http://www.nhtsa.gov/About+NHTSA/Press+Releases/2014/DOT+Launches+FirstEver+National+Distracted+Driving+Enforcement+and+Advertising+Campaign

Noar, S.M. (2006). A 10-year retrospective of research in health mass media campaigns: Where do we go from here? *Journal of Health Communication, 11*(1), 21-42.

Noar, S.M., Pamgreen, P., Chabot, M., Dobransky, N., & Zimmerman, R.S. (2009). A 10-year systematic review of HIV/AIDS mass communication campaigns: Have we made progress? *Journal of Health Communication, 14*(1), 15-42.

Parea, A. & Slater, M.D. (1999). Power distance and collectivist/individualist strategies in alcohol warning: effects by gender and ethnicity. *Journal of Health Communication, 4*(4), 295-310.

Perse, E.M., Nathanson, A.I., & McLeod, D.M. (1996). Effects of spokesperson sex,

public service announcement appeal, and involvement on evaluations of safe-sex PSAs. *Health Communication, 8*(2), 171-189.

Petty, R. E. and Cacioppo, J. T. (1979). Issue-involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology, 37*, 1915-1926.

Petty, R.E. & Cacioppo, J.T. (1986). Central and peripheral routes to persuasion: An individual difference perspective. *Journal of Personality and Social Psychology, 51*(5), 1032-1043.

Pilling, V.K. & Brannon, L.A. (2007). Assessing college students' attitudes toward responsible drinking messages to identify promising binge drinking intervention strategies. *Health Communication, 22*(3), 265-357.

Pinkelton, B.E., Austin, E.W., & Fujioka, Y. (2001). The relationship of perceived beer ad and PSA quality to high school students' alcohol-related beliefs and behaviors. *Journal of Broadcasting & Electronic Media, 45*(4), 575-597.

Ray, M.L. & Wilkie, W.L. (1970). Fear: the potential of an appeal neglected by marketing. *Journal of Marketing, 34*(1), 54-62.

Rhodes, F. & Wolitski, R.J. (1990). Perceived effectiveness of fear appeals in AIDS education: Relationship to ethnicity, gender, age, and group membership. *AIDS Education Prevention, 2*(1), 1-11.

Rice, R. E. & Atkin, C. K. (2009). Public communication campaigns: Theoretical principles and practical applications. In J. Bryant & M. B. Oliver (Eds.), *Media*

effects: Advances in theory and research, 3rd ed. (pp. 436-468). Hillsdale, NJ: Lawrence Erlbaum.

Risi, L., Bindman, J.P., Campbell, O.M.R., Imrie, J., Everett, K., Bradley, J., & Denny, L. (2004). Media interventions to increase cervical screening uptake in South Africa: An evaluation study of effectiveness. *Health Education Research, 19*, 457–468.

Roberson, K.M. (2001). *Anti-drinking and driving PSAs: A content-analysis of persuasive appeals and images portrayed in PSAs* (Master Thesis). Texas Tech University, Lubbock, TX.

Rogers, E. M. & Storey, J. D. (1987). Communication campaigns. In: *Handbook of communication science*, C. Berger & S. Chaffee (Eds.) (pp. 817-846). Newbury Park, CA: Sage.

Santa, A.F. (2003). *Effects of different types of drinking and driving PSAs on persons with varying levels of drinking and driving experience* (Master Thesis). Capella University, Minneapolis, MN.

Santa, A.F. & Cochran, B.N. (2008). Does the impact of anti-drinking and driving public service announcements differ based on message type and viewer characteristics? *Journal of Drug Education, 38*(2), 109-129.

Schoenbachler, D.D. &Whittler, T.E. (1996). Adolescent processing of social and physical communications. *Journal of Advertising, 25*(4), 37-54.

Shelton, D.R. (2010). *The examination of safe sex message appeals, sex, and emotional*

responses to college students' condom use attitudes, intentions, and self-efficacy (Doctoral Dissertation). University of Missouri, Kansas City, MO.

Shen, L. (2010). Mitigating psychological resistance: The role of message-induced empathy in persuasion. *Human Communication Research, 36*(3), 397-422.

Shen, L. (2011). The effectiveness of empathy versus fear-arousing anti-smoking PSAs. *Health Communication, 26*(5), 404-415.

Slater, M.D. (1999). Integrating application of media effects, persuasion, and behavior change theories to communication campaigns: A stages-of-change framework. *Health Communication, 11*(4), 335-354.

Slater, M. D. (1999b). Drinking and driving PSAs: A content analysis of behavioral influence strategies. *Journal of Alcohol and Drug Education, 44*(3), 68-81.

Smith, K.H. & Stutts, M.A. (2003). Effects of short-term cosmetic versus long-term health fear appeals in anti-smoking advertisements on the smoking behavior of adolescents. *Journal of Consumer Behaviour, 3*(2), 157-177.

Solomon, B.J., Hendry, P., Kalynych, C., Taylor, P., Tepas, J.J. (2010). Do perceptions of effective distractive driving public service announcements differ between adults and teens. *Journal of Trauma, 69*(4), S223-S226.

Stiff, J.B., Dillard, J.P., Somera, L., Kim, H., & Sleight, C. 1988). Empathy, communications, and prosocial behavior. *Communication Monographs, 55*(2), 198-213.

Stone, A. (2014, June 11). If you've ever texted while driving, you should see this. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2014/06/10/

volkswagen-distracted-driving_n_5482847.html

Tay, R. & Ozanne, L. (2002). Who are we scaring with high fear road safety advertising campaigns? *Asia Pacific Journal of Transport, 4*(1), 1-12.

The Partnership for a Drug-Free America. (2008). The partnership attitude tracking study: Teens 2008 report. Retrieved from http://www.drugfree.org/wp-content/uploads/2011/04/Full-Report-FINAL-PATS-Teens-2008_updated.pdf

Tobler, N. (1986). Meta-analysis of 142 adolescent drug prevention programs: Qualitative outcome results of program participants compared to a control or comparison group. *Journal of Drug Issues, 16*(4), 537-567.

U.S. Census Bureau. (2012, July 25). *Nearly 1 in 5 people have a disability in the U.S, Census Bureau Reports.* Retrieved from https://www.census.gov/newsroom/releases/archives/miscellaneous/cb12-134.html

U.S. Department of Transportation (U.S. DOT). (2011). *U.S. Department of Transportation releases "Faces of Distracted Driving" public service announcement*. Retrieved from http://www.dot.gov/briefing-room/us-department-transportation-releases-"faces-distracted-driving"-public-service

U.S. Department of Transportation (U.S. DOT). (2011). *U.S. Department of Transportation unveils "OMG" PSA to warn teens about the dangers of distracted driving* (NHTSA 20-11). Retrieved from http://www.distraction.gov/content/press-release/2011/11-28.html

U.S. Department of Transportation (U.S. DOT). (2012). *U.S. Department of*

Transportation unveils new distracted driving PSAs featuring cast of the hit FOX TV show "Glee" (DOT 97-12). Retrieved from http://www.distraction.gov/content/press-release/2012/08-22-2.html

Uusitalo, O. & Niemela-Nyrhinen, J. (2008). Exploring message themes in antismoking advertising targeted at teenagers. *Young Consumers*, *9*(1), 29-36.

Wakefield, M.A., Loken, B., Hornik, R.C. (2010, Oct. 7). Use of mass media campaigns to change health behaviors. *The Lancet, 376*(9748), 1261-1271.

Walters, T.N., Walters, L.M., & Kern-Foxworth, M. (1997). The picture of health? Message standardization and recall of televised AIDS public service announcements. *Public Relations Review, 23*(2), 143-159.

Wang, C. (1998). Portraying stigmatized conditions: Disabling images in public health. *Journal of Health Communication, 3*(2), 149-159.

Watson, I.L., Tay, R., & White, K.M. (2007). The role of fear appeals in improving driver safety: A review of effectiveness of fear-arousing (threat) appeals in road safety advertising. *International Journal of Behavioral Consultation and Therapy, 3*(2), 203-222.

Witte, K. & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education and Behavior*, *7*(5), 591-615.

Zimmerman, R.S., Palmgreen, P.M., Noar, S.M., Lustria, M.L.A., Lu, H., & Horosewski, M.L. (2007). Effects of a televised two-city sex mass media campaign targeting high-sensation-seeking and impulsive-decision-making young adults. *Health Behavior & Education, 34*(5), 810-826.

APPENDICES

APPENDIX A
Pre-Test

Q1) Distracted driving is always dangerous.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q2) Some distracted driving is ok.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q3) Distracted driving should be outlawed completely.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q4) Too many people are injured or killed in automobile accidents because of distracted driving today.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q5) Distracted driving is a major problem on our roads today.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q6) If someone is at fault in an automobile accident because of distracted driving, they should face a harsher punishment than if the accident occurred for some other reason.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q7) Distracted driving is an unnecessary risk.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q8) People should be ticketed and fined for distracted driving.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q9) Distracted driving is not as serious of a problem as some make it out to be.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Q10) Distracted driving is just a part of how things are now and there is no point to trying to stop it.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

APPENDIX B
Links to Stimuli

1. Control Condition: https://www.youtube.com/watch?v=FoGGDKV88Fg

2. Fear Appeal: https://www.youtube.com/watch?v=5k9oRDhg2C8

3. Informational Appeal: https://www.youtube.com/watch?v=PdAzcBowkv8

4. Empathy Appeal: https://www.youtube.com/watch?v=6nTwiIOFKeg

APPENDIX C
Post-Test

PO1) Distracted driving is always dangerous.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO2) Some distracted driving is ok.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO3) Distracted driving should be outlawed completely.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO4) Too many people are injured or killed in automobile accidents because of distracted driving today.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO5) Distracted driving is a major problem on our roads today.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO6) If someone is at fault in an automobile accident because of distracted driving, they should face a harsher punishment than if the accident occurred for some other reason.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO7) Distracted driving is an unnecessary risk.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO8) People should be ticketed and fined for distracted driving.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO9) Distracted driving is not as serious of a problem as some make it out to be.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

PO10) Distracted driving is just a part of how things are now and there is no point to trying to stop it.

Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree

Manipulation Check:

MC1) The purpose of the ad you just watched was:

To cause people to fear distracted driving

To inform people about the dangers of distracted driving

To make people understand the feelings of victims of distracted driving

None of the above

MC2) How useful would you say this PSA was?

Not at all Useful | Not Useful | Undecided | Somewhat Useful | Very Useful

MC3) How effective would you say this PSA was?

Not at all effective | Not Very Effective | Undecided | Somewhat Effective | Very Effective

4. Have you ever seen this ad?

Yes | No | Don't Know

Personal loss/injury (post-test):

PL1) Have you personally ever been injured due to distracted driving?

Yes | No | Don't Know

PL2) Has someone you know ever been injured due to distracted driving?

Yes | No | Don't Know

PI) Has someone you know ever been killed due to distracted driving?

Yes | No | Don't Know

APPENDIX D
Distracted Driving Behavior

RD1) How often do you talk on the phone while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD2) How often do you text while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD3) How often do you change the radio or the song on an electronic device while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD4) How often do you eat while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD5) How often do you email while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD6) How often do you watch a video while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD7) How often do you take a picture or video while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

RD8) How often do you look in the mirror at yourself or someone else while driving?

NEVER/RARELY/SOMETIMES/OFTEN/ALWAYS

APPENDIX E
Consent Form

Principal Investigator: Emily Hill

Institution: MTSU

Name of participant: _____ Age: _____

The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered. Also, you will be given a copy of this consent form.

Your participation in this research study is voluntary. You are also free to withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research study or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

In the following study, you will be asked to respond to several statements. Please answer honestly, as your individual answers are confidential. After, you will be asked to watch a short 30-second video, and respond to a number of other statements. There are no foreseeable risks to participating in this research. However, your participation is voluntary and you may refuse to participate or withdraw at any time without penalty or loss of benefits to which you were promised. The entire process should take less than 30 minutes. The results of this study will be analyzed and featured in a thesis paper, but no individual responses will be featured.

If you have any questions, comments, or concerns you can contact the investigator of this study, Emily Hill, at (615)-708-9312 or the faculty advisor, Jason Reineke, at (615)-494-7746. For additional information about giving consent or your rights as a participant in this study, please feel free to contact the MTSU Office of Compliance at (615) 494-8918.

Date	Signature of patient/volunteer

Consent obtained by:

Date	Signature
	Printed Name and Title

APPENDIX F
Debriefing

This study aims to determine if message appeals, fear, empathy, and information, affect attitude change in viewers. Each participant was randomly assigned to watch one of four videos, the control video was a car commercial, and the other three videos included one of the following: a fear, empathy, or informational message. Responses to the pre-test measures will be aggregated together with the post-test measures to determine attitude change. The distracted driving behavior measures will also be aggregated together, as will the personal loss or injury measures. Both will be compared with attitude change to determine whether involvement with a PSA topic impacts attitude change. This study uses the Elaboration Likelihood Model of Persuasion as a theoretical framework. The theory, developed by Petty & Caccioppo (1979), states that there are two routes to persuasion, the central and peripheral route. In the central route, viewers are motivated and have the ability to process the message, and attitude change is a result of logical thought processing of the message. In the peripheral route, viewers of the message are less motivated to process and rely on heuristics cues such as the tone of the message, the attractiveness of the actors/actresses, or the emotions conveyed in the message. If you have any questions, comments, or concerns you can contact the investigator of this study, Emily Hill, at (615)-708-9312 or the faculty advisor, Jason Reineke, at (615)-494-7746. Thank you for your participation. Your responses will provide valuable information in determining effective methods to prevent distracted driving.

APPENDIX G
IRB Approval Page

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

MIDDLE TENNESSEE STATE UNIVERSITY

EXPEDITED PROTOCOL APPROVAL NOTICE

7/7/2015

Investigator(s): Emily Hill (PI) and Jason Reineke
Investigator(s) Email: ech2x@mtmail.mtsu.edu and jason.reineke@mtsu.edu
Department: College of Mass Communication
Protocol Title: "Message appeal effectiveness in distracted driving PSAs "
Protocol ID: 15-328

Dear Investigator(s),

The MTSU Institutional Review Board (IRB), or its' representative, has reviewed the research proposal identified above. The MTSU IRB or its representative has determined that the study poses minimal risk to participants and qualifies for an **EXPEDITED** review under 45 CFR 46.110 and 21 CFR 56.110 within the category *(7) Research on individual or group characteristics or behavior* This approval is valid for one year from the date of this letter **for 300 (THREE HUNDRED) participants** and it expires on **7/7/2016**.

Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Any change(s) to this protocol must be approved by the IRB. The MTSU HRP defines a "researcher" as someone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to complete the required training. New researchers can be amended to this protocol by submitting an Addendum request researchers to the Office of Compliance before they begin to work on the project.

Completion of this protocol MUST be notified to the Office of Compliance. A "completed research" refers to a protocol in which no further data collection or analysis is carried out. This protocol can be continued up to THREE years by submitting annual Progress Reports prior to expiration. Failure to request for continuation will automatically result in cancellation of this protocol and you will not be able to collect or use any new data.

All research materials must be retained by the PI or the faculty advisor (if the PI is a student) for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University