

THE PENNSYLVANIA STATE UNIVERSITY  
SCHREYER HONORS COLLEGE

DEPARTMENT OF ADVERTISING/PUBLIC RELATIONS

BUYING LOCAL: THE COGNITIVE EFFECTS OF ENVIRONMENTAL MESSAGING

VALERIE DAMES  
Spring 2011

A thesis  
submitted in partial fulfillment  
of the requirements  
for baccalaureate degrees  
in Advertising/Public Relations and Spanish  
with honors in Advertising/Public Relations

Reviewed and approved\* by the following:

Lee Ahern  
Assistant Professor of Communications  
Thesis Supervisor

Colleen Connolly-Ahern  
Associate Professor of Communications  
Thesis Supervisor

Susan Strohm  
Senior Lecturer in Communications  
Honors Adviser

\* Signatures are on file in the Schreyer Honors College.

## **Abstract**

There is currently a lot of environmental messaging being presented through advertisements and public service announcements, but there is no clear indication about what type of message is the most effective. This study examines 2 different framing techniques, gain/loss and episodic/thematic and their effect on the reception and persuasiveness of an environmental message. An experiment was conducted to answer these questions and results indicated that both a loss frame message as well as an episodic frame message caused the recipients to report a higher level of perceived behavioral control. These findings suggest that more research needs to be done in the area of environmental messaging to explore these relationships further.

## **Acknowledgments**

Thank you to my Thesis advisor, Dr. Ahern for all his help. His knowledge about the subject as well as his advice were instrumental in the completion of this paper. Thank you also to Dr. Connolly-Ahern and Dr. Shen for their assistance.

Thank you to my parents for their support throughout my college career. Without them, none of this would have been possible.

## **Table of Contents**

<b>Introduction.....</b>	<b>1</b>
<b>Literature Review .....</b>	<b>4</b>
Environmental Communications Research .....	4
Framing Research .....	6
Gain/Loss Frames .....	9
Episodic/Thematic Frames.....	12
Predicting Persuasion .....	14
Behavioral Motivation Systems- BIS/BAS .....	14
Political Affiliation .....	16
Assessing Persuasion.....	16
Theory of Planned Behavior .....	16
Perceived Persuasion/Attitude Towards Ad/Thought Listing Technique .....	17
<b>Research Questions and Hypotheses.....</b>	<b>19</b>
<b>Methodology .....</b>	<b>20</b>
Overview .....	20
Participants .....	20
Procedure.....	21
Stimulus Material .....	22
Independent Variable.....	23
Control Variables.....	24
Gender.....	24
Age/Major .....	24
Environmental Consciousness .....	25
Possible Moderating Variables .....	25
Motivational Predisposition .....	25
Political/Social Views.....	26

Manipulation Check .....	27
Dependent Variables.....	27
Thought Response.....	27
Attention to Message .....	28
Theory of Planned Behavior .....	28
Attitude Toward the Behavior .....	29
Subjective Norm .....	29
Perceived Behavioral Control.....	29
Perceived Persuasion .....	30
Attitude Towards The Ad .....	30
Behavioral Intent.....	31
<b>Results .....</b>	<b>32</b>
Pre-Test Analysis.....	32
Survey Analysis.....	33
Scale Reliability .....	33
Manipulation Check.....	35
Hypotheses.....	35
Research Questions.....	37
<b>Discussion .....</b>	<b>41</b>
Limitations.....	44
Implications .....	44
Future Studies .....	45
Conclusion.....	46
<b>Appendix .....</b>	<b>48</b>
<b>Bibliography .....</b>	<b>67</b>

## Introduction

Jack Neff, in a recent AdAge article, questioned whether or not all this Green Advertising was making a difference. He wrote:

“It's been 40 years since the first Earth Day sent generations of marketers on a long journey toward ever-bigger green-marketing campaigns and almost four decades since a weeping Iron Eyes Cody implored Americans to "Keep America Beautiful"... But for all the green rhetoric from marketers, have the waste and pollution generated by the Great American Marketing Machine really been reduced? Are the reductions enough to make up for the increased waste and pollution generated by a growing population, economy and whole new categories of products? The answer, looking at data that track the big picture, is maybe and not quite.” (Neff, 2010, para. 1)

It is undeniable that there have been numerous companies advertising their products as “Green”<sup>1</sup> products, trying to educate the public about how to reduce waste, use less electricity and save our planet. But has it worked? Are media practitioners communicating the right message? Are they communicating a strong enough message to make changes in society? Neff (2010) suggests that although there have been many strides made, such as an increase in recycling and a decrease in the amount of energy used, the “Bottom line (is): Efforts by marketers, consumers and government regulators have demonstrably slowed the march of environmental damage over the past 40 years. But with a few exceptions, they haven't reversed the damage - yet” (Neff, 2010, para. 13).

With this in mind, it is important for advertisers to take a look at the tactics that they are using. Is there a better way to frame these environmental messages that could enact more change? There seems to be no general consensus as to what works and what doesn't in terms of

---

<sup>1</sup> When the word Green is used to mean ‘environmentally friendly’ and not referring to the color green, it is usually capitalized.

environmental messaging. This is a question that is going to have to be answered in the near future, because as Franklin and Markowitz (2009) write, “Selling the environmental attributes of products has been a niche marketing strategy for decades in the U.S., but in recent years Green marketing has gone main-stream. Fueled by growing media attention to global climate change and other environmental issues, the demand for ‘environmentally friendly’ products and services has soared” (para. 2).

Because there is an increase in environmentally friendly messages, practitioners are going to have to figure out the best way to break through the clutter and craft a convincing message that will motivate consumers to buy their product, participate in environmentally friendly behaviors, and in turn, help prevent more damage to the environment. For the purpose of this paper, it will be helpful to understand what exactly is classified as Green advertising, and what specific subset of this genre is being studied in this experiment.

Green advertising can be very broadly defined as “concerned with or supporting environmentalism, tending to preserve environmental quality (as by being recyclable, biodegradable, or nonpolluting)” (Merriam Webster Dictionary Online).

There are many different types of Green messages. Some are intended to sell a product, some are intended to sell a corporate image (Howlet & Raglon, 1992), and some are intended to better the world by bettering the environment. Banjeree, Gulas and Iyer (1995) define Green advertising as advertising that tries to sell a product because it is environmentally friendly. Banjeree et Al (1995) also defines Green advertising as the promotion of a Green lifestyle. In terms of this study, the researcher is mainly going to focus on the Green lifestyle category behaviors that individuals can practice in their lives that can help the environment. These

messages are usually disseminated in the form of public service announcements and are not tied specifically to any certain product or company.

The general research question that this study tries to answer is what type of environmental public service announcement will have the best effect on its viewers? Is there a certain type of Green public service announcement that works best? Do people like certain public service announcements better and therefore are more persuaded by them? This paper will explore different framing techniques used in environmental public service announcements in hopes of figuring out which is best suited to bring about a positive behavioral change.

## Literature Review

### *Environmental Communications Research*

There have been many Green advertising studies done in the past. Although they are varied in their design and specific subject matter, they can loosely be broken up into four groups. There are studies that focus on the Green consumer, the content of the ad, the persuasiveness of the ad, and lastly the ethics of the ad.

There is a body of literature that tries to answer the question, what does the environmental consumer look like and how do they respond to Green advertising claims? These studies indicate varied results. According to Hartmann and Apaolaza-Ibanez (2009) consumers will enjoy environmental messaging because they like to see beautiful scenes of nature. Because many people live in cities, these images can act as an escape and therefore allow the individual to like the message that is being conveyed through the natural image. Additionally, there are results that suggest that already Green consumers will enjoy Green advertising better, and will have a better attitude towards the ad (D'Souza, 2005; Hayko & Matulich). However, other researchers differ in their opinion and think that consumers, especially Green consumers, are skeptical about environmental claims in advertising (Shrum, McCarty & Lowry, 1995; Zinkhan & Carlson 1995). These studies argue that often times misleading or ambiguous environmental claims can lead to a negative perception of the products or services in the ad.

There is also a lot of literature about what an environmental advertisement looks like and what makes up the content of the message. There are a few studies that content analyzed what subject matter Green advertising usually portrays (Kilbourne, 1995; Howlett & Raglon, 1992). They break the ads down by the different types of nature scenes, including the depiction of

forests, wildlife, environmental crises, etc. (Howlett & Raglon 1992), as well as by the types of claims including ecologism, preservationism, conservationism and environmentalism (Kilbourne, 1995). Additionally, they break Green advertisements down by sponsor type, ad focus, depth of ad, frame (Bardwell, 1991; Banerjee, Gulas & Iyer, 1995), as well as level of Green-ness (Wagner & Hansen, 2002).

The third category of Green advertising research tries to figure out what types of environmental advertisements work? This is an under-studied area of environmental research; however there are a few papers that try to answer this question through a case study or experimental approach. Some studies take an experimental approach and show participants different frames and then gather data about attitude towards the ad as well as purchase intent (Stafford, Stafford & Chowdhury, 1996; Andersson & Bateman, 2000).

The frames can be broken down into types of environmental appeals, including health-oriented, energy issues, wildlife appeals and waste (Stafford, Stafford & Chowdhury, 1996), as well as categorizing the different ads into groups such as opportunity versus threat, close location versus far removed, and urgency versus non-urgency (Andersson & Bateman, 2000). Manrai, Lascu and Ryans (1997) looked at this issue and determined that moderate environmental claims work the best, while Lee and Holden (1999) suggest that an environmental advertisement must cause distress or empathy in order to motivate the viewers.

Schuhwerk and Lefkoff-Hagius (1995) suggest that employing any Green frame will always work better than employing a non-Green frame. However, Kilbourne and Carlson (2008) suggest that no matter what type of Green advertisement is being shown, there will always be an

attitude/behavior gap. That is, behaviors regarding the environment will always be very difficult to change even though the attitude may not be as hard to change.

The last category of Green advertising studies focus on the ethics of environmental claims. These studies argue that there is a lot of Green-washing being done and that there needs to be regulation in order to protect the consumer (Holder, 1991; Kangun, Carlson & Grove, 1991; Polonsky et. al, 1998). This genre of research also suggests that ads that are deceptive will not necessarily trick consumers and that companies should be aware that they need to avoid Green-washing as an advertising tactic (Carlson, Grove & Kangun, 1993; Nakajima, 2001).

Although there is a lot of research about Green advertising in general, more can be done in the area of evaluating the persuasiveness of the message. More research is needed in order to figure out what kinds of Green advertisements have the greatest likelihood of producing a behavioral change.

### ***Framing Research***

One of the main goals of media is to persuade people to think certain ways and to do certain things. According to O'Keefe (2002), "regardless of the particular vehicle for mass media persuasion (advertising, news, entertainment) and regardless of the particular medium involved, the nature of mass media persuasion can be illuminated by considering a general theoretical framework for understand the process of persuasion" (p. 3). One framework is based on the framing of an issue. As defined by Nelson, Oxley and Clawson (1997), framing is "the process by which a communication source constructs and defines a social or political issue for its audiences" (p. 221). Additionally, Chong and Druckman (2007) define framing as, "the process by which people develop a particular conceptualization of an issue or reorient their thinking

about an issue” (p. 104). As can be seen by these two definitions, framing is important because it takes an issue and presents it in a particular way to the audiences which, in turn may influence the way in which the issue is viewed.

In order for a frame to work, there has to be preexisting knowledge about the subject at hand. Framing simply emphasizes a certain point of view, or certain elements of an issue. It does not define a problem in its entirety. According to Chong and Druckman (2007), this is why it is important to evaluate frames in communications, because they in essence “organize everyday reality by providing meaning to an unfolding strip of events, and promoting particular definitions and interpretations” (p. 106).

There are many different types of framing studies that vary both in design and subject of study. Some framing studies are done by content analyzing existing media content (usually news content) to better understand what types of frames are being used to describe current events. Policy makers can frame issues, journalists can frame issues, and also, public discourse about the subject can cause a certain framing of an issue (Zhou & Moy, 2007). Different frames can result in differing interpretation and opinions of the issue at hand. Chong and Druckman (2007) challenge researchers to understand how competitive frames impact public opinion based on attitude and persuasion theories. This type of research would be done by using an experimental design, combining frames and also response to these frames based on persuasion theories.

Framing is often talked about in relation to priming and agenda setting. It is similar to these other concepts, but there are distinct differences that should be noted. Agenda setting has two different parts. “First level” agenda setting refers to how the media can shape what issues are important. “Second level” agenda setting refers to how messages can shape what aspects of a

certain issue are salient. According to Weaver (2007), second level agenda setting and framing are very similar because they highlight certain aspects of an issue, and orient the reader toward a certain way of thinking.

Priming is also linked to framing. According to Entman (2007), “Framing works to shape and alter audience members’ interpretations and preferences through priming. That is, frames introduce or raise the salience or apparent importance of certain ideas, activates schemas that encourage target audiences to think, feel and decide in a particular way” (p. 164). Although framing is based on how the audience will understand an issue, repeated frames may also cause accessibility of certain arguments or standards that are used to judge issues.

One key difference between agenda setting/priming and framing is where the theories come from. Framing is based on a sociological concept explicated by Goffman in “The Presentation of Self in Every Day Life” (Goffman, 1959). Goffman describes how a character must present themselves in a coherent way, in essence “frame” themselves fully so that they can be understood. On the other hand, priming/agenda setting are based on accessibility theories (Weaver, 2008). Accessibility theories suggest that a person may make a decision because the thought or schema was accessible in their mind (Weaver, 2008).

In conclusion, framing an issue is necessary not only to make an issue salient to its audience, but also to present information in a way that will help correct impression be formed of the issue (Scheufele & Tewksbury, 2007). Frames, “become invaluable tools for presenting relatively complex issues,” (Scheufele & Tewksbury, 2007) such as messages about the environment.

## *Gain/Loss Frames*

Although in framing research there are many different types of framing evaluations that are used; one of the most common is the gain/loss frame approach. A gain- frame is simply when the benefits of using a product or doing a behavior are emphasized, whereas a loss frame is when the potential losses of not using a product or going through with a behavior are emphasized.

The concept that these frames are indeed different and can elicit dissimilar responses from viewers, especially in the context of health messages, came from Prospect Theory (Kahneman & Tversky, 1979). Prospect theory posits that recipients of a message will respond differently if they receive a gain (emphasizing benefits) framed message versus a loss (emphasizing costs) framed message. Based on the amount of probability and utility, the theory states that, “Individuals tend to seek out risks when considering the potential negative consequences (or losses) associated with a choice and tend to avoid risk when considering the benefits (or gains) associated with a decision” (Latimer et. al, 2008). This is a theory that has its roots in psychology; however it is very applicable to communications research.

Since its development, this theory has been expanded upon in health communications research. The general idea taken from Prospect Theory is that loss- framed messages would work to encourage detection behaviors and gain- framed messages would work to encourage prevention behaviors, however, many articles have used this theory as a spring-board to test general differences between gain- and loss- framed messages. Many different mediators and moderators and additional variables have been added and the results of this research has revealed quite different findings.

Some scholars have found in their research that loss frames are more effective (Leshner & Cheng, 2009; Edwards, Elwyn, Covey & Pill, 2001; O’Keefe & Jensen, 2009; Cho & Boster, 2008; Gayer, Landman, Halperin & Bar-tal, 2009; Umphrey, 2001; Major, 2009). Whether the loss frame was paired with a thematic message, or an extreme message, a common theme was that loss framed messages take a long time to process (Umphrey, 2001; Leshner & Cheng, 2009). This long processing time results in an individual being more likely to remember the message. Additionally, Major (2009) concluded that this “complex information processing” (p. 184) can help the processor of the information to understand their social responsibility. Social responsibility is a key concept when dealing with an issue regarding the environment.

Cho and Boster’s (2008) findings indicate that loss frames are more persuasive than gain-frames especially when the behavior is difficult to do. This goes along with many findings indicating that loss frames in health communications get individuals to participate in voluntary medical screenings that many individuals do not have the motivation to take part in (Edwards et al, 2001). Loss framed messages were also found to leave the recipients of the message more open to change (Gayer, Landman, Halperin & Bar-Tal, 2009). Lastly, loss frames were also found to have a greater impact when the participants’ self-efficacy was high (Reit et al. (2008).

While the studies mentioned previously indicate that loss- framed messages will lead to more persuasive results, others indicate that gain- frames work better and have more overall persuasive ability in certain circumstances (Rothman, Bartles, Wlaschin & Salovey, 2006; Hoffner & Ye, 2009; Latimer et al., 2008; Detweiler, Bedell, Salovey). Additionally, Andersson and Bateman (2000) discovered in their content analysis of environmental communication that gain frames were used more overall. They did not have any findings about the efficacy of these gain- framed appeals.

As seen above, there is a lot of conflicting data as to whether gain or loss framed messages work better. Some scholars have encountered this issue in their studies. O'Keefe and Jenson (2009) did a meta-analysis of many health communications and found that loss frames were only slightly more effective. The difference was only approaching significance. Additionally Bardwell (1991) suggested that a dual approach of both gain and loss framed appeals was the most effective for the transmission of an environmental message.

There is also research that suggests that it depends on the circumstance as well as individual differences as to whether gain- or loss- frames are more persuasive. Some research focuses on the individuals' state at the time of receiving the message. Keller, Lipkus and Rimer, (2003) found that the efficacy of the message depends on the individual's mood. If they were in a bad mood, a gain frame worked better, however if they were in a good mood a loss frame worked better. Smith and Petty (1996) had similar findings in that the frame that was least expected, worked better for each individual. Uskul, Sherman and Fitzgibbon's (2009) results suggest that the effectiveness of a gain versus loss framed message is dependent on how congruent the message is with the culture that it is being presented to. Lastly, Gerend and Cullen (2008) suggest that gain- frames work better for behaviors that need to be changed in the short-term; however, there is no difference between the effects of the frames seen in long-term behavioral change.

There is also literature that says that the efficacy of the frame depends on what is present in the message, as well as what kind of behavior is being addressed. Hoffner and Ye (2009) suggest that both gain- and loss- frames work better than a control condition, and that gain-frames work especially well when paired with an exemplar in the message. Consistent with Prospect Theory, some researchers found that gain- frame messages help get individuals to focus

on the prevention of a disease whereas loss framed messages help individuals to focus on getting the tests need to detect if they have an illness (Apanovitch, McCarthy, & Salovey, 2003; Schneider, et al., 2001; Detweiler, Bedell, Salovey; Rothman, Martino, Bedell, Detweiler, & Salovey, 1999). Gerend, Shepherd and Monday (2008) had contrasting findings in that loss framed messages work better for prevention for something that only has to be done once, like getting an HPV vaccination.

### *Episodic/Thematic Frames*

Within framing research there is a body of literature about the use of episodic and thematic frames. In past research they have been used most to study the framing of a news story, but they could also be quite useful when looking at the effect that an advertisement has on its viewers. Episodic frames “present an issue by offering a specific example, case study, or event oriented report...” whereas “...thematic frames place issues into a broader context” (Gross, 2008, p. 171). Iyenger (1991, 1990) was one of the first individuals to study episodic- versus thematic-frames in the context of a news story and how it influences perception of the issue and the attribution of responsibility. His findings indicated that episodic- frames elicited more responsibility from the individual, whereas thematic- frames elicited a response that focused on societal change.

Since Iyenger’s studies there has been a lot of research about episodic- and thematic-frames in terms of news coverage (Jha, 2007; Dimitrova, 2006; Matthes, 2009; & Major, 2009). Carlyle, Slater and Chakroff (2008) content analyzed news stories about inmate violence and discovered extremely episodic- framing. Some studies like Dimitrova’s (2006) simply show a shift from episodic coverage of issues to thematic coverage of issues. Some studies compare the two frames. Major (2009) found that thematic news coverage of issues was better because it

allowed individuals to better understand large societal issues. Gross (2008) argued that episodic framing elicited the most emotion, however, not a strong enough emotion to be persuasive. She argued that thematic- framing was the more persuasive of the two frames when trying to influence a behavioral change.

Neff, Chan and Smith (2008) did a content analysis of newspaper articles about food/nutrition and its effect on the environment. Their results indicated that at first, these issues received press relating to what specific individuals can do (a more episodic- frame), however over the course of time, articles became more thematic in nature (addressing what needs to be done in general, and by bigger institution like business and government). The authors suggest that the disadvantage of a more episodic- framed message in terms of news coverage is that it might be considered something to put in the lifestyle section of the newspaper, meaning it was less newsworthy. This could lessen the article's influence and make it seem like less of a problem.

On the other hand, Micheletti and Stolle (2007) suggest a different approach. Their study looked at episodic- and thematic- frames and their ability to get viewers to take responsibility for making a change. Their results indicated that episodic- frames persuaded viewers to take a personal stance and fight for what is right individually, whereas thematic- frames had less of an impact on the individual viewer. The authors argue that it is the individuals who will persuade governmental bodies and corporations to make a change.

Based on the findings of Neff, Chan and Smith (2008) as well as Micheletti and Stolle (2007) it seems that episodic- frames inspire an individual whereas thematic- frames are

hypothesized to have more of an effect on larger entities. Perhaps different frames work better based on which kind of audience needs to be persuaded to make a change.

Overall, there is no definitive evidence as to which frame works better, especially when transmitting environmental messages. Also, there have not been a lot of studies done that address the thematic and episodic frame in the context of an advertisement instead of a news story.

### ***Predicting Persuasion***

There are many variables that have been incorporated into communications studies that have been shown to affect the persuasiveness of a message. Whether they moderate the effectiveness of the message, or are correlated with the outcome, it is important to understand what effect they have on the viewer. This study included a few of these variables and the reasons for their inclusions are presented below.

### ***Behavioral Motivation Systems- BIS/BAS***

It is important to understand how an individuals' personal preference may affect their perception of a message. Research about behavioral motivation systems takes personal preference into account. Many articles cite Gray as the first person to propose the idea of the Behavioral Approach System (BAS) and Behavioral Inhibition System (BIS). He proposed that the BAS is about people's behavior in response to incentives, and good outcomes, whereas the BIS is people's behavior in response to threats and possible bad outcomes.

These theories are directly linked to framing theory. As stated by Shen and Dillard (2007), "There is an interaction between BIS/BAS and message frame on persuasion such that BIS correlates positively with dominate cognitive response under disadvantage framing, but BAS

does so under advantage framing” (p. 433). According to their research, there was not only more emotional arousal and cognitive response when the frame and the motivation system were aligned, but there was also greater persuasion achieved because of the messages communicated.

Theories about BIS/BAS motivational systems have been used to evaluate numerous types of communication. Many of these studies have to do with health communications (Scholten, Honk, Aleman & Kahn, 2006; Shen & Dillard, 2007). These studies vary from obesity related health messages to flu prevention messages (Shen & Dillard, 2007), and use both advertisements and public service announcements as the type of communication that they are trying to evaluate.

Additionally, Sherman, Mann, and Updegraff (2006) describe this type of alignment as a ‘congruency effect.’ The study tested whether alignment with an individuals’ motivational system was key to the understanding of the message and the persuasive ability. The findings indicated that, “Participants who read a congruently framed message had greater flossing efficacy, intended to floss more, and used more dental flosses than did the participants who read an incongruent message. Moreover, intention to perform the behavior predicted the congruency effect and self-efficacy mediated participants’ intentions to perform the health behavior” (abstract).

These theories have pertinence in research about Green messages, because perhaps there are better ways to reach different people respectively. Maybe gain/loss frames will not work for every person in the population, and instead work for different people in different ways. If there are certain ways to reach different types of people, that will help them to agree with a well-intentioned message about saving the environment, then communication practitioners should be aware of this.

### *Political Affiliation*

Political party affiliation has also been shown to affect individuals' perception of environmental issues as well as what has to be done in order to protect the environment. Ellen, Wiener and Cobb-Walgren (1991) found that democrats were much more likely to think that governmental regulations were necessary in order to preserve the environment. This is an interesting discovery especially when taking into consideration the different effects found between episodic- and thematic- framing of an issue. As described above about episodic- and thematic- framing, episodic- frames tend to place the blame on the individual whereas thematic- frames tend to place the blame on a collective group (Iyengar, 1990). Although there has not been any research linking these frames and their effectiveness with individuals with different political party affiliation, there could possibly be a link that should be explored.

### *Assessing Persuasion*

There are also a number of ways to assess how persuaded a recipient was by a message. Many studies have used the Theory of Planned behavior, direct measures of behavioral intent, attitude towards the message, and the thought response techniques.

### *Theory of Planned Behavior*

The Theory of Planned Behavior is important to reference when assessing how to change an attitude and ultimately a behavior. The Theory of Planned Behavior was developed by Ajzen (1991) and posits that there are three aspects of a behavior change. They are attitude, subjective norm and perceptions of behavioral control (Ajzen, 1991).

Although in many studies a few direct questions addressing behavioral intent are asked, the Theory of Planned Behavior combines the three variables mentioned above in order to obtain a composite measure of behavioral intent. Perloff (2010) writes that using the Theory of Planned Behavior is something to consider, especially when evaluating a persuasive message that might be hard to follow through with, like quitting smoking, or in the case of this study, buying local. Not only does the theory assess attitude towards the behavior, it also addresses two other issues that could help or hinder the actual performance of the behavior.

#### *Perceived Persuasion/Attitude Towards Ad/Thought Listing Technique*

There are many other variables that have been used in the past to help researchers to assess message persuasion. At times individuals are asked to respond to questions assessing their perceived persuasion (Gunther & Thorson, 1992). At other times attitude towards the ad has been the variable of interest. Occasionally participants are asked to indicate their attitude by filling out Likert-type questions (Dillard & Peck, 2000; Smith & Petty, 1996). However at other times thought listing techniques are used (Cacioppo, Hoppel, & Ernst, 1997; Wright, 1980). Understanding how a person responds instantly, and what thoughts are going through their mind directly after the viewing of a message has been noted as important, because it allows the researcher to understand how much processing is going on (i.e. how many thoughts the individual has), as well as if the individual's current attitude is positive, negative or neutral.

In summary, the message factors are gain- and loss- frames as well as episodic- and thematic- frames. The dependent variables of interest in this study are personal behavioral intent, public policy support, attitude toward the public service announcement, attitude toward the

behavior, subjective norm, perceived behavioral control, perceived persuasion, and attention to the message.

All of the above research has caused the researcher of this study to be interested in a number of connections between the variables described. Based on the forgoing, the researcher posed the following hypotheses and research questions. Because environmental concern is known to impact attitudes and behaviors relative to environmental messages, all of the following analysis was also conducted with environmental concern as a control variable (when possible).

## **Research Questions and Hypotheses**

H1a- Participants who view a loss- framed message will report more positive behavioral intent than participants who view a gain- framed message.

H1b- Participants who view a loss- framed message will report more positive public policy support than participants who view a gain- framed message.

H2a- Participants who are more environmentally conscious will have more positive behavioral intent than participants who are less environmentally conscious

H2b- Participants who are more environmentally conscious will have more positive public policy support than participants who are less environmentally conscious

H3a- Participants whose motivational system is aligned with message gain/loss frame will report more positive behavioral intent than participants whose motivational system is not aligned with message gain-loss frame.

H3b- Participants whose motivational system is aligned with message gain/loss frame will report more positive public policy support than participants whose motivational system is not aligned with message gain-loss frame.

RQ1- Is there a difference based on message factors on the dependent variables of interest?

RQ2- Does political orientation moderate the effect of message factors on behavioral intention and public policy support?

RQ3- Is there an interaction between message factors and BIS/BAS on the dependent variables of interest?

## **Methodology**

### ***Overview***

In order to answer the research questions posed, the researcher conducted an experiment in December 2010. The experiment included four separate stimulus materials, and was a 2x2 between subjects design.

### ***Participants***

The participants in the study were made up of a convenience sample of 173 Penn State undergraduate students from an Introduction to Advertising class. The survey was conducted in class, and students were randomly assigned to a condition of the independent variable that they viewed. Each participant was asked the same pre and post questions in the survey no matter which condition they were assigned to.

The sample had varied majors; however, most participants indicated that their primary major was within the College of Communications. Of the 173 participants, 79% of respondents were in the College of Communications, 6.8% were in the College of Liberal Arts, 6.3% were in the Smeal College of Business, 5.1% were in the College of Arts and Architecture, and 2.9% were from other colleges. There were a greater amount of females participating in the study, due to the composition of the students in the College of Communications at Penn State. Of the sample in this study, 81.2% were female and 18.8% were male.

Condition 1 (Gain/Episodic) was viewed by 24.4% of the participants, condition 2 (Gain/Thematic) by 23.9%, condition 3 (Loss/Episodic) by 26.7% and condition 4 (Loss/Thematic) by 25%.

## *Procedure*

The procedure for the pre-test was as follows. The researcher went into two different communications classes and collected a convenience sample of 46 undergraduate students. They were given the implied consent form and were randomly assigned to one of the four experimental conditions. After viewing the ad they were given a shortened survey that focused on addressing the stimulus design. Participation was voluntary. Upon completion, the surveys were collected and the class was thanked.

The procedure for the actual survey was as follows. The survey was administered in a large lecture hall at the Pennsylvania State University. The students in the Introduction to Advertising Class, offered by the College of Communications were able to receive 1 extra credit point for participating in the experiment.

It was announced via e-mail to a large lecture hall class at Penn State that they would have the opportunity the following week to participate in a study during their regularly scheduled class. They were also told that by participating in this study they would be able to earn 1 extra credit point that would go towards their class grade. Participation was not mandatory, and another option of reading an AdAge article and writing a 1 paragraph summary was available for those who did not wish to participate in the study.

Many students chose to participate in the study and they were each assigned randomly to one of the four stimulus conditions by randomly distributing the surveys in the large lecture hall class. Each survey had a consent form where the participants were informed that by continuing to take part in this study they were showing implied consent. The participants were given 15

minutes to complete the survey and then the papers were collected and the students were thanked for their participation.

***Stimulus Material***

*Episodic/Thematic*

A: Gain / Episodic	C: Gain / Thematic	<i>Gain/Loss</i>
B: Loss / Thematic	D: Loss / Episodic	

The stimulus material for this study consisted of four different public service announcements. Based on previous framing literature the researcher manipulated two different types of frames, both gain-/ loss-, and episodic-/thematic-. This was done by developing four different public service announcements with slightly different text and also different background images.

The researcher made sure that the stimuli were as similar as possible in terms of word count and layout, in order to diminish any possibility of change in response do to anything except for the intended frame changes. Each stimulus was printed out on an 8.5”x11” sheet of paper, and was in full color. Each background image took up the whole page, with a ¼” margin around each side of the paper. The text was centered in the middle of the image, and was evenly dispersed from the top to the bottom of the page. The heading and body paragraph font as well as size remained consistent.

The differences in the frames were as follows. The gain-/loss- frame was manipulated in 2 ways. The first way was done by changing the image. The gain- frame had a happy, pretty picture of a green field behind the text and the loss- frame had a dark, smog-filled picture of a long-haul truck behind the text. The second way that this manipulation was done was through

text. The loss- frame text focused on what the individual could lose by not being environmentally friendly, whereas the gain- frame focused on what they could gain.

The episodic/thematic aspect of the stimulus was manipulated strictly through the text. The episodic- frame talked about a Farmer, Mike, from Way Fruit Farm. The thematic frame referenced more national statistics about long-haul trucking.

### ***Independent Variable***

The values of the independent variable in this study were the stimulus materials. Each represented a different combination of frames. Condition 1 and 2 represented gain, while condition 3 and 4 represented loss. Conditions 1 and 3 also represented the episodic- frame, while 2 and 4 represented the thematic- frame.

The subject matter for these public service announcements centered on the issue of buying locally. This issue was chosen for multiple reasons. First, unlike recycling, this issue has not seen as much coverage in previous public service announcements. Therefore, there is the possibility that students participating in the survey wouldn't have already formed a complete view of the issue. This would hopefully allow the participants to be affected more by the stimulus material that they saw instead of their preconceived notions of the issue at hand. Additionally, the researcher wanted to stay away from environmental issues that had a high price point in order to participate. These would be issues such as buying an environmentally friendly car, or converting your house to solar panel energy. These behaviors are impossible for most students to do, or even consider at this point in their life. Therefore, the issue of buying local was chosen.

There are many local markets/farms in the state college area, and almost all the students know about/have previously shopped at the Wal-Mart in State College. Buying local was deemed a very accessible issue to present to students that would be highly relevant to their current lives, and thus adequate for the environmental subject matter of the current study.

### ***Control Variables***

The control variables in this study were the participants' gender, age, major and level of environmental consciousness.

#### *Gender*

According to a 2006 Gallup Poll, women were more sympathetic to environmental issues; therefore this is a variable that may affect the results of the current study because it has to do with an environmental issue. In order to control for this, participants were asked to indicate whether their gender was male or female.

#### *Age/Major*

Additionally, the researcher controlled for both age and major. These two control variables consisted of 1 question each. One question asked the participant to indicate their age, and one question asked the participants to indicate the college of their primary major. This was so that the researcher was aware of how diverse the sample was when trying to generalize to a larger population. Additionally it allowed the researcher to see if the participants' interest in a major or slight age difference made a statistical difference in their responses in other parts of the survey.

### *Environmental Consciousness*

Participants were also asked a number of questions to assess their level of environmental consciousness. This was done to control for the fact that certain people are already more environmentally conscious than others, and therefore could possibly be more open to participating in the presented environmental efforts. The scales used to evaluate this control variable were taken from Riley and Dunlap (2000), in addition to Lee and Holden (1999). The Riley and Dunlap scale used was the revised version, consisting of 15 questions. It asked individuals to respond on a 7-point Likert-type scale to statements such as ‘We are approaching the limit of the number of people the earth can support,’ and ‘Humans are severely abusing the environment.’ An additional three questions, taken from the Lee and Holden (1999) scale were asked. These questions address general environmental concern and asked individuals to respond to three questions on a 7-point Likert-type scale. The questions included ‘I am upset about the environmental situation,’ ‘I am disturbed about the environmental situation,’ and ‘I am worried about the environmental situation.’

### *Possible Moderating Variables*

The possible moderating variables that were evaluated in this study were individuals’ motivational predisposition as well as their political/social views.

### *Motivational Predisposition (BIS/BAS)*

Especially in a framing study that involves gain/loss frames, it is important to understand if individuals’ motivational predisposition might incline them to respond to one or the other frame more favorably. That is participants who score high on the Behavioral Activation System (BAS) might be predisposed to respond more favorably to gain framed messages, where as those who score high in the Behavioral Inhibition System (BIS) might respond more favorably to loss

framed messages. In order to evaluate this moderating variable, Carver and White's (1994) scale was used. The scale consisted of questions that asked about individuals' aversion to risky behaviors, enjoyment of fun, thrill seeking behaviors and reward responsiveness in order to figure out if they were more prone to BAS or BIS tendencies.

There were three different categories of questions asked. The first evaluated the BAS drive. This section consisted of questions like, 'When I want something I usually go all-out to get it' and 'When I get something I want, I feel excited and energized.' The next section evaluated BAS fun seeking with questions such as 'I often act on the spur of the moment' and 'I crave excitement and new sensations.' The third category of questions evaluated BAS reward responsiveness and consisted of questions such as 'It would excite me to win a contest,' and 'When I go after something I use a no holds barred approach.' There were also questions intermixed in the three sections that evaluated the individuals' BIS, such as 'Criticism or scolding hurts me quite a bit' and 'I worry about making mistakes.'

Participants were asked to answer all of the above mentioned questions on a 7-point Likert-type scale. These questions were asked, before exposure to the stimulus.

#### *Political/Social views*

It is thought that participants' political and social views might affect how receptive they are to differently framed messages. Iyengar (1991) found political identity moderates episodic/thematic framing effects, but this relationship is dependent on the issue at hand and has not been clearly explicated. Perhaps if an individual is more conservative, they would be influenced more by loss framed, thematic messages, where if an individual was more liberal,

they would be influenced by more gain framed episodic messages. In addition, the individuals' political affiliation is also thought to have an effect on support for public policy implementation.

In order to evaluate this variable, each individual was asked to indicate their political preference on a scale from 1 to 7, 1 being liberal Democrat, 7 being conservative Republican, and 4 being unaffiliated/undecided. This scale was used because it helped the researcher group people into broad groups of Democrats and Republicans. This question was asked at the end of the survey so as not to impact other measures.

### ***Manipulation Check***

The two questions directly following the thought-listing exercise were the manipulation checks. Although the stimulus did produce the intended result in the pre-test, this manipulation check would insure consistency. In order to gauge how episodic or thematic the participant thought the stimulus was, they were asked to respond to the question, 'Was this public service announcement about something happening here in Happy Valley or something happening across the US' on a 7-point Likert-type scale. The question that addressed whether the participant viewed the stimulus as gain or loss framed was, 'Was this appositive message or a negative message.' The respondents were again asked to indicate what they thought on a 7-point Likert-type scale.

### ***Dependent Variables***

#### ***Thought Response***

In order to assess participants' initial reactions to the stimulus material, they were asked to report their initial thoughts in written form. They were given a sheet with 8 blank boxes and were asked to list as many thoughts as they wanted, one per box. This technique has been used

previously by other scholars, and is referred to as the ‘thought-listing technique.’ The prompt was modeled after one used by Cacioppo, Hippiel and Ernst (1997). This technique was used to help the researcher assess, along with attitude towards message and attitude towards issue scales, whether there was an initial positive or negative reaction to the information presented. If the other aspects of the survey did not produce results, these answers would be coded using a detailed coding scheme to insure consistency.

### *Attention to Message*

In this study, a self-reported attention scale was used. This was to enable the researcher to see if the participants thought that they were expending a lot of cognitive resources and paying attention to the stimulus material presented. There were three questions in the survey that addressed this variable and they were adapted from the Marketing Scales Handbook (Bruner, Hensel & James, 2005, p.681). The questions included, ‘I paid a lot of attention to the contents of this message,’ ‘I expended effort thinking of the contents of this message,’ and ‘I concentrated on the contents of the message.’ Participants were asked to respond on a 7-point Likert-type scale with 1 indicating disagree completely and 7 indicating agree completely.

### *Theory of Planned Behavior*

There are three important aspects of the Theory of Planned Behavior (Perloff, 2010). They include subjective norm, attitude towards the behavior and perceived behavioral control. Each aspect of this theory was tested in this survey in order to more fully understand how a message can affect the viewers’ behavior.

### *Attitude Toward the Behavior*

In order to evaluate attitude towards the behavior a semantic differential scale that is identical to the one that Ajzen (2006) proposed was used. It consisted of one question with five different response scales. The question was ‘For me, buying local is...’ The five response scales were harmful-beneficial, pleasant-unpleasant, good-bad, worthless-valuable, and enjoyable-unenjoyable.

### *Subjective Norm*

In order to evaluate the subjective norm variable, four questions modeled after Ajzen’s scale (2006) were asked. The first set had to deal with what the individual thinks that others think they should do. This section asked participants to respond to statement such as ‘Most people who are important to me think that I should/should not buy local produce,’ and ‘It is expected of me that I buy local produce.’ The second portion of questions dealt with what the participant actually thinks that the other person does in their own life. It asked participants to respond to statement such as ‘Most people who are important to me buy local produce,’ and ‘Many people like me buy local produce.’ All participants responded to these questions on 7-point Likert-type scale.

### *Perceived Behavioral Control*

In order to evaluate perceived behavioral control, a set of questions were adapted from Ajzen’s TPB questionnaire (2006). The questions not only set out to evaluate the person’s capability of performing the action, but also how much control they believed they had in terms of performing said actions. One question evaluating the respondents’ capability asked participants to indicate on a scale from impossible to possible, their reaction to the following prompts, ‘For

me, buying local produce would be...’ The questions that evaluated an individual’s ability to control their actions relating to this behavior were, ‘If I wanted to I could buy local produce’ with end points being definitely false and definitely true, ‘How much control do you believe you have over buying local produce’ with end points being no control and complete control, and ‘It is mostly up to me whether or not I buy local produce’ with end points being strongly agree and strongly disagree.

### *Perceived Persuasion*

Participants were also asked to do a self-report about perceived persuasion. Perceived persuasion is an important measure, because as Dillard, Weber, and Vail (2007) discuss, actual persuasion is hard to measure in certain cases. In their study they find that self-reported persuasion is a good proxy of actual persuasion. In order to evaluate this variable, the participants were asked to respond to one statement in two different ways. The statement read “The public service announcement that you just saw was...” and participants were asked to respond on a 7-point Likert-type scale with end points being ‘not at all persuasive,’ and ‘very persuasive’ as well as ‘not at all convincing’ and ‘very convincing.’

### *Attitude Towards The Ad*

In order to take into consideration that different people might respond differently to each stimulus material, an attitude towards the ad variable was added to the latter part of the study. This was added in order to be able to evaluate whether the participants’ attitude toward the ad moderated their other opinions of the issue. In order to evaluate this variable four questions were asked. Participants were asked to indicate what they thought of the public service announcement that they just saw by responding on 4 semantic differential scales with end points being not

interesting/interesting, not enjoyable/enjoyable, not informative/informative and not believable/believable. This scale was taken directly from the Marketing Scales Handbook (Bruner, Hensel & James, 2005, p. 687).

### *Behavioral Intent*

Behavioral intent in this study was divided into two categories. The first was personal behavioral intent. The second was behavioral intent in terms of public policy support. These two types of behavioral intent are very relevant to this study, because they are the change that advertisers and public relations practitioners are trying to make happen and what could help the world recover from the environmental damage that has already been done. These two variables were evaluated by using a scale proposed by Ajzen (2006) asking participants to indicate how much they agreed or disagreed with statements such as ‘I intend to buy local produce,’ ‘I will try to buy local produce,’ and ‘I plan to buy local produce.’

There were also three questions regarding participant’s behavioral intent in terms of public policy. They asked participants to indicate how much they agreed or disagreed with the statements ‘I would support a tax on non-locally grown produce in order to increase the buying of local produce,’ ‘I would support federal subsidy policies in order to encourage local farmers to continue to grow seasonal produce,’ and ‘I would support a national policy that required University dining halls to buy at least 50% of their produce locally.’ All questions regarding behavioral intent were measured on a 7-point Likert-type scale.

## Results

### *Pre-Test Analysis*

In order to analyze the pre-test, an independent samples t-test was conducted on both the manipulation of gain/loss as well as thematic/episodic. Two t-tests were run for each because two questions were asked in the manipulation check for each frame type.

Questions one and two addressed the episodic/thematic framing effect of the stimulus. Participants were asked to respond to these questions on a 7-point Likert-type scale with 7 meaning the message was perceived as more thematic- framed and 1 meaning the message was perceived as more episodic- framed. The results of the independent samples t-test are as follows. For question one the thematic- framed messages ( $M = 6.29, SD = 1$ ) scored significantly higher than episodic- framed messages ( $M = 2.27, SD = 1.42$ ),  $t(44) = 11.18, p < .001$ . The results of the independent samples t-test for question two showed that the thematic frame ( $M = 6.67, SD = .76$ ) scored significantly higher than the episodic- frame ( $M = 2.55, SD = 1.57$ ),  $t(44) = 11.51, p < .001$ .

Question three and four addressed the gain-/loss- framing effect of the stimulus. Participants were asked to respond to these questions on a 7-point Likert-type scale with 7 meaning the message was perceived as more gain- framed and 1 meaning the message was perceived as more loss- framed. The results of the independent samples t-test are as follows. For question three the gain- framed messages ( $M = 5.45, SD = 1.65$ ) scored significantly higher than the loss framed message ( $M = 2.16, SD = 1.09$ ),  $t(44) = 8.02, p < .001$ . The results of the independent samples t-test for question four showed that the gain- frame scored ( $M = 5.45, SD = 2.01$ ) scored significantly higher than the loss- frame ( $M = 1.75, SD = 1.25$ ),  $t(44) = 7.5, p < .001$ .

The pretest results showed that the difference between the episodic/thematic and gain-/loss- frame were clearly perceived by participants.

### *Survey Analysis*

After the surveys were collected the researcher gave each survey a unique number. They were then entered into SPSS. Many items in the New Environmental Paradigm scale were reverse coded, as done by Dunlap, Van Liere, Mertig and Jones (2000). Additionally, several of the items in the BIS/BAS scale were reverse coded. After examining the data, there were 173 useable cases out of the 176 that were obtained. (Three cases were deleted because of missing data).

### *Scale Reliability*

Following the recoding, each variable was checked for reliability. The Table 1 shows the results of the reliability tests. The reliability for every scale was sufficiently high (greater than .7) except for the 'BAS Reward Response' scale ( $\alpha=.682$ ).

Table 1

*Cronbach's Alpha Scores for Each Scale Employed in Data Analysis*

<b>Scale Name</b>	<b># of items in the scale</b>	<b><math>\alpha</math></b>
BAS Drive	4	$\alpha = .773$
BAS Fun Seeking	4	$\alpha = .773$
BAS Reward Response	5	$\alpha = .682$
BIS	7	$\alpha = .790$
NEP	15	$\alpha = .747$
Environmental Concern	3	$\alpha = .841$
Self-Reported Attention to Message	3	$\alpha = .882$
Attitude Toward the Behavior	5	$\alpha = .919$
Subjective Norm	6	$\alpha = .778$
Perceived Behavioral Control	4	$\alpha = .846$
Behavioral Intent- Personal	3	$\alpha = .939$
Behavioral Intent- Policy	3	$\alpha = .757$
Perceived Persuasion	2	$\alpha = .927$
Attitude Toward Ad	4	$\alpha = .866$

### *Manipulation Check*

Consistent with the pre-test, the manipulation checks in the survey indicated that the various frames in the stimulus materials were being perceived differently.

The first manipulation check addressed the episodic-/thematic- framing effect of the stimulus. Participants were asked to respond to the question on a 7-point Likert-type scale with 7 meaning ‘across the US,’ (thematic) and 1 meaning ‘Happy Valley’ (episodic). The thematic-framed message ( $M= 6.37$ ,  $SD= 1.04$ ) scored significantly higher than the episodic- framed message ( $M= 3.47$ ,  $SD= 2.32$ ),  $t(171) = -10.5$ ,  $p < .001$ .

The second manipulation check addressed the gain-/loss- framing effect of the stimulus. Participants were asked to respond to the question on a 7-point Likert-type scale with 7 meaning ‘positive’ (gain) and 1 meaning ‘negative’ (loss). The gain- framed message ( $M = 5.49$ ,  $SD= 1.5$ ) scored significantly higher than the loss- framed message ( $M = 3$ ,  $SD= 1.76$ ),  $t(172) = 9.95$ ,  $p = <.001$ .

### *Hypotheses*

The first hypothesis predicted that participants would have a greater behavioral intent (both personal and legislative) if they were exposed to a loss- frame message. After doing an independent samples t-test, results showed that participants who were exposed to a loss- frame message ( $M=4.98$ ,  $SD=1.45$ ) did not report a greater personal behavioral intent than participants who viewed the gain- frame message ( $M=4.98$ ,  $SD= 1.36$ ),  $t(171)= -.006$ ,  $p=.49$ . For H1a the null was not rejected.

The results for public policy behavioral intent were similar, showing that participants who were exposed to a loss- frame message ( $M=4.88$ ,  $SD= 1.4$ ) did not report a greater legislative behavioral intent than participants who viewed the gain frame message ( $M= 4.88$ ,  $SD= 1.46$ ),  $t(171) = .38$ ,  $p=.48$ . Therefore, for H1b the null was not rejected.

Hypothesis 2a and 2b predicted that the more environmentally conscious an individual was, the more personal as well as public policy behavioral intent they would indicate post stimulus exposure. Correlation tests were run with both variables that measured environmental concern (NEP scale and Environmental Concern Scale) as well as both behavioral intent items to determine if this hypothesis was true. The variables were significantly and positively correlated as seen in Table 2.

Table 2

*Correlations between Environmentally Conscious Variables and Behavioral Intent*

		<b>Behavioral Intent- Personal</b>	<b>Behavioral Intent- Legislative</b>
<b>NEP</b>	Pearson Correlation	.143	.337
	Sig (1-tailed)	.035*	.000**
	N	173	173
<b>Environmental Concern</b>	Pearson Correlation	.205	.358
	Sig (1-tailed)	.007**	.000**
	N	173	173

\*Correlation is significant at the  $p<.05$  level, \*\*Correlation is significant at the  $p<.01$  level

Hypothesis 3a and 3b predicted that when individuals' motivational system was aligned with the gain-/loss- frame message, they would report a greater behavioral intent for both personal and public policy. Results of the independent samples t-test indicate that these hypotheses were not supported. The null was not rejected. Additionally, gain and loss were filtered out respectively to see if alignment between gain and BAS or alignment between loss and BIS showed a significant difference in the measures of the dependent variable. No difference was found in either of these cases.

This relationship was also examined when controlling for environmental consciousness. An ANOVA was conducted testing if the alignment of motivational system and gain-/loss- frame while controlling for environmental consciousness had an effect on behavioral intent. The relationship between alignment and public policy behavioral intent was approaching significance  $F(1, 170)=2.44, p=.06$ . Non-aligned participants had a lower public policy behavioral intent ( $M=4.74, SD=1.53$ ) than did aligned participants ( $M=5, SD=1.3$ ). There were no other statistically significant relationships between alignment and the dependent variables when controlling for environmental consciousness.

### *Research Questions*

Research question 1 examines the relationship between the two different frame manipulations and their effects on the dependent variables in the study (personal behavioral intent, public policy behavioral intent, attitude toward the message, attitude toward the behavior, subjective norm and perceived behavioral control, perceived persuasion and attention). The results of an independent samples t-test indicated that there was not much difference in these dependent variables based on the episodic/thematic manipulation. However, participants did

report a slightly higher (H8b) attention to the message when viewing an episodic- frame ( $M=5.64$ ,  $SD=1.15$ ) versus a thematic- frame ( $M=5.29$ ,  $SD=1.22$ ). However, this difference was only approaching significance,  $t(171)=1.94$ ,  $p=.054$ .

There were statistically significant findings that indicated that participants perceived behavioral control was affected by seeing either the episodic- or thematic- framed message. Participants reported a greater perceived behavioral control when they were exposed to the episodic message ( $M=5.8$ ,  $SD=1.25$ ) versus the thematic message ( $M=5.4$ ,  $SD=1.26$ )  $t(171)= 2.2$ ,  $p<.05$ . The null for H6b was rejected.

Similar to the effects found for the episodic-/thematic- frame, the gain-/loss- frame did not have a statistically significant impact on many of the dependent variables. The results of an independent samples t-test indicate that gain-/loss- frame had no effect on the following dependent variables: attention, personal behavioral intent and public policy support, subjective norm, attitude towards the behavior, perceived persuasion and attitude toward the advertisement. However, there was statistical significance in the difference between a gain- and loss- frame message on perceived behavioral control. The loss- frame message caused participants to have a higher sense of perceived behavioral control ( $M=5.8$ ,  $SD=1.04$ ) versus a gain- frame ( $M=5.38$ ,  $SD=1.33$ ),  $t(171) = 2.41$ ,  $p<.05$ . For H6a the null was rejected.

In regards to research question 2, there was no statistical significance found in terms of the effect that political orientation has on the relationship between gain-/loss- or episodic-/thematic- frame and public policy behavioral intent.

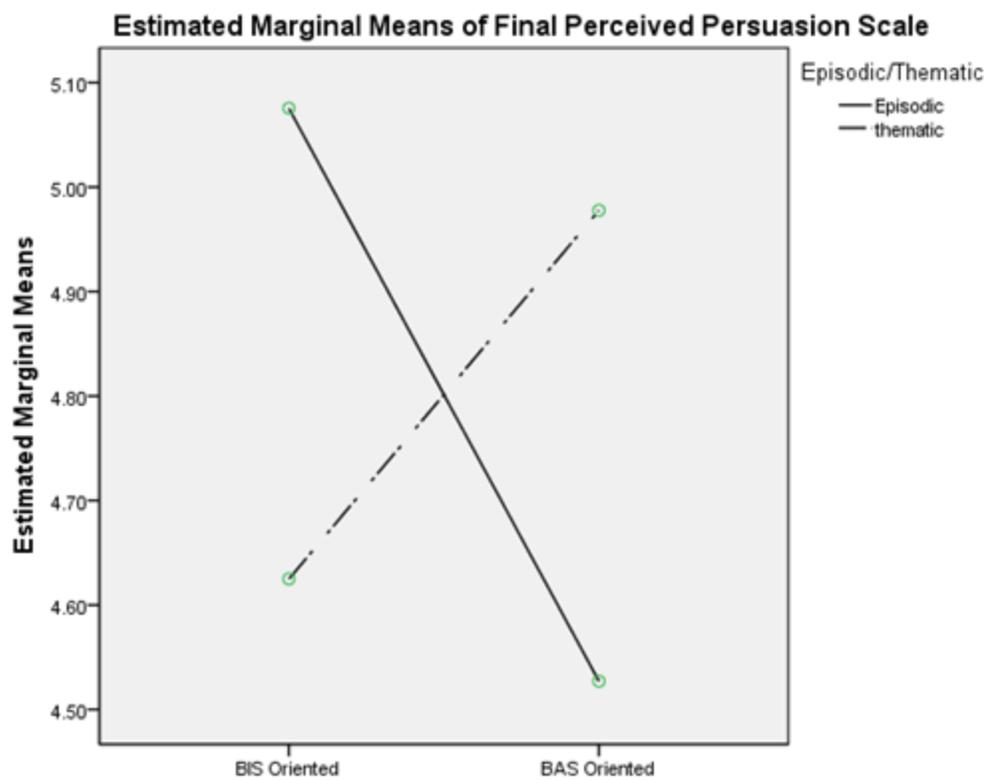
Research question 3 asked whether there was any interaction between the message factors and BIS/BAS. A multivariate analysis of variance (MANOVA) was conducted with all of the

dependent variables to see if there were any interactions between and among any of these three factors on any of the dependent variables of interest. The 2x2x2 factorial MANOVA indicated significant interactions between two of the factors, BIS/BAS and episodic/thematic, Wilks'  $\Lambda = .879$ ,  $F(1, 158) = 2.726$ ,  $p < .05$ .

Further univariate analysis indicated an episodic/thematic, BIS/BAS interaction on perceived persuasion such that BIS participants had higher perceived persuasion with the episodic frame whereas BAS participants perceived more persuasion with the thematic frame,  $F(1, 171) = 4.74$ ,  $p < .05$ .

Figure 1

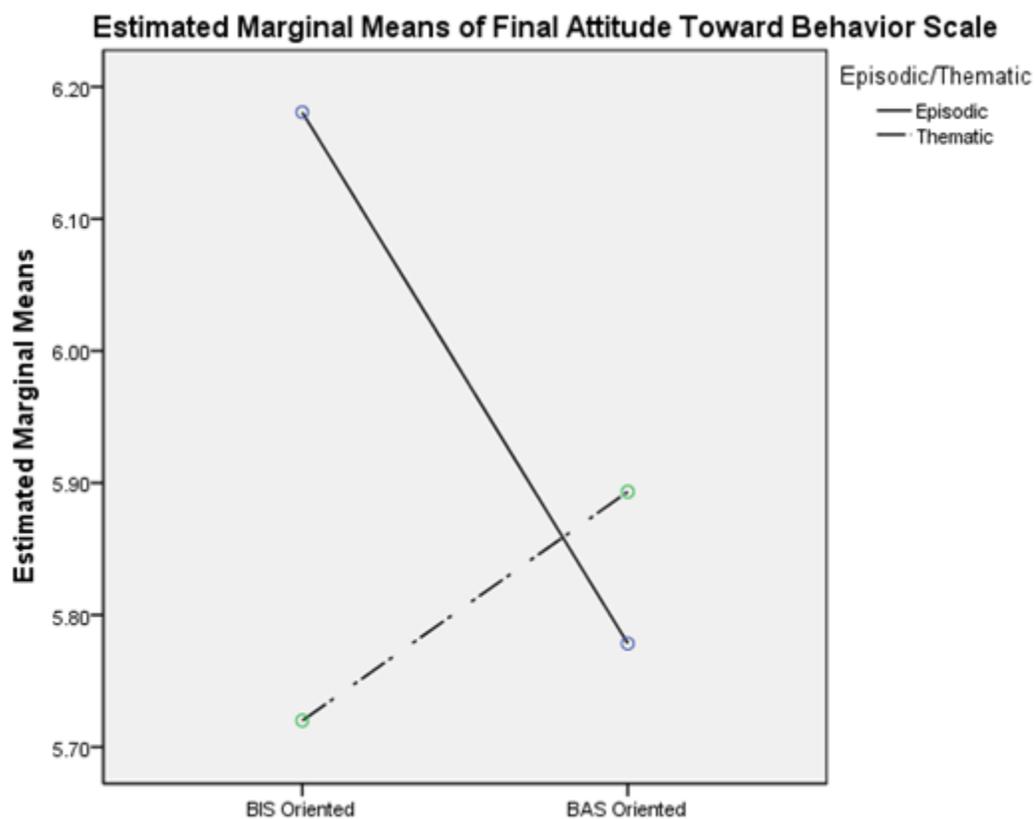
*Interaction between BIS/BAS and Episodic/Thematic on Perceived Persuasion*



Additionally, a univariate analysis indicated an episodic/thematic, BIS/BAS interaction on attitude toward the behavior that was approaching significance. This is noteworthy because the relationship was in the same direction as the effect on perceived persuasion. Again, individuals who were more BIS oriented had a better attitude toward the behavior after viewing an episodic message where as individuals who are more BAS oriented had a better attitude toward the behavior after viewing a thematic message,  $F(1, 170) = 3.55, p = .081$ .

Figure 2

*Interaction between BIS/BAS and Episodic/Thematic on Attitude Toward Behavior*



## Discussion

This study set out to examine how differently framed environmental messages impacted a number of psychological processes as well as behavioral intent. It also set out to see what variables moderated this effect, such as environmental consciousness, alignment with the individuals' motivational system, and political affiliation. There are some notable findings that are consistent with and add to previously published results.

This study showed that environmental consciousness and behavioral intent were correlated. This is consistent with previous literature that suggests that people who are more environmentally friendly to begin with, have more positive reactions to environmental messages (D'Souza, 2005; Hayko & Matulich). Overall, individuals who report higher environmental consciousness have a greater desire to perform the environmental behaviors described in the public service announcement. However, controlling for level of environmental consciousness, different message frames did have a moderating effect on perceived behavioral control, attitude toward persuasion and perceived behavioral control.

Overall, the frame manipulations seemed to be perceived as different. However, although there was a statistical difference between how the participants rated the episodic- and thematic-framed messages, it seems as though they were thinking more globally in nature. The mean for the episodic message was 3.47. This mean score is almost average on the 7-point Likert type scale between 'across the US' and 'Happy Valley' indicating that although the message was being perceived as statistically different from the thematic message, it wasn't actually being perceived as very local in nature. This could be why there was a lack of significant findings.

Perhaps this could be because so much news coverage frames environmental issues as a world problem. This could in turn inhibit individuals from thinking that it could be a local message presented to them, because they would automatically generalize the message to a national level. This could also result in a problem of individuals not thinking that they could make a difference.

Both the episodic/thematic as well as the gain/loss frame manipulations had an effect on perceived behavioral control. When a participant saw a loss- frame message they had a higher sense of perceived behavioral control. This is consistent with past research indicating a negativity bias.

Additionally, participants had a higher sense of perceived behavioral control when they were shown an episodically- framed message. This could be because in the episodically- framed message they were given the exact location of where they could buy local, which is in downtown State College (walking distance from most students participating in this study). In the thematic message they were not told where they could get local food in the State College area. This could be one of the main reasons why perceived behavioral control was higher for the episodic condition. Participants knew where to go, and what to do to make this behavioral change, so they felt that they could actually go through with the action.

These findings are very interesting because according to the Theory of Planned Behavior, perceived behavioral control is one of the main factors that contributes to actual behavioral change, especially referring to hard-to-follow-through with behaviors. Performing environmentally friendly behaviors is something that is often times thought of as hard to follow through with. Many individuals want to recycle, however, do not because it is too hard, or is

inconvenient. The fact that certain frames increased perceived behavioral control in this study, especially when dealing with an environmental message is very noteworthy.

An interesting non-finding was the lack of a relationship between political affiliation and how the participants responded to differently framed messages, as well as level of behavioral intent. It is somewhat assumed that more conservative individuals would not support as much onerous government regulation as more liberal individuals, however the results of this study do not support this notion. The lack of results in this part of the study could be due to the age of the participants. Most college age individuals do not have a fully developed understanding of their political affiliation. They are whatever their parents are, and don't know much about what this stance really means.

The interaction effect found between episodic/thematic and BIS/BAS is something that hasn't been seen in previous literature. This interaction showed that more BIS individuals had higher perceived persuasion when presented with an episodic message. Perhaps this is because many of the BIS questions in the survey had to deal with a sort of fear of the unknown. Therefore, when a BIS individual was presented with a message that was very local in nature, telling them what was happening right here in State College and how they could fix it, they perceived the message more effective. This could cause the individual to have an increased level of perceived message persuasion.

On the other side of the relationship, individuals who were more BAS orientated reported a higher perceived persuasion with a thematically- framed message. BAS orientated people are perhaps in a general sense more optimistic, and may feel more comfortable being charged with

solving a problem at the national level. This may be why the thematic- frame had a greater impact on their perceived persuasion.

### *Limitations*

There were many limitations of this study. First, a medium-sized convenience sample was used of all undergraduate college students enrolled in a communications course. This could have impacted the results and made them less generalizable. In addition, because of design limitations, a simple print ad was used as the stimulus material. This caused the message presented to be less strong than it could be, had the researcher had the opportunity to make a better designed print ad, or perhaps a TV spot. Lastly, a limitation of this study was that it only exposed participants once to the message. Prolonged exposure could have led to stronger results.

### *Implications*

There are practical implications based on the results of this study. If practitioners know that the frame of a message does have an effect on perceived behavioral control, then it is something that they need to put into practice when crafting environmental messages. Especially with something like performing environmentally friendly behaviors, something that is at times perceived as hard to do, behavioral control is an important variable. If subtle differences in frame could affect individuals' behavior in terms of conserving and preserving environmental resources, then it is something that definitely needs to be put into practice.

Additionally, advertising and PR professionals should take into consideration the interaction effect found between episodic/thematic and BIS/BAS. If there was a way to understand if the market that they were trying to reach was more BIS or BAS orientated, then it would be pertinent to tailor an episodic or thematic framed message to this market in order to

have greater perceived persuasion. This is very important, because perceived persuasion is a good proxy of actual persuasion.

### *Future Studies*

The results of this study suggest that there needs to be more research in this area to figure out the effect of different types of environmental communication. Some topics of future studies could include continuing to research about the ethics of environmental communications, figuring out if Green messages engage consumers, get them to participate in environmentally friendly behaviors and also buy environmentally friendly projects. There is a lot of research, similar to this study that can be done to expand upon the framing research in regards to environmental communications.

One of the ways that this could be done is to continue to research the framing of environmental public service announcements. Although no significant difference in behavioral intent was found in this study, perhaps in the future if the participants are shown numerous public service announcements over the course of a longer period of time there would be more of an impact. More of a longitudinal study would be helpful in evaluating frames that are reinforced over a period of time.

Additionally, because one public service announcement framed in slightly different ways was shown in this study to affect the participants perceived behavioral control; this should be an area of future research. It would be interesting to see in a longitudinal study if this continued to increase, showing the effect of the frame over time. It would also be interesting to do a mediation analysis and see if perceived behavioral control singularly impacts the behavior of a person over

time. There is something happening between the variables of frame and perceived behavioral control and this is a relationship that needs to be examined more closely.

Another variation of this study that could provide different and interesting results could be to use different media to convey the message. No studies have been done comparing what type of media is the best for conveying environmental messages. It would be interesting to see if television ads had a different impact than magazine and radio advertisements. Different frames may work better via different mediums as well.

Another interesting avenue for future research could be to replicate this same study as a before and after study instead of a between subjects design. This would allow the researcher to see how much each type of frame impacted its viewers. It would allow for a comparison of how much change was seen, instead of just taking an after-stimulus measure.

Additionally, a study that is similar to the one presented in this paper, but that is focused on advertising instead of public service announcements could also be interesting. There are not many studies about what types of frames work in environmental advertising when trying to sell a product, so this could be important information for advertising practitioners. Whether it be dish detergent, environmentally friendly cars, etc. it would be interesting to see if trying to sell these products via an environmental message increased purchase intent, as well as if certain frames worked better than others.

### *Conclusion*

In conclusion, the results of this study showed that differently framed messages do elicit a different response from study participants. Additionally, their level of environmental consciousness as well as their motivational system have an effect on these responses. Overall,

more research needs to be done in this area of communications to more clearly understand these relationships.

## Appendix

### *Pre-Test*

1. What is your gender? \_\_\_\_\_M \_\_\_\_\_F

2. What is your age? \_\_\_\_\_

3. In which college is your primary major?

\_\_\_ College of Communications

\_\_\_ Smeal College of Business

\_\_\_ College of Arts and Architecture

\_\_\_ College of the Liberal Arts

\_\_\_ College of Information Science and Technology

\_\_\_ Other

**On the next page you will see a one-page mock-up of a public service announcement. This is not a polished layout, so please don't spend time evaluating the design. Please read it carefully, and take some time to think about what you are reading. Do NOT skim through. You will have to respond to questions regarding the advertisement after you have finished looking at it.**

**Now, we are going to ask you a few questions about the advertisement that you just saw. Please answer them carefully**

1) Did this public service announcement provide a specific example as evidence, or general statistics?

*Specific Example 1 2 3 4 5 6 7 National Statistics*

2) Was this public service announcement about something happening here in Happy Valley or something happening across the US?

*Happy Valley 1 2 3 4 5 6 7 Across US*

3) Was this a positive message or a negative message?

*Negative 1 2 3 4 5 6 7 Positive*

4) Was this message focused on the potential costs of not taking action, or the potential benefits of taking action?

*Costs 1 2 3 4 5 6 7 Benefits*

5) I paid a lot of attention to the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

6) I expended effort thinking of the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

7) I concentrated on the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

8) In general, for me buying local is...

*Harmful 1 2 3 4 5 6 7 Beneficial*

*Unpleasant 1 2 3 4 5 6 7 Pleasant*

*Bad 1 2 3 4 5 6 7 Good*

*Worthless 1 2 3 4 5 6 7 Valuable*

*Unenjoyable 1 2 3 4 5 6 7 Enjoyable*

9) Most people who are important to me think that \_\_\_\_\_ buy local produce

*I should* 1 2 3 4 5 6 7 *I should not*

10) It is expected of me that I will buy local produce

*Extremely likely* 1 2 3 4 5 6 7 *Extremely unlikely*

11) The people in my life whose opinions I value would \_\_\_\_\_ of me buying local produce

*Approve* 1 2 3 4 5 6 7 *Disapprove*

12) Most people who are important to me buy local produce

*Completely true* 1 2 3 4 5 6 7 *Completely false*

13) The people in my life whose opinions I value, \_\_\_\_\_ local produce

*Buy* 1 2 3 4 5 6 7 *Do not buy*

14) Many people like me buy local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

15) For me to buy local produce would be

*Impossible* 1 2 3 4 5 6 7 *Possible*

16) If I wanted to I could buy local produce

*Definitely true* 1 2 3 4 5 6 7 *Definitely false*

17) How much control do you believe you have over buying local produce

*No control* 1 2 3 4 5 6 7 *Complete control*

18) It is mostly up to me whether or not I buy local produce

*Strongly agree* 1 2 3 4 5 6 7 *Strongly disagree*

19) I intend to buy local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

20) I will try to buy local produce

*Definitely true* 1 2 3 4 5 6 7 *Definitely false*

21) I plan to buy local produce

*Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*

22) I would support a tax on non-locally grown produce in order to increase the buying of local produce

*Extremely likely* 1 2 3 4 5 6 7 *Extremely unlikely*

23) I would support federal subsidy policies in order to encourage local farmers to continue to grow seasonal produce

*Extremely likely* 1 2 3 4 5 6 7 *Extremely unlikely*

24) I would support a national policy that required University dining halls to buy at least 50% of their produce locally

*Extremely likely* 1 2 3 4 5 6 7 *Extremely unlikely*

25) The public service announcement that you just saw was

*Not at all Persuasive* 1 2 3 4 5 6 7 *Very Persuasive*

26) The public service announcement that you just saw was

*Not at all convincing* 1 2 3 4 5 6 7 *Very Convincing*

27) The Public Service announcement that you just saw was...

*Interesting* 1 2 3 4 5 6 7 *Not Interesting*

*Enjoyable* 1 2 3 4 5 6 7 *Not Enjoyable*

*Informative* 1 2 3 4 5 6 7 *Not Informative*

*Believable* 1 2 3 4 5 6 7 *Not Believable*

28) Please indicate how you feel now by rating each of the following items carefully. 1= not at all, 7= very much

Happy	1	2	3	4	5	6	7
Content	1	2	3	4	5	6	7
Joyful	1	2	3	4	5	6	7
Sad	1	2	3	4	5	6	7
Disappointed	1	2	3	4	5	6	7
Depressed	1	2	3	4	5	6	7
Calm	1	2	3	4	5	6	7
Relieved	1	2	3	4	5	6	7
Relaxed	1	2	3	4	5	6	7
Nervous	1	2	3	4	5	6	7
Worried	1	2	3	4	5	6	7
Tense	1	2	3	4	5	6	7

28) How would you describe your general political orientation

- Liberal Democrat
- Moderate Democrat
- Lean Democrat
- Unaffiliated / Undecided
- Lean Republican
- Moderate Republican
- Conservative Republican

**Thank you again for your participation in this study. Please stay seated for the full 15 minutes. At the end of the 15 minutes, the researcher will collect all questionnaires.**

*Final Survey*

4. What is your gender? \_\_\_\_\_M \_\_\_\_\_F

5. What is your age? \_\_\_\_\_

6. In which college is your primary major?

\_\_\_ College of Communications

\_\_\_ Smeal College of Business

\_\_\_ College of Arts and Architecture

\_\_\_ College of the Liberal Arts

\_\_\_ College of Information Science and Technology

\_\_\_ Other

**For questions 4-27 please respond to the statement on a scale of 1-7, 1= disagree completely, 7 = agree completely**

7. A person's family is the most important thing in life.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

8. Even if something bad is about to happen to me, I rarely experience fear or nervousness.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

9. I go out of my way to get things I want.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

10. When I'm doing well at something I love to keep at it.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

11. I'm always willing to try something new if I think it will be fun.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

12. How I dress is important to me.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

13. When I get something I want, I feel excited and energized.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

14. Criticism or scolding hurts me quite a bit.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

15. When I want something I usually go all-out to get it.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

16. I will often do things for no other reason than that they might be fun.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

17. It's hard for me to find the time to do things such as get a haircut.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

18. If I see a chance to get something I want I move on it right away.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

19. I feel pretty worried or upset when I think or know somebody is angry at me.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

20. When I see an opportunity for something I like I get excited right away.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

21. I often act on the spur of the moment.

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

22. If I think something unpleasant is going to happen I usually get pretty "worked up."

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

23. I often wonder why people act the way they do.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

24. When good things happen to me, it affects me strongly.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

25. I feel worried when I think I have done poorly at something important.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

26. I crave excitement and new sensations.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

27. When I go after something I use a "no holds barred" approach.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

28. I have very few fears compared to my friends.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

29. It would excite me to win a contest.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

30. I worry about making mistakes.

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

**For questions 28-45 please respond to each statement on a scale of 1-7, 1= disagree completely, 7= agree completely**

31. I am worried about the environmental situation

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

32. Humans were meant to rule over the rest of nature

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

33. The balance of nature is very delicate and easily upset

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

34. Humans will eventually learn enough about how nature works to be able to control it

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

35. If things continue on their present course, we will soon experience a major ecological catastrophe

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

36. I am disturbed about the environmental situation

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

37. We are approaching the limit of the number of people the earth can support

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

38. Humans have the right to modify the natural environment to suit their needs

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

39. When humans interfere with nature it often produces disastrous consequences

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

40. Human ingenuity will insure that we do NOT make the earth unlivable

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

41. I am upset about the environmental situation

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

42. Humans are severely abusing the environment

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

43. The earth has plenty of natural resources if we just learn how to develop them

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

44. Plants and animals have as much right as humans to exist

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

45. The balance of nature is strong enough to cope with the impacts of modern industrial nations

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

46. Despite our special abilities humans are still subject to the laws of nature

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

47. The so-called “ecological crisis” facing humankind has been greatly exaggerated

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

48. The earth is like a spaceship with very limited room and resources

*Disagree Completely* 1 2 3 4 5 6 7 *Agree Completely*

**On the next page you will see a one-page mock-up of a public service announcement. This is not a polished layout, so please don't spend time evaluating the design. Please read it carefully, and take some time to think about what you are reading. Do NOT skim through. You will have to respond to questions regarding the advertisement after you have finished looking at it.**

- 1) We are interested in everything that went through your mind while viewing the advertisement. Please list these thoughts, whether they were about yourself, the situation, and/or others; whether they were positive, neutral, and/or negative. Don't worry about spelling, grammar, and punctuation. ***We have deliberately provided more space than we think people will need, to ensure that everyone would have plenty of room.*** Please be completely honest. Your responses will be confidential. Simply write down the first thought you had in the first box, the second in the second box, etc.


**Now, we are going to ask you a few questions about the advertisement that you just saw. Please answer them carefully.**

2) Was this public service announcement about something happening here in Happy Valley or something happening across the US?

*Happy Valley 1 2 3 4 5 6 7 Across US*

3) Was this a positive message or a negative message?

*Negative 1 2 3 4 5 6 7 Positive*

4) I paid a lot of attention to the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

5) I expended effort thinking of the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

6) I concentrated on the contents of the message

*Disagree Completely 1 2 3 4 5 6 7 Agree Completely*

7) In general, for me buying local is...

*Harmful 1 2 3 4 5 6 7 Beneficial*

*Unpleasant 1 2 3 4 5 6 7 Pleasant*

*Bad 1 2 3 4 5 6 7 Good*

*Worthless 1 2 3 4 5 6 7 Valuable*

*Unenjoyable 1 2 3 4 5 6 7 Enjoyable*

8) Most people who are important to me think that \_\_\_\_\_ buy local produce

*I should not 1 2 3 4 5 6 7 I should*

9) It is expected of me that I will buy local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

10) The people in my life whose opinions I value would \_\_\_\_\_ of me buying local produce

*Disapprove* 1 2 3 4 5 6 7 *Approve*

11) Most people who are important to me buy local produce

*Completely false* 1 2 3 4 5 6 7 *Completely true*

12) The people in my life whose opinions I value, \_\_\_\_\_ local produce

*Do not buy* 1 2 3 4 5 6 7 *Buy*

13) Many people like me buy local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

14) For me to buy local produce would be

*Impossible* 1 2 3 4 5 6 7 *Possible*

15) If I wanted to I could buy local produce

*Definitely false* 1 2 3 4 5 6 7 *Definitely true*

16) How much control do you believe you have over buying local produce?

*No control* 1 2 3 4 5 6 7 *Complete control*

17) It is mostly up to me whether or not I buy local produce

*Strongly disagree* 1 2 3 4 5 6 7 *Strongly Agree*

18) I intend to buy local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

19) I will try to buy local produce

*Definitely false* 1 2 3 4 5 6 7 *Definitely true*

20) I plan to buy local produce

*Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*

21) I would support a tax on non-locally grown produce in order to increase the buying of local produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

22) I would support federal subsidy policies in order to encourage local farmers to continue to grow seasonal produce

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

23) I would support a national policy that required University dining halls to buy at least 50% of their produce locally

*Extremely unlikely* 1 2 3 4 5 6 7 *Extremely likely*

24) The public service announcement that you just saw was

*Not at all Persuasive* 1 2 3 4 5 6 7 *Very Persuasive*

25) The public service announcement that you just saw was

*Not at all convincing* 1 2 3 4 5 6 7 *Very Convincing*

26) The Public Service announcement that you just saw was...

*Not Interesting* 1 2 3 4 5 6 7 *Interesting*

*Not Enjoyable* 1 2 3 4 5 6 7 *Enjoyable*

*Not Informative* 1 2 3 4 5 6 7 *Informative*

*Not Believable* 1 2 3 4 5 6 7 *Believable*

27) Please indicate how you feel now by rating each of the following items carefully. 1= not at all, 7= very much

Happy	1	2	3	4	5	6	7
Content	1	2	3	4	5	6	7
Joyful	1	2	3	4	5	6	7
Sad	1	2	3	4	5	6	7
Disappointed	1	2	3	4	5	6	7
Depressed	1	2	3	4	5	6	7
Calm	1	2	3	4	5	6	7
Relieved	1	2	3	4	5	6	7
Relaxed	1	2	3	4	5	6	7
Nervous	1	2	3	4	5	6	7
Worried	1	2	3	4	5	6	7
Tense	1	2	3	4	5	6	7

28) How would you describe your general political orientation?

Liberal Democrat

Moderate Democrat

Lean Democrat

Unaffiliated / Undecided

Lean Republican

Moderate Republican

Conservative Republican

**Thank you again for your participation in this study. Please stay seated until all participants have completed the survey and it has been collected by the researcher.**

## Buying Produce from Happy Valley Farmers Helps the Environment

If you buy local, you're helping local producers like Mike from Way Fruit Farm, right here in Happy Valley—and you're helping the environment.

"We only have to drive 11 miles down the road to deliver our apples to the farmers market on Locust Lane," says Mike Lewis of Way Fruit Farm. "The same type of fruit in the State College Wal-Mart on North Atherton travels 1,750 miles."

Moving just one truck from long-distance to local saves more than 40,000 pounds of CO<sub>2</sub> emissions. That's more CO<sub>2</sub> than the average household emits in an entire year!

Take the challenge, help save the environment.  
Buy from Happy Valley Farmers.

## Buying Produce from Local Farmers Helps the Environment

If you buy local, you're helping local produce farmers across the nation—and you're helping the environment.

All across the USA, on average, produce from local farms travels 11 miles to get to local markets, according to FDA statistics. Produce in large chain supermarkets travels an average of 1,750 miles.

Moving just one truck from long-distance to local saves more than 40,000 pounds of CO<sub>2</sub> emissions. That's more CO<sub>2</sub> than the average household emits in an entire year!

Take the challenge, help save the environment.  
Buy from local farms.

## Buying Produce from National Chain Stores Hurts the Environment

If you don't buy local, you're hurting local produce farmers across the nation—and you're hurting the environment.

All across the USA, on average, produce from local farms travels 11 miles to get to local markets, according to FDA statistics. Produce in large chain supermarkets travels an average of 1,750 miles.

Moving just one truck from local to long-distance adds more than 40,000 pounds of CO<sub>2</sub> emissions. That's more CO<sub>2</sub> than the average household emits in an entire year!

Take the challenge, don't destroy the environment.  
Buy from local farmers.



## Buying Produce from State College Wal-Mart Hurts the Environment

If you don't buy local, you're hurting local producers like Mike from Way Fruit Farm, right here in Happy Valley- and you're hurting the environment.

"We only have to drive 11 miles down the road to deliver our apples to the farmers market on Locust Lane," says Mike Lewis of Way Fruit Farm. "The same type of fruit in the State College Wal-Mart on North Atherton travels 1,750 miles."

Moving just one truck from local to long-distance adds more than 40,000 pounds of CO<sub>2</sub> emissions. That's more CO<sub>2</sub> than the average household emits in an entire year!

Take the challenge, don't destroy the environment.  
Buy from Happy Valley Farmers.



## Bibliography

- Ajzen, I. (2006). Constructing a TpB questionnaire: Conceptual and methodological considerations.
- Andersson, L. M., & Bateman, T. S. (2000). Individual environmental initiative: Championing natural environmental issues in U. S. Business organizations. *The Academy of Management Journal*, 43(4), 548-570.
- Apanovitch, A. M., McCarthy, D., & Salovey, P. (2003). Using message framing to motivate HIV testing among low-income, ethnic minority women. *Health Psychology*, 22, 60-67.
- Banerjee, S., Gulas, C. S., & Iyer, E. Shades of green: A multidimensional analysis of environmental advertising. *Journal of Advertising*, 24(2), 21-31.
- Bardwell, L. V. (1991). Problem-framing: A perspective on environmental problem solving, *Environmental Management*, 15(5), 603-612.
- Cacioppo, J. T., Hoppel, W. V., & Ernst, J. M. (1997). Mapping cognitive structures and processes through verbal content: The thought-listing technique. *Journal of Consulting and Clinical Psychology*, 85(6), 928-940.
- Carlson, L., Grover, S.J., & Kangun, N. (1993). A content analysis of environmental advertising claims: A matrix method approach. *Journal of Advertising*, 22(3), 27-39.
- Carlyle, K. D., Slater, M. D., Chakroff, J. L. (2008). Newspaper coverage of intimate partner violence: Skewing representations of risk. *Journal of Communications*, 58(1), 168-186.
- Carver, C. S., & White, T. L. (1994) Behavioral inhibition, behavioral activation and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67(2), 603-612.
- Chan, R., & Lau, L. B. (2004) The effectiveness of environmental claims among Chinese consumers: Influence of claim type, country disposition and ecocentric orientation. *Journal of Marketing Management*, 20(3-4), 273-319.
- Cho, H., & Boster, F. J. (2008). Effects of gain versus loss frame antidrug ads on adolescents. *Journal of Communications*, 58, 428-446.
- Chong, D., & Druckman, J. N. (2007). A theory of framing and opinion formation in competitive elite environments. *Journal of Communication*, 57, 99-118.
- Corner, A., & Hahn, U. (2010). Message framing, normative advocacy and persuasive success.

- Detweiler, J. B., Bedell, B. T., Pronin, E., & Rothman, A. J. (1999). Message framing and sunscreen use: Gain-framed messages motivate beach-goers. *Health Psychology, 18*(2), 189-196.
- Dillard, J. P., & Peck, E. (2000). Affect and persuasion: Emotional response to public service announcements. *Communication Research, 27*, 461-495.
- Dillard, J. P., Weber, K. M., & Vail, R. G. (2007). The relationship between the perceived and actual effectiveness of persuasive messages: A meta-analysis with implications for formative campaign research. *Journal of Communications, 57*(4), 613-631.
- Dimitrova, D. V. (2006). Episodic frames dominate early coverage of Iraq war in the nytimes.com. *Newspaper Research Journal, 27*(4), 79-83.
- D'Souza, C. (2005). Green advertising effects on attitude and choice of advertising themes. *Asia Pacific Journal of Marketing and Logistics, 17*(3), 51-66.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring endorsement of the new ecological paradigm: A revised NEP scale. *Journal of Social Issues, 56*(3), 425-442.
- Edwards, A., Elwyn, G., Covey, J., Matthews, E., & Pill, R. (2001). Presenting risk information—a review of the effects of “framing” and other manipulations on patient outcomes. *Journal of Health Communications, 6*, 61-82.
- Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991). The role of perceived consumer effectiveness in motivation environmentally conscious behaviors. *Journal of Public Policy & Marketing, 10*(2), 102-117.
- Entman, R. M. (2007). Framing bias: Media in the distribution of power. *Journal of Communication, 57*, 163-173.
- Franklin, C., & Markowitz, K. (2009). 2009: A year of change for green marketers. *AdAge*. Retrieved from [http://adage.com/goodworks/post?article\\_id=135724](http://adage.com/goodworks/post?article_id=135724)
- Fishbein, M., & Cappella, J. N. (2006). The role of theory in developing effective health communications. *Journal of Communications, 56*, 1-17.
- Gayer, C. C., Landman, S., Halperin, E. & Bar-Tal, D. (2009). Overcoming psychological barriers to peaceful conflict resolution: The role of arguments about losses. *Journal of Conflict Resolution, 53*(6), 951-975.
- Gerend, M. A., Shepherd, J. E., & Monday, K. A. (2008). Behavioral frequency moderates the effects of message framing on HPV vaccine acceptability. *Ann. Behav. Med, 35*, 1167-1173.

- Gerend, M. A., & Cullen, M. (2008). Effects of message framing and temporal context on college student drinking behavior. *Journal of Experimental Social Psychology*, 44, 1167-1173.
- Goffman, E. (1959). *The Presentation of Self in Everyday Life*. New York, New York: Anchor Books Doubleday.
- Gross, K. (2008). Framing Persuasive Appeals: Episodic and Thematic Framing, Emotional Response, and Policy Opinion. *Political Psychology*, 29, 169-192.
- Gunther, A. C., & Thorson, E. (1992). Perceived persuasive effects of product commercials and public service announcements. *Communication Research*, 19, 574-596.
- Hartmann, P., & Apaolaza-Ibanez, V. (2009). Green advertising revisited: Conditioning virtual nature experiences. *International Journal of Advertising*, 28(4).715-739.
- Haytko, D. L., & Matulich, E. Green advertising and environmentally responsible consumer behaviors: Linkages examined. *Journal of Management and Marketing Research*, 1, 2-11.
- Higgins, J. W., Naylor, P.J., Berry, T., O'Connor, B., & McLean, D. (2006). The health buck stops where? Thematic framing of health discourse to understand the context for CVD prevention. *Journal of Health Communication*, 11, 343-358.
- Hoffner, C., & Ye, J. (2009). Young adults' responses to news about sunscreen and skin cancer: The roll of framing and social comparison. *Health Communications*, 24, 189-198.
- Holder, J. (1991).Regulating green advertising in the motor car industry. *Journal of Law and Society*, 18(3), 323-346.
- Howlett, M., & Raglon, R. (1992). Constructing the environmental spectacle: Green advertisements and the greening of the corporate image. *Environmental History Review*, 16(4), 53-68.
- Huang, Y., & Hutchinson, J. W. (2008). Counting every thought: Implicit measures of cognitive response to advertising. *Journal of Consumer Research*, 35.
- Iyengar, S. (1990).Framing responsibility for political issues: The case of poverty. *Political Behavior*, 12(1), 19-40.
- Iyengar.S. (1991). *Is anyone responsible? How television frames political issues*. Chico: University of Chicago Press.
- Iyengar, S., & Simon, A. (1993). News coverage of the gulf-crisis and public opinion: A study of agenda-setting, priming and framing. *Communication Research*, 20, 365-383.

- Jha, S. (2007). Exploring internet influence on the coverage of social protest: Content analysis comparing protest coverage in 1967 and 1999. *J&MC Quarterly*, 84(1), 40-57.
- Jorm, A. F., Christense, H., Henderson, A. S., Jacomb, P. A., Koren, A. E., & Rodgers, B. (1999). Using the BIS/BAS scales to measure behavioral inhibition and behavioral activation: Factor structure, validity and norms in a large community sample. *Personality and Individual Differences*, 26, 49-58.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-292.
- Kangun, N, Carlson, L, Grove, S. J. (1991). Environmental advertising claims: A preliminary investigation. *Journal of Public Policy & Marketing*, 10(2), 47-58.
- Keller, P. A., Lipkus, I. M., & Rimer, B. K. (2003). Affect, framing and persuasion. *Journal of Marketing Research*, 40, 54-64.
- Kilbourne, W. E. (1995). Green advertising: Salvation or oxymoron? *Journal of Advertising*, 24(2), 7-19.
- Kilbourne, W. E., & Carlson, L. (2008). The dominant social paradigm, consumption and environmental attitudes: Can macromarketing education help? *Journal of Macromarketing*, 28, 106-121.
- Latimer, A. E., Salovey, P., & Rothman, A. J. (2007). The effectiveness of gain-framed messages for encouraging disease prevention behavior: Is all hope lost? *Journal of Health Communications*, 12, 645-649.
- Latimer, A. E., Rench, T. A., Rivers, S. E., Katulak, N. A., Materese, S. A., Cadmis, L. A., Hodorowski, J. K., & Salovey, P. (2008). Promoting participation in physical activity using framed messages: An application of prospect theory. *British Journal of Health Psychology*, 13, 659-681.
- Lee, J.A. & Holden S.J.S. (1999). Understanding the determinants of environmentally conscious behavior. *Psychology and Marketing*, 16(5), 373-392.
- Leshner, G., & Cheng, I. (2009). The effects of frame, appeal, and outcome extremity of antismoking messages on cognitive processing. *Health Communications*, 24, 219-277.
- Major, L.H. (2009). Break it to me harshly: The effects of intersecting news frames in lung cancer and obesity coverage. *Journal of Health Communications*, 14, 174-188.
- Manrai, L. A., Manrai, A. K., Lascu, D., & Ryans, J. K. (1997). How green-claim strength and country disposition affect product evaluation and company image. *Psychology & Marketing*, 14(5), 511-537.

- Matthes, J. (2009). Framing responsibility for political issues: The preference for dispositional attributions and the effects of news frames. *Communication Research Reports*, 26(1), 82-86.
- Micheletti, M., & Stolle, D. (2007). Mobilizing consumers to take responsibility for global social justice. *The ANNALS of the American Academy of Political Science*, 611, 157-175.
- Nakajima, N. (2001). Green advertising and green public relations as integration propaganda. *Bulletin of Science Technology Society*, 21(5), 334-348.
- Nan, X. (2007). The relative persuasive effect of gain- versus loss-framed message: Exploring the moderating role of the desirability of end-states. *J&MC Quarterly*, 84(3), 509-524.
- Neff, J. (2010). Earth Day is 40 Years Old. What Headway Have We Made? Adage, Retrieved from [http://adage.com/article?article\\_id=143364](http://adage.com/article?article_id=143364).
- Neff, R. A., Chan, I. L., & Smith, K. C. (2008) Yesterday's dinner, tomorrow's weather, today's news? US newspaper coverage of food system contributions to climate change. *Public Health Nutrition*, 12(7), 1006-1014.
- Nelson, T. E., Oxley, Z. M., & Clawson, R. A. (1997). Media framing of a civil liberties conflict and its effect on tolerance. *American Political Science Review*, 92(3), 567-583.
- O'Keefe, D. J., & Jenson, J. D. (2009). The relative persuasiveness of gain-framed and loss-framed messages for encouraging disease detection behaviors: A meta-analytic review. *Journal of Communications*, 59, 296-316.
- Pelletier, L. G., & Sharp, E. (2008). Persuasive communication and proenvironmental behaviors: How message tailoring and message framing can improve the integration of behaviors through self-determined motivation. *Canadian Psychology*, 49(3), 210-217.
- Perloff, R. M. (2010). *The Dynamics of Persuasion*, New York, NY: Routledge.
- Peterson, R. T. (2005). Employment of ecology themes in magazine advertisements directed to children: A longitudinal analysis. *Journal of Promotion Management*, 11(2/3)195-215.
- Polonsky, M. J., Bailey, J., Baken, H., Basche, C., Jepson, C., & Neath, L. (1998). Communicating environmental information: Are marketing claims on packaging misleading? *Journal of Business Ethics*, 17(3), 281-294.
- Riet, J. V., Ruiter, R. A. C., Verrij, M. Q., & Vries, H. D. (2008). The influence of self- efficacy on the effects of framed health messages. *European Journal of Social Psychology*, 38, 800-809.

- Rothman, A. J., Martino, S. C., Bedell, B. T., & Salovey, P. (1999). The systematic influence of gain- and loss-framed message on interest in and use of different types of health behavior. *Personality and Social Psychology Bulletin*, 25, 1355-1369.
- Rothman, A. J., Bartels, R. D., Wlaschin, J., & Salovey, P. (2006). The strategic use of gain- and loss-framed messages to promote healthy behavior: How theory can inform practice. *Journal of Communications*, 56, 202-220.
- Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting and priming: The evolution of three media effects models. *Journal of Communication*, 57, 9-20.
- Schneider, T. R., Salovey, P., Apanovitch, A. M., Pizarro, J., McCarthy, D., Zullo, J., Rothman, A. J. (2001). The effects of message framing and ethnic targeting on mammography use among low-income women. *Health Psychology*, 20, 256-266.
- Scholten, M. R. M., Honk, J. V., Aleman, A., & Kahn, R. S. (2006). Behavioral inhibition system (BIS), behavioral activation system (BAS) and schizophrenia: Relationship with psychopathology and physiology. *Journal of Psychiatric Research*, 40, 638-645.
- Schuhwerk, M. E., & Lefkoff-Hagius, R. (1995). Green or non-green? Does type of appeal matter when advertising a green product? *Journal of Advertising*, 24(2), 45-54.
- Shen, L., & Dillard, J. P. (2007). The influence of behavioral inhibition/approach systems and message framing on the processing of persuasive health messages. *Communications Research*, 34, 433-467.
- Sherman, D. K., Mann, T., & Updegraff, J. A. (2006). Approach/avoidance motivation, message framing and health behavior: Understanding the congruency effect. *Motiv Emot*, 30, 165-169.
- Shrum, L. J., McCarty, J. A., & Lowrey, T. M. (1995). Buyer characteristics of the green consumer and their implications for advertising strategy. *Journal of Advertising*, 24(2), 71-82.
- Smith, S. M., & Petty, R. E. (1996). Message framing and persuasion: A message processing analysis. *PSPB*, 22(3), 257-268.
- Stafford, M. R., Stafford, T. F., & Chowdhury, J. (1996). Predispositions toward green issues: The potential efficacy of advertising appeals. *Journal of Current Issues and Research in Advertising*, 18(1), 67-79.
- Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, 5, 297-323.

- Umphrey, L. R. (2001). The effects of message framing and message processing on testicular self-examination attitudes and perceived susceptibility. *Communication Research Reports*, 20(2), 97-105.
- Uskul, A. K., Sherman, D. K. & Fitzgibbon, J. (2009). The cultural congruency effect: Culture, regulatory focus, and the effectiveness of gain- vs. loss-framed health messages. *Journal of Experimental Social Psychology*, 45, 535-541.
- Voigt, D. C., Dillard, J. P., & Braddock, K. H. (2009). Carver and White's (1994) BIS/BAS scales and their relationship to risky health behaviors. *Personality and Individual Differences*, 47(2), 89-93.
- Wagner, E. R., & Hansen, E. N. (2002). Methodology for evaluating green advertising of forest products in the united states: A content analysis. *Forest Products Journal*, 52(4), 17-23.
- Weaver, D. H. (2007). Thoughts on agenda setting, framing and priming. *Journal of Communication*, 57, 142-147.
- Wright, P. (1980). Message-evoked thoughts: Persuasion research using thought verbalizations. *Journal of Consumer Research*, 7, 151-175.
- Zhou, Y., & Moy, P. (2007). Parsing framing processes: The interplay between online public opinion and media coverage. *Journal of Communication*, 57, 79-98.
- Zinkhan, G. M., & Carlson, L. (1995). Green advertising and the reluctant consumer. *Journal of Advertising*, 24(2), 1-6.

## Valerie J. Dames

---

### SUMMARY

Penn State Schreyer Honors College Senior, double-majoring in Advertising and Spanish, and concurrently pursuing a Masters degree in Media Studies. Recognized in internships and studies for expertise in research and sales support, project organization, leadership, management, interpersonal communications, creative strategies, and comprehensive, high-quality work. Self-starter, creative collaborator, achievement oriented, flexible, eager to learn, and willing to travel.

### PROFESSIONAL EXPERIENCE

- Turner Entertainment, New York, NY** June 2010 - August 2010  
*Entertainment and Sports Research Intern*  
Analyzed ratings, demographic and psychographic research in support of Ad Sales for TBS, TNT, truTV, and Turner Sports channels. Developed sales presentation templates highlighting brand alignment between Turner and proposed client categories.
- Penn State, University Park, PA** May 2009 - August 2009  
*Research Assistant /Intern*  
Identified three general trends in environmental messaging through extensive research and analysis of more than 500 environmental ads featured over the past 30 years of National Geographic.
- Person to Person Direct, University Park, PA** May 2009 - August 2009  
*Telemarketing*  
Executed telemarketing campaigns for Gevalia coffee. Made approximately 20 calls/hr. with an average close ratio of 1/10. Was recognized as a top performer after only 2 weeks in the role, and continued to outperform more experienced telemarketers all summer.
- Media Whiz, Inc., New York, NY** May 2008 - August 2008  
*Marketing Intern*  
Integral member of a team tasked with merging five separate brands, post-acquisition, to form a full-service online marketing company providing lead generation, display advertising, and email, affiliate and search marketing services. Helped execute high-profile client deals.
- Schreyer Honors College, University Park, PA** September 2007 - May 2008  
*Public Relations Intern*  
Wrote and edited brochures, press releases and website content, and partnered with a professional videographer to develop six, 4-minute promotional videos. Collaborated with students, administration and Deans to refine messages and market the college most effectively.
- 1370 WPAZ Radio, Pottstown, PA** June - August, 2005 & 2006  
*Producer/Interviewer*  
Created and produced public service content, hosted two special interest shows and collaborated with national and local broadcasts to produce several Philadelphia Phillies baseball games.
- Laurelwood Swim Club, Pottstown, PA** June - August, 2003-2007  
*Lifeguard, Swim Instructor, Assistant Manager*  
Managed a staff of fifteen lifeguards, ran the swim lesson program, planned rotation schedule, and ensured a safe environment.

### EDUCATION

- The Pennsylvania State University, Schreyer Honors College**
- Bachelor of Arts in Advertising and Bachelor of Arts in Spanish. Expected graduation: May 2011
  - Masters of Arts in Media Studies. Expected graduation: May 2011
  - Study Abroad - Universidad Complutense de Madrid, Spring 2009

### LEADERSHIP & EXTRACURRICULAR ACTIVITIES

- Penn State Lion Ambassadors, Philanthropic Chair and Membership Committee**
- Promoted the University by leading tour groups of prospective and current students and alumni. Successfully planned and executed several university-wide events for up to 1,000 people with budgets of approximately \$3,000
- Alpha Kappa Psi Professional Business Fraternity, Philanthropic Chair and Public Relations Chair**
- Planned and encouraged brotherhood participation in philanthropic activities, such as nursing home visits, and holiday pajama drives. Enhanced relationships with other business fraternities by collaborating on projects
- Leadership Jumpstart Course, Participant and Teaching Assistant**
- Participated in Freshman year program designed to drive early leadership involvement in the Penn State community. Asked to return as a Teaching Assistant in Fall, 2010

### ADDITIONAL SKILLS

Competent in Spanish (reading, speaking and writing), proficient in Memri, STAR, Nielsen IAG Trendreporter, TV Toolbox, AdSpender, Microsoft Word, PowerPoint and Excel, Adobe Photoshop and InDesign.