

A MEDIATION MODEL OF THE IMPACT OF FOR- AND NON-PROFIT  
ENVIRONMENTAL ADVERTISING

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Master of Arts

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by  
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The undersigned, appointed by the Dean of the Graduate School, have  
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A MEDIATION MODEL OF THE IMPACT OF FOR- AND NON-PROFIT  
ENVIRONMENTAL ADVERTISING

Presented by Andrea Maruniak  
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And hereby certify that in their opinion it is worthy of acceptance

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A Mediation Model of the Impact of  
For- and Non-Profit Environmental Advertising

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ABSTRACT

An increase in society's environmental consciousness has spurred the use of environmental marketing strategies by many companies. This study sought to increase understanding of how participants react to environmental advertising for both for- and non-profits, as well as to determine whether certain reactions predicted behavioral intentions. This study also examined whether environmental marketing would affect consumers' attitudes toward the organization.

A simple mediation model was proposed where perceived credibility of the ads based on profit status would negatively predict third-person perceptions, which in turn positively predicted third-person behavioral intentions. The mediation models confirmed expectations for both for- and non-profits. Higher ad credibility led to weaker third-person perceptions, which led to weaker third-person behavioral intentions. The models suggest that participants were more influenced by ads with higher perceived credibility, and that this perceptual difference translated to reported higher behavioral intentions. Attitudes toward the for-profit organizations became more positive after viewing the ads to the level of the non-profits. The results are discussed in terms of theoretical contributions to third-person effects research and implications for industry.



## **Chapter 1: Introduction**

### ***A. Purpose***

Understanding the ways in which people react to persuasive messages is important for any advertiser, but non-profit organizations have a unique set of challenges to overcome in advertising. One such challenge is that non-profits generally have a very limited advertising budget, so it is essential that they understand the ways that audiences will react to their advertising in order to maximize its effectiveness. Additionally, non-profit advertising often involves the request of a specific behavior, whether it be donating to or volunteering for a specific cause or otherwise engaging in a desired action, such as recycling. Therefore, it is necessary for non-profit organizations to understand how to advertise in such a way that the messages encourage behavior. This study seeks to increase the understanding of how audiences react to non-profit advertising, as well as to determine whether certain reactions can predict the likelihood that people will act on the behaviors requested by the ads.

### ***B. Rationale***

The third-person effect hypothesis states that people will tend to overestimate the influence that mass communications have on others and assume that the media have a greater impact on others than on themselves

(Davison, 1983). However, third-person effect research has demonstrated that when persuasion by the messages is considered socially beneficial (pro-social), the third-person effect sometimes diminishes or is reversed. Gunther and Mundy (1993) hypothesized that the underlying reason for the third-person phenomenon was an "optimistic bias," or a tendency for people to perceive themselves in a positive light. Based on this logic, they predicted that,

"people will estimate greater media effects on others than on themselves for messages with harmful outcomes, but no difference in effect for beneficial messages (p.58)".

They found that when a message is perceived as potentially beneficial, people estimated themselves as being equally or more affected by the messages, which is commonly referred to as a "first-person effect". For the purposes of this study, anti-social messages are those for which influence would likely be considered negative, and pro-social messages are those for which influence would likely be considered positive (Eveland & McLeod, 1999). Because of the pro-social nature of non-profit advertisements, researchers have frequently used them to test the circumstances in which a first-person effect will emerge (White & Dillon, 2000). The results of these studies are relevant to non-profit advertisers, as they provide insight into how people perceive persuasive messages from non-profits.

Third-person effect researchers have separated the effect into two dimensions: the perceptual hypothesis and the behavioral hypothesis (McLeod, Eveland, & Nathanson, 1997). The behavioral hypothesis, which proposes that

people will want to act as a result of first- and third-person perceptions, links the perceptual phenomenon with meaningful real-world consequences. Some research has demonstrated a positive correlation between first-person perceptions and behavioral intentions (Cho & Boster, 2007), or that the more people perceive themselves to be affected by media, the greater are their intentions to act on the media message. The current study utilizes the behavioral hypothesis to further examine whether behavior can be predicted by first- and third-person perceptions. Understanding the relationship between first- and third-person perceptions and behavioral intentions is pertinent to non-profit advertisers, as it would reveal whether the way that individuals perceive influence of advertisements has an effect on their likelihood to act on the advertising message.

Although Davison (1983) documented the third-person effect for the first time twenty-five years ago, it has remained in the hypothesis stage and has yet to be developed into a solid theoretical framework (Perloff, 1996). This is due in part to the fact that research as to when and why the third-person effect gets stronger, weaker, or reverses (a first-person effect emerges) has yielded inconsistent results (Neuwirth, 2002). In order to clarify these findings, researchers have continued to test the effect with pro-social messages, hypothesizing that a variety of independent variables might underlie the either diminished or reversed third-person perceptions (Eveland & McLeod, 1999). Results of these studies have consistently found that strength and direction of

third-person perceptions do vary based on the social desirability of the content, but evidence has remained inconclusive as to the exact circumstances in which the third-person effect will reverse and when it will merely diminish.

The current study attempts to refine the understanding of when the third-person effect occurs and when it reverses by introducing a new independent variable: whether the profit status of the organization producing the ad, rather than merely the pro-social nature of the messages, affects the strength or direction of first- or third-person perceptions. In order to isolate profit-status as an independent variable, the study solely utilizes pro-social environmental advertising messages. The study also employs the third-person behavioral hypothesis by testing whether the strength and direction of first- and third-person perceptions mediate a relationship between the profit-status of the organization and behavioral intentions regarding the action requested by the ad.

The rationale for hypothesizing that profit-status might affect first-and third-person perceptions lies in the concept of source credibility. Manipulating source credibility has been shown to vary the strength of the third-person effect, so that people estimate a greater third-person perception when the source of the message is less credible (Gunther, 1991). This study hypothesizes that people will perceive non-profit organizations as more credible sources of environmental advertising than for-profit organizations, and that the perceived credibility of these organizations will affect the degree to which they rate themselves and others as affected by the ads. In other words, the study first measures whether

perceived source credibility differs between ads from non-profit and for-profit organizations, and then uses the resulting credibility scores as the independent, or affecting, variable in a proposed mediating model, with third-person perception as the mediator and behavioral intention as the dependent variable.

The significance of examining these relationships is twofold. First, this study aims to contribute to the understanding of the third-person effect and the circumstances in which a first-person effect emerges. Secondly, this study seeks to determine whether first- and third-person perceptions have behavioral implications. If participants perceive a strong third-person effect, will they then be less likely to act on the advertising message because they think that the “others” who are more affected will act on it instead? Conversely, if participants perceive a first-person effect, will they be more likely to act on the message because they believe that they are more affected by the advertisement than are others?

## Chapter 2: Literature Review

### ***A. History of the Third-Person Effect***

Davison (1983), who documented the third-person effect, found that people tended to overestimate the influence that mass communication had on others, believing that media had a greater impact on others than on themselves. Additionally, Davison argued that,

“any effect that the communication achieves may thus be due not to the reaction of the ostensible audience, but rather to the behavior of those who anticipate, or think they perceive, some reaction on the part of others” (Davison, 1983, p. 3).

In other words, he conjectured that when people react to a persuasive message, they might actually be reacting to the way they perceive that others will act.

The third-person effect has two dimensions: the perceptual hypothesis and the behavioral hypothesis. The perceptual dimension states that people will perceive that media messages have a greater impact on other people than on themselves. While this component of the third-person effect is an interesting perceptual phenomenon, the effect becomes more meaningful when linked with real-world consequences, as it is in the behavioral component (McLeod, Eveland, & Nathanson, 1997). The behavioral dimension proposes that people will want to act as a result of third-person perceptions, generally in order to prevent any negative effects that the media might have on those that it so greatly influences (Perloff, 1996). Davison considered censorship to be the most important area for

study of the behavioral dimension of the third-person effect, since he observed that people frequently want to censor others and are rarely concerned about the negative effects of mass-communications on themselves. This led to a plethora of studies on the third-person effect and censorship. Gunther (1995) found that peoples' support for the censorship of pornography is highly related to the discrepancy they perceive between effects on self and effects on others. McLeod, Eveland, and Nathanson (1997) also examined the relationship between third-person perceptions and support for censorship in the context of violent and misogynic rap lyrics and found that third-person perceptions were strongly related to support for censorship, providing further evidence for the behavioral dimension of the third-person effect.

The behavioral dimension is highly relevant to the current study, as this research examines whether first- and third-person perceptions predict behavioral intentions in the context of environmental advertising from both non- and for-profits. In other words, this study seeks to determine whether the degree to which people perceive that they and others are affected by an advertisement is correlated with how likely they are to act on the message in the ad.

***Understanding the Third-Person Effect.*** Davison (1983) questioned whether third-person effects would occur in response to all types of communications, or whether they would exist only when the communication is informative, such as in the news. The past two decades' research on the third-person effect, which has focused primarily on the perceptual dimension, has

attempted to further the understanding of the extent of its application, and the vast majority of these studies have provided support for the perceptual component (Perloff, 1996). Research initially focused on anti-social content such as pornography or violence, but more recently, pro-social messages have also been studied to determine whether third-person effects extend to this realm (Eveland & McLeod, 1999).

Gunther and Thorson (1992) studied the extent of the application of the third-person effect by questioning the accuracy with which people were able to estimate self-other effects as well as whether this differed when the content was persuasive and either emotional or neutral. Gunther and Thorson also recognized and addressed an important difference between informative and persuasive messages in regards to the third-person effect: much of the previous research on news stories had messages whose impact was likely considered to be negative by the readers, while advertisements always focus on the brand in a positive manner. The realization that whether content is positive or negative could affect third-person perceptions is important to the current study, as the current study utilizes only pro-social persuasive messages (positive content). Additionally, Gunther and Thorson found that not only did the perceived strength of impact vary depending on the content of the message, but there was also an inversion in the direction of impact when the content was pro-social. The study was one of the first of many to find that under certain circumstances, a first-



person effect emerges in which the person estimates that he or she is more affected by the message than are others.

Eveland and McLeod (1999) examined the way perceptions of media influence vary depending on whether the media content is pro-social or anti-social. Rather than reversing in the context of pro-social messages, a third-person effect was found in the contexts of both pro-social and anti-social messages. However, the magnitude of the discrepancy between first- and third-person perceptions was significantly greater for the anti-social messages than for the pro-social ones. (Eveland & McLeod, 1999). Studies such as this one demonstrate the need for continued research to better understand the circumstances in which first-person effects will emerge when pro-social messages are utilized. The current study will examine one such set of circumstances (pro-social advertisements for non-profit vs. for-profit organizations) in an attempt to further this understanding.

According to Shah, Faber, and Youn (1999), there are two distinct elements that contribute to the perceptual dimension of the third-person effect: perceptions of susceptibility to the communication and judgments of the severity of consequences of the communication. The study found that the discrepancy of perceptions for self-other susceptibility was much greater in magnitude than was the gap between self-other perceptions of severity of consequences if persuasion did occur. The study also related the two components of the perceptual dimension to the behavioral dimension by testing whether the two dimensions

have different outcomes with regard to willingness to censor, just as the current study also attempts to relate perceptions to behavior.

Other variables have also been found to moderate the third-person effect. Previous studies have hypothesized that the “perceptual position” (Peiser & Peter, 2001) of the individual moderates the tendency to perceive third-person effects. The logic behind these hypotheses is that the discrepancy between perceived effects on oneself and others occurs because people subconsciously consider themselves to be somehow different than the “others”. Because of these differences, some people are actually less able to perceive others as more affected by media. For example, if an individual has much less education than the hypothetical “others” then it would be difficult for that person to perceive others as more affected by a message when the others are much more knowledgeable in the area of concern. This area of study, which originated in the field of economics, is called “limits and possibilities” (Peiser & Peter, 2001). Researchers utilizing limits and possibilities for the study of the third-person effect assume that the potential for third-person perceptions differs between people depending on constraints that are pertinent to the relevant social perception. There are many different factors that contribute to an individual’s perceptual position, and each of them affects the way an individual is able to demonstrate third-person perceptions (Peiser & Peter, 2001).

Tiedge, Silverblatt, Havice, and Rosenfeld (1991) examined whether level of education would moderate third-person perceptions. Tiedge et al. proposed

that both education and age would increase discrepancy of perception, or that the older or more educated a person is, the less affected by media they perceive themselves to be and the more affected by media they perceive others to be. In addition to level of education, perceived knowledge, or how much information people believe they have on a topic, has been found to affect the way that people perceive their own or others' influence by media. It is logical to examine these variables as mediators of the third-person effect because when people have more education or knowledge or are older than the "others" it would make sense that they might expect that their own beliefs are more firmly rooted and less easily changed by persuasive messages (Tiedge et al., 1991). In order to better understand why these variables have been proposed as mediators of the third-person effect, it is helpful to examine the theory that researchers have used to explain the existence of the third-person effect, as well as why it may diminish or reverse in certain circumstances.

***Explaining the Third-Person Effect.*** Gunther and Moody (1993) initially employed the optimistic bias to explain the motivation to perceive oneself as relatively unaffected by undesirable, or anti-social, media content, such as libelous news stories, media violence, and pornography (Hoorens & Ruiter, 1996). However, this explanation extended the study of the third-person effect to the realm of pro-social messages. Since then, many other researchers have attributed the third-person effect to being part of a broader psychological motivation: the tendency for people to view themselves in a positive manner

(Meirick, 2005). This explanation is intuitively logical, as it assumes that people will “bolster their self-esteem by thinking of themselves as relatively invulnerable to undesirable media influence” (Meirick, 2005, p. 473). Now generally referred to as “the self-enhancement motivation theory,” it has become the pervasive explanation for the third-person effect and can easily be applied to the ways in which people react to advertising messages. When a persuasive message is anti-social, admitting susceptibility to the message would involve acknowledging one’s own vulnerability to being persuaded by negative content. By assuming that other people will be more affected by a negative message, an individual maintains his or her perceived superiority (Perloff 1996). Continued research on the third-person effect with pro-social messages has demonstrated with some consistency that “people can self-enhance by seeing themselves as relatively pro-social and open-minded in considering desirable messages” (Meirick, 2005, p. 473).

### ***B. The Third-Person Effect and Pro-Social Messages***

In an early study to compare third-person perceptions across different types of messages, Innes and Zeitz (1988) tested Davison’s (1983) hypothesis by asking respondents to estimate the effects of three different media issues. The researchers found that participants perceived the strongest third-person effect with media violence, a weaker third-person effect with a political campaign, and the weakest effect with an advertising campaign against drunk driving.

Although the study found a third-person perception with each issue, it opened the door to further study on the circumstances in which third-person perceptions change, leading researchers to question whether the social desirability of the message might affect the strength of the third-person effect.

The extension of the study of third-person effects to pro-social persuasive messages arose from the use of the self-enhancement motivation theory to explain the third-person effect. Researchers conjectured that if people avoid admitting susceptibility to anti-social content, they might be more likely to admit vulnerability to pro-social messages, and hypothesized that either diminished or reversed third-person perceptions (first-person perceptions) would emerge as a result (Eveland & McLeod, 1999).

Chang (2005) explored how the self-enhancement motivation influences responses to advertisements with regard to congruency with ideal self-schemata. Self-schemata are described as one's understanding of the "various components" that define who an individual believes that he or she is, as well as who he or she aspires to be. The concept of self-schemata is particularly relevant to advertising because "individuals often use products as a way to present the defined self to others" (Chang, 2005, p. 887). In other words, people project their own self-image through the brands and products that they choose. This image may be idealized in order to be consistent with the individual's aspirations, thereby enhancing the self. Thus, studying the way that individuals respond to advertising messages that feature either self-congruent or self-incongruent

messages helps researchers to understand how self-enhancement motivations affect the way people respond to persuasive messages.

Duck, Terry, and Hogg (1995) used AIDS advertisements promoting safe sex to examine whether variation in the quality of pro-social advertisements would affect third-person perceptions. Participants were asked to rate how desirable they thought it was to be persuaded by the advertisements in addition to estimating the impact of the ads on themselves and others. Respondents perceived themselves as less vulnerable than others to the low-quality ads and as more influenced than others by the high-quality ads. The results of the study were also consistent with the self-enhancement motivation, as the respondents who felt strongly that it was good to be persuaded by AIDS campaigns also judged themselves as more vulnerable to such messages. The authors recommended for further research that,

“there is a need to specify more clearly the conditions under which a motivation to acknowledge personal responsiveness to positive messages outweighs an apparently strong tendency to deny personal persuasibility” (Duck, Terry, & Hogg, 1995 p. 309).

The current study will attempt to further this understanding by examining whether the perceived credibility of non-profit and for-profit organizations affects whether people will acknowledge personal responsiveness to pro-social messages. This is based on the assumption that source credibility will cause a difference in the way people view advertisements for non-profit and for-profit organizations, and

that being affected by a non-profit advertisement may be perceived as more desirable than being affected by an advertisement from a for-profit.

***The Third-Person Effect and Non-Profit Advertising.*** Studies to better understand third-person perceptions in the context of pro-social messages have frequently utilized Public Service Announcements (PSAs) and non-profit advertisements because persuasive messages for these causes are generally pro-social in nature (White & Dillon, 2000).

Kim (2007) used Hurricane Katrina donation PSAs to examine whether third-person perceptions would weaken or reverse in the context of pro-social advertisements, as well as whether the perceptions would predict behavioral intentions. The study measured the perceived desirability of the messages in order to determine whether there was a relationship between message desirability and third-person perception. The study found no significant relationship between these variables, and the researcher recommended that further study be done to better understand this relationship.

Cho and Boster (2007) used anti-drug ads to examine the relationship between third-person perception and attitudes and intentions concerning drug use, and found that the perceived effect on self was positively related to anti-drug attitudes and intentions.

White and Dillon (2000) studied third-person effects in Public Service Announcements to determine how people would perceive the impact of the PSAs when knowledge about how others received the message was manipulated. The

researchers hypothesized that a pro-social PSA message would elicit stronger perceptions of persuasion on the self than on the “others”. A first-person effect did emerge in the study, suggesting that a drive for self-enhancement motivates people to perceive themselves as more affected when the persuasive content is positive and socially desirable, as in a PSA.

The results of research using PSAs and non-profit advertising to test the third-person effect have varied. Some have shown that a first-person effect emerges when these types of messages are used, and some have shown only a reduced third-person effect. This study attempts to further the understanding of how the third-person effect works with pro-social messages by testing whether the profit status of the organization producing the ad affects the direction of first- and third-person perceptions.

### ***C. Credibility***

This research attempts to refine the understanding of when the third-person effect occurs and when it reverses by examining whether the profit status of the organization producing the ad affects the strength or direction of first- or third-person perceptions. The prediction that profit-status would affect first- and third-person perceptions is based on the assumption that people will perceive non-profit and for-profit organizations differently. More specifically, this study hypothesizes that people will perceive non-profit organizations as more credible sources of environmental advertising than for-profit organizations, and that the



perceived credibility of these organizations will affect the degree to which they rate themselves and others as affected by the ads.

Previous research has demonstrated that source credibility affects first- and third-person perceptions. Gunther (1991) manipulated the level of source credibility in newspaper articles and found that there was a greater discrepancy in perceived self-other evaluations when the source of the message was less credible. Banning and Sweetser (2007) investigated the relationship between source credibility of a news story and the third-person effect, hypothesizing that credibility would vary across news sources, and that there would be a greater third-person effect with less credible sources. Although the study did not find a significant difference in third-person effect across media types, it did find a linear relationship between third-person effect and perceived source credibility, such that the third-person effect increased as credibility decreased. These findings demonstrate a need for further research to determine the factors that affect perceptions of source credibility, as well as whether there is a relationship between source credibility and third-person effect.

The current study attempts to contribute to this understanding by testing whether the profit status of the organization producing the ads affects the perceptions of source credibility, and whether there is a relationship between the level of perceived source credibility and the strength and direction of third-person perceptions. The expectation is that people will perceive greater source credibility with the ads produced by non-profit organizations, and that there will be a

negative relationship between perceived source credibility and third-person perceptions. Therefore, the following hypotheses are proposed:

H1: Participants will perceive greater source credibility with non-profit advertisements than with for-profit advertisements.

H2: For both non-profit and for-profit ads, the greater the perceived source credibility, the weaker the third-person perceptions.

#### ***D. Third-Person Behavior***

The behavioral dimension of the third-person effect proposes that people will want to act as a result of third-person perceptions (Perloff, 1996). Many researchers believe that the social relevance of the third-person effect lies in the behavioral consequences of the perceptions (Zhao & Cai, 2008). However, the behavioral dimension (referred to henceforth as third-person behavior) has received relatively little attention by researchers in comparison to third-person perception. In a meta-analysis of 62 third-person effect studies, only 13 tested the behavioral hypothesis (Paul et al., 2000). Because of this lack of attention, little theoretical progress has been made to understand third-person behavior (Zhao & Cai, 2008). Additionally, most of the studies that have examined third-person behavior have tested a direct causal relationship between third-person perceptions and third-person behavior (Perloff, 2002). Zhao and Cai (2008) acknowledged the need to explore whether the relationship between third-person

perceptions and behavior might be "more intricate in nature and involve multiple paths of influence" (p. 442).

The theory of reasoned action (Ajzen, 1985) explains the way that behavioral intentions can be used as a way to empirically link attitudes and actual behavior:

“the most important factor to understanding the link between attitudes and behavior is an individual’s intentions. That is, the stronger are individuals’ intentions, the more likely it is that they will engage in the specified behaviors.” (Hellman, Hoppes, & Ellison, 2006, p. 30).

This theory is applicable to studying the relationship between third-person perception and third-person behavior because it suggests that third-person behavior can be predicted by behavioral intentions. (Zhao & Cai, 2008). Given this implication, this study will consider behavioral intentions as a means to empirically study the relationship between attitudes and behavior in the context of third-person perceptions.

Past research has had mixed results in examining the effect of exposure to advertising messages on intentions to act on the messages. Wakefield et al. (2006) examined the relationship between exposure to televised youth smoking prevention advertisements and youths’ intentions and behaviors. The study did not find a significant relationship between exposure to these advertisements and a decreased likelihood to smoke. However, the study did not measure first- and third-person perceptions, but rather only how advertising exposure relates to behavioral intentions. Other research has demonstrated that there is a

relationship between perceptions and behavioral intentions. Cho and Boster (2007) examined adolescents' perceptions of the effects of anti-drug advertisements as well as the relationship between these perceptions and their attitudes and intentions regarding drug use. The study found that the perceived effect on the self was positively correlated with anti-drug attitudes and behavioral intentions.

It is important to examine whether the way that individuals perceive influence of advertisements has an actual effect on their behavior. In other words, is the third-person effect a good way to predict behavior? Will people respond as a result of their perceptions? Kim (2007) studied the relationship between perceived effects and actual effects of Hurricane Katrina donation aid advertisements. Behavior was defined as intention to donate money and support for the donation Public Service Announcements. The study found that the third-person effect is indeed a predictor of behavior: there was a significant negative relationship between third-person perceptions and behavioral intentions. In other words, those individuals who perceived that the advertisements had a greater influence on other people than on themselves also had fewer intentions to act on the messages. Those individuals who perceived that they were more influenced by the advertisements than were other people had more intentions to act on the messages. The current study attempts to extend these findings by examining whether the strength and direction of first- and third-person perceptions are correlated with behavioral intentions.

In addition to studying how perceived influence relates to individuals' behavioral intentions, researchers have also looked at presumed behavior, or the presumed effect of media on other people's behavior, which some studies have found to provide a more accurate prediction of the perceiver's behavioral intentions (Jensen & Hurley, 2005). The research into this area is based on the idea that exploring what people perceive that others will do, not just whether they perceive that others are influenced, is a better way to link perception to action. Jensen and Hurley (2005) found that participants were able to differentiate between different types of influence on others, and that these differences were meaningful in predicting behavioral intentions. Based on the idea that presumed behavior of others has meaningful implications in regards to the behavioral intentions of the perceiver, this study measures participants' own behavioral intentions as well as the presumed behavioral intentions of others in order to calculate a "third-person behavior" score.

This research seeks to further the understanding of the relationship between third-person perception and behavior by examining whether the strength and direction of first- and third-person perceptions predict behavioral intentions regarding the messages in the ads. In order to do so, this study tests the relationship between third-person perceptions (whether people perceive themselves or others as more affected by environmental advertising) and third-person behavior (whether people estimate that they or others are more likely to act on the perceptions). The third hypothesis is proposed accordingly:

H3: The weaker the third-person perception score, the weaker the third-person behavior score.

### ***E. Mediation***

Although scientific research often simply seeks to establish that a relationship exists between two variables, merely determining that two variables are related provides little insight into how and why the relationship exists. Because research to determine when and why the third-person effect gets stronger, weaker, or reverses has yielded inconsistent results (Neuwirth, 2002), this study tests first- and third-person perceptions in a mediation model in order to understand more precisely how these perceptions are effected by ad source credibility, as well as how they influence behavioral intentions.

According to Preacher and Hayes (2004),

“Researchers often conduct mediation analysis in order to indirectly assess the effect of a proposed cause on some outcome through a proposed mediator” (p. 717).

In other words, a mediating variable is one that accounts for the relationship between variables that are otherwise unrelated. A specific indirect effect represents the ability of a particular variable to mediate the effect of the independent variable on the dependent variable when controlling for all of the other mediators. Simple mediation involves testing the effect of a causal (independent) variable on a proposed outcome (dependent) variable through a

single mediating variable. Multiple mediation involves contrasting two or more mediators within a single model (Preacher & Hayes, 2008).

This research uses mediation to test whether the perceived source credibility of non-profit and for-profit ads affects third-person behavior through third-person perception. Two simple mediation models are proposed, a non-profit and a for-profit model. For both models, the proposed cause (independent) variable is the perceived source credibility of the organization producing the ad, and the outcome (dependent) variable is the calculated third-person behavior score. The proposed mediating variable is the calculated third-person perception score. A fourth hypothesis is proposed for the predicted mediation:

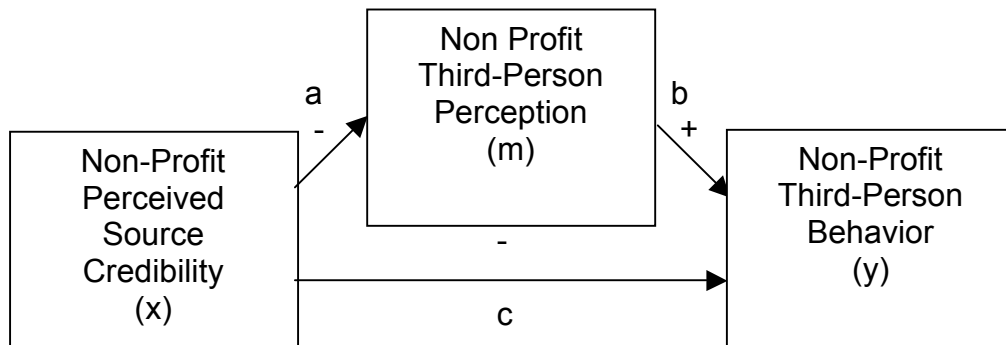
H4: The greater the perceived source credibility, the weaker the third-person behavior estimates.

Separate models are proposed for each profit status, because H1 predicts that source credibility will be greater with non-profit ads than with for-profit ads.

Additionally, based on this prediction, a final hypothesis is proposed:

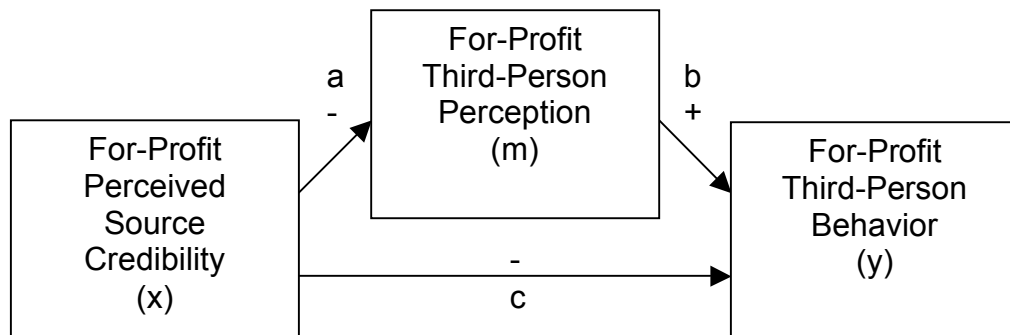
H5: The non-profit model will explain more variation in the data set than will the for-profit model.

Figure 1. Proposed Non-Profit Mediation Model.



Path a: effect of x on m. Path b: effect of m on y, partialling out the effect of x. Path c: total effect of x on y (sum of direct and indirect effects).

Figure 2. Proposed For-Profit Mediation Model



Path a: effect of x on m. Path b: effect of m on y, partialling out the effect of x. Path c: total effect of x on y (sum of direct and indirect effects).

This study used a macro for SPSS to generate bootstrap confidence intervals to estimate the total and specific indirect effects of the independent variable (x) on the dependent variable (y) through the mediator (m).

Bootstrapping is a nonparametric resampling procedure (Preacher & Hayes, 2004) that makes no assumptions about the normality of the distribution, which



can often be a problem in smaller sample sizes. The procedure consists of repeatedly sampling with replacement from the data set (at least a thousand times) and estimating the indirect effect in each resampled data set.

## Chapter 3: Methods

### **A. Design**

This experimental study is a 2 (organization profit status: nonprofit/for-profit) by 6 (ads) by 4 (order) repeated measures model. Although the mediation model tests perceived source credibility of the ads as the independent variable, the study was designed with profit-status of the organization producing the ad as the independent variable and source credibility as a mediator. This was done to ensure that source credibility of the ads would vary as a function of profit status. A within-subjects design was employed for greater power with a relatively small sample size, and order was run between-subjects.

The study consisted of a pre-test questionnaire followed by exposure to the twelve ads, after each of which was the post-test questionnaire to measure the dependent and mediating variables. The pre-test also measured the control variables, which were political ideology and attitudes toward the organizations whose ads were used as stimuli.

**Independent variable.** Profit-status is a within-subjects variable, so all participants viewed both the non-profit and for-profit ads. Six of the twelve ads used in the study were from non-profit organizations, and six of the ads were from for-profit organizations. Multiple ads for each condition served as message

replication. The profit-status of the organizations producing the ads was pre-determined, since the ads used in the study were all previously published and from real organizations.

***Dependent Variable.*** The dependent variable was third-person behavior. Based on the idea that presumed behavior of others has meaningful implications for the behavioral intentions of the perceiver, this study measured participants' behavioral intentions as well as the presumed behavioral intentions of others in order to calculate a "third-person behavior" score. Measured on a 7-point response scale ranging from 1 "Not at all likely" to 7 "Very likely," participants were asked the following questions:

1. After looking at this ad, how likely would you be to act on the message in the ad?
2. After looking at this ad, how likely do you think your peers would be to act on the message in the ad?

The score was computed the same way that traditional third-person perception scores are computed, by subtracting the "self" scores from the "others" scores. If the resulting number was positive, this indicated a third-person behavior effect, and the larger the resulting number, the greater the strength of the effect. If the resulting number was negative, this indicated a first-person behavior effect, and the smaller the resulting number, the greater the strength of the effect. This score was used as the dependent variable in the mediation model to test whether first-

and third-person effects predict perceptions regarding self and others' behavioral intentions.

***Mediators.*** The study measured third-person perception of the ads and ad source credibility as mediating variables. Treating source credibility as a mediating variable allowed the researchers to assess the relationship between profit status and source credibility.

***Third-person perceptions.*** Third-person perceptions of the ads were calculated from a two-item scale that has been widely used in previous research to determine third-person perception scores (Duck & Terry, 1995). Participants answered the following questions on a 7-point response scale anchored by not at all/extremely:

1. How much does this ad influence your thinking about the environment?
2. How much do you think this ad influences the thinking of others about the environment?

To calculate the strength and direction of the first- or third-person perception, the "self" scores were subtracted from the "others" scores. If the resulting number was positive, this indicated a third-person effect, and the larger the resulting number, the greater the strength of the third-person effect. If the resulting number was negative, this indicated a first-person effect, and the smaller the resulting number, the greater the strength of the first-person effect.

*Source Credibility.* Some researchers have found expertise and trustworthiness to be the two most significant elements of advertising source credibility. Expertise refers to the knowledge and competence of the source while trustworthiness has to do with the integrity and honesty of the source (Wasike & Wu, 2006). This study adapted McGinnies' and Ward's (1980) scale, which uses items regarding expertise and trustworthiness to compute a source credibility score. These items were used in the post-test to determine whether credibility is correlated with the profit-status of the advertisement. Measured on a 7-point Likert scale from 1 (disagree completely) to 7 (agree completely), participants responded to the following statements ( $\alpha = .93$ ):

1. The source of this advertisement is knowledgeable about environmental issues.
2. The source of this advertisement is honest.
3. The source of this advertisement is sincere.
4. The source of this advertisement can be trusted to provide information about environmental issues.

The post-test included attitude toward the advertisement as an additional dependent variable to examine the relationship between profit status of the organization and attitude toward the ads. Attitude toward the advertisements was measured with an adaption of Biel and Bridgewater's scale (1990) to determine likeability of an advertisement. Measured on 7-point Likert scales from 1

(disagree completely) to 7 (agree completely), participants responded to the following statements ( $\alpha = .89$ ):

1. Thinking about the advertisement as a whole, I find this ad convincing.
2. Thinking about the advertisement as a whole, I find this ad intelligent.
3. Thinking about the advertisement as a whole, I find this ad informative.

After data was collected, a principal component analysis was run on the four items from the source credibility scale and the three items from the attitude toward the ad scale. The analysis revealed that all seven items loaded on a single factor ( $\alpha = .94$ ). The results of this analysis suggest that the two scales were actually measuring the same underlying factor. Since the internal consistency with all seven items together was higher than that of either of the scales alone, the items were combined for data analysis and used as a better measure of ad source credibility.

Table 1  
*Results of Principle Component Analysis*

<b>Component</b>	<b>Eigenvalue</b>	<b>% of Variance</b>	<b><math>\alpha</math></b>
Credibility	5.09	72.660	.94

<b>Item</b>	<b>Loading</b>
trusted	.85
convincing	.86
intelligent	.83
informative	.80
knowledgeable	.86
honest	.89
sincere	.89

**Covariates.** The control variables were attitude toward the organizations whose ads were used as stimuli and political ideology. Attitude toward the organization was measured in both the pre- and post-test to ensure that neither pre-existing positive nor negative attitudes toward the organizations were covariates. Political ideology was measured only in the pre-test to allow for its use in data analysis as a control.

*Attitude toward the organization.* Participants' attitudes toward the organizations were measured in both the pre- and post-test with the same item, allowing the researchers to use prior attitudes as a control as well as to test whether attitudes changed after viewing the ads. Participants responded to the statement, "My views about this organization are" which was measured on a 7-point response scale anchored by totally favorable/ totally unfavorable.

*Political Ideology.* In the pre-test, participants were asked a question used in previous research to measure political ideology (Kroh, 2007): "How would you best characterize your political beliefs?" to which they responded on a 7-point response scale anchored by liberal/conservative. This question was asked to allow for inclusion as a covariate in data analysis because of the political nature of environmental issues.

**Pre-test of Ads.** To ensure that participants were aware of whether the advertisements were for non-profit or for-profit organizations, ads were pre-tested to determine how likely they were to be perceived as being for a non-profit or a

for-profit organization. The ads that were perceived as most obviously one or the other were chosen for use in the experiment.

The pre-test utilized a convenience sample of 30 participants who were shown 23 different ads, twelve of which were from non-profit organizations and eleven of which were from for-profit organizations. After viewing each ad, the participants were asked the following questions, which were answered on 9-point response scales anchored by not at all likely/ very likely:

1. How likely is it that this advertisement is for a non-profit organization?
2. How likely is it that this advertisement is for a for-profit organization?

The means of these questions for each ad were compared with a paired-samples t-test to determine which organizations' ads would be used in the experiment. Ads with the highest t-values were those that were most obviously from non-profit organizations, and ads with the lowest t-values were those that were most obviously from for-profit organizations.

Of the 23 ads that were tested, 12 were selected for use in the actual study, six from non-profit organizations and six from for-profit organizations. T-test results are shown in Table 1. Several organizations had multiple ads in the pretest. If both advertisements' t-values were among the most obviously non-profit or for-profit, only the more polar t-value was selected so that there wouldn't be multiple ads from the same organization in the study.



Table 2  
*T-test results for pre-test data*

Organization	Mean Difference between non-profit and for-profit likelihoods	<i>t</i>	<i>df</i>	<i>p</i>
Lexus*	-6.87	-14.71	29	<.001
BP*	-6.07	-15.47	29	<.001
Volkswagon	-3.30	-3.35	29	.002
Toyota*	-5.97	-10.46	29	<.001
Riverbend Landfill Co.*	-3.93	-4.66	29	<.001
Oman Economic Review 1	1.57	1.70	29	.099
Newell Recycling	-3.10	-3.07	29	.005
Nalgene/Brita*	-5.93	-9.64	29	<.001
Discovery Channel	-2.73	-2.87	29	.008
Chevrolet*	-6.27	-9.36	29	<.001
WWF Polar Bear Ad*	6.73	21.43	29	<.001
National Resources Defense Council*	6.80	23.84	29	<.001
WWF Soldier Ad	6.90	20.08	29	<.001
Hulot Foundation Leopard*	6.93	21.11	29	<.001
Environmental Defense 1*	6.73	17.99	29	<.001
WWF Coins Ad	6.33	14.14	29	<.001
Greenpeace*	7.50	32.80	29	<.001
Earth Share*	7.03	24.29	29	<.001
Viva	3.20	3.62	29	.001
Environmental Defense 2	6.67	17.61	29	<.001
WWF Penguin	6.87	19.72	29	<.001
Hulot Foundation Dolphin	6.97	19.00	29	<.001
Oman Economic Review 2	2.27	2.14	29	.041

Note: \* denotes ads selected for use in study

### **B. Research Instrument and Stimulus Materials**

This study utilized a controlled online experiment in order to test the proposed hypotheses. This method of research was selected for several reasons. First, experiments help to establish cause and effect (Wimmer & Dominick, 1997). This experiment looks at the effect of profit-status on third-person perception, third-person behavior, and source credibility. It also examines the effect of third-person perception on third-person behavior and whether source credibility effects third-person perception.

Experiments also allow for a greater degree of control and thus internal validity than do other research methods (Wimmer & Dominick, 1997). Because of the complex psychological nature of both the third-person effect and behavioral intentions, it is crucial that researchers utilizing these variables are able to control for confounding influences to ensure that the intended independent variables are indeed the cause of any effect that is found.

This experiment was administered via an online questionnaire created through freeonlinesurveys.com. Administering the study online allowed for greater ease of distribution to a larger sample size, as participants were able to complete the questionnaire at their own convenience rather than having to go to a specified location.

All of the ads used in this research were color print ads that were found online, and all had been published elsewhere prior to their inclusion in this study. The ads were selected primarily based on two factors. First, only ads with pro-social environmental messages were selected to isolate profit status as the differentiating factor between the ads. Additionally, each ad had to encourage some type of behavioral response because this study measures behavioral intentions as a dependent variable.

### ***C. Participants and Procedure***

***Participants:*** This study recruited participants through an e-mail sent to a student listserv at the University of Missouri, with an intended convenience

sample of 50 (power= .8, effect-size= .5, alpha= .05). However, 123 participants responded to the recruitment e-mail. Out of the 123 participants, 99 were female (80.49%) and 24 were male (19.51%), ranging in age from 18 to 51 years old, with a mean age of 23. Participants' political beliefs were self-reported on a 7-point scale from 1 (liberal) to 7 (conservative). Of the responses, 79 fell between 1 and 3 (liberal), 18 reported their political beliefs as a 4 (midpoint), and 26 fell between 5-7 (conservative).

**Procedure:** This experiment was administered via an online questionnaire created through [freeonlinesurveys.com](http://freeonlinesurveys.com), so participants were able to complete the questionnaire at their own convenience. In order to control for order effects, the recruitment e-mail directed participants to click on the hyperlink to one of four questionnaires depending on the first letter of their last name. Each questionnaire contained the same content but in one of four different orders.

Before beginning the study, participants were required to read a consent form and either select "Yes," as consenting to participation in the study, or select "No," at which point they would be exited from the questionnaire.

Prior to viewing the advertisements, participants completed the pre-test questionnaire. After completing the pre-test, participants viewed six non-profit and six for-profit advertisements containing environmental messages. After each ad, participants completed the post-test questionnaire, which measured the dependent, mediating and control variables.

## Chapter 4: Results

The primary data analysis for Hypothesis 1 was a paired-samples t-test on the credibility means for non-profit ads and for-profit ads. All other hypotheses were tested with the mediation model. Although 123 people participated in this study, only 81 participants provided complete, usable data for analysis.

Hypothesis 1 predicted that participants would perceive greater source credibility with non-profit advertisements than with for-profit advertisements. To test this prediction, a paired-samples t-test was run on the credibility means for non-profit ads and for-profit ads. The test revealed a significant difference between credibility means for non-profits and for-profits ( $t(80) = -3.51, p = .001$ ), such that participants perceived ads from non-profits ( $M = 4.61, SD = .96$ ) as having significantly higher source credibility than ads from for profits ( $M = 4.15, SD = .81$ ), indicating support for the hypothesis.

### ***Mediation***

The mediation models test whether perceived source credibility affects third-person behavior through third-person perception. A paired-samples t-test indicated a significant difference in source credibility for non-profits and for-profits, so separate models were tested as planned for each profit status.

Although profit status is not tested as a variable in either model, it is present in the testing of two models.

Path direction predictions for the mediation model were guided by theory, but a correlation was run prior to testing the mediation model to ensure that these predictions were supported by the data, and the test of correlation revealed the path predictions to be accurate. There was a significant negative relationship between credibility and third-person perception for both non-profits ( $r = -.25$ ,  $p = .02$ ) and for-profits ( $r = -.24$ ,  $p = .006$ ). There was a significant positive relationship between third-person perception and third-person behavior for both non-profits ( $r = .54$ ,  $p < .001$ ) and for-profits ( $r = .36$ ,  $p < .001$ ). There was a significant negative relationship between source credibility and third-person behavior for both non-profits ( $r = -.33$ ,  $p = .002$ ) and for-profits ( $r = -.301$ ,  $p = .001$ ).

Political ideology and prior attitudes toward the organizations were included in the test of mediation as covariates, or statistical controls, to ensure that they were not accountable for any significant results that were found.

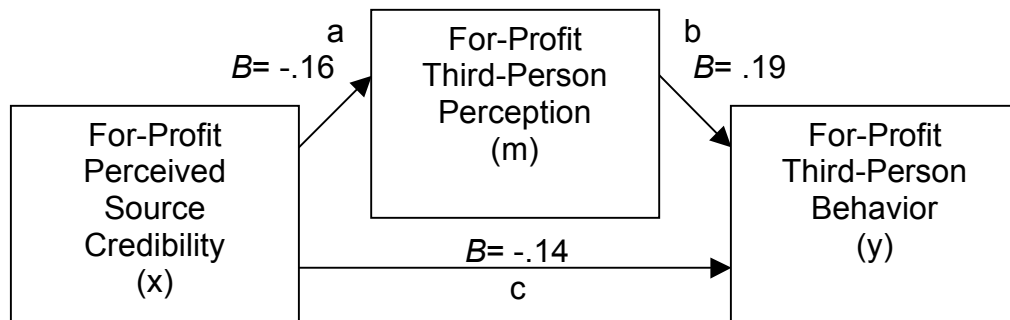
The models were tested using a macro for SPSS to generate bootstrap confidence intervals estimating the total and specific indirect effects of the independent variable (x) on the dependent variable (y) through the mediator (m). One-tailed tests were used for all reported p-values.

*For-profit model:* For the "a path", or the effect of source credibility on third-person perception,  $B = -.16$ ,  $t(80) = -1.66$ ,  $p = .05$ . This path is significant in the predicted direction, indicating support for Hypothesis 2 and the mediation

model. For the "b path", or the direct effect of third-person perception on third-person behavior,  $B = .19$ ,  $t(80) = 2.04$ ,  $p = .02$ . This path is also significant in the predicted direction, indicating support for Hypothesis 3 and the mediation model. For the "c path" or the total effect of credibility on third-person behavior,  $B = -.14$ ,  $t(80) = -1.78$ ,  $p = .04$ . This path is significant in the direction predicted by Hypothesis 4 and supports the mediation model. The "c' path" is the direct effect of credibility on third-person behavior controlling for third-person perceptions,  $B = -.11$ ,  $t(80) = -1.40$ ,  $p = .08$ . This path shows no significant relationship between credibility and third-person behavior with the inclusion of the mediating variable (third-person perception), which indicates that mediation occurred as predicted.

For the partial effect of prior attitudes toward the organizations on the DV (third-person behavior),  $B = -.12$ ,  $t(80) = -1.28$ ,  $p = .10$ . This suggests that prior attitudes did not have a significant effect on third-person behavior. For the partial effect of political ideology on third-person behavior,  $B = .07$ ,  $t(80) = 1.80$ ,  $p = .04$ , indicating that political ideology had some effect on third-person behavior. The fit statistic for the entire model is  $r^2 = .14$ ,  $p = .01$ , such that that this model explains 14 percent of the variation in the data set.

Figure 3. For-Profit Mediation Model



Path a: effect of x on m. Path b: effect of m on y, partialling out the effect of x. Path c: total effect of x on y (sum of direct and indirect effects).

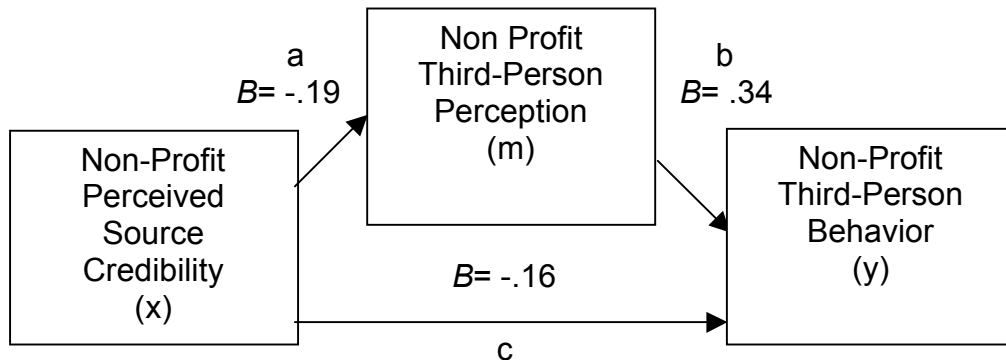
*Non-profit model:* For the "a path", or the effect of credibility on third-person perception,  $B= -.19$ ,  $t(80)= -1.79$ ,  $p=.04$ . This path is significant in the predicted direction, indicating support for Hypothesis 2 and the mediation model. For the "b path" or the direct effect of third-person perception on third-person behavior,  $B= .34$ ,  $t(80)= 4.97$ ,  $p<.001$ . This path is also significant in the predicted direction, suggesting support for Hypothesis 3 and for the mediation model. For the "c path" or the total effect of credibility on the third-person behavior,  $B= -.16$ ,  $t(80)= -2.16$ ,  $p=.02$ . This path is significant in the predicted direction, demonstrating support for Hypothesis 4 and the mediation model.

For the "c1 path" or the direct effect of credibility on the third-person behavior controlling for the mediator (third-person perception),  $B=-.10$ ,  $t= -1.42$ ,  $p=.08$ . This path shows no significant relationship between credibility and third-

person behavior with the inclusion of the mediating variable (third-person perception), which indicates that mediation occurred as predicted.

For the partial effect of prior attitudes toward the organizations on third-person behavior,  $B = -.04$ ,  $t(80) = -.41$ ,  $p = .34$ . This suggests that prior attitudes did not have a significant effect on third-person behavior. For the partial effect of political ideology on the third-person behavior,  $B = .06$ ,  $t(80) = 1.50$ ,  $p = .07$ . This suggests that political ideology did not have a significant effect on third-person behavior. The fit statistic for the entire model is  $r^2 = .37$ ,  $p < .001$ , such that this model explains 37 percent of the variation in the data set.

Figure 4. Non-Profit Mediation Model.



Path a: effect of x on m. Path b: effect of m on y, partialling out the effect of x. Path c: total effect of x on y (sum of direct and indirect effects).

### **Additional Analyses**

Although no hypotheses were made about participants' attitudes toward the organizations, they were measured in both the pre- and post-test to allow



researchers to use prior attitudes as a control as well as to test whether attitudes changed after viewing the ads.

A paired-samples t-test was run to determine whether there was a difference in attitudes toward the organizations before and after viewing the ads. The test revealed that there was no significant difference in attitudes toward non-profits before and after viewing the ads ( $t(80) = .76, p = .45$ ), but that there was a significant difference in attitudes toward for-profits before and after viewing the ads ( $t(80) = -3.79, p < .001$ ). These results suggest that while pro-social advertisements do not significantly affect attitudes toward non-profit organizations, they do affect attitudes toward for-profit organizations. An additional paired-samples t-test revealed while attitudes toward non-profits ( $M = 4.70, SD = .76$ ) and for-profits ( $M = 4.27, SD = .67$ ) were significantly different prior to viewing the ads ( $t(80) = 3.32, p = .001$ ), there was no significant difference after viewing the ads ( $t(80) = .434, p = .665$ ). This suggests that viewing the pro-social advertisements not only improved attitudes toward the for-profit organizations, it actually made them statistically equal to the attitudes toward non-profits.

## Chapter 5: Discussion

One of the goals of this study was to advance the understanding of third-person behavior, specifically to investigate whether the profit-status of the organization producing an ad would affect behavior intentions and presumed behavior intentions of others. In order to do so, source credibility was examined as the relevant underlying factor that would cause profit-status to affect behavioral intentions with pro-social environmental ads. As was predicted by Hypothesis 1, a paired-samples t-test revealed that source credibility perceptions would be affected by profit-status, such that participants perceived greater source credibility with non-profit ads than with for-profit ads. The results of this t-test suggest that people view non-profit organizations as more credible sources of pro-social environmental ads.

Testing of the mediation models with prior attitudes toward the ads and political ideology included as covariates revealed significant results for each of the predicted relationships. For both non-profit and for-profit ads, the test showed that people perceived themselves as more affected by the ads when source credibility perceptions were greater. This follows with the self-enhancement motivation theory, in that people have been found to admit greater susceptibility to persuasive messages when acknowledging susceptibility is perceived as being

more desirable. It therefore makes sense that people would admit greater personal persuasability to ads when they are perceived as coming from more credible sources.

Another major goal of this study was to test whether third-person perception would predict third-person behavior. The results of testing the mediation model revealed that third-person perception does predict third-person behavior for both non-profit and for-profit pro-social ads, such that when people estimated weaker third-person perceptions, they also estimated weaker third-person behavioral intentions. In other words, when people perceive themselves as more affected by pro-social ads, they also estimate themselves as more likely to act on the ad.

The "total effect" of credibility on third-person behavior was calculated by adding the direct effect of source credibility on behavior with the indirect effects of source credibility on perception and perception on behavior. For both models, the total effect revealed a significant negative relationship between credibility and third-person behavior. The more credible the source was perceived as being, the weaker was the third-person behavior effect. In other words, the model demonstrated that credibility is a predictor of behavioral intentions, such that people indicated themselves as being more likely to act on ads whose sources were perceived as being more credible.

The "direct effect", or the effect of the IV on the DV controlling for the mediator, was not statistically different from zero for either model, indicating no

relationship between credibility and third-person behavior after controlling for the effect of third-person perception. This indicates that third-person perception did indeed mediate the relationship between credibility and third-person behavior with both non-profit and for-profit ads.

Based on the higher source credibility that was predicted for non-profits, the study predicted that the non-profit model would explain more variance in the data set than would the for-profit model. The test of mediation revealed that the non-profit model did explain more variation in the data set than did the for-profit model. This result suggests that source credibility has a greater impact on behavior intentions of self and presumed behavior intentions of others with non-profit pro-social advertising than with for-profit pro-social advertising. This could be due to the compounded nature of this relationship. In other words, when source credibility perceptions are higher, people are more likely to perceive influence on themselves, and then in turn have higher reported behavioral intentions for themselves, so that the relationship gets exponentially stronger as source credibility increases.

The results of this test of mediation are both theoretically and practically relevant. Findings indicate that credibility affected behavioral intentions through perceptions of self-other effects, which is significant to the theoretical understanding of the third-person effect. These results show that the perceived credibility of the message source is one factor that can affect the strength and

direction of third-person perception, as well as that third-person perception is a predictor of third-person behavior.

This is the only known study to date that calculated a third-person behavior score in the same way that third-person perception scores are calculated. The significance of using this score to third-person literature is two-fold. First, it allows for direct comparisons between perception and behavior, as both are measurements of the difference in self-other estimations. Second, by demonstrating a simple means of calculating third-person behavior, this might increase the study of third-person behavior, which needs to be done to further the understanding of the third-person effect in general. Third-person behavior is a way to link the perceptual phenomenon to meaningful practical consequences, which may increase attention to the phenomenon so that it can be more fully developed as a theoretical framework.

Although each of the hypotheses proposed in this study was supported as predicted, its findings are limited in their application because of the structured context of an experiment. This study found that ad source credibility affected behavioral intentions, but does not test what factors increase credibility, other than profit-status. More research should be done to better understand how credibility could be increased so that advertisements can be more effective at encouraging behavior. Since this study demonstrated higher source credibility for non-profits, further study could clarify what for-profits might do to increase their credibility to be on par with non-profits. Additionally, this study only tested profit-

status and credibility as factors that could influence third-person behavior. Other factors should be tested using the third-person behavior score to determine other variables that might influence the strength and direction of third-person behavior estimates.

This study solely utilized environmental advertisements as an example of pro-social messages. However, to better understand the underlying variables that affect first- and third-person perceptions as well as first- and third-person behavior with pro-social advertising, a variety of types of advertisements should be tested. This study demonstrated that source credibility is higher for non-profits with environmental ads, but for-profits might be perceived as more credible with other types of pro-social ads. When testing the mediation model, this study controlled for political ideology in order to eliminate any confounding influence that could be caused by the political nature of environmental advertising, but factors that are unique to environmental advertising could also be confounds. An example of one such possible confound is the emotional nature of the ads, such as when animals are shown being injured or killed.

Possible moderators that could interact with credibility should also be considered in order to test moderated mediation models. These could be individual differences, such as personal knowledge of or relevance to the type of message in the ad. For example, people who have more knowledge about environmental issues might be affected differently by environmental ads than are people who have very little knowledge or experience with environmental issues.

Although the researcher attempted to select ads that would elicit some sort of behavioral response, some of the ads may have been more persuasive than others in regards to encouraging behavior. If this was the case, the basic persuasiveness of the ad appeal could have been a confounding factor in the study that was not accounted for. In future studies, researchers could pre-test the ads for how persuasive individual features of the ad are considered to be, such as the copy or the visual, as these aspects could contribute to third-person perception or third-person behavior.

One of the goals of this study was to increase the theoretical understanding of the factors that cause third-person perceptions to weaken or reverse, as well as to add to the knowledge of how the third-person perceptual hypothesis can be linked to behavior. This study contributed to the understanding of both of these issues. Findings revealed that ad source credibility, which is higher for non-profit ads, is a predictor of third-person perceptions. Specifically, the study demonstrated that the greater the perceived source credibility, the weaker the third-person perception. Additionally, this research found that third-person perception was a significant predictor of third-person behavior, a finding that is both relevant to furthering the theoretical understanding of the third-person effect as well as practically helpful for advertisers, who can use this information for the research and development of advertising that will encourage behavior.

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