The Role of Images and Visual Narratives in the Formation of Internal Attributions:

A Focus on the Animal Rights Movement

Thesis

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Abstract

This research looked at how images can illicit internal attributions of blame. More specifically, this study dealt with animal rights persuasive messages and how the images used in these messages can promote self blame (internal attributions) for animal suffering and death by showing humans as the perpetrators of certain actions done to animals. In addition to examining the effects of human presence in visuals, the narrative structure of the images was also taken into consideration. It was predicted that as the narrative became more complete, internal attribution would increase. An interaction between these two conditions (image and visual narrative) was also hypothesized and examined. No significant effects of condition on internal attributions were found. However, internal attributions did play a role in predicting attitudes and behavioral intention. Post-hoc analyses revealed that perhaps internal attributions were originally thought of too simplistically and that there needs to be a consideration of how these attributions work in combination with external attributions (and possibly guilt and indifference levels as well). This thesis provides a first attempt to address a combination of internal and external attributions by focusing on attributional ambivalence, but future research should attempt to explore these relationships in greater depth.
Dedicated to my Dad, Rollis St. John
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Fields of Study

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Chapter 1: Introduction

With the long standing focus on text-based messages, the role of visuals has been by-and-large ignored in persuasion-based communication research (Cf. Messaris, 1997). Nevertheless, a focus on visual communication is finally beginning to emerge (see Smith, Moriarty, Barbatsis & Kenney, 2005 for review). The study of visuals is important because we need to understand what role they play in various communication processes apart from text and audio. “If we can specify in what essential ways images differ from words or music or other vehicles of meaning, we can then go on to examine the implications of those differences for the persuasive uses of visual media” (Messaris, 1997, p. viii). It is especially important to understand what role visuals are playing because the use of visuals in persuasive messages has become almost a constant in this day and age. We are exposed to visuals on a regular basis from various media forms. Companies using visuals in advertising to promote products or services they are trying to sell, politicians using visuals to try to get elected, and social movements using visuals to try to get people to support their respective causes are just a few of the ways we see images used in persuasive messages almost everyday (e.g., Matthes, Schemer, & Wirth, 2007; Brader, 2005; Huddy & Gunnthorsdottir, 2000).

Among the many social organizations that use visuals in their persuasive attempts is the animal rights movement. The animal rights context is used in this research to focus in on the use of visuals and what they do above and beyond text-based information. Tri-
fold brochures dealing with an animal rights issue, vegetarianism, were used to look at
how images and visual narratives work to illicit internal attributions. Internal attributions
are when one attributes cause to something within the self rather than to some outside
force. The animal rights context was chosen for this study because many real-world
animal rights messages use images in the attempt to change receivers’ attitudes, beliefs
and behaviors (see http://video.hsus.org/index.jsp or http://www.peta.org/mc/
printAds.asp for examples). Although the concentration of this research is on a specific
movement that commonly uses images (often times exceedingly powerful images), what
is being argued for in this thesis in relation to communication theory and the testing of a
communicative process of influence can be applied to other persuasion-based contexts as
well (e.g., commercial advertising, political communication, health communication).

This research moves extant literature forward by examining the unique role of
images, above and beyond text, in attribution formation. Prior research has focused on the
use of text to create internal attributions about others (e.g., Iyengar, 1991; Knobloch-
Westerwick & Taylor, 2008) and about self (e.g., Rothman, Salovey, Turvey, & Fishkin,
1993), but the relative importance of visuals above and beyond text in the process has not
been evaluated sufficiently. Also, besides just focusing in on the unique role of images in
the internal attribution process, this research also examined visuals in combination with
visual narrative structure, making for a second unique contribution to the literature.

Previous research that has focused on narratives has done so in the context of text only
(e.g., Appel & Richter, 2007; Chang, 2009; Strange & Leung, 1999) or text combined
with visuals (e.g., Beck, 2004; Brodie et al., 2001; Collins, Elliott, Berry, Kanouse, &
Hunter, 2003), but it is important to move beyond this text only and text-visuals-
combination research to look at what is perhaps a unique influence of visual narratives, outside of text-based effects (Barbatsis, 2005).

In this thesis attribution theory will first be discussed generally. Next, the extant literature dealing with how messages work to illicit internal versus external attributions is reviewed to outline a basis of what has been done, and to provide an understanding of how we can manipulate visuals to illicit differing attributions. Visual communication research is then discussed to help us understand what we might want to make salient in images in order to produce desired attributions. Hypotheses based on these discussions are then presented before moving on to a discussion about visual narratives and their role in persuasion research. Research that has examined the role of text-based and text-with- visuals narratives is summarized and hypotheses are proposed based on what is known about the use of these narratives in the persuasion process. Finally, an argument is provided for why it is not only important to think about what is present and absent in visuals and visual narrative completeness separately, but there is also a need to address how these two factors work together relative to attribute production (i.e., in the form of an interaction).
Chapter 2: Theory and Literature

*Attribution Theory*

The study of attribution theory is a large area of research grounded primarily in the field of psychology (Fiske & Taylor, 2008). This research uses some of the key contributions to attribution theory made by Heider (1958), Kelley (1967) and Weiner (1972) to explore the relationships between communicative persuasive messages and internal attributions. “Attribution theory concerns the processes by which an individual interprets events as being caused by a particular part of a relatively stable environment” (Kelley, 1967, p. 193). Thus, attribution theory deals with the relationships between phenomena and the reasons for the phenomena (Weiner, 1972). Attribution does not deal with actual causal relationships, but rather an individual’s perceptions of causation. For example, say you have two balls, and when Ball A hits Ball B, Ball B moves. One might attribute Ball B’s movement to Ball A. However, if Ball A hits Ball B but Ball B does not move immediately, one might attribute Ball B’s movement to some other cause than Ball A’s impact (Hume, 1739/2000; Michotte, 1946). Regardless of whether the causation being perceived is the true cause, the main premise of attribution theory is that people are motivated to “know why an event has occurred – to what source, motive or state it may be ascribed” (Weiner, 1972, p. 312). Attribution theory looks at individuals as naïve psychologists trying to make sense of the world around them, and one of the ways we
attempt to do so is by determining the causes of events we observe in our everyday lives (Heider, 1958).

The importance of attributions in this research focuses on the consequences of making an internal versus external attribution after exposure to a persuasive message. Internal attributions are causes linked within a person, whereas external attributions are causes linked to an outside force. For example, if an individual is rowing a boat across a lake on a windy day, the outcome (reaching the other side of the lake) can be perceived to be the result of external factors (e.g., wind at one’s back, strong forward current) or internal factors (e.g., ability, effort) (Heider, 1958). These different attributions can lead to different behaviors. For instance, if the individual in this example attributes cause to the wind, he/she may decide only to row on windy days or to never try to cross the lake again. However, if the individual attributes the cause internally, to his or her own effort or ability, he/she might row more often regardless of the weather (Weiner, 1972). The individual in this situation is making future behavioral decisions based on perceived causation.

Ultimately, social movements want individuals to perceive themselves as a cause of the particular problem the movement is concerned with so that they will do something to move society forward. Animal rights campaigns in particular focus on many different issues, but in the end they are all similar because they all have some behavioral goal that requires the audience to see themselves as a cause of the problem in order to invoke the desired actions. One animal rights organization’s (People for the Ethical Treatment of Animals) Web site makes the following claim about their goals:
We can’t stop all suffering, but that doesn’t mean that we shouldn’t stop any. In today’s world of virtually unlimited choices, there are plenty of kind, gentle ways for us to feed, clothe, entertain, and educate ourselves that do not involve killing animals. . . You do not need to experience the abuse of animals close up to be able to criticize it any more than you need to personally experience rape or child abuse to criticize those. No one will ever be witness to all the suffering in the world, but that doesn’t mean that we shouldn’t try to stop it.

With the goals of animal rights activists in mind, we can better understand their intent to influence not only humane behavior toward animals but also active behavior against others who are causing the pain and suffering of animals. With goals that are so focused on behavioral outcomes, the examination of attribution of blame when studying the animal rights movement is a must.

If individuals perceive there is a problem, and think that the cause of the problem is something they are doing, those individual are more likely to change their attitudes and/or behaviors than if they believe they are not a part of the problem. In other words, if an individual attributes cause internally (i.e., to his or her actions), then it is more likely that the individual will alter his or her actions in the future. Just as with the individual rowing the boat in the earlier example who attributes the cause of making it to the other side of the lake to their own ability and decides to row more often, individuals who think they are causing animals to suffer and die are more likely to change their actions than people who think only other individuals, besides themselves, are causing the animals’ pain. If one does not perceive their own actions as a cause, there is no reason to change
their own behavior because it will not change the outcome. Therefore, if people are to change their behaviors, an effective persuasive message will need to cause its audience to make internal attributions (i.e., to blame themselves).

**Eliciting Internal Versus External Attributions**

An empirically tested example of when different attributions lead to different behaviors comes from the health psychology literature. Rothman et al. (1993) found that women who viewed video messages designed to elicit internal attributions were more likely to get a mammogram than those who viewed a video designed to elicit external attributions. They also found that the women in the internal attribution condition still continued to attribute more responsibility to themselves, rather than others, six months after viewing the stimulus. This result reveals the importance of looking at when internal attributions are made, not only because of the effects they may have in the short term but also because of their ability to hold up over time.

Internal attribution of causation by third-party observers has also been examined more recently in the communication literature. Knobloch-Westerwick and Taylor (2008) looked at the impact verb voice (passive or active) had on news readers’ attributions of cause of events. They found that when active voice was used to describe actors/parties actions, greater internal attributions were made about those actors/parties than when their actions were described with passive voice. This research shows that “subtle changes in the way events are described in the news can alter the way readers perceive that event and attribute causation to it” (Knobloch-Westerwick & Taylor, 2008, p. 739). This type of research, looking at causal attributions from a third-party perspective and not from a self perspective, is typical of the recent attribution literature. Although the knowledge gained
from examining when observers view others as responsible for events is important in and of itself, there is also a need to get back to a focus on when viewers see themselves as responsible for events and that is where this thesis focuses its attention.

Rothman et al. (1993) produced greater internal attribution within viewers of a mediated message by simply using the word “you” in the messages as opposed to “a doctor.” Others (e.g., Rogers, Miller, Mayer, & Duval, 1982) have manipulated internal attributions versus external attributions by simply telling participants the outcome was either “largely a matter of their own responsibility” to create internal attribution or that the outcome was caused by some outside force to create external attribution. Overall, this research shows us that nuanced differences in text and audio can influence attributions, but it is also important to think about how slight variations of images can influence decisions about causation. When will an individual be likely to perceive themselves as the cause of a problem (i.e., when one will have internal attributions)? The previous research that has focused on text and audio manipulations help us understand that focusing in on the individual’s responsibility, or stating something in a way that makes a party seem more involved, will make it more likely that an internal attribution will be made. Therefore, we need to ask the question: What can be manipulated in visuals that will make an individual feel more involved/responsible for an event or outcome?

Visual Communication: The Study of Visuals

When thinking about what visuals can do above and beyond words, we need to think about what is present and what is absent in an image (O’Donnell, 2005). “Cultural studies theorists understand that many meanings can be made from a single scene because viewers observe and interpret images and supporting dialogue through the lens of
their own cultural experiences” (O’Donnell, 2005, p. 522). However, by manipulating what is present, what meanings can be interpreted from an image can be constrained. As creators of persuasive messages we need to understand that “there is a power to shape the ways things look and what they would seem to mean” (O’Donnell, 2005, p. 525).

When thinking about the meanings that can be derived from visuals from a cultural studies perspective, the following questions need to be asked: “Can we place ourselves inside the image, identifying with it? What meanings are preferred by the work? What meanings can different viewers make of the work? What is the dominant meaning? How does the work help the subject make sense of social experience? How do the meanings that we derive implicate us in the production of the meanings?” (O’Donnell, 2005, p. 536). By placing a human being in the images of a persuasive message, we constrain the probability that the answers to these questions (the potential perceptions of cause) will be internal attributions.

By placing a human in an image viewers are more likely to place themselves inside the image. If it is easier for viewers to imagine that people have a role in what is unfolding before them in an image or series of images, it will be easier for them to see themselves as a part of these images simply because they are like the person in the picture who is obviously having an influence on the events that are narrated in the visuals. The preferred meaning, that humans are the cause of the problem (internal attribution), is more likely to be materialized by viewers if there are human beings in the images because the meaning is more explicit. The explicit meaning is that the person in the image is there because they are playing a role in what is happening in the visual
sequence. The preferred meaning in this case, the meaning that is most likely to be taken from the image, becomes the dominant meaning.

It is likely that individuals will attribute the cause of a problem to their own actions if they can actually see themselves doing an action that is shown to lead to a certain outcome; just as how those who heard the word “you” attributed responsibility to themselves as opposed to their doctors (Rothman et al., 1993). If an individual is shown a series of images in which actions are taken that lead to a certain outcome, an individual will be more likely to picture them self doing that action if they see a person doing that specific action in the picture series. Therefore, the following prediction is made:

**H1:** Individuals who are exposed to humans alongside animals/animal products in animal rights-oriented images will report greater internal attributions concerning the suffering and death of animals compared to those individuals who are exposed to animal-only images.

In addition to looking at whether images that include humans and animals visually will produce greater internal attributions, it is important to think about the potential effects of greater internal attributions. Rothman et al. (1993) found that individuals in their internal attribution condition had more positive attitudes toward mammography and were more likely to get a mammogram. Others have found internal attributions to be positively correlated with mouth rinsing (Lund & Kegeles, 1984), smoking cessation (Colletti & Kopel, 1979; Fisher, Levenkron, Lowe, Loro, & Green, 1982), and high blood pressure screening (King, 1982). A common example of the need for internal attribution to create long-term behavior change can be thought of relative to alcoholism. In order to be successful at giving up an addictive habit individuals must want to change for
themselves, not for others like friends or family. In other words these individuals, in order to succeed at quitting, need to attribute responsibility internally (Edwards et al., 1987). As a result of the previous research, the following hypotheses are offered:

- **H2:** Greater internal attribution concerning the suffering and death of animals produces more positive attitudes toward the animal rights movement.
- **H3:** Greater internal attribution concerning the suffering and death of animals produces more positive attitudes toward animal rights organizations.
- **H4:** Greater internal attribution concerning the suffering and death of animals produces greater pro-animal rights behavioral intention.
- **H5:** Greater internal attribution concerning the suffering and death of animals produces greater pro-animal rights behaviors.

**Narrative Theory**

In addition to using attribution theory for the examination of the role of visuals in persuasive messages, this research will also use narrative theory as a basis to examine the differences between groups based on their contact with various levels of completeness of narrative structure. In particular, focus will be given to the role of offering a visual narrative within the persuasive act and what impact this has on a range of outcomes. A narrative is a story that has a beginning, middle and an end (Fergusson, 1961). Typically research looks at either text-only narratives (e.g., Appel & Richter, 2007; Chang, 2009; Strange & Leung, 1999) or narratives that combine visual and textual messages (e.g., Beck, 2004; Brodie et al., 2001; Collins et al., 2003). This research will advance extant communication and persuasion literature by looking at the visual narrative exclusively. By isolating the effect visual narratives have on internal attributions apart from the text
that typically accompanies them we will begin to understand the relative importance of the visual narratives apart from audio and text.

In addition to gaining an understanding about how visual narratives are working above and beyond text, the focus on visual narratives also has distinct practical applications. By looking at whether visual narratives can lead to more internal attributions and more positive attitudes toward animal rights issues, future messages can be constructed with a better idea of what will be most effective. Current animal rights organizations sometimes produce messages with visuals in the narrative form (e.g., http://www.petaliterature.com/STU175.pdf) but often times we see images of only the dead or dying (e.g., http://www.petaliterature.com/VEG900.pdf) or only the living (e.g., http://www.petaliterature.com/STU159.pdf). Therefore, it is important for us to understand whether one of these forms (i.e., various levels of completeness of a visual narrative) is having an impact on people’s attitudes, beliefs and behaviors.

Narrative theory is examined in this paper in relation to attribution theory because using a narrative is more likely to allow for relationships to be judged as causal. “It is the plot or ‘wholeness’ of causal relationships forming a beginning, a middle, and an end . . . that makes a story a story and not something else” (Barbatsis, 2005, p. 335). To see a sequence of events unfold makes it more likely one will think in the context of causality than if just a single image of an event is shown, because intuitively we know that causes precede effects (Kassin & Pryor, 1985). A single image will not show the context in which an event occurred. It can leave an individual wondering, or at least unsure, about what the cause of the event they are seeing was. On the other hand, “a narrative structure – with a beginning, middle, and end – ties actions and implications together in a causal
chain, rather than relying on a set of propositions that may be more or less well integrated” (Green, 2006, p. S164). Therefore, it seems the more directly a message links an outcome to a specific cause, internal or external, the more likely the corresponding attribution will be made. In this situation:

\[ H6: \] Individuals who are exposed to more of a visual narrative will report greater internal attributions concerning the suffering and death of animals. This is because those who see more of a narrative, as opposed to less of a narrative, will once again be more constrained in the interpretation they can take from the message. They will be more likely to interpret what is happening, the suffering and death of the animals, as a result of what they are doing (i.e., eating meat) because it is represented in a causal narrative format.

**Visual Content and Visual Narratives: How They Work Together**

In addition to thinking solely about the presence of humans in images and narrative completeness separately, it is important to address how these two message features function in combination with one another. If two groups are exposed to only one image, a relatively incomplete narrative, with one group viewing a human in the image as the actor in the process, that group is likely to report somewhat greater internal attribution, because of seeing the person in the image, than the group that saw only the animal in the image. However, it is unlikely that the group exposed to the human in the image would report much greater internal attribution because they are still only seeing one image.

By only viewing a single snapshot of an event, we are less likely to think in terms of causality than if exposed to a series of images or a complete narrative with a
beginning, middle and end (Green, 2006). Therefore, we expect to see the smallest
difference in internal attributions between those who are exposed to humans and animals
in the images and those exposed to only animals in the images, when these individuals
are exposed to only one image. As the narrative becomes more complete (i.e., movement
to two and then on to three images that form a complete narrative), internal attribution
differences should increase because not only are participants who are viewing the humans
more constrained to think about themselves as a part of the problem, they are also more
likely to start thinking in terms of causality. Therefore, it is likely that the biggest
difference in amount of internal attribution between those who view images with only
animals and those who view images with humans and animals will occur when
individuals are exposed to a complete narrative (three images that show a beginning,
middle and end).

H7: Narrative sequence will act as a contributory condition moderator of the
relationship between the offering of human/animal versus animal-only
visuals and internal attributions concerning the suffering and death of
animals.
Chapter 3: Method

Experimental Design

This study used a 2 (humans present in images, humans not present in images) × 3 (1 image, 2 images, 3 images) between-subjects design. Participants were randomly assigned to a combination of the two independent variable manipulations. The dependent variable for the study was internal attribution. Criterion variables (i.e., the ultimate dependent measures for the study) were attitudes toward the animal rights movement in general, attitudes toward mainstream animal rights groups (i.e., The Humane Society of the United States, People for the Ethical Treatment of Animals [PETA]), attitudes toward extremist animal rights groups (i.e., Animal Defense Militia, Animal Liberation Front), a behavioral intention measure (Would you sign a pledge to become vegetarian?) and a behavior measure concerning hypothetical money allocation to a range of social groups (including several animal rights groups).

Participants

Participants (N = 161) were recruited from an undergraduate introductory communication course at The Ohio State University. Those who participated were given course extra credit for taking part in the study. The majority of the sample was female (57.1%) and the average age was 20.31 years. Of the 161 participants, 6 had followed a vegetarian diet in the past, only 1 person reported being vegetarian at the time data were
collected and only 1 person reported having been a vegan in the past. No participants followed a vegan diet when the study was in the field.

**Stimuli**

The stimuli for this study were tri-fold brochures that focused on the animal rights movement. Tri-folds were used because they are used in animal rights campaigns and work nicely with the presentation of a visual narrative. The brochures contained a 138-word message about why one should stop eating meat (see Appendix A for brochure script). The brochures contained information about what happens to animals that are raised for food and all brochures contained exactly the same print message. Between 1 and 3 images accompanied the text, depending on the random group placement of each individual. The images were of a cow in a field with a human, a cow being processed for food and a person eating a hamburger. Each of these images also had a counterpart with no human in the image (see Appendix B for all images). Participants that were exposed to either 1 or 2 images had the possibility of seeing any of the three images, but stimuli that had more than one image contained images that were consistent, either having humans in them or not having humans in them.

**Stimuli pre-test**

The main effects of the stimuli were examined in a pre-test with 37 participants. Pre-test participants were not used in the formal study. The group means were in the expected direction for the image condition with those seeing humans in the images ($M = 3.43$) reporting greater internal attribution than those who did not see humans in the images ($M = 2.85$) but differences were not significant, due primarily to the lack of statistical power, $F(1, 37) = 1.18, p = 0.28$. There was no significant difference on
internal attribution scores for those who saw image 1 \( (M = 3.25) \) image 2 \( (M = 3.71) \) and image 3 \( (M = 3.37) \), \( F(2, 16) = .159, p = 0.85 \). This result shows that no one image used in this study produced a significantly distinct effect above and beyond any of the other images.

*Procedure*

This study was completed in three parts. First, participants filled out an online questionnaire that asked them about basic demographic information and their current and past eating habits (e.g., vegetarianism and veganism). One week later participants were brought into the lab in moderate \( (16 - 20) \) to large groups \( (54 - 74) \) to look at the brochures and fill out a written questionnaire. Although participants looked at the stimuli in groups, they were not seated by others with different stimuli, and therefore would not have noticed another person having a brochure with different pictures or a different number of pictures than they had.

The in-lab, immediate post-stimulus surveys assessed internal and external attributions concerning the suffering and death of animals, guilt and indifference about the treatment of animals raised for food, attitudes toward the animal rights movement, mainstream animal rights groups and extremist animal rights groups, and how likely they would be to sign a pledge to become a vegetarian for 30 days. Participants also completed a hypothetical money allocation task at this time as a more direct measure of behavior.

Finally, two to three days after the laboratory portion of the study, participants completed a final online questionnaire that once again assessed internal and external attributions, guilt and indifference, participants’ attitudes toward the animal rights movement, mainstream animal rights groups and extremist animal rights groups, and how
likely they would be to sign a pledge to become a vegetarian for 30 days. Participants also once again completed the money allocation task as part of the final online survey. Data from this portion of the study were not used in the current research, but plans are in order to use these Phase 3 data in subsequent manuscripts.

**Measures**

*Internal attributions.* Internal attributions were assessed using a 4-item scale ($M = 3.06$, $SD = 1.36$, $\alpha = .84$, skewness = 0.59, kurtosis = -0.03). Example items include “Animals raised for food suffer because of me and my actions,” and “I am personally responsible for the death of animals.” Please see Appendix C for a full listing of all questions asked. Responses were given on a 1 (*strongly disagree*) to 7 (*strongly agree*) continuum. Higher scores on each item indicated stronger internal attributions concerning the suffering and/or death of animals.

*External attributions.* External attributions were measured with a 3-item scale ($M = 4.06$, $SD = 1.31$, $\alpha = .69$, skewness = -0.20, kurtosis = -0.05). Example items include “Society is to blame for the death of farm animals,” and “Society is to blame for the excessive suffering of farm animals” (1 = *strongly disagree*, 7 = *strongly agree*). Higher scores on each item indicated stronger external attributions concerning the suffering and/or death of animals.

*Attitudes.* Attitudes toward the animals rights movement ($M = 4.88$, $SD = 1.17$, $\alpha = .91$, skewness = -0.17, kurtosis = -0.67), mainstream animal rights groups ($M = 4.77$, $SD = 1.43$, $\alpha = .95$, skewness = -0.38, kurtosis = -0.48) and extremist animal rights groups ($M = 3.47$, $SD = 1.43$, $\alpha = .97$, skewness = 0.06, kurtosis = -0.48) were each measured using 6, 7-point semantic differential pairings (i.e., 1 = *negative* to 7 = *positive*;
1 = bad to 7 = good). For all items, higher scores indicated more positive attitudes toward the animal rights movement in general and the respective animal rights groups.

Behavioral intention. For the behavioral intention measure, participants were asked, “If someone came up to you on the street tomorrow and asked you to sign a pledge to be a vegetarian for the next 30 days, how likely would you be to sign (between 0 and 100%)?” (\(M = 25.28, \text{Mdn} = 5.00, SD = 33.72, \text{skewness} = 1.08, \text{kurtosis} = -0.24\)). Responses ranged from 0 to 100 percent.

Behavior. For the money allocation task participants were told, “Imagine that you have $5,000 to distribute among the organizations listed below. You can divide up the money any way you wish (i.e., you can give all $5,000 to one organization, you can distribute it evenly across all organizations, you can give half to one organization and half to another, etc.). The only stipulation is that you must give away all the money. Please write in the blank in front of the name of the organization how much of the $5,000 you would like to give that organization ($0 - $5,000). Ten organizations were listed for participants to potentially give money to. Of the ten organizations, 4 were animal rights groups (PETA, The Humane Society of the United States, Animal Liberation Front and Midwest COWS, the hypothetical organization represented in the tri-fold pamphlet stimuli). The remaining six groups were as follows: Earth Liberation Front, The National Gay and Lesbian Task Force, Greenpeace, Sierra Club, The Ohio State University and The Human Rights Campaign. The final measure was constructed by adding together how much money each participant gave to the four animal rights groups and dividing that amount by the total possible amount ($5,000) they could distribute (\(M = .39, \text{Mdn} = .40, \text{SD} = 0.34, \text{skewness} = 2.19, \text{kurtosis} = -0.24\)). Responses ranged from 0 to 2.20.
Covariates. Three covariates collected during the initial online questionnaire were evaluated. Participants were asked to report their biological sex (0 = male, 1 = female). Political ideology was evaluated with three statements (Please place yourself on the following continuum in regards to economic issues [e.g., taxes, trade], national security issues [e.g., war, terrorism], and social issues [e.g., welfare, abortion]). Possible responses for the respective ideology items ranged from 1 = very liberal to 7 = very conservative (M = 3.86, SD = 1.26, α = .83, skewness = -0.10, kurtosis = 0.00). In addition, the current and past eating habits of participants were assessed with a series of 4 questions (Are you currently a vegetarian?, Have you led a vegetarian lifestyle for a significant period of time (i.e., at least six months) at some time in the past?, Are you currently a vegan?, Have you led a vegan lifestyle for a significant period of time (i.e., at least six months) at some time in the past?) Responses to the four questions were summed (0 = no, 1 = yes) and totals ranged from 0 to 2 with higher numbers representing more specialized diets being practiced.

Analysis

All analyses used dependent and criterion variable information gathered during Phase 2 of the study. To test hypothesis 1, which predicted that those who were exposed to images with humans would report greater internal attribution than those who viewed images without humans, hypothesis 6, which predicted that participants exposed to more of a visual narrative would report greater internal attribution compared to those who viewed stimuli with less of a visual narrative, and hypothesis 7, which predicted a contributory condition interaction between image (human /no human) and narrative, an Analyses of Covariance (ANCOVAs) was conducted. The experimental manipulations
served as the independent variables, the measure of internal attribution was the dependent variable and biological sex, political ideology and current and past eating habits were used as covariates in this analysis.

Next, five step-wise linear regressions with the control variables of biological sex, political ideology and current and past eating habits entered as Step 1 variables, the experimental manipulations entered as Step 2 variables and the independent variable of internal attribution entered as a single Step 3 variable were created to test hypotheses 2, 3, 4 and 5 which predicted that greater internal attribution would lead to more positive attitudes towards animal rights issues and animal rights groups, more pro-animal behavioral intention and more pro-animal rights behavior. The measures of attitudes toward the animal rights movement, attitudes toward mainstream animal rights organizations, attitudes toward extremist animal rights groups, likelihood to sign the vegetarian pledge and how much money was given to the four animal rights organizations in the money allocation task were the respective dependent variables for the separate regression equations.

Statistical Power

A post-hoc statistical power assessment for this study was estimated using the software package, GPower (Faul & Erdfelder, 1992). In a 2 × 3 design with 161 participants using ANCOVA the power to detect a small effect \((f = .10)\) was .12, a moderate effect \((f = .25)\) was .66 and a large effect \((f = .40)\) was .98. Using regression, the power to detect a small effect \((f = .02)\) was .25, a moderate effect \((f = .98)\) was .66 and a large effect \((f = .35)\) was in excess of .99. Overall, these results show that the ANCOVA tests for the current study have weak statistical power for detecting small or
moderate effects and adequate power for large effects compared to the desired .80 power level (Cohen, 1977). For the regression analyses this study still has weak statistical power for detecting a small effect but has adequate power for detecting moderate to large effect sizes when judged against the desired .80 power level.
Chapter 4: Results

Analysis of Covariance (ANCOVA)

An ANCOVA was run to test hypotheses 1, 6 and 7. Hypothesis 1 predicted that individuals who were exposed to humans in images would report greater internal attributions compared to those exposed to images with only animals. The mean internal attribution response for those who did not see humans in the images (adjusted $M = 3.00$) and those who did see humans in the images (adjusted $M = 3.14$) were not significantly different, $F(1, 161) = 0.38, p = 0.53, \eta^2 = 0.00$. The means did trend in the predicted direction, but hypothesis 1 was not supported.

Hypothesis 6 predicted that individuals who were exposed to more of a visual narrative would report greater internal attributions compared to those who were exposed to less of a visual narrative (1 image, adjusted $M = 3.05$; 2 images, adjusted $M = 2.93$; 3 images, adjusted $M = 3.22$). Mean internal attribution responses once again trended in the predicted direction with those who were exposed to a complete narrative reporting the highest internal attribution, but the hypothesis was not supported because of lack of statistical significance, $F(2, 161) = 0.57, p = 0.56, \eta^2 = 0.00$.

Finally hypothesis 7 which predicted a contributory condition interaction between narrative sequence and image on internal attribution was not supported, $F(2, 161) = 0.22, p = 0.80, \eta^2 = 0.00$. 

23
Multiple Regressions

Hypotheses 2, 3, 4 and 5 were tested with five stepwise regression equations. Sex, ideology and eating habits were entered as Step 1 variables. The two experimental manipulations (image condition and narrative condition) were entered as Step 2 variables. Finally, internal attribution was entered as a single Step 3 variable.

The first stepwise regression looked at the dependent variable attitude toward animal rights movement and tested hypothesis 2 which predicted greater internal attribution would lead to more positive attitudes toward the movement (see table 1). Indeed, greater internal attribution did lead to more positive attitudes toward the animal rights movement ($B = 0.18, SE = 0.06, p < 0.01$). Therefore, hypothesis 2 was supported.
Table 1: Stepwise Regression Model Predicting Attitude toward the Animal Rights Movement from Internal Attributions

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.80</td>
<td>.17</td>
<td>.33*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-.16</td>
<td>.07</td>
<td>-.17*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>-.09</td>
<td>.35</td>
<td>-.02</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.74</td>
<td>.17</td>
<td>.31*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-.16</td>
<td>.06</td>
<td>-.17*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>-.03</td>
<td>.35</td>
<td>-.07</td>
</tr>
<tr>
<td>Image condition</td>
<td>-.38</td>
<td>.17</td>
<td>-.16*</td>
</tr>
<tr>
<td>Narrative condition</td>
<td>.04</td>
<td>.10</td>
<td>.29</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.76</td>
<td>.17</td>
<td>.32*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-.16</td>
<td>.06</td>
<td>-.17*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>-.12</td>
<td>.34</td>
<td>-.02</td>
</tr>
<tr>
<td>Attribution condition</td>
<td>-.40</td>
<td>.16</td>
<td>-.17*</td>
</tr>
<tr>
<td>Narrative condition</td>
<td>.02</td>
<td>.10</td>
<td>.01</td>
</tr>
<tr>
<td>Internal Attribution</td>
<td>.18</td>
<td>.06</td>
<td>.21*</td>
</tr>
</tbody>
</table>

Note: $R^2 = .17$ for Step 1; $\Delta R^2 = .02$ for Step 2 ($p = .08$); $\Delta R^2 = .04$ for Step 3 ($p < .01$).

* $p \leq .05$

Although not hypothesized, it is important to note that image condition (human coded high) was a significant negative predictor of attitudes toward the animal rights movement ($B = -0.38$, $SD = 0.17$, $p < 0.05$ - see Table 1). So those who saw humans in the images reported on average more negative attitudes toward the movement than those who did not see humans in the images.

Hypothesis 3 predicted greater internal attribution would lead to more positive attitudes toward animal rights organizations. Two stepwise regressions were run to determine if internal attribution level had an effect on mainstream and/or extremist organizations (see tables 2 and 3). Hypothesis 3 was supported with internal attribution...
being a significant predictor of both attitudes toward mainstream groups \(B = 0.15, \ SE = 0.07, p < 0.05\) and attitudes toward extremist groups \(B = 0.22, \ SE = 0.07, p < 0.01\).

Higher internal attribution predicted more positive attitudes about animal rights organizations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>(\beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>1.11</td>
<td>.21</td>
<td>.38*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-1.12</td>
<td>.08</td>
<td>-.11</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.288</td>
<td>.42</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>1.07</td>
<td>.21</td>
<td>.37*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-1.13</td>
<td>.08</td>
<td>-.11</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.28</td>
<td>.42</td>
<td>.05</td>
</tr>
<tr>
<td>Image condition</td>
<td>-2.24</td>
<td>.20</td>
<td>-.08</td>
</tr>
<tr>
<td>Narrative</td>
<td>-.06</td>
<td>.12</td>
<td>-.03</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>1.08</td>
<td>.21</td>
<td>.37*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-1.13</td>
<td>.08</td>
<td>-.11</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.21</td>
<td>.42</td>
<td>.03</td>
</tr>
<tr>
<td>Attribution</td>
<td>-2.26</td>
<td>.20</td>
<td>-.092</td>
</tr>
<tr>
<td>Narrative</td>
<td>-.07</td>
<td>.12</td>
<td>-.04</td>
</tr>
<tr>
<td>Internal</td>
<td>.15</td>
<td>.07</td>
<td>.14*</td>
</tr>
</tbody>
</table>

*Note: \(R^2 = .18\) for Step 1; \(\Delta R^2 = .009\) for Step 2 \(p = .43\); \(\Delta R^2 = .02\) for Step 3 \(p < .05\). \(\*p \leq .05\)

Table 2: Stepwise Regression Model Predicting Attitude toward Mainstream Animal Rights Groups from Internal Attributions
Table 3: Stepwise Regression Model Predicting Attitude toward Extremist Animal Rights Groups from Internal Attributions

Next, the effect of internal attribution on the likelihood to sign a vegetarian pledge was tested (see table 4), and in this case internal attribution was found to be a significant predictor ($B = 4.92, SE = 1.68, p < .01$). Those who reported greater internal attribution were more likely to sign the vegetarian pledge. These findings provide support for hypothesis 4.
### Table 4: Stepwise Regression Model Predicting Likelihood to Sign a Vegetarian Pledge from Internal Attributions

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>23.93</td>
<td>4.83</td>
<td>.35*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-3.82</td>
<td>1.89</td>
<td>-.14*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>34.87</td>
<td>9.55</td>
<td>.25*</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>24.59</td>
<td>4.91</td>
<td>.36*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-3.82</td>
<td>1.90</td>
<td>-.14*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>33.81</td>
<td>9.66</td>
<td>.24*</td>
</tr>
<tr>
<td>Image condition</td>
<td>4.44</td>
<td>4.73</td>
<td>.06</td>
</tr>
<tr>
<td>Narrative</td>
<td>-1.33</td>
<td>2.89</td>
<td>-.03</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>24.98</td>
<td>4.79</td>
<td>.36*</td>
</tr>
<tr>
<td>Ideology</td>
<td>-3.81</td>
<td>1.86</td>
<td>-.14*</td>
</tr>
<tr>
<td>Eating habits</td>
<td>31.49</td>
<td>9.47</td>
<td>.229*</td>
</tr>
<tr>
<td>Attributing</td>
<td>3.80</td>
<td>4.62</td>
<td>.05</td>
</tr>
<tr>
<td>Narrative</td>
<td>-1.74</td>
<td>2.82</td>
<td>-.04</td>
</tr>
<tr>
<td>Internal</td>
<td>4.92</td>
<td>1.68</td>
<td>.19*</td>
</tr>
</tbody>
</table>

*Note: R² = .24 for Step 1; ΔR² = .005 for Step 2 (p = .58); ΔR² = .03 for Step 3 (p < .01). *p ≤ .05

Hypothesis 5, which predicted greater internal attribution would result in more pro-animal behavior, was tested with a final stepwise regression. The effect of internal attribution on a hypothetical money allocation task was evaluated (see table 5). Internal attribution was not a significant predictor of amount of money allocated to animal rights organizations (B = 0.00, SE = 0.02, p = 0.86). Hypothesis 5 was not supported.
<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.11</td>
<td>.05</td>
<td>.16*</td>
</tr>
<tr>
<td>Ideology</td>
<td>.03</td>
<td>.02</td>
<td>.14</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.15</td>
<td>.11</td>
<td>.10</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.11</td>
<td>.05</td>
<td>.16*</td>
</tr>
<tr>
<td>Ideology</td>
<td>.04</td>
<td>.02</td>
<td>.14</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.17</td>
<td>.11</td>
<td>.12</td>
</tr>
<tr>
<td>Image condition</td>
<td>-.02</td>
<td>.05</td>
<td>-.04</td>
</tr>
<tr>
<td>Narrative</td>
<td>.06</td>
<td>.03</td>
<td>.15</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.11</td>
<td>.05</td>
<td>.16*</td>
</tr>
<tr>
<td>Ideology</td>
<td>.04</td>
<td>.02</td>
<td>.14</td>
</tr>
<tr>
<td>Eating habits</td>
<td>.17</td>
<td>.11</td>
<td>.12</td>
</tr>
<tr>
<td>Attribution</td>
<td>-.02</td>
<td>.05</td>
<td>-.04</td>
</tr>
<tr>
<td>Narrative</td>
<td>.06</td>
<td>.03</td>
<td>.15</td>
</tr>
<tr>
<td>Internal</td>
<td>.00</td>
<td>.02</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note: \( R^2 = .04 \) for Step 1; \( \Delta R^2 = .02 \) for Step 2 \( p = .14 \); \( \Delta R^2 = .00 \) for Step 3 \( p = .86 \). *\( p \leq .05 \)  

Table 5: Stepwise Regression Model Predicting Money Allocation from Internal Attributions

Finally, an almost statistically significant main effect that was observed, but once again was not predicted, was the effect of narrative condition on money allocation. Those who saw more complete narratives gave on average more money to animals rights organizations than those who saw lesser narratives \( (B = 0.06, SD = 0.03, p = 0.05) \) - see Table 4)
Chapter 5: Post-Hoc Analyses

Although it came as a surprise that the initial message-effects hypotheses did not produce statistically significant results, means were in the predicted direction, with those seeing humans in the images and those seeing more complete narratives reporting slightly higher internal attributions than those who saw only animals and/or only partial visual narratives. Upon further consideration, it is possible that the full story is not being uncovered because attributions are being thought about too simplistically. Luckily, in addition to measuring internal attributions, external attribution levels and a host of distinct, but related items (e.g., affective associations and indifference-related measures), were also assessed at the direct post-stimulus phase. Given that studying the visual communication effects on internal attributions did not produce much by way of significant message results, how internal attributions function in relation to these other items was explored through an exploratory factor analysis as a first step in trying to better understand how internal attributions function within a broader set of message reactions.

Exploratory Factor Analysis (EFA)

To start looking at the relationships between internal attributions and external attributions, as well as a series of additional but related items, an EFA (principle axis; direct oblimin rotation) was run (see table 6). The traditional standard of an eigenvalue of 1.0 or above was used to determine whether a specific factor was articulated. In
addition, a scree plot was consulted in order to make a more informed judgment about the number of articulated factors in the analyses (Bryant & Yarnold, 1995).

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Guilt</th>
<th>Internal Attribution</th>
<th>Indifference</th>
<th>External Attribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel guilty when I eat meat.</td>
<td>.73</td>
<td>.21</td>
<td>-.16</td>
<td>.40</td>
</tr>
<tr>
<td>It’s not a big deal that animals are killed for food.*</td>
<td>.70</td>
<td>.15</td>
<td>-.26</td>
<td>.38</td>
</tr>
<tr>
<td>People should be punished for raising animals for food.</td>
<td>.69</td>
<td>.23</td>
<td>-.05</td>
<td>.36</td>
</tr>
<tr>
<td>People should be punished for eating animals.</td>
<td>.60</td>
<td>.23</td>
<td>.32</td>
<td>.20</td>
</tr>
<tr>
<td>It is natural for animals to be raised and slaughtered for</td>
<td>.49</td>
<td>.13</td>
<td>-.10</td>
<td>.32</td>
</tr>
<tr>
<td>I am personally responsible for the death of animals.</td>
<td>.22</td>
<td>.85</td>
<td>.03</td>
<td>.28</td>
</tr>
<tr>
<td>Animals raised for food are killed because of me.</td>
<td>.10</td>
<td>.79</td>
<td>-.07</td>
<td>.15</td>
</tr>
<tr>
<td>I am personally responsible for the suffering of animals.</td>
<td>.34</td>
<td>.75</td>
<td>.11</td>
<td>.37</td>
</tr>
<tr>
<td>Animals raised for food suffer because of me and my actions.</td>
<td>.28</td>
<td>.67</td>
<td>-.11</td>
<td>.42</td>
</tr>
<tr>
<td>Animals raised for food are supposed to suffer.</td>
<td>-.03</td>
<td>.00</td>
<td>.74</td>
<td>-.14</td>
</tr>
<tr>
<td>It’s not a big deal that animals raised for food suffer.</td>
<td>-.35</td>
<td>-.12</td>
<td>.71</td>
<td>-.37</td>
</tr>
<tr>
<td>Society is to blame for the death of farm animals.</td>
<td>.31</td>
<td>.30</td>
<td>-.18</td>
<td>.82</td>
</tr>
<tr>
<td>Society is to blame for the excessive suffering of farm</td>
<td>.45</td>
<td>.44</td>
<td>.00</td>
<td>.62</td>
</tr>
<tr>
<td>No one is to blame for killing animals raised for food.*</td>
<td>.34</td>
<td>.15</td>
<td>-.19</td>
<td>.57</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>4.42</td>
<td>2.12</td>
<td>1.62</td>
<td>1.10</td>
</tr>
<tr>
<td>Variance explained (%)</td>
<td>31.59</td>
<td>15.14</td>
<td>11.61</td>
<td>7.86</td>
</tr>
</tbody>
</table>

*Note: Starred items reverse coded.*

Table 6: Exploratory Factor Analysis
When the internal attribute items were analyzed along with the others items, internal attribute items did separate out from the external attribute items (see factors 2 and 4 in Table 6). In addition, two other factors, defined conceptually as guilt and indifference, were identified as articulated factors. Beyond the articulation of four conceptually sound factors, an interesting pattern emerged in the EFA. The cross loadings for two of the internal attribute items on the external attribution factor were sizeable: “I am personally responsible for the suffering of animals” (Factor 4 = 0.37) and “Animals raised for food suffer because of me and my actions” (Factor 4 = 0.42), especially compared to the same crossloadings for the other two internal items: “I am personally responsible for the death of animals” (Factor 4 = 0.28) and “Animals raised for food are killed because of me” (Factor 4 = 0.15). The difference between the two internal items that had high cross loadings with the external factor and the two that did not is that the two with high cross loadings focus on the suffering of animals whereas the two with low cross loadings deal with the death and killing of animals. In addition to seeing this pattern of higher cross loadings for internal with external when suffering is being discussed, we also see that one of the three external attribution items, the only one that is about suffering, also has a fairly high cross loading with the internal attribute items: “Society is to blame for the excessive suffering of farm animals” (Factor 2 = .44).

This pattern of results appears to indicate a clear distinction between internal and external attributions, but only when the items deal with death. When it comes to suffering of animals, the line between internal and external attributions is blurred. Because of these
findings, it seems important that internal suffering be examined separately from the internal death items. As a result, the internal attribution scale was separated into two sub scales, internal suffering attribution (zero-order $r = 0.57$) and internal death attribution (zero-order $r = 0.69$). Each of these sub scales were then examined as replacements for the general internal attribution measure in the initial hypotheses. To explore these new isolated items (internal suffering and internal death) the same analyses that were used to test the original hypotheses were run.

*Internal Suffering*

**ANCOVA.** An ANCOVA was run to look at the differences between groups on the internal suffering attributions. No significant difference was found between those in the “human” image condition (adjusted $M = 3.30$) and those in the “no human” image condition (adjusted $M = 2.97$), $F(1, 161) = 1.87, p = 0.17, \eta^2 = 0.00$. The narrative manipulation also produced no significant differences, $F(2, 161) = 0.24, p = 0.78, \eta^2 = 0.00$ (1 image, adjusted $M = 3.07$; 2 images, adjusted $M = 3.07$; 3 images, adjusted $M = 3.25$). Finally, the interaction between image and narrative was not significant, $F(2, 161) = 0.16, p = 0.84, \eta^2 = 0.00$. Although neither experimental manipulation had a significant effect on the internal suffering attributions, we are getting much closer to statistical significance, especially in the case of the image condition manipulation. There is a greater separation of group means here than for the internal scale that included both the suffering and death items. Therefore, it seems we are moving in the right direction by thinking about internal suffering separate from death.

**Multiple regressions.** Five stepwise regression equations were run to examine the effects of internal suffering attributions on attitudes toward the animal rights movement,
mainstream and extremist animal rights groups, money allocation to animal rights
organizations and likelihood to sign a vegetarian pledge. Sex, ideology and eating habits
were entered as Step 1 variables. The two experimental manipulations (image condition
and narrative condition) were entered as Step 2 variables. Finally, internal suffering
attribution was entered as the Step 3 variable.

Internal suffering attribution significantly predicted attitudes toward the animal
rights movement \( (B = 0.15, SE = 0.05, p < 0.01) \), attitudes toward mainstream animal
rights groups \( (B = 0.18, SE = 0.06, p < 0.05) \), attitudes toward extremist animal rights
groups \( (B = 0.21, SE = 0.07, p < 0.01) \) and likelihood to sign a vegetarian pledge \( (B =
4.26, SE = 1.56, p < 0.01) \). Internal suffering was not a significant predictor of money
allocated to animal rights groups \( (B = 0.00, SE = 0.01, p = 0.68) \). Comparing internal
suffering attribution’s predictive value to overall internal attribution’s predictive value we
see no differences.

**Internal Death**

**ANCOVA.** An ANCOVA was run to look at the differences between groups on the
internal death attributions. No significant difference was found between those in the
“human” image condition (adjusted \( M = 2.98 \)) and those in the “no human” image
condition (adjusted \( M = 3.03 \)), \( F(1, 161) = 0.05, p = 0.81, \eta^2 = 0.00 \). The narrative
manipulation also produced no significant differences, \( F(2, 161) = 0.94, p = 0.39, \eta^2 =
0.00 \) (1 image, adjusted \( M = 3.03 \); 2 images, adjusted \( M = 2.79 \); 3 images, adjusted \( M =
3.19 \)). Finally, the interaction between image and narrative was not significant, \( F(2, 161)
= 0.24, p = 0.78, \eta^2 = 0.00 \). Here we see that we are getting further away from the image
manipulation producing a significant difference. There is much less mean spread for the
stimuli group manipulations when focusing on death versus suffering. This provides evidence that the internal suffering attribute is the component we need to look at more closely.

**Multiple regressions.** Five more stepwise regression equations were run to examine the effects of internal death attribution on attitudes toward the animal rights movement, mainstream and extremist animal rights groups, money allocation to animal rights organizations and likelihood to sign a vegetarian pledge. Sex, ideology and eating habits were entered as Step 1 variables. The two experimental manipulations (image condition and narrative condition) were entered as Step 2 variables. Finally, internal death attribution was entered as the Step 3 variable.

Internal death attribution significantly predicted attitudes toward the animal rights movement ($B = 0.16, SE = 0.05, p < 0.01$), attitudes toward extremist animal rights groups ($B = 0.17, SE = 0.07, p < 0.05$) and likelihood to sign a vegetarian pledge ($B = 4.05, SE = 1.55, p < 0.05$). Internal death was not a significant predictor of attitudes toward mainstream animal rights groups ($B = 0.08, SE = 0.06, p = 0.23$) or money allocated to animal rights groups ($B = -0.00, SE = 0.01, p = 0.92$). These results show us that internal death attribution had less predictive value than general internal attribution and internal suffering attribution.

**Internal-External Attributional Ambivalence**

To further investigate the role internal suffering attributions have in this story, attributional ambivalence was considered as a potential outcome and predictor variable. Perhaps it is not just internal attributions generally or internal suffering attributions by themselves that the experimental manipulations are affecting, but rather perhaps it is the
relationship between the internal and external. Perhaps viewing the humans in the images is not only creating greater internal suffering attributions, but at the same time perhaps it is creating greater external suffering attributions, and therefore attributional ambivalence is what is really being produced. Ambivalence “allows for the possibility that a given attitude may simultaneously invoke strong positive and negative evaluation” (Lavine, Thomsen, Zanna, & Bordiga, 1998, p. 401). It is important to keep in mind that ambivalence is different from uncertainty or indifference (Martinez, Craig, & Kane, 2005). Uncertainty would be present if an individual did not know what the cause of an outcome was. Indifference would exist when an individual has enough knowledge to make a judgment about the cause of an event but does not do so (Holbert & Hansen, 2006). Attributional ambivalence is a novel way of looking at attributions in general and basically would speak to the possibility that an individual could feel like both their actions and others actions caused an outcome, not just one or the other.

Scale. An attributional ambivalence measure was created by taking the internal suffering and external suffering average and subtracting the absolute value of the difference between internal and external suffering. This scale was created based on previous ambivalence scales (e.g., Holbert & Hansen, 2006) and takes into account the criteria of intensity and similarity set forth by Thompson, Zanna, & Griffin (1995). The potential range on the ambivalence scale was -3.5 (no ambivalence) to 7 (very high ambivalence). Calculated scores ranged from -2 to 7 ($M = 2.18$, $SD = 1.68$, skewness = 0.14, kurtosis = 0.00).

ANCOVA. An ANCOVA was run to examine the effects of the image and narrative manipulations on attributional ambivalence. Sex, ideology and eating habits
were the covariates in the model. The mean ambivalence scores for those in the “human”
image condition (adjusted $M = 2.44$) was nearly significantly different from those in the
“no human” image condition (adjusted $M = 1.92$), $F(1, 161) = 3.66, p = 0.05, \eta^2 = 0.00$. 
There were no significant differences between those who saw 1 image (adjusted $M =
2.24$), 2 images (adjusted $M = 2.17$) or 3 images (adjusted $M = 2.12$), $F(2, 161) = 0.07, p$
$= 0.93, \eta^2 = 0.00$. There was also no significant interaction between conditions, $F(2, 161)$
$= 0.32, p = 0.72, \eta^2 = 0.00$. So here we see there is basically a main effect for message
when looking at the impact of having humans in the images versus not having them in the
images on attributional ambivalence. It is the result of looking at the two attributional
types, internal and external suffering, in combination with each other that we begin to
understand the messages’ effect. Those who see humans in the images on average have
higher attributional ambivalence than those who do not see humans in the images.

Multiple regressions. Five stepwise regression equations were run to examine the
effects of attributional ambivalence on attitudes toward the animal rights movement,
mainstream and extremist animal rights groups, money allocation to animal rights
organizations and likelihood to sign a vegetarian pledge. Sex, ideology and eating habits
were entered as Step 1 variables. The two experimental manipulations (image condition
and narrative condition) were entered as Step 2 variables. Finally, attributional
ambivalence was entered as Step 3.

Ambivalence is only a significant predictor of one of the dependent measures
looked at in this research. That outcome variable is attitude toward extremist animal
rights organizations ($B = 0.13$, $SE = 0.06$, $p < 0.05$). Those with greater attributional
ambivalence reported on average more positive attitudes toward extremist animal rights organizations.

Ambivalence was a near significant predictor of attitudes toward the animal rights movement ($B = 0.09, SE = 0.05, p = 0.07$), attitudes toward mainstream animal rights groups ($B = 0.10, SE = 0.06, p = 0.09$) and likelihood to sign a vegetarian pledge ($B = 2.50, SE = 1.40, p = 0.07$). It was not a significant predictor of money allocation to animal rights organizations ($B = -0.00, SE = 0.01, p = 0.89$). This lack of predictive value is in line with previous ambivalence research (e.g. Costarelli & Colloca, 2004; Eagly & Chaiken, 1993). *Attitudinal* ambivalence is similar to holding a weak attitude. Individuals with high ambivalence are unsure of where they stand and therefore are less likely to engage in any corresponding behavior (Eagly & Chaiken, 1993). Here we see *attributional* ambivalence as a weak predictor of attitudes, behavioral intention and behavior because just as high *attitudinal* ambivalence makes one unsure of how they want to act, *attributional* ambivalence seems to cause uncertainty about what to think and what to do.
Chapter 6: Discussion

This thesis contributes to the study of persuasion and visual communication in three important ways. First, it looks at what images can do above and beyond text in a persuasive message focused on animal rights. Second, it extends narrative persuasion research by focusing on strictly visual narratives as opposed to text-only or text-with-visuals narratives. Finally, because the original message-effects hypotheses were not supported, this research introduces the concept of attributional ambivalence and looks at one possible relationship between internal and external attributions of blame.

Overall, this research did not show what was originally thought of as a fairly simplistic process where one could constrain the meaning that could be taken from an image, or series of images, to cause greater internal attribution. Originally it was predicted that participants shown an image, or a series of images, where a human was pictured alongside an animal/animal product would report greater internal attribution than those who were shown identical image(s) where the humans were removed. This was not found to be the case, although means for the two groups were in the predicted direction with those viewing humans with animals reporting greater internal attribution. It is important for us to consider why the predicted message effects were not statistically significant, because internal attribution was found to be a strong predictor of attitudes and behavioral intention. Higher internal attribution positively predicted attitudes toward the
animal rights movement and animal rights organizations; greater internal attribution also predicted greater likelihood to sign a vegetarian pledge.

There are at least two possible explanations for why those who viewed humans in the images did not report statistically significantly greater internal attribution than those who saw only animals in the images, beyond the analytical concern of weak statistical power for the detection of weak effects. The first possible explanation is that perhaps there was not enough similarity between participants and the humans pictured in the visuals. If participants did not view themselves as similar to the humans shown in the images, it may have allowed them to create meaning from the visuals that differed from the preferred meaning, the preferred meaning being that they were a part of the problem. “The possibility of multiple meaning, polysemy, exists depending on the interpretations of various spectators who bring their own subjectives to the image and take up various positions of identification in relation to its meaning” (O’Donnell, 2005, p. 522). Future research should examine perceived similarity between the receiver of the message and the individual being presented in the visual as a potential moderator of the relationship between viewing images with humans as actors and internal attributions. If similarity serves as a contingent condition moderator between viewing humans in the images and internal attribution we would expect to find a relationship between viewing and internal attribution levels only when the viewers have high levels of perceived similarity with the actors pictured in the images. Because the sample used here was 57.1% female, and all humans in the images were young males, it is quite likely that the majority of the sample might not have related to the individuals in the pictures. Therefore, it is quite possible that the majority of the sample were not constrained to think about themselves as a cause
of the outcome. In addition to simply thinking about perceived similarity with the actors pictured in the images, another variable that should be examined in future research dealing with animal rights issues is rural identity (Hecht & Krieger, 2006). Future research would benefit from an understanding of how much participants identify with the situation message creators are trying to get them to place themselves in. It is most likely that participants in this research with greater rural identities would have had a greater likelihood of placing themselves in the rural settings that were shown in the images. Therefore, it is likely that those with stronger rural identities would report greater internal attribution of blame than those with weaker rural identities.

The second possible explanation for why viewing images with humans alongside animals did not create statistically significantly greater internal attribution than viewing images with only animals is because of the relationship between internal attributions and several other stimulus-generated outcomes on external attributions, guilt or indifference. As stated earlier, it may be best to begin stepping away from the treatment of internal attributions in relative isolation from external attributions, or feelings of guilt, or a general lack of emotional commitment (i.e., indifference) to the issue which is the focus of the persuasive message. An initial potential relationship between internal and external attributions on the issue of suffering, not death, was explored in this study’s post-hoc analyses, but several other potentially important post-stimulus relationships, like the concept of attributional ambivalence, can and should be explored in future research in general, not just that which is focused on the animal rights movement. These post-hoc analyses revealed that the dividing line between internal and external attributions was not as clear cut when the focus was on suffering as when it was on death. Further conceptual
work on how these internal and external suffering items might relate to one another led to the consideration of attributional ambivalence as a potential message outcome.

The significant effect of message on attributional ambivalence is the most interesting finding from this study. Participants who viewed messages with humans and animals in the images reported significantly greater attributional ambivalence than those who saw messages with only animals. Greater attributional ambivalence points to an increase in internal and external attribution, instead of just internal or external alone, as a result of viewing humans in the images. The images with humans and animals are not making people more uncertain about the cause of the animals’ suffering, but rather they are causing individuals to attribute more cause of the problem to both themselves and others. It seems as though individuals who are viewing the humans alongside the animals/animal products in the visuals are better able to place themselves in the image(s) and think about themselves as part of the problem at the same time they are also thinking more about how others are a part of the problem. This shows that we are on the right track by looking at attributions and other related concepts relative to each other as opposed to within a vacuum, and that future research should continue to move in this direction when thinking about the role attributions play in assigning responsibility for outcomes to self and to others.

This research found that attributional ambivalence was not a strong predictor of attitudes toward the animal rights movement, mainstream animal rights groups, or likelihood to sign a vegetarian pledge or money allocated to animal rights groups. This lack of predictive value is typical of ambivalence because ambivalence creates uncertainty about what one should think and how one should act. Here we see the novel
concept of attributional ambivalence acting in a similar manner as the more traditional concept of attitudinal ambivalence. When thinking about ambivalence and its effect on the persuasion process it should be thought of as a starting point for effective persuasion. Although ambivalence does not necessarily lead to more positive attitudes or behaviors initially, it can be looked as an opening for future persuasive messages that could reduce external attribution and increase internal (van Harreveld, van der Pligt, & de Liver, 2009).

This research is a starting point for showing that these concepts of internal and external attributions might be related and future research should look to examine them in context with each other. It is interesting that the only dependent variable this study examined that was significantly predicted by attributional ambivalence was attitudes toward extremist animal rights organizations. Those with greater ambivalence reported on average more positive attitudes toward extremist groups like the Animal Liberation Front and Animal Defense Militia. Perhaps the greater uncertainty about who is responsible for the suffering of farm animals is causing greater understanding for why those who are extremist animal rights activists take drastic and sometimes illegal actions. The relationships between attributional ambivalence and attitudes toward extremist and fringe groups should be further theorized and examined empirically in the future.

In addition to the message effects on attributional ambivalence, we also saw a direct effect of message on attitudes toward the animal rights movement, with those who saw humans in the images reporting on average more negative attitudes toward the animal rights movement. It seems as though having the humans in the images was just too much in this case and caused a boomerang effect. Seeing people so explicitly
implicated in the negative treatment of farm animals might be making viewers have more negative attitudes toward the movement because they do not want to associate positive thoughts with a cause that is making them feel bad. To further examine the process of what is causing the negative direct effect of viewing humans on attitudes toward the movement, future research should examine negative affect as a potential mediator in this process (Nabi, 2002). It seems quite possible that viewing humans in the visual narrative could make viewers feel more negative affect and this negative affect could lead to more negative attitudes toward the movement because the movement is responsible for the message.

Also, in addition to looking at negative affect generally, future research should consider more discrete emotions that could be evoked by the images and go on to influence attitudes and behaviors. Disgust should be considered as a starting point for consideration of discrete emotions that could be produced at higher levels by having humans in images with animals/animal products in animal rights persuasive messages because it is quite likely that this emotion could be increased by the images used in this research and other research focusing on animal rights. It is important to consider disgust as a potential mediator because past research has found this discrete emotion to cause message avoidance (Newhagen, 1998) and more negative attitudes toward messages’ preferred positions (Nabi, 1998).

Besides examining the effects of having humans in the images versus having only animals in the images, this research also looked at the influence of completeness of the visual narrative on internal attribution. Originally, it was predicted that the more complete the visual narrative, the greater the internal attribution would be. We once again
saw means trending in the predicted direction with those who saw the full narrative reporting on average the highest levels of internal attribution, but again the differences between groups did not reach statistical significance. Although means trended in the predicted direction with those viewing the full narrative reporting the highest internal attributions, we also saw those viewing two images reporting very similar levels of internal attribution as those who saw only one image. This might point to the need to assess complete versus incomplete visual narrative in the future as opposed to focusing on the completeness of a visual narrative. Most likely it seems that the explanation for this lack of significance between those who saw more complete narratives versus more incomplete narratives is due to lack of statistical power. As was shown in the power analysis, this research does not have good power to detect small or moderate effect sizes with the method used to test the narrative or image hypotheses (i.e., ANCOVA). This issue could be remedied in future research with the inclusion of additional subjects within this study.

What this research did observe in terms of visual narrative structure was an almost significant effect of completeness on the amount of money allocated to animal rights groups. Those who saw more complete narratives gave, on average, more money to the animal rights organizations in the money allocation task. This is important because it shows a direct behavioral link between viewing a complete visual narrative and deciding to give money to groups associated with the type of message. This is an especially important finding for message creators and should be replicated in future research to substantiate the current findings and to gain a better understanding of why this effect is occurring. Future research should also make an effort to determine whether or not this
effect is only occurring when the images have a narrative structure or if the behavior is just an outcome of seeing more images in general.

With a larger sample size it would be clearer as to whether some of the means in this research that were trending in the predicted direction are in actuality different from each other. Future research should not only look at a larger, more diverse sample when exploring these issues of attribution as an outcome of persuasive messages with images, it should also take into account the text, the similarity between the people in the images and viewers, the likelihood the viewer would identify with the image setting, and the other potential relationships between internal and external attributions, guilt and indifference that were not examined here. The role of efficacy in the internal attribution formation process would also be a good direction for future studies. Attributional ambivalence should also be examined more in depth in future research by looking at it as a potential outcome after exposure to other types of communication messages (e.g., news, commercial advertising, entertainment-education programs).

In addition to sample size and the corresponding weak statistical power for the finding of small effects, some of the issues with this study include the imbalance of text that focused on the suffering of animals versus the death of animals, and the skewness of the behavioral money allocation measure. When the stimuli for this research were originally created sufficient consideration was not given to the amount of information in the text that focused on suffering versus the amount that focused on the death/killing of animals. However, after finding overlap of internal and external attributions when it came to dealing with suffering of animals it seems like this text suffering/death quantity difference could be an issue. While there are four statements that deal explicitly with the
suffering of cows raised for food there are only two statements that deal explicitly with their death. It is quite possible that the relative importance given to the suffering information is confounded with the effect of the visuals and is causing us not to be able to observe the effects of the visuals above and beyond the text as was originally planned.

A second issue with this research is in relation to the behavioral money allocation task participants completed after they viewed the experimental stimuli. This measure’s high positive skew may be why we are seeing lower predictive value for the behavioral outcome measure. Future research should consider alternative behavioral measures to gain a better understanding of whether or not internal attribution and other related items influence actual behaviors.

Although this research is a good starting point for examining the relationships between visuals, visual narratives and internal attributions, much more needs to be done. The continued exploration of attributional ambivalence as an outcome of viewing all types of messages will add significantly to the field. It is important to gain a better understanding about when individuals attribute responsibility to themselves and when they attribute responsibility to others and how visuals, text, and visuals and text in combination influence the process. With greater knowledge about what message factors contribute to attributional ambivalence, message creators and researchers will be better equipped to understand the effects of their messages.
References


King, J. B. (1982). The impact of patients’ perceptions of high blood pressure on attendance at screening: An extension of the health belief model. *Social Science and Medicine, 16,* 1079-1092.


Appendix A: Full stimuli text

Cows are gentle giants, large in size but sweet in nature.

They are curious, intelligent animals who form social relationships and have their own unique personalities.

Cows are subjected to abuses that would warrant felony cruelty-to-animal charges if they were committed against dogs or cats.

They have their horns cut off and are branded without any anesthetic.

In the U.S. alone more than 41 million cows suffer and die for the meat and dairy industries each year.

They are shipped without food or water to slaughterhouses, where they are hung upside-down and have their throats slit.

Not only do the cows suffer, but those who eat them are at greater risk of heart disease, diabetes, arthritis and many other health problems.

Please make the right decision for the cows, yourself and all the other farm animals out there.
Appendix B: Stimuli images
Appendix C: Full questionnaire items

**Phase 1 items**

**Section 1:** Basic Demographics and Eating Preferences

1. How old are you (in years)?

2. What is your biological sex?
   
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3. What race do you consider yourself?
   
   | _____ Non-Hispanic White | _____ Spanish or Hispanic Origin |
   | _____ African-American | _____ Native American |
   | _____ Asian or Pacific Islander | _____ Multi-racial or mixed race |
   | _____ Other (please specify) | | |

4. Please place yourself on the following continuum in regards to economic issues (e.g., taxes, trade). (7-point scale; strongly disagree to strongly agree)

5. Please place yourself on the following continuum in regards to national security issues (e.g., war, terrorism). (7-point scale; strongly disagree to strongly agree)

6. Please place yourself on the following continuum in regards to social issues (e.g., welfare, abortion). (7-point scale; strongly disagree to strongly agree)

7. With which political party do you self-identify?
   
   | _____ Republican | _____ Independent |
   | _____ Democrat | _____ Other |

8. Are you currently a vegetarian? (yes, no)

9. Have you led a vegetarian lifestyle for a significant period of time (i.e., at least six months) at some time in the past? (yes, no)

10. Are you currently a vegan? (yes, no)
11. Have you led a vegan lifestyle for a significant period of time (i.e., at least six months) at some time in the past? (yes, no)

12. If you answered yes to any of the four previous questions: What is or was the **primary** reason you lead/led that lifestyle?

   Ethical reasons

   Health reasons

   Other ________________________________

If you answered no to all of the lifestyle questions, please give level of agreement/disagreement with the following statements.

13. I have thought about leading a vegetarian or vegan lifestyle. (7-point scale; *strongly disagree* to *strongly agree*)

14. I will lead a vegetarian or vegan lifestyle in the future. (7-point scale; *strongly disagree* to *strongly agree*)

**Section 2: Attitudes**

**Animal Rights Movement**

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Positive
Good
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Environmental/Green Movement

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Positive

Good

Favorable

Acceptable

Wise

Right

Mainstream animal rights organizations (i.e., The Humane Society of the United States, People for the Ethical Treatment of Animals [PETA])

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Extremist animal rights organizations (i.e., Animal Defense Militia, Animal Liberation Front)

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Mainstream environmental organizations (i.e., Sierra Club, Greenpeace)

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Extremist environmental organizations (i.e., Earth Liberation Front, Earth First!)

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**Section 3:** Perceived knowledge (4-point scale; 1 = nothing, 2 = a little, 3 = some, 4 = a lot)

1. How much do you know about the animal rights movement?
2. How much do you know about the environmental/green movement?
3. How much do you know about mainstream animal rights organizations?
4. How much do you know about mainstream environmental organizations?
5. How much do you know about extremist animal rights organizations?
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### Section 4: Importance

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### Section 5: Need for affect (7-point scale; strongly disagree to strongly agree)

1. If I reflect on my past, I see that I tend to be afraid of feeling emotions.
2. I have trouble telling the people close to me that I love them.
3. I feel that I need to experience strong emotions regularly.
4. Emotions help people get along in life.
5. I am a very emotional person.
6. I think that it is important to explore my feelings.
7. I approach situations in which I expect to experience strong emotions.
8. I find strong emotions overwhelming and therefore try to avoid them.
9. I would prefer not to experience either the lows or the highs of emotion.
10. I do not know how to handle my emotions, so I avoid them.

11. Emotions are dangerous – they tend to get me into situations that I would rather avoid.

12. Acting on one’s emotions is always a mistake.

13. We should indulge our emotions.

14. Displays of emotions are embarrassing.

15. Strong emotions are generally beneficial.

16. People can function most effectively when they are not experiencing strong emotions.

17. The experience of emotions promotes human survival.

18. It is important for me to be in touch with my feelings.

19. It is important for me to know how others are feeling.

20. I like to dwell on my emotions.

21. I wish I could feel less emotion.

22. Avoiding emotional events helps me sleep better at night.

23. I am sometimes afraid of how I might act if I become too emotional.

24. I feel like I need a good cry every now and then.

25. I would love to be like “Mr. Spock,” who is totally logical and experience little emotion.

26. I like decorating my bedroom with a lot of pictures and posters of things emotionally significant to me.

Section 6: Dispositional empathy (8-point scale; -4, very strong disagreement to +4, very strong agreement)

1. It makes me sad to see a lonely stranger in a group

2. People make too much of the feelings and sensitivity of animals.

3. I often find public displays of affection annoying.

4. I am annoyed by unhappy people who are just sorry for themselves.

5. I become nervous if others around me seem to be nervous.

6. I find it silly for people to cry out of happiness.
7. I tend to get emotionally involved with a friend’s problems.
8. Sometimes the words of a love song can move me deeply.
9. I tend to lose control when I am bringing bad news to people.
10. The people around me have a great influence on my moods.
11. Most foreigners I have met seemed cool and unemotional.
12. I would rather be a social worker than work in a job training center.
13. I don’t get upset just because a friend is acting upset.
14. I like to watch people open presents.
15. Lonely people are probably unfriendly.
16. Seeing people cry upsets me.
17. Some songs make me happy.
18. I really get involved with the feelings of the characters in a novel.
19. I get very angry when I see someone being ill-treated.
20. I am able to remain calm even though those around me worry.
21. When a friend starts to talk about his problems, I try to steer the conversation to something else.
22. Another’s laughter is not catching for me.
23. Sometimes at the movies I am amused by the amount of crying and sniffing around me.
24. I am able to make decisions without being influenced by people’s feelings.
25. I cannot continue to feel OK if people around me are depressed.
26. It is hard for me to see how some things upset people so much.
27. I am very upset when I see an animal in pain.
28. Becoming involved in books or movies is a little silly.
29. It upsets me to see helpless old people.
30. I become more irritated than sympathetic when I see someone’s tears.
31. I become very involved when I watch a movie.
32. I often find that I can remain cool in spite of the excitement around me.

33. Little children sometimes cry for no apparent reason.

**Section 7: Dispositional empathy 2 (5-point scale, 1, *does not describe me well* to 5, *describes me very well*)

1. When I see someone being taken advantage of, I feel kind of protective toward them.

2. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.

3. I often have tender, concerned feelings for people less fortunate than me.

4. I would describe myself as a pretty soft-hearted person.

5. Sometimes I don’t feel sorry for other people when they are having problems.

6. Other people’s misfortunes do not usually disturb me a great deal.

7. I am often quite touched by things that I see happen.

8. When I see someone who badly needs help in an emergency, I go to pieces.

9. I sometimes feel helpless when I am in the middle of a very emotional situation.

10. In emergency situations, I feel apprehensive and ill-at-ease.

11. I am usually pretty effective in dealing with emergencies.

12. Being in a tense emotional situation scares me.

13. When I see someone get hurt, I tend to remain calm.


15. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

16. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.

17. I sometimes try to understand my friends better by imagining how things look from their perspective.

18. I believe that there are two sides to every question and try to look at them both.

19. I sometimes find it difficult to see things from the “other guy’s” point of view.

20. I try to look at everybody’s side of a disagreement before I make a decision.
21. When I’m upset at someone, I usually try to “put myself in his shoes” for a while.

**Section 8:** Need to evaluate (5-point scale; extremely uncharacteristic (1), somewhat uncharacteristic (2), uncertain (3), somewhat characteristic (4), extremely characteristic (5))

1. I form opinions about everything.
2. I prefer to avoid taking extreme positions.
3. It is very important to me to hold strong opinions.
4. I want to know exactly what is good and bad about everything.
5. I often prefer to remain neutral about complex issues.
6. If something does not affect me, I do not usually determine if it is good or bad.
7. I enjoy strongly liking and disliking new things.
8. There are many things for which I do not have a preference.
9. It bothers me to remain neutral.
10. I like to have strong opinions even when I am not personally involved.
11. I have many more opinions than the average person.
12. I would rather have a strong opinion than no opinion at all.
13. I pay a lot of attention to whether things are good or bad.
14. I only form strong opinions when I have to.
15. I like to decide that new things are really good or really bad.
16. I am pretty much indifferent to many important issues.

**Section 9:** Need for cognition (7-point scale; strongly disagree to strongly agree)

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun.
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
5. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.
6. I find satisfaction in deliberating hard and for long hours.

7. I only think as hard as I have to.

8. I prefer to think about small, daily projects to long-term ones.

9. I like tasks that require little thought once I’ve learned them.

10. The idea of relying on thought to make my way to the top appeals to me.

11. I really enjoy a task that involves coming up with new solutions to problems.

12. Learning new ways to think doesn’t excite me very much.

13. I prefer my life to be filled with puzzles that I must solve.

14. The notion of thinking abstractly is appealing to me.

15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

17. It’s not enough for me that something gets the job done; I don’t care how or why it works.

18. I usually end up deliberating about issues even when they do not affect me personally.

Section 10: Efficacy (7-point scale; strongly disagree to strongly agree)

1. I want to stop eating products that come from animals, but I just can’t.

2. I could lead a vegetarian or vegan lifestyle if I wanted to.

3. If I stopped eating meat it wouldn’t help animals.

4. Traditional American dietary habits make it difficult to impossible to lead a vegetarian or vegan lifestyle.

5. I could lead a vegetarian or vegan lifestyle, but I would encounter some resistance from my family members.

6. I could lead a vegetarian lifestyle, but I would encounter some resistance from my close friends and associates.
Phase 2 & Phase 3 items

**Section 1:** Attributions (1, *strongly disagree* to 7, *strongly agree*)

1. Animals raised for food suffer because of me and my actions.
2. Other people are responsible for the death of animals used for food, but I’m not.
3. It is natural for animals to be raised and slaughtered for food.
4. Society is to blame for the death of farm animals.
5. People should be punished for raising animals for food.
6. No one is to blame for killing animals raised for food.
7. I am personally responsible for the suffering of animals.
8. It’s not a big deal that animals are killed for food.
9. Animals raised for food are supposed to suffer.
10. It's not a big deal that animals raised for food suffer.
11. I feel guilty when I eat meat.
12. Animals raised for food are killed because of me.
13. People should be punished for eating animals.
14. I am personally responsible for the death of animals.
15. Society is to blame for the excessive suffering of farm animals.

**Section 2:** Attitudes

Animal Rights Movement

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Section 3: Importance

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Important

Relevant

Means a lot

Matters

Significant

67
Section 4: Behaviors

Imagine that you have $5,000 to distribute among the organizations listed below. You can divide up the money any way you wish (i.e., you can give all $5,000 to one organization, you can distribute it evenly across all organizations, you can give half to one organization and half to another, etc.). The only stipulation is that you must give away all the money. Please write in the blank in front of the name of the organization how much of the $5,000 you would like to give that organization ($0 - $5,000).

________  People for the Ethical Treatment of Animals (PETA)
________  Earth Liberation Front (ELF)
________  The National Gay and Lesbian Task Force
________  The Humane Society of the United States (HSUS)
________  Greenpeace
________  Midwest COWS
________  The Ohio State University
________  Sierra Club
________  Animal Liberation Front (ALF)
________  The Human Rights Campaign

If someone came up to you on the street tomorrow and asked you to sign a pledge to be a vegetarian for the next 30 days, how likely would you be to sign (between 0 and 100%)?

________