Food Allergy Framing in Entertainment Media: The Use of Humor and Its Influence on Health Thoughts and Behaviors

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ABSTRACT

With the rising rate of food allergies in the United States and across the globe, learning how food allergies are portrayed in the media is becoming an increasingly important public health and communications issue. With no current cure, awareness and knowledge of allergies and appropriate responses in emergent situations are essential for the health and well being of those with severe food allergies. Entertainment media can help shape viewers' perceptions of ambiguous heath issues like food allergies. Further, humor can exacerbate perceptions when negative attitudes and stigma already exist about a population. This study investigated whether people's perceptions about food allergies differ after viewing a humorous or nonhumorous portrayal of food allergies in entertainment media. A Qualtrics survey with video stimuli was given to 163 participants from the UNC-Chapel Hill journalism participant pool. No difference emerged based on the clip grouping. However, participants liked the actor having a food allergy when they did not personally have an allergy or when the participants knew someone with a food allergy. This and other significant statistical relationships that emerged suggest further research with a more diverse sample and different clip selection.

Chapter 1

Introduction and Literature Review

Imagine growing up with a severe nut allergy and being taught to avoid nuts at all costs. Imagine carrying multiple EpiPens, avoiding risky restaurants — usually ones that have a language barrier, and speaking with chefs at every "safe" restaurant about the food itself and possible cross-contaminants. Now imagine the worst-case scenario despite all of your precautions: anaphylactic shock, the most severe form of an allergic reaction that generally involves swelling, hives, severe abdominal cramps, vomiting, compromised breathing, and loss of oxygen.

A few days later, you are sitting at home and turn on the TV to the movie Hitch, starring Will Smith. In one scene in the comedy, Hitch eats something that he is allergic to and starts to have an allergic reaction. His face swells, he becomes disoriented, and then, instead of injecting himself with an EpiPen, he starts chugging a bottle of Benadryl at the drug store. Afterward, instead of seeking medical attention, he walks home with his date while drinking Benadryl out of the container with a sippy straw.

Although this scene was meant to be comedic, for someone who has experienced an allergic reaction, especially one as life threatening as anaphylaxis, a scene like this may be less funny. For someone who did not know someone with a severe allergy, would watching scenes such as this make allergies seem trivial or less severe? Do people even know the extent of a true allergy? Would people think that people with allergies are overreacting or neurotic? Would they

think that the blame for an allergic reaction lies with the affected individual? Would someone know what to do in an emergency situation, or would they give the allergic individual a bottle of Benadryl to chug without seeking further medical care?

These questions prompted me to investigate whether media representations of food allergies affect health thoughts and behaviors, especially when allergies are 1) in entertainment media where messages are more embedded in the narrative than traditional news sources and 2) framed in a humorous light.

The framing of issues can have significant effects on both the general population and those suffering from health ailments. With the severity of food allergies, portraying food allergies in a humorous light may have deleterious effects on the proper treatment of allergy sufferers in everyday life, how quickly people respond in an emergency, and the precautions people take to accommodate those with severe allergies. For instance, if a chef at a restaurant sees a humorous portrayal of a life-threatening reaction, he or she may be less likely to prepare allergy food as safely in the future. Thus, establishing whether or not framing has a significant effect with regard to food allergies can guide food allergy organizations, like Food Allergy and Anaphylaxis Network, where to target awareness efforts. If the results of the study reveal that people who watch humorous frames are less sympathetic toward allergy sufferers or would react less quickly in an emergent situation, awareness and dissemination of general allergy information needs to be increased to counteract harmful media effects.

A survey with stimuli — various portrayals of food allergies in entertainment media — will be used to determine whether or not different types of humorous frames play a role in shaping thoughts about food allergies, allergic individuals, and life-saving measures. There are few studies that look at the humorous framing of food allergies in entertainment media and the

effects, if any, on health attitudes and behaviors. The reason for this could be the ambiguous nature of allergies, even within the medical community. It is important to see if framing and humor significantly have an impact on attitudes, beliefs, and behaviors. With no current cure for food allergies, awareness and knowledge of allergies, allergy signs and symptoms, and appropriate responses in emergent situations are crucial for the health and well being of those with severe food allergies.

Food Allergies: Background, Prevalence, and Severity

Food allergies have been on the rise in the past decade and are becoming an increasingly important public health concern. The prevalence of food allergies is somewhat debated but is estimated to affect around 15 million Americans — 9 million, or 4% of adults and 6 million, or 8% of children ("Facts and Statistics," 2014). Although the prevalence is not entirely accurate primarily due to self-reporting errors, there is no doubt that the rate is, in fact, increasing. A study by the Centers for Disease Control and Prevention found that children's food allergies have increased by about 50% between 1997 and 2011 ("Facts and Statistics," 2014).

Food allergies are defined as "an adverse immune response to food proteins" (Sicherer, 2006, p. S470). In layman's terms, when allergic individual comes into contact with an allergen, usually by ingestion, the body's immune system attacks itself, resulting in a wide range of symptoms. These symptoms can range from relatively mild — skin rashes, repetitive vomiting, and diarrhea — to severe, life-threatening anaphylaxis. Although many foods can cause an allergic response, there are eight allergens that are responsible for causing the majority of reactions: peanuts, tree nuts, fish, shellfish, milk, wheat, eggs, and soy (Metcalfe & Sampson, 2013). These eight likely culprits account for more than 90% of all allergic reactions.

Food-induced anaphylaxis, the most severe form of an allergic reaction mediated by the immune system, is defined as "a serious allergic reaction following the ingestion of a food, typically IgE-mediated, which is generally rapid in onset and may progress to death" (Metcalfe & Sampson, 2013, p. 178). Anaphylaxis typically involves more than one organ system, including respiratory, gastrointestinal, and cardiovascular symptoms. This severe reaction does not require large amounts of allergen exposure; it can result from trace amounts of an allergen. For example, if you are preparing a turkey sandwich using a knife that was previously used to cut a peanut butter and jelly sandwich, peanut proteins can be transferred to the safe ingredients in the turkey sandwich. This phenomenon is called cross-contamination, which can induce an anaphylactic reaction. Death via anaphylaxis is commonly associated with postponed or improper epinephrine administration. Furthermore, fatal anaphylaxis is more common in adolescents and young adults (Boyce et al., 2014).

Most times food allergies occur accidentally, whether through cross-contamination at a restaurant or mislabeling of a food label. This results in a hospitalization every three minutes, and an anaphylactic-related hospitalization every six minutes ("Facts and Statistics," 2014).

A food intolerance describes an atypical physiological response to food proteins. Examples of intolerance include lactose intolerance, and recently the highly publicized gluten intolerance. The main difference between food allergies and food intolerances is that food intolerances lack an immunological response, which means that the symptoms are considerably less severe. Intolerances do not pose a threat of death or anaphylaxis, and the most severe symptoms typically involve only the gastrointestinal tract, such as vomiting, diarrhea, bloating, and cramping (Metcalfe & Sampson, 2013).

Currently, the only form of food allergy treatment is the complete avoidance, which is difficult considering the ubiquity of the most common allergens (Sicherer & Sampson, 2006). Thus, allergy suffers must deal with the risk of a reaction not only when going out to dinner, but also in places such as schools or on airplane rides. Food allergies are a full-time job, and require constant vigilance (Bollinger et al., 2006). Even in dating or friendships, kissing and/or touching after consuming an allergen can induce an allergic response (Nies, 2014). Sicherer, Noone, and Muñoz-Furlong noted that families with children who have food allergies have a lower quality of life, scoring lower on scales that measured general health perception, emotional impact on the parent, and limitation on family activities (2001). In a similar study, 41% of parents reported increased stress levels and 34% indicated that allergies impacted school attendance (Bollinger at al., 2006).

Furthermore, access and socioeconomic status can further complicate the food allergy situation. Those who lack access to healthcare services are at a higher risk for misdiagnosis or lack of a diagnosis, which could subsequently lead to more emergency room visits and even death. Additionally, foods that are advertised and labeled to be "allergen-free" are usually significantly more expensive than alternatives, which limits the availability of safe options (Nies, 2014).

Current Food Allergy Attitudes and Knowledge

There are several misconceptions and an overall lack of awareness in the general population concerning food allergies and allergic individuals. A survey conducted by Gupta et al. revealed that 64.2% of individuals correctly answered questions about the definition and diagnosis of a food allergy (2009). The knowledge of participants was strongest about symptoms and severity, 80.3%, and weakest when asked about treatment and use of healthcare, 47.5%. In

regard to treatment and healthcare, 45.9% believed that a cure for food allergies exists, and 68.4% of individuals believed that daily medicine could prevent allergic reactions. This in part may be due to the fact that approximately half of the participants believed that lactose intolerance was the same thing as a milk allergy (Gupta et al., 2009). As discussed previously, the only "cure" for food allergies is avoidance. Lactaid is a common over-the-counter medication that mitigates the effects of lactose on those with lactose intolerance.

A knowledge gap exists even in the restaurant space. In a survey given out to 100 restaurant managers, owners, and/or chefs of a diverse set of restaurants, food allergy training was reported by 42% of restaurants, with 62% having a plan in place to prepare food-allergy safe meals. Furthermore, 24% of participants thought that consuming a small amount of allergen would be safe, 35% believed that fryer heat would kill potential allergens, and 34% believed that it is best to serve water if a patron is having a reaction to "dilute" the allergen — all false statements. Out of all the participants, 61% were interested in further training (Ahuja & Sicherer, 2007). Therefore, the statistics indicate that not only are restaurant personnel lacking knowledge on basic food allergy safety, but there is also a lack or disinterest about becoming more informed on the issue.

When asked the best way to learn about a food allergy, 46.9% of survey participants selected television, which indicates that some individuals rely on television and other forms of media for information about food allergies (Gupta et al., 2009). Thus, a further investigation into the media depiction of this health issue is necessary to establish the types of messages public are receiving and if these thoughts affect behaviors.

The Role of Entertainment Media

Entertainment media is ubiquitous in American culture, and people are learning from this form of media. According to Brodie et al., "while Americans cite television news as their primary source of health information, entertainment television is increasingly mentioned as well" (2001, p. 192). Not only are people asking health professionals about medical advice given on popular television shows, but entertainment media has been shown to "play a role in shaping viewers' conceptions of reality" (Brodie et al., 2001, p. 192). Thus, people's attitudes about food allergies are influenced by entertainment sources in addition to informational ones. Since developing or "emerging" risks like food allergies are characterized by "limited, uncertain, or competing scientific information," the media can play a large role in constructing understanding and perceptions (Harrington, Elliot, & Clarke, 2012). Therefore, the more prior knowledge a person has about a subject, the less likely they are to be persuaded by media messages. This along with the gap in knowledge discussed above warrants a closer look at how we interpret and analyze the effect entertainment media messages can have on health attitudes and knowledge.

From a public health perspective, it is important to look at how we construct meaning and interpret everyday health messages in the media (Kalbfleisch, 2005). According to the theory of social representations, "individuals gathering information about an unknown phenomenon from the mass media is the first step in forming public opinion about that phenomenon" (Morgan et al., 2007, p.144). Entertainment media in particular is unique in that it engages viewers in a narrative setting in which health messages can be incorporated. Some believe that this form of communication has even more of a persuasive effect than explicitly persuasive messages about health. There are two types of ways that health messages can be inserted into an entertainment framework: 1) The storyline is specifically designed and created to influence health behaviors or 2) The health message was added unintentionally for "dramatic appeal" but can still influence

behaviors (Moyer-Gusé, 2008). For the purpose of this study, we will be focusing on the second type of design. Although many media messages are meant to persuade or change behaviors, the second type of message is more embedded into the content, making its effects more variable and less understood unless specifically investigated.

The persuasiveness of entertainment media lies within the very nature of it. First and foremost, as discussed, entertainment media is immersive. There are many terms that describe this phenomenon such as "absorption, transportation, engagement, immersion, and engrossment" (as cited in Moyer-Gusé, 2008, p. 409). Viewers are absorbed in this new environment and momentarily forget their immediate environment, allowing persuasive effects to take hold more effectively. Furthermore, although entertainment media is fictional, people still tend to believe that it provides insight into "the way events occur and the way people behave," creating what is called "perceived realism" (Caputo & Rouner, 2011, p. 596). Entertainment media also allow viewers to forge a temporary, but strong emotional bond with characters, sometimes even pretending they are the character with the same decisions to make and goals to achieve. Similarly, a person may wish they were the character and subsequently take action to "emulate" him or her, an act called "wishful identification" (Moyer-Gusé, 2008). The persuasive effects of entertainment media discussed suggest that it can be powerful tool in shaping perceptions, especially if people lack prior knowledge on the subject. Thus, we are going to look at two specific theoretical frameworks that will more clearly describe how these persuasive effects take hold: 1) framing and 2) humor, a specific type of framing.

Framing and Attribution in Health

Message framing in communication is most clearly defined as "the way information is presented and organized in the media and interpreted by the individual" (Stieff, 2003) or the

"construction of social reality" (Hallahan, 1999, p. 206). How frames are produced is a confusing process and depends on the different media players, the particular type of frame or frames, and the public. A feedback loop develops in which the public's reaction to different frames shapes the media's portrayal of that particular issue. A frame is then dependent on how an individual interprets the subject at hand. For instance, a person's views on a hate speech rally may depend on how heavily he or she values public safety, tolerance, and/or consequences of violating free speech (Chong & Druckman, 2007). Numerous studies show that frames matter — they affect both attitudes and behaviors. This effect is what experts refer to as the "framing effect" (Chong & Druckman, 2007).

An example of framing and how it can change the way we interpret an event can be explained with mental health. From a public health standpoint, mental health is an issue that causes adverse health effects when portrayed negatively in mass media. There are many health campaigns to stop the discrimination and stigmatization of those who are mentally ill, such as the Time to Change campaign in England. However, despite ongoing efforts to destigmatize mental illness in the United States, media still portray mental illness in an overall negative light. People who suffer from mental illnesses are usually framed in extreme ways — either as dangerous, erratic criminals lacking a moral compass or as naïve, "childlike" individuals unable to properly care for themselves (Stieff, 2003). These common representations or "frames" cause people to think of the mentally ill in this fashion, perpetuating negative stereotypes and decreasing those who suffer from mental illnesses to seek help from others and appropriate health care options (Pirkis et al., 2006). Furthermore, the mentally ill are sometimes portrayed humorously, which "may also contribute to a lack of understanding and sensitivity about mental illnesses, and gloss over the seriousness of mental disorders" (Stieff, 2003, p. 262). Therefore, media portrayals

contribute to both public perceptions and stigma of mental illness, which in turn makes people who are mentally ill feel ashamed, embarrassed, and worried about the consequences of accepting their disease and asking for proper assistance.

There are many different types of framing, including the framing of responsibility. An important part of the framing of responsibility with regard to health is attribution, or "how humans explain events and human behavior" (Hallahan, 1999). According to Kelley's theory of causal attribution, there are three different types of attributions that are likely to occur: "to an actor, to the object or entity acted on, or to the environment or circumstances in which an event occurs" (As cited in Hallahan, 1999, p. 220). Actions can be framed as "controlled or uncontrolled, internally or externally originated, or as a result of stable or unstable conditions within a person" (Hallahan, 1999, p. 220). Attributions are important to consider in the framing of food allergies because whether or not the audience considers the food allergy sufferer as a victim of circumstance or a victim of his or her own volition can affect how people think about and respond to those with allergies. As seen above with the mental health example, attributions regarding capability and responsibility can negatively affect general perceptions and treatment options.

There are three primary ways that framing effects can be measured depending on the scope and purpose of the study. One method is to measure the "variance in preference produced by alternative frames of an issue." For instance, if two different groups are given different frames, what will their response be on the same issue? The second approach analyzes the difference between a participant's true feelings about an issue and his or her framed views on the issue. Hence, a low correlation between personal values and framed preferences would indicate relatively large framing effects. The third method involves comparing groups that receive a

framed image to a control group — a group has not been exposed to any sort of frame (Chong & Druckman, 2007). For this study, the third method will be utilized in order to see if there are significant changes when participants are exposed to entertainment media messages involving food allergies.

Humor As A Frame For Health-Related Issues

Humor is defined as "that quality of action, speech, or writing which excites amusement; oddity, jocularity, facetiousness, comicality, fun" (Martin, 2001, p. 505). Although it is a difficult concept to grasp, it has been shown to have both positive and negative effects in the communication field. On one hand, laughter has been shown to have positive effects on the body such as increased blood oxygenation, endorphin production, and immunological function (Martin, 2001). Humor is also used to relieve stress and reduce tension in uncomfortable circumstances (Meyer, 2000; Martin, 2001).

On the other hand, humor allows us to discount the controversial or disagreeable aspects of a message and encourages us to laugh at terrible or socially unacceptable things (Meyer, 2000). For instance, the superiority theory states that "people laugh outwardly or inwardly at others because they feel some sort of triumph over them or feel superior to them in some way" (As cited in Meyer, 2000, p. 314). Furthermore, the disposition theory of humor predicts that humor is more enjoyable and internalized when the target of the humor is a member of a group toward which negative attitudes and stigma already exist (As cited in Burmesiter & Carels, 2014, p. 223). Humor has also been shown to make information received more memorable and "increase source liking" (Moyer-Gusé, Mahood, & Brookes, 2011, p. 766). As discussed previously, increased source liking is a factor that contributes to the persuasiveness of

entertainment media. Thus, this can be both positive or negative depending on the health message being conveyed.

Furthermore, the use of health messages and comedy in entertainment-education has been shown to have mixed persuasive effects on health behavior. Entertainment-education is defined as "a popular strategy for incorporating health and other educational messages into popular entertainment media with the goal of positively influencing awareness, knowledge, attitudes, and/or behavior" (as cited in Moyer-Gusé, 2008). In one study conducted by Moyer-Gusé, Mahood, & Brookes, using pregnancy-related humor caused participants, especially males, to trivialize unpredicted pregnancy. When using a comedic frame, males said that they would be more likely to engage in unprotected sex. When the jokes were edited out, the rate was lower (2011). However, a study conducted by Conway and Dubé revealed that using humorous approaches caused both males and females to showed greater intent to adopt preventative melanoma and AIDS behaviors (2002).

Current research reveals that no theory can be used to describe "diverse forms and functions of humor and laughter" (As cited in Greengross & Miller, 2002, p. 394). However, humor can be differentiated and classified. Two of the most common types of humor are self-deprecating and other-deprecating humor. Self-deprecating humor, making fun of oneself to elicit a humorous response, and other-deprecating humor, making fun of others to elicit a humorous response, can be used to perpetuate stigma. One of the most common examples involving health and entertainment media is weight-related, or obesity, humor. People who are overweight and obese report experiencing negative attitudes from others and also report being the targets of weight-related humor on a daily basis (Burmeister & Carels, 2014). Media depictions of people who are overweight show characters who are "less likely to have friends

and romantic partners and were more likely to be the targets of jokes despite being underrepresented as a group" (Burmeister & Carels, 2014, p. 224). Furthermore, the jokes that are made are usually other-deprecating humor, with one character specifically targeting another obese character. Results from a study that showed participants video clips featuring weight-related humor showed that "participants' dislike for obese persons and their belief in disparaging stereotypes about obesity are associated with higher levels of weight-related humor appreciation. Additionally, a stronger belief in disparaging stereotypes about obesity and a belief in the 'controllability' of obesity are negatively related to individuals' level of distaste for weight-related humor" (Burmeister & Carels, 2014). These findings reveal that people who find weight-related humor funny believe that obesity is controllable or the result of a lack of willpower, which results in a feedback loop of sorts in which negative views or a lack of awareness/education can buttress humor effects by reinforcing and normalizing negative views held by those individuals. Meyer notes that "an audience with some disagreement or unfamiliarity with an issue communicated through humor may experience enforcement of a social norm" (2000, p. 318). With the knowledge gap about food allergies in the general population, food-allergy related humor could be used to fill this gap, and people may either attribute allergies as within the allergic individual's control or come to associate these portrayals as commonplace or normal, both of which reinforce negative attitudes.

The "Food Allergy Dilemma"

"Food allergies" is a term that holds a certain amount of uncertainty and ambiguity, even in more informed groups. Nettleton et al. notes that "on the face of it there appears to be a large degree of consensus, however, on closer inspection, it turns out that 'food allergy' and 'food intolerance' are both slippery, contingent concepts subject to complex processes of social

negotiation that have been, and are being, constructed and reconstructed within a diverse and shifting set of social relations" (2009, p. 649). While some consider food allergies to be an epidemic, others believe that the whole illness is blown out of proportion and exaggerated, seeing as how food allergies affect very few individuals on a population level. They believe that the "epidemic" is more of a panic, and the rise in food allergies can be attributed to increased fear and awareness (Waggoner, 2013). Furthermore, the scientific community is still unsure about many factor surrounding food allergies. For example, there is still confusion about the onset and apparent increase in food allergies. Prevalence statistics are self-reported; thus, some patients may believe that they have a true allergy even if they just have an intolerance or unrelated medical condition. Despite these skewed statistics, there still seems to an apparent increase in the rate of food allergies. Members of the scientific community have several theories about the cause of food allergies, including the "hygiene hypothesis" and the increased consumption of fatty acids. However, the cause of food allergies still remains a mystery and is further complicated by similar medical ailments such as food intolerances (Nettleton et al., 2009).

Additionally, there is a lack of understanding of the relationship between IgE and allergic symptoms, resulting from a non-definitive diagnostic test. This means that although a negative skin prick or blood test may clearly indicate that the individual does not have an allergy, a positive test does not necessarily mean that the individual will react clinically and produce symptoms (Nettleton et al., 2009).

If the scientific community and even restaurant staff are uncertain of food allergy prevalence and other factors surrounding allergies, then it is not a stretch to say that the general public — who less frequently deal with allergic individuals — is even more confused about food

allergies and how allergies fit into the framework of other diseases, social situations, and our society at large. Referring back to Meyer's findings, "an audience with some disagreement or unfamiliarity with an issue communicated through humor may experience enforcement of a social norm" (2000, p. 318). Since developing or "emerging" risks, like food allergies and climate change, are characterized by "limited, uncertain, or competing scientific information," the media can play a large role in constructing understanding and perceptions (Harrington, Elliot, & Clarke, 2012). Thus, the uncertainty of food allergies illustrates a fundamental problem: the susceptibility of the general public to be influenced or swayed by messages in the media, especially when the message is embedded in a humorous narrative.

As discussed previously, framing of issues can have significant effects on both the general population and those suffering from health ailments. With the severity of food allergies, portraying food allergies in a humorous light can have deleterious effects on the proper treatment of allergy sufferers in everyday life, how quickly people respond in an emergency, and the precautions people take to accommodate those with severe allergies. For instance, if a chef at a restaurant sees a humorous portrayal of a life-threatening reaction, he or she may be less likely to prepare allergy food as safely in the future. Thus, establishing whether or not framing has a significant effect with regard to food allergies can guide food allergy organizations, like Food Allergy and Anaphylaxis Network, where to target awareness efforts. If the results of the study reveal that people who watch humorous frames are less sympathetic toward allergy sufferers or would react less quickly in an emergent situation, awareness and dissemination of general allergy information needs to be increased to counteract harmful media effects.

Although food allergies are becoming a more severe public health problem, in my own literature search, I could not find any studies that look at the humorous framing of food allergies

in entertainment media and the effects on health attitudes and behaviors. The reason for this could be due to the fact that food allergies are not well understood, even within the medical community. However, there are statistics that measure people's knowledge about food allergies and the impact of food allergies on daily life. It is important to see if framing and humor significantly alter previous findings and/or have an impact on attitudes, beliefs, and behaviors. With no current cure for food allergies, awareness and basic knowledge of what a food allergy is, signs and symptoms, and appropriate responses in emergent situations is vital for preventing reactions, anaphylaxis, and even death.

Research Questions

This study will investigate whether or not subjects in the group exposed to humorous, less severe portrayals of food allergies consider allergies to be less severe when compared to the group exposed to more realistic portrayals of an allergic reaction. If so, will these thought processes also affect behaviors — will people in the less severe condition groups be less likely to take life-saving measures in an emergency situation?

From research on food allergies, framing, media and humor effects, and health, it is apparent that media can have a wide range of thought and behavioral effects on viewers. These attitudes and behaviors can be detrimental, as seen in Moyer-Gusé, Mahood, & Brookes when humor was used to trivialize unplanned pregnancies and protection during intercourse (2011). It has also been show to have negative stigmatization effects when dealing with mental health, causing people with mental illness to neglect medical care.

Various questions will be asked to operationalize certain points discussed in the literature view. For example, questions will be asked about attitudes, such as "People with food allergies are unappreciative" to assess whether or not internal vs. external attribution is affected when

participants are exposed to different food allergy portrayals. As discussed previously, this is important because whether or not people think that people with food allergies are at fault for their behaviors can impact the seriousness in which people deal with the safety of allergic individuals. Furthermore, questions will also be asked about celebrity likeability, previous knowledge, and the "realistic" nature of the clips in order to examine if these phenomena could possibly be driving effects.

It is important to emphasize that since this study is not using specific controls, its purpose is to more closely examine several possible relationships between food allergy entertainment media and thoughts and behaviors, if they exist, and possible reasons that such relationships might exist. The purpose of this study is not to determine a cause-effect relationship. However, relationships that exist can be examined more closely in future studies.

Chapter 2

Methods

This study investigated whether people's perceptions about food allergies and allergic reactions differ depending on whether they have just viewed a portrayal of food allergies in entertainment media, as well as whether the portrayals differ in the way they depict the allergic reaction. Participants' thought processes and behaviors about food allergies were examined to assess whether exposure to certain media depictions determined the likelihood that participants will take life-saving measures in an emergency situation. Participants exposed to more humorous portrayals of food allergies were expected to have more negative attitudes towards those with food allergies, perceptions of food allergies in general, and be less likely to take life-saving measures in an emergency.

Design

A stimulus response survey was used to evaluate the kinds of thoughts and perceptions people have upon viewing one of several video examples of entertainment media depictions of food allergies. The specific video example given to each participant was assigned at random through the survey software Qualtrics. One group of participants was given no video clip; this group was used as a comparison group with the groups of participants who viewed a video clip. Irrespective of the type of stimulus provided, all participants responded to the same assessments of food allergy thoughts and behaviors. However, the control group did not receive the questions pertaining to a clip.

Participants

The participants for this study were recruited from the UNC Journalism and Mass Communication research participant pool. Students who were already a part of the subject pool through their classes received an invitation to participate in this study via email. They then voluntarily visited the website for the subject pool, where they saw a list of available studies for participant credit. They self-selected this study based on the study's title and brief description provided on the subject pool website. The title and description can be found in Appendix A.3.

One hundred and sixty three participants completed the study. Of these participants, 122 were female and 40 were male (1 subject did not identify gender) — a 3:1 female to male ratio. One hundred and twelve of these participants were Journalism majors. Fifty-one participants had other majors or double majors, but all of these majors were in the social sciences. Most participants, 79.8%, were in the 2nd and 3rd years of school with ages ranging between 18 and 27. Additionally, the majority of participants, 81.6%, were Caucasian; Hispanic/Latino and Asian/Pacific Islander ethnicities made up 17.8% of the sample. Virtually all students, except for one, are single or never married. Participants had varied political views, but 44.2% of students identified as moderates and more students leaned left on the political spectrum, 33.8%, than those who leaned right, 22.0%.

This study did not restrict or limit participation based on any condition other than membership in the participant pool. For example, participants were mostly in the 18 to 24 age range, but participants older than 24 were not excluded. People who have had prior experience with food allergies were also not excluded, and private data/identifiers of subjects were not obtained (responses were anonymous).

There were seven groups of participants, six of which received a video stimulus and one of which received no video stimulus. The sample size n=300 was requested for IRB purposes. However, more participants than necessary were requested — n=150 is sufficient to achieve the study aims. At 22 participants per cell, results acquired were statistically significant for each cell size. Given the diversity of backgrounds associated with the topic of food allergies and personal experience with seeing someone or knowing someone with a food allergy, 22 participants per cell was likely needed to account for this wide variation (as opposed to only having 10 participants per cell). Each participant was randomly assigned to one of the seven groups.

Procedure

Surveys were conducted in a computer lab in the UNC-Chapel Hill Journalism School building, Carroll Hall room 142. The survey took between 30 minutes to an hour to complete. Participants entered the computer lab and sat down at an available desktop computer. The computers were arranged in a way in which it would be very difficult for an individual to see what was happening on a neighbor's screen. Participants were told that the study was about how people view and interpret media content. After providing informed consent, participants received a video clip through the survey software Qualtrics. The clip was either a humorous portrayal of food allergies, a non-humorous portrayal of food allergies, or an educational television commercial about food allergies. Following the viewing of the clip, participants were directed to additional survey questions about their thoughts and/or behaviors regarding health, generally, and food allergies, specifically. Participants who were assigned to the group that did not have a video stimulus were immediately directed to the survey questions. After completing the survey questions, participants received a debriefing form detailing the purpose of the study.

Stimuli

Clips were recorded from Netflix or other video streaming sites using QuickTime Player and Soundflower. The clips were then cut and grouped together with the relevant food allergy scenes in iMovie. They were then uploaded to YouTube and embedded into the Qualtrics survey. Clips 1-3 showed different types of humor about food allergies and allergic reactions in entertainment television. Clips 4 and 5 conveyed more realistic portrayals of food allergies in entertainment television. Clip 6 showed an informational/educational television commercial on food allergies. Responses following each food allergy clip were compared with one another to see if any meaningful differences in responses emerged based on differences in videos, for example whether the food allergy clip was humorous or not. Control group responses were also compared with video responses. Summaries and more information about the video stimuli can be read below:

Clip 1: Hitch (movie)

Link: https://www.youtube.com/watch?v=31QumCzGdyA

Summary: This clip stars Will Smith. First, the scene is set in a restaurant with Will Smith, his date, and his date's boss. Smith eats something and beings itching and scratching his throat. His face begins to swell, and they immediately go to a drug store. The cashier acts uninterested and continues to read his book when a swollen Smith walks into the store. Smith is very resistant toward taking any sort of medication until he sees his reflection in a drug store mirror. He realizes how unattractive he looks, rummages through drugs on display, and begins to chug a bottle of Benadryl. The camera zooms in on his face twice. Once when he sees his face in the mirror and once when he begins to chug the Benadryl, as to emphasize the humor in the

situation. He walks home in a "Benadryl-induced state"(a drunk-like manner) with his date while drinking more Benadryl out of a straw.

Clip 2: That '70s Show (television show)

Link: https://www.youtube.com/watch?v=Log_tyvaTeg

Summary: This clip stars Kelso, played by Ashton Kutcher. Kelso, who's allergic to eggs, drinks raw eggs after forgetting about his allergy, and laughs about it. He says he needs to go to the hospital. Before he is driven to the hospital, there are a few jokes and casual conversation amongst the friend group. In the car, Kelso, who has a swollen face, asks if he looks okay, and his friends turn around and scream. When Kelso gets to the hospital, he says he wants "four shots and none in the arm" and gets out of his wheelchair to flirt with a nurse. Throughout the clip, viewers can hear the laugh track in the background, including when the other characters in the scene are shocked by Kelso's swollen appearance.

Clip 3: Horrible Bosses (movie)

Link: https://www.youtube.com/watch?v=GT-VfsJ-uFY

Summary: In the movie, a guy in a car throws away the remains of his peanut butter sandwich out the window. Another man comes by and picks up the peanut butter sandwich, and starts to scold the man for littering on his street. The man starts to have trouble breathing and gasps "peanuts" as he falls to the ground. The man gets out of the car and jabs the EpiPen in his chest. He then proceeds to stab him with the EpiPen multiple times in the chest and all over his body.

Clip 4: Grey's Anatomy (television show)

Location: https://www.youtube.com/watch?v=UAnh_EteVqI

Summary: A 10-year old girl, Clem, is brought to the hospital after consuming peanuts. She has a little trouble breathing and has a skin rash. The doctor puts her on a breathing treatment and

inserts an IV with medicine to treat the rash. She later goes into anaphylactic shock and her throat begins to close. Dr. Karev inserts a breathing tube down her throat to stabilize her.

Clip 5: Freaks and Geeks (television show)

Link: https://www.youtube.com/watch?v=Jd7h-8emH80

Summary: A kid, Bill, has a severe peanut allergy and some kids put peanuts on his sandwich as a prank. Bill goes into anaphylactic shock, the ambulance is called, and he is wheeled out of the school on a gurney with an oxygen mask on. They take him to the hospital where his mom is crying and tells friends that last time this happened Bill was in a coma for two days and almost died. The kid who put peanuts on his sandwich comes and apologizes for putting peanuts on Bill's sandwich and says, "I thought he was faking, he's always lying about stuff like that. I never knew he was really allergic, I swear." The mom says that the kid cannot go and talk to him because he's unconscious and in critical condition.

Clip 6: FARE Commercial (educational commercial)

Link: https://www.youtube.com/watch?v=Kh-LChrL8rA

Summary: The commercial, sponsored by food Allergy Research & Education (FARE) as part of their "Food Allergy Teamwork" PSA, provides eating out tips for a safer, more enjoyable dining experience to those with food allergies. Celebrity chefs, Bryan Voltaggio and Mike Isabella, provide viewers with facts about food allergies, such as food allergies affect 15 million Americans, including 1 in 13 children. The commercial also provides a link to its website, www.safefare.org, which provides food allergy dining advice in addition to dining out cards that list allergens for kitchen staff.

Measures

The survey questions were divided into seven main categories: demographics, media usage, prior familiarity with clip, questions about the clip itself, food allergy attitudes, prior knowledge about food allergies, and personal experience. Questions within each section were randomized. In the demographics section, questions were asked about age, gender, ethnicity, level of formal education achieved, marital status, and political views to obtain background information on each participant. Participants selected the response that applies to him or her. For example, if a man identifies as politically liberal, he will choose "liberal" from the list "very conservative, conservative, moderate, liberal, very liberal."

Questions about media usage were also asked, such as "How often do you watch entertainment television programs?" and "How often do you watch do you watch television news?" These questions were arranged in a grid, in which participants were asked to select their frequency of usage from a list of options. Participants were then asked to rank television genres 1-7 in order of how often they watch them, the 1 representing the genre they watch the most and 7 being the genre they watch the least.

Questions were asked in order to see if character likeability or prior familiarity with the stimulus is a potential factor explaining responses to the video clip. Questions such as "Have you ever seen this show/movie?" and "I like the actor who showed signs of a food allergy in this clip" were asked. Participants chose a response from the options listed.

Participants were also asked how <adjective> they found the clip given a list of the following adjectives: funny, sad, annoying, scary, realistic, disturbing, uncomfortable, serious, amusing, well-written, and interesting. Items were rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality.

Participants were then asked to answer questions about the character showing signs of a food allergy in the clip, using a variety of different adjectives: fashionable, friendly, happy, blameless, annoying, awkward, bossy, attractive, unreasonable, humorous, irrational, excited, irresponsible, thoughtful, neurotic, kind, famous, popular, smart, and dumb. These items were also rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality. The group that received no video stimulus did not receive the questions about the character or clip.

For food allergy attitudes, participants were asked to read generalized statements about people with food allergies, such as "People with food allergies tend to overreact" and "People should be more careful to accommodate those with allergies." Participants were asked to rate items on a 5-point scale, with 5 indicating a greater amount of the quality or a greater amount of agreement with the given statement and 1 indicating a lesser amount of the quality or a lesser amount of agreement with the given statement.

Questions about food allergy knowledge were divided into two subcategories: 1) There was a true/false section with basic food allergy knowledge questions such as "A food allergy can be fatal" and "A sore throat and runny nose often occur in an allergic reaction." 2) There were questions about how fast to use emergency medication, such as one that asks when an EpiPen should be administered to someone having an allergic reaction. Participants chose a response from a list of different time intervals.

The last section asked about personal experience, with questions such as "Do you have a food allergy?", "Do you know someone with a food allergy?", and "Have you ever used an EpiPen?" Participants answered by indicating "Yes" or "No." For all sections, participants were asked to write out a response in greater detail. For example, in the personal experience section,

participants were asked to describe their experience with an EpiPen if he or she has ever administered one. Once all participants completed the survey, the measures were then grouped and analyzed using SPSS.

Each of the clips were assigned a label corresponding to the name of the TV show or movie: “Greys,” “Hitch,” “70s,” “Horrible,” “Freaks,” and “Chef.” These items were grouped into the composite measure “Clip Groupings.”

Items about perceptions of people with food allergies were subjected to a Principal Component Analysis with Varimax rotation to identify specific dimensions relevant to the study. Five factors emerged with eigenvalues greater than 1. Of these, the first three factors were used in the study, as the two smallest factors only reflected one item.

The first factor explained 17.77% of the variance with an eigenvalue equal to 2.84. Items included were “People with food allergies are mean,” “People with food allergies are annoying,” and “People with food allergies are unappreciative,” with loadings equal to .75 to .78. Items were rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality. These items were averaged into a composite measure labeled “Negative Attitudes,” α = .74, M = 2.24, SD =.69. Higher scores indicated more negative attitudes toward people with food allergies.

The second factor explained 16.02% of the variance with an eigenvalue equal to 2.56. Items included were “People with food allergies are kind,” “People with food allergies are outgoing,” and “People with food allergies are energetic,” with loadings equal to .66 to .82. Items were rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality. These items were averaged into a composite measure

labeled "Positive Attitudes," $\alpha = .72$, $M = 3.06$, $SD = .45$. Higher scores indicated more positive attitudes toward people with food allergies.

The third factor explained 8.81% of the variance with an eigenvalue equal to 1.41. Items included were "People with food allergies should avoid situations where there might be a public risk, ex. public schools, airplane flights, restaurants" and "People with food allergies should eat at restaurants often" with loadings equal to .81 and -.76, respectively. Since items were rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality, the item "People with food allergies should avoid situations where there might be a public risk, ex. public schools, airplane flights, restaurants" was reverse coded. The two items were averaged into a composited measure labeled "Public Acceptance," $r = .34$, $p < .001$, $M = 3.07$, $SD = .75$. Higher scores indicated a more positive attitude toward people with food allergies in public environments. These three composite measures did not correlate.

Four individual items about food allergies were included that also looked at food allergy perceptions. Items were also rated on a 5-point scale, with 5 indicating a greater amount of the quality and 1 indicating a lesser amount of the quality. Items included were "Food allergies can be severe" ($M = 3.97$, $SD = .80$), "People with food allergies tend to overreact" ($M = 2.48$, $SD = .84$), "If a person has a food allergy, it is almost always their fault" ($M = 1.20$, $SD = .51$), and "I would be angry if I could not bring a PB&J to school," $M = 2.78$, $SD = 1.30$. These items were labeled "Food Allergies are Severe," "Overreact," "Fault," "PB&J," respectively.

Items to assess how much the participants liked the clips included the following list of adjectives: funny, sad, annoying, scary, realistic, disturbing, uncomfortable, serious, amusing, well-written, and interesting. Participants were asked to rate the clip on a scale from 1 to 5, with 5 indicating a greater amount of the quantity. For example, for the adjective "funny," a 5 is

equivalent to very funny and a 1 is equivalent to not at all funny. The adjectives sad, annoying, scary, disturbing, uncomfortable, sand serious were reverse coded. The items were averaged into a composite measure labeled "Clip Likability," M =3.58, SD =. 70, α = .80

Items to assess how much the participants liked the actors featured in the clips included the following list of adjectives: friendly, blameless, attractive, thoughtful, kind, smart, annoying, awkward, bossy, unreasonable, irrational, irresponsible, neurotic, and dumb. Participants were asked to rate the clip on a scale from 1 to 5, with 5 indicating a greater amount of the quantity. The items annoying, awkward, bossy, unreasonable, irrational, irresponsible, neurotic, and dumb were reverse coded. The items were averaged into a composite measure labeled "Actor likability," M = 3.41, SD = .75, α = .85.

Items to assess prior knowledge participants had about food allergies were compiled from the list of 18 true and false statements, including items such as "Daily shots/pills can be administered/taken to lessen the effects of allergenic foods" and "There is a cure for food allergies." True items and false items were recoded. When the "true" response was the correct response, it assigned the numeral 1 and the incorrect response—the corresponding false answer—received a 0. Similarly, when the "false" response was correct, it assigned the numeral 1 and the incorrect response—the corresponding true answer—received a 0. Correct responses were added, in which a higher number of correct responses corresponded to a higher number on a scale from 0-18, zero representing none of the questions answered correctly 18 representing all of the questions answered correctly. Thus, a higher score on the scale indicated a greater amount of prior knowledge. The items were averaged into a composite measure labeled "Prior Knowledge," M = 13.96, SD = 1.62.

The item used to assess prior familiarity with the clips was the survey question "Have you ever seen this clip before." Participants answered either "yes" or "no," corresponding to the numerals 1 and 2, respectively. Most participants had not seen the clips before, $M = 1.67$, $SD = .47$. This item was labeled "Prior Familiarity."

Items to assess experience with food allergies were asked using two questions, one asking if the participant had a food allergy and the other asked if the participant knew someone with a food allergy. Participants answered either "yes" or "no," corresponding to the numerals 1 and 2, respectively. The means and standard deviations for the questions "Do you have a food allergy?" and "Do you know someone with a food allergy?" were $M = 1.08$, $SD = .27$ and $M = 1.84$, $SD = .37$, respectively. These experience items were labeled "Personal Allergy" and "Someone with Allergy."

Items to assess how a person would react in an emergency situation with food allergies were asked using two questions, one asking when the participant would give Benadryl, $M = 1.59$, $SD = .87$ and the other asking when a participant would administer an EpiPen, $M = 1.27$, $SD = .57$. Participants were given four choices: immediately, after 5 minutes if the condition does not improve, until the person is hospitalized, and never. A score closer to one indicated a quicker response time to administer medication. These behavior items were labeled "Benadryl" and "EpiPen."

The means and standard deviations of all measures can be seen in Table 1. Correlations between measures are displayed in Table 2.

Chapter 3

Results

Analyses Grouping Participants by the Clip They Watched

An initial ANOVA was performed with the clip grouping entered as the independent variable and “Negative Attitudes” entered as the dependent variable. A Bonferroni analysis was performed as a Post Hoc test in the event that a main effect for clip grouping arose. No significant effects were found. A second and third ANOVA were performed with the clip grouping as the independent variable and “Positive Attitudes” and “Public Acceptance” as the dependent variables. A Bonferroni analysis was performed as a Post Hoc test. No significant effects were found.

An ANOVA was performed with the clip grouping as the independent variable and each of the individual food allergy measures—“Severe,” “Overreact,” “Fault,” “PB&J”—as the dependent variables. A Bonferroni analysis was performed as a Post Hoc test in the event that a clip grouping main effect arose. No significant effects were found. Thus, participants' responses to questions about food allergies or people with food allergies did not seem to depend the type of clip they viewed.

Two additional AVOVAs were also performed with the clip grouping as the independent variable and “Actor Likability” and “Clip Likability” as dependent variables. Regarding the test for "Actor Likability," a main effect emerged for clip grouping (see Table 4). Table 3 shows the means and standard deviations for "Actor Likability" based on the clip shown. A Bonferroni

analysis was performed as a Post Hoc test. “Horrible” and “70s” had lower mean scores than “Freaks,” “Hitch,” “Greys,” and “Chef.”

For the test of “Clip Likability,” clip grouping also had a main effect, as is shown in Table 6. According to Bonferroni analysis performed as a Post Hoc test, “Grey’s” and “Freaks” had lower mean scores than “Chefs” and “Horrible,” which had lower mean scores than “Hitch” and “70s.” Table 5 shows the means and standard deviations of "Clip Likability" for each clip.

A closer look at which clips were rated high and which clips were rated low for the two likability measures (Table 3 vs. Table 5) suggested there might be a negative association between "Actor Likability" and "Clip Likability." A bivariate correlation analysis confirmed this negative relationship, $r = -.19$, $p < .05$. On closer inspection, the “Actor Likability” measure correlated most with the specific clip adjectives “sad,” “scary,” “realistic,” “serious,” and “well-written,” and “interesting,” rs = .43, .38, .46, .58, .29, and .19, respectively, ps < .05. In contrast, the “Clip Likability” measure correlated significantly at $p < .05$ with clip adjectives “funny,” “amusing” and “well-written,” and “interesting,” r =.82, .81, .26, and .29, respectively (See Table 7). In other words, “Actor Likability” seemed to focus on the quality of the acting, whereas “Clip Likeability” seemed to be more indicative of the entertainment value of the clip.

An ANCOVA was run with the individual clip grouping as the independent variable, clip likability as the dependent variable, and prior familiarity as a covariate. The same results were found. Also, an ANCOVA was run with the clip grouping as the independent variable, actor likability as the dependent variable, and prior familiarity as a covariate. The same results were found. Both ANCOVAs were subject to a Bonferroni analysis as a Post Hoc test. Thus, prior familiarity was not a factor in how the actors and the clips were viewed.

Analyses Using Clip and Actor Likability in Place of Clip Grouping

The clip that each participant saw seemed to have no effect on food allergy responses. Since a negative relationship existed between "Clip Likability" and "Actor Likability," a series of correlations were run to see if there were relationships between how the participants viewed and interpreted a clip and food allergy responses. The control group is not used since participants in this condition did not watch a clip; therefore, the control group had no measures of clip or actor likability.

A correlation was run between "Clip Likability" and food allergies measures about perceptions of those with food allergies—"Negative Attitudes," "Positive Attitudes," "Public Acceptance," "Severe," "Overreact," "Fault," and "PB&J." No significant relationships were found.

A correlation was then run between "Actor Likability" and food allergies measures about perceptions of those with food allergies—"Negative Attitudes," "Positive Attitudes," "Public Acceptance," "Severe," "Overreact," "Fault," and "PB&J." A negative relationship existed between "Actor Likability" and "Negative Attitudes," $r = -.32$, $p < .05$. Also, a positive relationship existed between "Actor Likability" and "Severe," $r = .23$, $p < .05$. See Table 2 for these correlations.

Next, a correlation was run between individual food allergy measures and both prior knowledge and food allergy experience. As shown in Table 9, "Prior Knowledge" had a positive relationship with "Severe," $r = .21$, $p < .05$. In addition, knowing "Someone with Allergy" had a positive relationship with both "PB&J" and "EpiPen," $r = .17$ and $r = .18$, respectively, $ps < .05$. Previously seen in Table 2, "Negative Attitudes" positively correlated with "PB&J," "Overreact," and "EpiPen," $r = .16$, .42, and .16, respectively, $ps < .05$. Also seen in the prior

analysis (Table 2), a positive relationship existed between “Overreact” and “PB&J,” $r = .16$, $p < .05$.

Based in part on the findings shown in Table 9, a partial correlation was performed between clip and actor likability and the individual food allergy items, taking both familiarity with the clip and prior knowledge into account. As seen in the previous analyses without any control variables, “Actor Likability” had a negative relationship with “Negative Attitudes” ($r = -.32$, $p < .05$) and a positive relationship with “Severe” ($r = .23$, $p < .05$), even with prior knowledge and familiarity accounted for in the analysis. No significant findings emerged for clip likability, which is consistent with the previous findings. Table 8 shows these results.

Finally, to take participants' experience regarding food allergies into account, participants were split into two groups based on the "Personal Allergy" item: those who personally have a food allergy and those who do not have a food allergy. Clip and actor likability were correlated once more with the food allergy items. Then, this correlation analysis was conducted one last time, splitting participants into two groups based on the "Someone with Allergy" item, resulting in a group representing those who know someone with a food allergy and a group representing those who do not know anyone with a food allergy. There were no significant results between “Clip Likability” and other food allergy measures, regardless of how they were grouped according to “Personal Allergy” and “Someone with Allergy.” Looking at the measure “Actor Likability,” a positive relationship existed between “Actor Likability” and “Severe” and a negative relationship existed between “Actor Likability” and “Negative Attitudes” only when the participants did <u>not</u> personally have a food allergy or when the participants <u>knew someone</u> with a food allergy. Table 11 shows the results of these two analyses.

Chapter 4

Discussion

With the rising rate of food allergies in the United States, having a greater understanding of the media depictions of food allergies is becoming an increasingly important issue in both the health and communications fields, especially with the general lack of knowledge about food allergies. Entertainment media, in particular, have been shown to "play a role in shaping viewers' conceptions of reality" (Brodie et al., 2001, p. 192). Since developing or "emerging" risks like food allergies are characterized by "limited, uncertain, or competing scientific information," the media can play a large role in constructing understanding and perceptions (Harrington, Elliot, & Clarke, 2012). Food allergy humor in entertainment media is specifically being studied since humor has been shown to be more enjoyable and internalized when the target of the humor is a member of a group toward which negative attitudes and stigma already exist (As cited in Burmesiter & Carels, 2014, p. 223). If media representations help shape public perceptions and public discourse on allergies, then communications professionals can take precautions about how they frame food allergies or develop more targeted messages to change and improve the public discourse on food allergies.

This study investigated whether people's perceptions about food allergies and allergic reactions differ depending on whether they have just viewed a portrayal of food allergies in entertainment media, as well as whether the portrayals differ in the way they depict the allergic reaction. Participants' thought processes and behaviors about food allergies were examined to

assess whether exposure to certain media depictions determined the likelihood that participants will take life-saving measures in an emergency situation. Participants exposed to more humorous portrayals of food allergies were expected to have more negative attitudes towards those with food allergies, perceptions of food allergies in general, and be less likely to take life-saving measures in an emergency.

The type of clip participants received did not explain differences in how participants responded to the food allergy items. Rather, the results showed that it was more about the actors in the clip and experience with food allergies. This is may be due to the limitations in this study discussed below. Or, it may be due to people's own interpretations of the clip and characters and whether they like or dislike what they are seeing.

For example, the type of clip did explain how participants rated their liking of the clip and of the actor. Interestingly, the results revealed a negative relationship between liking the clips and liking the actors. Although this seems counterintuitive, different adjectives seemed to be driving the effects shown. For example, adjectives such as “realistic” and “serious” were used to describe the actors whereas adjectives such as “funny” and “amusing” were used to describe the clips. From these results, people may have liked an actor better if they gave an emotional, quality performance, as opposed to liking clips based solely on their entertainment value. Entertainment media allows viewers to forge a temporary, but strong emotional bond with characters, even causing viewers to emulate personality characteristics (Moyer-Gusé, 2008). Thus, perhaps the shortness of the clips did not fully allow this “transportation” experience to take place, causing viewers to base their views on the actor on the quality and dramatization of his or her performance. Prior familiarity with the clips did not affect how participants rated the clips or the actors. This may also be because of the “transportation” experience in that

participants are very much "in the moment" when they are watching media without much afterthought about the clips or actors in them, causing multiple viewings or no viewings to have no effect. This especially holds true if the participants viewed these clips several months or years ago.

People who had negative attitudes toward those with allergies also would be angry if they could not bring a PB&J to school, believe allergic individuals overreact, and would take longer before administering an EpiPen. Although these results are to be expected, it confirms that negative attitudes can impact how people think about those with allergies in everyday situations, like in a classroom, and in emergency situations—something that is concerning. Those who had prior knowledge were more likely to say that food allergies are severe. This too makes sense in that knowing the severity symptoms and how easily cross-contamination can happen makes allergies seem more severe as compared to those who do not know information about things such as anaphylactic shock. People who know someone with a food allergy would be angry if they could not bring a PB&J to school and would be less likely to use an EpiPen in a timely manner. People who are angry about the PB&J sandwich may be thinking of one particular individual that has a food allergy that they do not like when answering this question; thus, when answering other questions people may be thinking of people with food allergies, generally, however the specifics of this question may cause people to think of a particular instance and make it more personal. For the EpiPen response, a participant may take more time to administer the EpiPen if they dislike the individual. A more likely response may be that the person may be that the person knows that the individual with the food allergy knows which life-saving measures to take and is waiting on their response before taking matters into their own, less experienced hands.

Perhaps the most unexpected result was that a negative relationship existed between actor likability and negative attitudes toward those with food allergies and a positive relationship existed between actor likability and whether or not they thought that food allergies were severe, even with differences in prior knowledge and familiarity with the clip. However, these relationships were only present when the participants did not personally have a food allergy or when the participants knew someone with a food allergy. Hence, the bottom line is that people without food allergies or people who know someone with food allergies were more likely to have positive views of those with an allergy. How participants viewed those with allergies in this study was mainly based on experience with allergies and the actors in the clips as opposed to prior knowledge and familiarity with the clip.

It may be the case that those who have food allergies have very neutral views and perceptions toward others like them. They deal with their food allergy day in and day out and live normal lives except for being extra cautious when it comes to eating. With careful management, most individuals rarely have allergic reactions. Those who do not personally have a food allergy or know someone with an allergy, conversely, may see the extra precautions that the person with an allergy takes, may have heard them talking about some of the symptoms, or may have actually seen or heard of allergic reaction "horror stories." Hence, they may be more likely to think allergies are more severe based on empathy for the person dealing with a potentially life-threatening medical condition, whether it be their friend, family member, or the actor in the clip. This may also be why they had less negative attitudes toward those with allergies. The relationships probably do not exist for participants who do not know anyone with a food allergy because they do not empathize with someone with a food allergy or might not even think about food allergies at all; therefore, they might have very neutral views on the topic.

For communication professionals, this study confirms the importance of the actor in entertainment media clips. Even though the relationships with actor likability were only present when the participants did not personally have a food allergy or when the participants knew someone with a food allergy, the growing rate of food allergies tells us that more and more individuals will know someone with an allergy in the near future. Therefore, targeted health communication efforts should focus on how the actor or the individual having a food allergy is portrayed. From the results discussed previously, an effective public health awareness advertisement or campaign should be well-written with an actor who is convincing in his or her role. Although the literature review stated that humor has been shown to make information received more memorable and "increase source liking," the actor in the clip does not necessarily have to come across as amusing, lighthearted, or entertaining for the to be likable or for the positive food allergy perceptions to take hold (Moyer-Gusé, Mahood, & Brookes, 2011, p. 766). Additionally, those who had a higher amount of prior knowledge were more likely to say that food allergies are severe. Thinking about food allergies in this way is one of the first steps toward acceptance; accordingly, health communication efforts should also focus on providing relatable facts and statistics to increase the public's knowledge base.

Although meaningful results emerged from this study, it had several limitations. One of the main drawbacks was the choice of clips. First, the clips did not feature the same characters or actors. As discussed in the literature review, entertainment media allow viewers to form emotional bonds with characters. Since the clips did not feature the same actors or characters, viewers may have responded inconsistently on questions asking about food allergy attitudes and the humor of the clip based solely on whether they liked, disliked, or related to the actors or characters featured. Furthermore, the length of the clips was short, and the clips varied in length

from one minute to around three minutes depending on the particular scene. The short clip length could have rendered the clip group irrelevant. A 20-minute clip or full movie may have yielded stronger media effects, although it is still uncertain what specific aspects of the clip might yield specific effects, other than helping strengthen the participant's connection with a character based on how well the actor seemed to do in his/her role or how entertaining the clip was overall.

Another drawback was the homogeneity of the sample. The majority of people surveyed were college students, a demographic with a higher level of education than the general population, most likely corresponding to a higher level of understanding, tolerance, and knowledge of food allergies and of those with food allergies. Furthermore, the sample was three-quarters female Journalism majors between the ages of 18-24. Journalism majors are used to studying media messages and may as a result be less susceptible to media effects.

Lastly, another important limitation was that many factors could have driven the findings in this study. The present study is not an experiment, and so the idea of a true control and causal effects are not appropriate for this particular work. However, perhaps the evidence discussed in the literature review can be used to suggest and hypothesize why these findings emerged and guide experimental work that isolates certain aspects of a character or clip for more precise testing. In doing so, perhaps this topic can be examined with additional stimuli (more media depictions of food allergies) and more participants to measure specific effects.

Despite these limitations, this study is the foundation for understanding the relationships that exist in entertainment media portrayals of food allergies. Since much of what we know is shaped by the media, developing a better understanding of these sorts of relationships can help with advocacy efforts and deter others from portraying food allergies in a way that may be detrimental to these efforts. Additionally, researching food allergies and how to discuss them in

the context of entertainment media can help with discussing other health issues, such as mental health, that are commonly misunderstood by the public. Further research on this topic could involve controlling for some of the limitations discussed above, including diversifying the sample and different clip selection. However, finding meaningful relationships in this study proves that there are in fact media effects regarding food allergy thoughts and behaviors. Since there is no cure for food allergies, targeting healthy practices through the media and using entertainment programming as a medium to frame, inform, and change perceptions is one way of tackling the "food allergy dilemma."

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Table 1

Means and Standard Deviations of Measures

	N	*M*	*SD*
If a person is having trouble breathing, an EpiPen should be administered:	162	1.27	.57
If a person has hives, Benadryl should be used:	161	1.59	.87
Food allergies can be severe	162	3.97	.80
People with food allergies tend to overreact	162	2.48	.84
If a person has a food allergy, it is almost always their fault	162	1.20	.512
I would be angry if I could not bring a PB&J to school	162	2.78	1.34
Clips Likability	129	3.58	.70
Actors Likability	129	3.41	.75
Personal Allergy	161	1.84	.37
Someone with Allergy	161	1.08	.27
Prior Familiarity	131	1.67	.47
Negative Attitudes	162	2.24	.69
Positive Attitudes	161	3.06	.45
Public Acceptance	162	3.07	.75

Table 2

Pearson Correlations Between Perceptions of Food Allergies and People with Food Allergies

		Benadryl	Overreact	Fault	PB&J	Actor Likability	Clip Likability
EpiPen	*r*	.003	.030	-.016	.035	-.085	.073
	N	161	162	162	162	129	129
Benadryl	*r*		.107	-.035	.114	-.097	.001
	N		161	161	161	129	129
Overreact	*r*			.016	.159*	-.098	.030
	N			162	162	129	129
Fault	*r*				.010	.060	-.020
	N				162	129	129
PB&J	*r*					-.131	.092
	N					129	129
Actor Likability	*r*						-.194*
	N						128
Personal Allergy	*r*	.106	.089	-.022	.070	.050	.024
	N	160	161	161	161	128	128
Someone with Allergy	*r*	.034	-.006	-.030	.166*	-.046	.069
	N	160	161	161	161	128	128
Prior Familiarity	*r*	-.068	-.050	.166	.037	.134	-.247**
	N	131	131	131	131	129	129
Negative Attitudes	*r*	.036	.421**	.143	.160*	-.320**	.116
	N	161	162	162	162	129	129
Positive Attitudes	*r*	-.013	.128	.051	.096	.061	.099
	N	160	161	161	161	128	128
Public Acceptance	*r*	-.038	-.135	-.036	-.016	-.041	-.021
	N	161	162	162	162	129	129
Food Allergies Severe	*r*	.035	-.042	.046	.040	.226**	.091
	N	161	162	162	162	129	129

(see next page for continuation)

		Someone with Allergy	Prior Familiarity	Negative Attitudes	Positive Attitudes	Public Acceptance	Food Allergies Severe
EpiPen	*r*	.182*	-.214*	.155*	-.050	-.050	-.133
	N	161	131	162	162	162	162
Personal Allergy	*r*	.006	-.073	-.006	.059	.059	-.021
	N	161	130	161	161	161	161
Someone with Allergy	*r*		.168	.043	-.025	-.025	-.015
	N		130	161	161	161	161
Prior Familiarity	*r*			.032	-.029	-.029	-.172
	N			131	131	131	131
Negative Attitudes	*r*				-.084	-.084	-.133
	N				162	162	162
Positive Attitudes	*r*				.073	.073	.106
	N				161	161	161

* $p < .05$.
** $p < .01$.

Table 3

Descriptive Statistics for Actor Likability Based on Clip Groupings

Clip Grouping	*M*	*SD*	N
Grey's Anatomy	3.91	.44	28
Hitch	3.67	.52	18
That 70s Show	2.85	.60	27
Horrible Bosses	2.43	.39	19
Freaks and Geeks	3.63	.40	17
Chef	4.00	.52	20
Total	3.41	.75	129

Table 4

Tests of Between-Subjects Effects For Clip Groupings on Actor Likability

Source	Type III Sum of Squares	df	Mean Square	*F*	Sig.
Clip Groupings	42.77	5	8.55	35.70	<.001
Error	29.47	123	.24		
Corrected Total	72.24	128			

Note. Dependent variable is actor likability

Table 5

Descriptive Statistics for Clip Likability Based on Clip Groupings

Clip Grouping	*M*	*SD*	N
Grey's Anatomy	2.94	.35	28
Hitch	4.14	.45	18
That 70s Show	4.18	.26	27
Horrible Bosses	3.78	.55	20
Freaks and Geeks	2.81	.66	16
Chef	3.58	.53	20
Total	3.58	.70	129

Table 6

Tests of Between-Subjects Effects For Clip Groupings on Clip Likability

Source	Type III Sum of Squares	df	Mean Square	*F*	Sig.
Clip Groupings	37.00	5	7.40	34.55	<.001
Error	26.34	123	.21		
Corrected Total	63.34	128			

Note. Dependent variable is clip likability

Table 7

Pearson Correlations Between Perceptions of Clips and Clip or Actor Likability (N = 109)

Clip Perceptions	Actor Likability	Clip Likability
Funny	-.41**	.82**
Sad	.43**	-.80**
Annoying	-.22*	-.48**
Scary	.38**	-.72**
Realistic	.46**	-.23*
Disturbing	.13	-.66**
Uncomfortable	.17	-.82**
Serious	.58**	-.75**
Amusing	-.38**	.81**
Well-written	.29**	.26**
Interesting	.19*	.29**

* $p < .05$.
** $p < .01$.

Table 8

Partial Correlations Between Clip, Actor Likability and Perceptions of Food Allergies and People with Food Allergies, Controlling for Prior Familiarity with Clip and Prior Knowledge of Food Allergies (df = 121)

Perceptions	Actor Likability	Clip Likability
Positive Attitudes	.08	.07
Negative Attitudes	-.32**	.13
Public Acceptance	-.04	-.04
Fault	.02	.03
Severe	.25**	.07
PB&J	-.12	.09
EpiPen	-.07	.03
Benadryl	-.06	-.01

* $p < .05$.
** $p < .01$.

Table 9

Pearson Correlations Between Perceptions of Food Allergies and People with Food Allergies and Prior Knowledge of Food Allergies, Having a Food Allergy, or Knowing Someone with a Food Allergy

Perceptions	Prior Knowledge	Personal Allergy	Someone with Allergy
Public Acceptance	0.10	0.06	-0.03
Positive Attitudes	0.14	0.09	-0.11
Negative Attitudes	0.04	-0.01	0.04
Food Allergy is Severe	.213**	-0.02	-0.02
PB&J	-0.02	0.07	.166*
Overreact	-0.06	0.09	-0.01
Fault	-0.13	-0.02	-0.03
EpiPen	-0.03	0.06	.182*
Benadryl	0.04	0.11	0.03

* $p < .05$.
** $p < .01$.

Table 10

Pearson Correlations Between Actor Likability and Perceptions of Food Allergies and People with Food Allergies Based on Having a Food Allergy or Knowing Someone with a Food Allergy

	With Actor Likability			
Perceptions	Has Allergy (n = 20)	No Allergy (n = 108)	Knows Someone with Allergy (n = 116)	Does Not Know Someone (n = 12)
Negative Attitudes	-.26	-.32**	-.31**	-.26
Positive Attitudes	.07	.06	.05	.08
Public Acceptance	-.18	.01	.01	-.34
PB&J	-.15	-.15	-.09	-.54
Food Allergy is Severe	.45*	.20*	.24*	.32
Fault	.11	.04	.03	.38
EpiPen	-.01	-.11	-.14	.20
Benadryl	.06	-.13	-.08	-.35

* $p < .05$.
** $p < .01$.

APPENDIX A

TEXT FOR CONSENT EMBEDDED IN SURVEY

Dear participant,

My name is Chloe Opper and I am an undergraduate student at the University of North Carolina at Chapel Hill. I am conducting a research study for my senior honors thesis to investigate how people view and interpret media content.

The survey, which will ask you questions pertaining to a video clip, should take less than an hour of your time and is voluntary. You may stop taking the survey at any time, and you may skip any question for any reason. You will not receive any direct benefit from being in this research study. The only possible risk to you of participating in this research study is that you might experience some emotional discomfort if you are uncomfortable with the topics being addressed. Again, you may stop at any point. Furthermore, all possible measures have been taken to protect the confidentiality of your answers.

I will report only summaries of the aggregated data. This means that your responses will be combined with all of the other responses received and will not be able to be identified as yours. Deductive disclosure which is the discerning of an individual respondent's identity and responses through the use of known characteristics of that individual is also possible but unlikely.

If you have any questions regarding this survey, you may contact me via email at opper@live.unc.edu.
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have any questions or concerns regarding your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at (919) 966-3113 or via email at IRB_subjects@unc.edu with study number 14-3004.

By clicking ***here*** [live link] and completing the survey, you agree to be a participant in this study.

Thank you,

Chloe Opper

APPENDIX B

SURVEY QUESTIONNAIRE

(Note: The numbering of the some of the items are not in order. This is due to moving question blocks during the creation of this survey)

Q1 **University of North Carolina at Chapel Hill**
Consent to Participate in a Research Study
Adult Participants

Consent Form Version Date: __January 21, 2015____
IRB Study # 14-3004
Title of Study: The Viewing and Interpretation of Entertainment Media Content
Principal Investigator: Chloe Opper
Principal Investigator Department: School of Journalism and Mass Communication Administration
Principal Investigator Phone number: 910-512-5569
Principal Investigator Email Address: opper@email.unc.edu
Faculty Advisor: Francesca Dillman Carpentier
Faculty Advisor Contact Information: (919) 962-1204

What are some general things you should know about research studies?

You are being asked to take part in a research study. To join the study is voluntary.
You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to investigate how people view and interpret entertainment media content. With the rise of entertainment media consumption, it is imperative to see the ways in which people are influenced by the media. Using video clips and a survey, we will determine ways in which people decipher media messages.

Are there any reasons you should not be in this study?

You should not participate in this study if you are under 18 years old.

How many people will take part in this study?

There will be approximately 300 people in this research study.

How long will your part in this study last?

This study will take no longer than 1 hour.

What will happen if you take part in the study?

This study will require you to complete a survey, in which you may or may not be asked to watch a video clip. You will complete the study in a computer lab in Carroll Hall. You will be assigned to a condition by randomization. This means that you will be assigned by chance, like flipping a coin, to a study group. Some groups require watching a short clip before answering a series of questions and others do not require watching a clip. You will then answer a series of questions that will assess background knowledge as well as personal preferences. After each page of questions, you will click continue until you reach the end of the survey. However, you may choose not to answer a question for any reason, and you may quit at any point.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. You will not benefit personally from being in this research study.

What are the possible risks or discomforts involved from being in this study?

There are no known risks or discomforts involved from being in this study. Some minor discomfort may occur if you are particularly sensitive to some material in the video clips and/or questions being asked in the survey. You may stop if you feel uncomfortable.

There may be uncommon or previously unknown risks. You should report any problems to the researcher.

What if we learn about new findings or information during the study?

You will be given any new information gained during the course of the study that might affect your willingness to continue your participation.

How will information about you be protected?

Anonymous responses will be collected from the surveys using Qualtrics survey software, and identifiable information will not be collected. Data will be stored on a password-protected Qualtrics account. The researcher will be the only person with access to that password-protected

data. Additionally, the data will only be accessed on a password-protected computer. The researcher will only be sharing the data in-person with her research advisor who will be assisting with analysis and calculations.

Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

Please do not reveal any information you have learned from participating in this study or from the survey questionnaire. Revealing learned information can adversely affect the efficacy of this study and can have other unanticipated consequences.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will you receive anything for being in this study?

You will receive research participation credit for participating in this study.

Will it cost you anything to be in this study?

It will not cost you anything to be in this study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study (including payments), complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

By clicking Continue and completing the survey, you agree to be a participant in this study.

Continue >>

Q3 What is your age? Please enter the number in digits below.

Q4 What is your gender?
- ❍ Male (1)
- ❍ Female (2)
- ❍ Prefer not to answer (3)
- ❍ Other- Please Specify (4) _____

Q5 What is your ethnicity? Please check all that apply.
- ❑ Caucasian (1)
- ❑ African-American (2)
- ❑ Asian/Pacific-Islander (3)
- ❑ Hispanic or Latino (4)
- ❑ Native American (5)
- ❑ Middle Eastern (6)
- ❑ Other- Please Specify (7) _____

Q6 What is your major in school? Please enter below.

Q7 What is your year in school?
- ❍ 1st year (1)
- ❍ 2nd year (2)
- ❍ 3rd year (3)
- ❍ 4th year (4)
- ❍ 5th year or higher (5)

Q8 What is your marital status?
- ❍ Single / Never Married (1)
- ❍ Married or Domestic Partnership (2)
- ❍ Widowed (3)
- ❍ Divorced (4)
- ❍ Separated (5)
- ❍ Prefer not to answer (6)

Q9 How would you describe your political views?
- ❍ Very conservative (1)
- ❍ Conservative (2)
- ❍ Moderate (3)
- ❍ Liberal (4)
- ❍ Very Liberal (5)

Q11 This past week, how often have you used the following forms of media?

	Never (1)	Once in the past week (2)	Twice in the past week (3)	Several times in the past week (4)	Almost every day in the past week (5)	Every day in the past week (6)
Entertainment Programs on Television (This includes via the Internet and providers such as Netflix) (1)	❍	❍	❍	❍	❍	❍
Television News (2)	❍	❍	❍	❍	❍	❍
Movies (This includes via the Internet and providers such as Netflix) (3)	❍	❍	❍	❍	❍	❍
Internet (Do NOT include movies or television shows) (4)	❍	❍	❍	❍	❍	❍

Q11 How many hours of movies or television shows (on TV, online, etc.) did you watch yesterday?
- ❍ Less than 1 hour (1)
- ❍ 1-3 hours (2)
- ❍ 3-5 hours (3)
- ❍ More than 5 hours (4)

Q12 Please rank these television genres 1-7 in order of how often you watch them, the 1 representing the genre you watch the most and 7 being the genre you watch the least.
_____ Drama (includes action, thriller, soap opera, crime, romance, war, mystery) (1)
_____ Comedy (includes situation comedy) (2)
_____ Documentary, Lifestyle & Infotainment (includes shopping, magazine show) (3)
_____ Sports (4)
_____ Animation & Children (includes cartoons, family) (5)
_____ News & Current Affairs (includes news, weather, finance) (6)
_____ Reality & Variety (includes talk show, music, game show) (7)
_____ Factual (includes arts and culture, biography, education, nature, science) (8)

Grey's Ana Please watch the following clip:

Hitch Please watch the following clip:

70s Show Please watch the following clip:

HorrBoss Please watch the following clip:

Fr & Geeks Please watch the following clip:

Control Please select Yes, and then click Continue.
❍ Yes (1)

Chef Please watch the following clip:
❍ I have watched the following clip. (1)

Q51 Have you ever seen this clip before?
❍ Yes (1)
❍ No (2)

If No Is Selected, Then Skip To I like the chefs who were featured in...

Q52 If yes, how much did you enjoy the clip (1- least, 5- most)?
❍ 1 (1)
❍ 2 (2)
❍ 3 (3)
❍ 4 (4)
❍ 5 (5)

Q53 If yes, how many times have you seen this specific clip?
- ❍ Once (1)
- ❍ 2-3 times (2)
- ❍ 4-5 times (3)
- ❍ 5 or more times (4)
- ❍ I have never seen this clip (5)

Q54 I like the chefs who were featured in this clip.
- ❍ Yes (1)
- ❍ No (2)
- ❍ I am not familiar with the chefs (3)

Q55 On a scale from 1-5, please describe the clip given the following list of adjectives:

	Not at All (1) (1)	Not Very (2) (2)	Neutral (3) (3)	Somewhat (4) (4)	Very (5) (5)
Funny (1)	❍	❍	❍	❍	❍
Sad (2)	❍	❍	❍	❍	❍
Annoying (3)	❍	❍	❍	❍	❍
Scary (4)	❍	❍	❍	❍	❍
Realistic (5)	❍	❍	❍	❍	❍
Disturbing (6)	❍	❍	❍	❍	❍
Uncomfortable (7)	❍	❍	❍	❍	❍
Serious (8)	❍	❍	❍	❍	❍
Amusing (9)	❍	❍	❍	❍	❍
Well-Written (10)	❍	❍	❍	❍	❍
Interesting (11)	❍	❍	❍	❍	❍

Q56 On a scale from 1-5, please describe the kids in the clip who have a food allergy given the following list of adjectives:

	Not at All (1) (1)	Not Very (2) (2)	Neutral (3) (3)	Somewhat (4) (4)	Very (5) (5)
Fashionable (1)	❍	❍	❍	❍	❍
Friendly (2)	❍	❍	❍	❍	❍
Happy (3)	❍	❍	❍	❍	❍
Blameless (4)	❍	❍	❍	❍	❍
Annoying (5)	❍	❍	❍	❍	❍
Awkward (6)	❍	❍	❍	❍	❍
Bossy (7)	❍	❍	❍	❍	❍
Attractive (8)	❍	❍	❍	❍	❍
Unreasonable (9)	❍	❍	❍	❍	❍
Humorous (10)	❍	❍	❍	❍	❍
Irrational (11)	❍	❍	❍	❍	❍
Excited (12)	❍	❍	❍	❍	❍
Irresponsible (13)	❍	❍	❍	❍	❍
Thoughtful (14)	❍	❍	❍	❍	❍
Neurotic (15)	❍	❍	❍	❍	❍
Kind (16)	❍	❍	❍	❍	❍
Famous (17)	❍	❍	❍	❍	❍
Popular (18)	❍	❍	❍	❍	❍
Smart (19)	❍	❍	❍	❍	❍
Dumb (20)	❍	❍	❍	❍	❍

Q23 The next part of this survey is about food allergies.Identify 5 of the top 8 food allergens in the United States:

- ❑ Peanuts (1)
- ❑ Chocolate (2)
- ❑ Tree Nuts (3)
- ❑ Wheat (4)
- ❑ Gluten (5)
- ❑ Sesame Seeds (6)
- ❑ Mustard Seeds (7)
- ❑ Soy (8)
- ❑ Red Meat (9)
- ❑ Fish (10)
- ❑ Sulfates (11)
- ❑ Strawberries (12)
- ❑ Shellfish (13)
- ❑ Milk (14)
- ❑ Eggs (15)

Q24 True or False:

	True (1)	False (2)
The rate of food allergies is increasing in the United States (1)	❍	❍
An allergic reaction is when the body considers food harmful (2)	❍	❍
Gluten intolerance is the same as a wheat allergy (3)	❍	❍
A food allergy can be fatal (4)	❍	❍
Hives often occur in an allergic reaction (5)	❍	❍
Swelling and trouble breathing can occur in an allergic reaction (6)	❍	❍
Stomach cramping can occur in an allergic reaction (7)	❍	❍
A sore throat and runny nose often occur in an allergic reaction (8)	❍	❍
An allergic reaction can occur from touching the allergenic food (9)	❍	❍
An allergic reaction can occur from consuming trace amounts of the allergen. For instance, a person who ordered French fries with a shellfish allergy can have an allergic reaction if shellfish were also fried in the same fryer (10)	❍	❍
A milk-allergic child can safely drink low-fat milk (11)	❍	❍
The common cause of a food allergy is acidic foods during pregnancy (12)	❍	❍
The common cause of a food allergy is overexposure to the allergen during childhood (13)	❍	❍

There is a cure for food allergies (14)	❍	❍
Daily shots/pills can be administered/taken to lessen the effects of allergenic foods (15)	❍	❍
Complete avoidance is currently the only way to manage food allergies (16)	❍	❍
Administering an EpiPen is dangerous for a patient in anaphylactic shock (17)	❍	❍
EpiPens should be administered in the heart to achieve maximal results (18)	❍	❍

Q25 If a person is having trouble breathing, an EpiPen should be administered:
- ❍ Immediately (1)
- ❍ After 5 minutes if condition doesn't improve (2)
- ❍ Until the person is hospitalized (3)
- ❍ Never (4)

Q26 If a person has hives, Benadryl should be used:
- ❍ Immediately (1)
- ❍ After 5 minutes if condition doesn't improve (2)
- ❍ Until the person is hospitalized (3)
- ❍ Never (4)

Q27 Answer on a scale from 1-5 (For example, with 1 being not severe at all, and 5 being very severe):

	Never (1) (1)	Rarely (2) (2)	Sometimes (3) (3)	Often (4) (4)	All of the Time (5) (5)
Food allergies can be severe (1)	❍	❍	❍	❍	❍
People with food allergies tend to overreact (2)	❍	❍	❍	❍	❍
If a person has a food allergy, it is almost always their fault (3)	❍	❍	❍	❍	❍
People with food allergies should eat at restaurants often (4)	❍	❍	❍	❍	❍
People with food allergies are reserved (5)	❍	❍	❍	❍	❍
People with food allergies should avoid situations where there might a risk, ex. public schools, airplane flights, restaurants (6)	❍	❍	❍	❍	❍
I would be angry if I could not bring a PB&J to school (7)	❍	❍	❍	❍	❍
People should be more	❍	❍	❍	❍	❍

careful to accommodate those with allergies (8)					
People with food allergies are energetic (9)	❍	❍	❍	❍	❍
People with food allergies are funny (10)	❍	❍	❍	❍	❍
People with food allergies are mean (11)	❍	❍	❍	❍	❍
People with food allergies are careful (12)	❍	❍	❍	❍	❍
People with food allergies are outgoing (13)	❍	❍	❍	❍	❍
People with food allergies are kind (14)	❍	❍	❍	❍	❍
People with food allergies are annoying (15)	❍	❍	❍	❍	❍
People with food allergies are unappreciative (16)	❍	❍	❍	❍	❍

Q29 Do you have a food allergy?

❍ Yes (If so, what is the allergy?) (1) _____

❍ No (2)

Q30 Do you know someone with a food allergy?
- ❍ Yes (If so, what is the allergy?) (1) _____
- ❍ No (2)

Q31 Have you ever seen someone have an allergic reaction?
- ❍ Yes (If so, please describe it.) (1) _____
- ❍ No (2)

Q32 Do you have a medical condition?
- ❍ Yes (If so, please specify) (1) _____
- ❍ No (2)
- ❍ Prefer Not to Specifiy (3)

Q33 Have you ever seen an EpiPen?
- ❍ Yes (1)
- ❍ No (2)

Q34 Are you familiar with using an EpiPen?
- ❍ Yes (1)
- ❍ No (2)

Q35 Have you ever used an EpiPen?
- ❍ Yes (If yes, please describe.) (1) _____
- ❍ No (2)

Q15 Have you ever seen this clip before?
- ❍ Yes (1)
- ❍ No (2)

Q15 If yes, how much did you enjoy the clip (1- least, 5- most)?
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)

Q16 If yes, how many times have you seen this specific clip?

- ❍ Once (1)
- ❍ 2-3 times (2)
- ❍ 4-5 times (3)
- ❍ 5 or more times (4)
- ❍ I have never seen this clip (5)

Q17 I like the actor who showed signs of a food allergy in this clip

- ❍ Yes (1)
- ❍ No (2)
- ❍ I am not familiar with the actor (3)

Q19 On a scale from 1-5, please describe the clip given the following list of adjectives:

	Not at All (1) (1)	Not Very (2) (2)	Neutral (3) (3)	Somewhat (4) (4)	Very (5) (5)
Funny (1)	❍	❍	❍	❍	❍
Sad (2)	❍	❍	❍	❍	❍
Annoying (3)	❍	❍	❍	❍	❍
Scary (4)	❍	❍	❍	❍	❍
Realistic (5)	❍	❍	❍	❍	❍
Disturbing (6)	❍	❍	❍	❍	❍
Uncomfortable (7)	❍	❍	❍	❍	❍
Serious (8)	❍	❍	❍	❍	❍
Amusing (9)	❍	❍	❍	❍	❍
Well-Written (10)	❍	❍	❍	❍	❍
Interesting (11)	❍	❍	❍	❍	❍

Q21 On a scale from 1-5, please describe the character showing signs of a food allergy given the following list of adjectives:

	Not at All (1) (1)	Not Very (2) (2)	Neutral (3) (3)	Somewhat (4) (4)	Very (5) (5)
Fashionable (1)	❍	❍	❍	❍	❍
Friendly (2)	❍	❍	❍	❍	❍
Happy (3)	❍	❍	❍	❍	❍
Blameless (4)	❍	❍	❍	❍	❍
Annoying (5)	❍	❍	❍	❍	❍
Awkward (6)	❍	❍	❍	❍	❍
Bossy (7)	❍	❍	❍	❍	❍
Attractive (8)	❍	❍	❍	❍	❍
Unreasonable (9)	❍	❍	❍	❍	❍
Humorous (10)	❍	❍	❍	❍	❍
Irrational (11)	❍	❍	❍	❍	❍
Excited (12)	❍	❍	❍	❍	❍
Irresponsible (13)	❍	❍	❍	❍	❍
Thoughtful (14)	❍	❍	❍	❍	❍
Neurotic (15)	❍	❍	❍	❍	❍
Kind (16)	❍	❍	❍	❍	❍
Famous (17)	❍	❍	❍	❍	❍
Popular (18)	❍	❍	❍	❍	❍
Smart (19)	❍	❍	❍	❍	❍
Dumb (20)	❍	❍	❍	❍	❍

APPENDIX C

RECRUITMENT AD FOR PARTICIPANT POOL

Title: The Viewing and Interpretation of Entertainment Media Content

Description: We are conducting a research study about how people view and interpret entertainment media content. We will set you up in Rm xxx, Carroll Hall, with a computer program and headphones. Please bring headphones if you'd prefer to use your own — we will have a few extras. Depending on which condition you've been randomly assigned to, you will view a particular video clip. After you've finished viewing the clip, you'll answer a series of questions. Questions range from media use to questions about the characters you will see. The total duration of this session is expected to take no more than an hour

Location: Carroll Hall Rm xxx

Duration: 1 hr

Research Credit: 1 credit

APPENDIX D

DEBRIEFING FORM

The Framing of Food Allergies in Entertainment Media: Does the Use of Humor Influence Health Thoughts and Behaviors?

INFORMATION SHEET FOR IRB STUDY #: 14-3004
ORIGINATING FROM: School of Journalism & Mass Communication

Principal Investigator: Chloe Opper

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Thank you for participating in this session. We'd like to share some information about the research design and questions we were seeking to answer.

- Research begins with a compelling question. In this session, we wanted to learn
  - Whether or not subjects exposed to humorous portrayals of food allergies in entertainment media affect their health thoughts and behaviors.
  - If general knowledge about food allergies was related to how people characterized those with food allergies.

- Next, a research design is created to tackle the research question.
  - First, we asked you watch a video stimulus about food allergies: a humorous portrayal, a serious portrayal, or an educational commercial (If you were randomly selected to be in the control group, you were immediately directed to the questions).
  - Second, we asked you to complete a series of questions, ranging from characterizing those with food allergies to questions to assess your general knowledge about food allergies.
  - Although the clips you have seen are mainstream entertainment clips, you were not informed that these clips were about food allergies. The purpose of this was to make sure you answered the first few sets of questions with a "clean slate" and did not answer knowing that we were looking at how people think about food allergies, specifically.
  - Later, we'll enter everyone's responses into a computer and will see whatever our research questions guide us to see.

In order to make sure everyone's responses are not biased by outside influences, **please do not speak with anyone about the study**. It is very important that others who may participate in the next couple of weeks *not* know the purpose of this study beforehand.

If you would like to learn more about this topic, you may be interested in reading the following:

Bollinger, M., Dahlquist, L., Mudd, K., Sonntag, C., Dillinger, L., & McKenna, K. (2006). The Impact Of Food Allergy On The Daily Activities Of Children And Their Families. *Annals of Allergy, Asthma & Immunology,*415-421.

Moyer-Gusé, E. (2008). Toward A Theory Of Entertainment Persuasion: Explaining The Persuasive Effects Of Entertainment-Education Messages. *Communication Theory,* 407-425.

Thank you for your participation! We appreciate your help!