Persuading the General Public to Engage in Altruistic Behaviors: The Use of Exemplars and Injustice Salience in Appeals Regarding Food Allergies and Type One Diabetes

Dissertation

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Abstract

The purpose of the study was to examine message characteristics that are more likely to increase altruistic behaviors through cognitive and cognitive-affective mechanisms including state empathy, emotions, and identification with the beneficiaries of the behavior. Message characteristics of interest were the use of an exemplar and the salience of injustice. Thus, messages resembling social media posts were crafted which either did or did not contain an exemplar of an individual afflicted with food allergies or type one diabetes and that either did or did not make salient four types of injustice such persons may face. The results were the same for both those who were exposed to social media posts about food allergies or type one diabetes. The inclusion of injustice salience did, as expected, increase feelings of anger and aggravation, but did not increase feelings of empathy or identification. The inclusion of an exemplar did, as expected, increase feelings of sadness and concern as well as empathy and identification. These increased feelings of empathy and identification lead to stronger intentions to support policies advocating for children with food allergies or type one diabetes as well as a behavioral measure in which participants allocated money to charities in support of these conditions. Thus while the use of salient justice had mixed results, the inclusion of an exemplar strengthened the appeals for both behavioral intentions and a measure of actual behavior.

Dedication

This dissertation is dedicated to my daughter Iris who continues to be the inspiration for everything that I do.

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Fields of Study

Major Field: Communication

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Chapter 1: Literature Review

Introduction

Altruism is an important contributor to the overall success of a community, including in the context of health. Some examples of altruistic behaviors that benefit a community as a whole include donations, such as blood donation, organ donation, registration on bone marrow donation sites, and monetary contributions to charitable causes. Policy support is another example of altruism that benefits a community. For example, policies that improve disability accessibility, refugee support, and support for victims of violence or illness are policies that protect the most vulnerable members of society at some slight cost or inconvenience to the majority of citizens. There are also direct altruistic behaviors that people can engage in, such as volunteering their time for a soup kitchen or hospital, utilizing public transportation (in lieu of personal motor vehicles) to improve air quality (which is helpful for those with breathing conditions such as asthma), and even behaviors as simple as covering one's cough or active hand washing to reduce the spread of germs to others.

However, much remains to be learned about how to persuade the general public to be more altruistic, particularly because such behaviors are directed toward unknown others and come at a cost to the target of the persuasion. Narratives, including mass media narratives, can help increase the likelihood of a person engaging in altruism (e.g. Chen & Lin, 2014), yet little is known about what narrative characteristics are related to

greater or lesser persuasive influence on altruism. Therefore, the current research attempts to provide insight into factors that can increase persuasive influences on altruism, in a health context, via mediated messages.

One such factor for narrative media is the use of exemplars, which, in a health context, generally take the form of a person/model acting as an example of someone who is afflicted with the health condition.

Much previous work has focused on eliciting altruistic feelings via identification with the beneficiary, or exemplar, of the altruistic behavior. Identification is a mechanism through which audience members experience reception and interpretation of the text from the inside, as if the events were happening to them (Cohen, 2001). A very common way to increase identification is by using models in health campaigns that are the same ethnicity as the target audience (e.g. Torres & Briggs, 2007). This technique is very effective, particularly among nonwhite consumers who are high ethnic identifiers (Appiah, 2001).

However, some unintended negative consequences can occur when identification with an exemplar is manipulated based on superficial characteristics such as physical similarity. For example, if there was an anti-domestic violence campaign, they may use a white model to increase the audience's feelings of identification with the model. This could be effective for their target audience. However, it could also backfire when the message is viewed by non-white viewers. These non-white viewers might feel that the ad

is not relevant to them. Alternatively, the white viewers may feel more compelled to help a white victim than a non-white victim if strong attitudes toward group membership are made more salient from ad exposure and thus non-whites being seen as more of an outgroup (outgroups as defined by Tajfel & Turner, 1979). Since people are less likely to want to help others who they consider members of an out-group (Tarrant, Dazeley, & Cottom, 2009), this could in turn result in participants being less willing to help others.

However, the use of eliciting feelings of fairness (or social or procedural justice) through an exemplar has the potential to increase willingness to engage in altruism without alienating other groups of people. For example, a strong manipulation of a sense of justice, particularly for participants who are high in trait social responsibility (Berkowitz & Lutterman, 1968), may cause viewers to identify strongly with campaign models regardless of whether they share a superficial characteristic such as physical appearance or geographic location.

It is possible that these feelings of fairness, created or made salient by the use of mass media, will persuade the general public to engage in behavior that is altruistic, particularly behavior that improves the health and well-being of unknown others. This altruism is hereafter referred to as altruistic prosocial behaviors (APBs). Some examples of these types of behavior include donations, such as blood donation, organ donation, registration on bone marrow donation sites, and monetary contributions to charitable causes. Policy support is another example of APB, including policies that improve

disability accessibility, refugee support, and support for victims of violence or illness. Direct behaviors, such as volunteering, are also important APBs.

Thus, the purpose of the study is to examine message characteristics that are more likely to increase altruistic behaviors through cognitive and cognitive-affective mechanisms such as state empathy, emotions, and identification with the beneficiaries (or exemplar) of the behavior. Message characteristics of interest are those that increase identification with the beneficiaries of the altruistic behavior and make salient social and procedural injustices. The focus on social and procedural justice derives primarily from environmental communication literature and is being adapted to health context; one of the intended contributions of this research is to encourage greater attention to perceived justice and injustice as a factor in health communication messages.

In this case, the beneficiaries are elementary aged children with food allergies and type 1 diabetes (two health issues that require food restriction, yet are "invisible" in that you can't tell a person has these health issues by looking at them). The altruistic behaviors we seek to promote include willingness to bring non-food treats for school parties (and restrict food treats to help avoid accidental exposure), and willingness to help the school provide emergency medication for children.

The first message characteristic studied here is a manipulation of perceived justice (Rahim, Magner, & Shapiro, 2000). For example, looking at children with food allergies, there will be a version of a persuasive appeal that makes salient the fact that children do

not chose to have food allergies and the cause of food allergies unknown; thus their health condition is not fair. This sort of injustice is based on bad luck (i.e., situational justice). However, there are other types of perceived justice, and including these as well can help make the message manipulation stronger. These include manipulations of distributive justice (perceived fairness of decision outcomes; Adams, 1965), procedural justice (perceived fairness of procedures by which outcomes are established; (Colquitt, 2001), and interactional justice (perceived fairness regarding social sensitivity and interpersonal treatment; Bies and Moag in 1986). Informational justice (Greenberg, 1993), which describes the accuracy and quality of explanations individuals receive about procedures, seems less relevant to the current study.

The second message characteristic of interest is a manipulation of the image and narrative elements (specifically the use of an exemplar, as opposed to a longer narrative, which is less common on social media platforms). The purpose of examining this particular narrative element is to attempt to increase identification (Cohen, 2001) and empathy for people with food allergies or type 1 Diabetes. To increase the strength of the message manipulation, not only will the image differ (human or nonhuman), but the wording of the message will be altered to either include or not include an exemplar (written in the third person about a young boy named James).

Although this study examines altruism in a health context, the results should be relevant to other communication subfields such as environmental and political

communication. For example, similar messages may be created to increase altruistic behaviors such as policy support and direct aid to refugees or pro-environmental organizations, contributing to theoretical knowledge of how message characteristics influence the adoption of altruistic behaviors through cognitive and cognitive-affective mechanisms. Crossing the two main factors (exemplar elements and injustice salience) is particularly important because exemplars may make injustice appeals more effective.

Concepts

There are several concepts related to the current study that warrant explication. First there is the dependent variable of interest, altruism. The independent variables of interest are fairness/justice and the inclusion of an exemplar, both of which will be examined separately and in tandem. It is possible that fairness and the use of an exemplar can motivate people to behave altruistically indirectly through mediators such as empathy (which will be examined both as a state and a trait), oneness (a concept closely related to empathy), discrete emotions (including empathetic anger in addition to anger, sadness, fear), and identification and liking of the exemplar.

Altruism

Altruism is generally thought of as a sacrifice of the self (e.g. sacrifice of money, time, convenience, or any resources that are of use to an individual) for the sake of others. In terms of persuasion via mass media, the "self" would be the audience, the people who are viewing the persuasive message. Commonly in health persuasion, the

sacrifice that they are making could be monetary, such as donating money to charitable organizations. Or the sacrifice could be through other means such as donating time, blood, bone marrow, going out of their way to vote for policies that help other people, or inconveniencing themselves by doing something such as avoiding bringing peanut products to a classroom with a child who has a peanut allergy.

Previous work has defined an act as being altruistic or not based on the motivations for the behavior as opposed to the characteristics of the behavior itself (e.g. Batson, 1987).

These positive feelings that often accompany an act of good will have been referred to as "warm glow" (Andreoni, 1990; Ferguson, Atsma, de Kort, & Veldhuizen, 2012). Warm glow may come in the form of positive affect, a sense of personal worth, or avoidance of negative emotions such as guilt. Defining warm glow itself depends on who benefits from the behavior. For example, if someone feels satisfaction from engaging in a behavior that benefits themself, that is just called "satisfaction". However, if someone engages in a behavior that emotionally benefits both the donor and the recipient, that is "warm glow" (Ferguson, Taylor, Keatley, Flynn, & Lawrence, 2012).

Thus, it seems that we cannot avoid examining the issue of who benefits from the behavior in our definition of altruistic behavior. In fact, this should be the centerpiece of what defines altruistic behavior, as opposed to the motivations to engage in the behavior. Additionally, defining altruism via who direct benefits from the behavior (as opposed to the motivation for the behavior) is a cleaner method, particularly for the study of health

campaigns given that satisfaction or warm glow is likely to always be present in acts of kindness. Thus, altruism, as defined here, is to act or be willing to act in a way that benefits others, even at some cost in terms of money, time, or convenience, without receiving direct resource benefits (time, convenience, money) in return.

Others forms of positive affect may also accompany acts of kindness, such as rewards for engaging in a behavior (e.g. public recognition). Because the goal of this line of research is to increase the persuasive influence on behaviors that benefit others, as opposed to behaviors that benefit the target individual, it makes more sense to include these types of rewards as potential mediators and moderators instead of using their absence to define altruism. Krebs & Vanhesteren (1994) state that although *behaviors* that produce positive consequences for others are considered altruistic by some psychologists (such as Rushton & Sorrentino, 1981), *people* cannot be considered altruistic unless we examine their motivations. In this line of research, it is the behaviors that I would like to define as altruistic, and not the people engaged in the behaviors. Therefore, I will define altruism as a behavior that benefits the health and wellbeing of others, regardless of the motivation for the behavior. However, it is important to examine the motivation to better understand how to increase altruistic behavior.

Altruism, as previously defined, seems to be hard wired into us, as a means of looking after our group (Henrich, 2006). This may involve sacrificing benefits to ourselves for the good of the group. Therefore, it is likely that characteristics that

enhance feelings of group membership with potential beneficiaries of altruistic behavior will be key in eliciting altruism.

Altruistic appeals are likely to result in certain cognitive/cognitive affective responses that I'd like to examine as possible mediators between message characteristics and the persuasive influence on APBs and PSBs, mainly due to their likelihood to increase these feelings of group membership. These include responses we wish to prime (e.g. values, oneness, and empathy), increase (e.g. thought confidence and thought elaboration), utilize (e.g. identification with beneficiaries of the behavior and transportation into a narrative), and reduce (e. g. counterarguing, reactance). Empathy is perhaps the most obvious concept to examine in terms of altruism.

APBs are prosocial because they benefit the health and well-being of others, but they are also altruistic because there is no direct benefit to the health and well-being of the person engaged in the behavior. For example, engaging in energy conservation, such as reusing towels and taking shorter showers, may not improve the environment immediately such that the person engaged in the behavior will personally benefit from it. However, the environmental benefits accumulate over years to improve the health and well-being of the planet (and its inhabitants) in the future. Another example is organ donation. While a person may feel happy about their decision to become an organ donor, and therefore receive some benefits from the happiness they feel, there is no direct benefit of being an organ donor to one's own health and well-being.

These various APBs range in the level of inconvenience or cost to the individual engaged in the behavior, with behaviors such as utilizing public transportation perhaps being considered more inconvenient than covering one's cough. However, each of these behaviors does come at some cost to the person engaged in the behavior with no direct benefit to their own personal health and wellbeing.

Altruism has been examined in a variety of contexts including the following.

Blood Donation

Surprisingly little research has been conducted on blood donation appeals in the social sciences. A search in ISI Web of Knowledge using the key words "blood donation" yielded only five papers from the communication field and only about 40 from psychology. Of the results that did come up, about half were actually about organ donation and not blood donation. However, little though there is, relevant work has been done in this area though.

In Ferguson, Farrell, and Lawrence's 2008 article, they examined blood donation appeals that varied in whether they focused on egoistic (benefits for the donor), altruistic (benefits for the recipient) and benevolent (benefits for both the donor and the recipient) messages. Their main findings were that egoistic, rather than altruistic, beliefs predicted actual blood donation. Particularly, it was the idea that donating blood would make more blood available for ones' self should it be needed that elicited the highest intention to donate.

Hupfer (2006) also found that for blood donation campaigns, an appeal to self-interest (making blood available for themselves if required) was more successful than a more altruistic appeal for undergraduate students who were moderate in self-referencing (mental processing which links information to the self-concept). Given that these results are similar to the Ferguson, Farrell, and Lawrence results, this seems to be an important area for further study. A reasonable next step would be to examine how egoistic motivation may influence the success of blood donation appeals.

In their 2013 article, Conner, Godin, Sheeran, & Germain examined whether cognitive attitudes, affective attitudes, anticipated negative affective reactions, or anticipated positive affective reactions were more strongly related to actual blood donation. The results indicated that of the four different attitude measures, anticipated negative affective reactions were most closely related to both intentions to donate blood and actual blood donation. As consistent with the Theory of Planned Behavior (Ajzen, 1991), perceived behavioral control, cognitive attitudes, and subjective norms were significant predictors of intentions. However, only perceived behavioral control was a significant predictor of actual blood donation; cognitive attitudes and subjective norms were no longer significant.

Organ Donation

Much more work has been done in the domain of organ donation than blood donation in the communication field. Here, a search for the term "organ donation" lead

to 85 papers from Communication journals alone. These include content analysis (e.g. Feeley, O'Mally, & Covert, 2016) as well as experimental studies. From the communication field, one article examines willingness to donate organs in terms of Latane and Darley's (1970) bystander effect. They found support for the notion that non-donors tend to fail to follow the steps of noticing the event, interpreting the event as an emergency, accepting responsibility, and knowledge of how to help others (Anker & Feeley, 2011).

Another study examined negative affective attitudes as barriers to registration as organ donors. Such negative affect includes simply being revolted or disturbed by the idea of putting organs from one person into another. However, in this study, an anticipated regret manipulation significantly increased organ donation rates (O'Carroll, R. E., Foster, C, McGeechan, G., Sandford, K., & Ferguson, E., 2011).

Quick, Anker, Feeley, and Morgan (2016) provided evidence that both the bystander model and the organ donor model accounted for considerable variance in organ donation. With the organ donor model, they examined non-cognitive factors (such as disgust at the thought of transplanting organs of a dead person into a living person's body, superstition that registration will bring on an earlier death, and medical mistrust). However, even though both of these models accounted for considerable variance in organ donation behavior, neither of these models accounted for as much variance as vested

interest theory. The vested interest theory predicts that individuals who are more vested in an issue will demonstrate greater consistency between their attitudes and behaviors.

Bone Marrow Donation

Bone marrow donation seems to be the least studied of all the bodily donation domains falling into the category of APBs. A search for "bone marrow registration" lead to not a single article in either the communication or psychology fields. However, one recent study (Lee-Won, Abo, Na & White, 2016) had some interesting theoretical implications. Exposure to high virality metrics (the number of times a blog was shared on facebook and twitter) resulted in greater perceived injunctive norms, particularly among those who perceived relatively low levels of threat caused by blood cancers. Furthermore, the results indicated that high virality metrics led to greater intention to join a bone marrow registry *through* perceived injunctive norms only among those relatively low in perceived threat.

Public Policy Support

Policy support for APBs also has promise for future research. Few studies have examined policy support from an altruistic point of view. However, previous work has shown that empathy can play a role in policy support for prosocial issues such as helping victims of natural disaster or distressed others (e.g. Johnson, et. al., 2009; McCue & Gopian, 2000). Message manipulations can also have an indirect effect on policy support through empathy and cognitive dissonance (Abo, Slater, & Jain, 2016; Abo & Slater, in

preparation; Slater, Abo, & Goodall, in preparation). Discreet emotions also appear to be influential on policy support (e.g. Goodall, Slater, & Myers, 2013), as does risk judgment and issue concern (Slater, Lawrence, & Comello, 2009).

Environmental Communication

Environmental Communication is relevant to the study of altruism in a health context because the behaviors advocated in such appeals are similar. For example, behaviors that are promoted are often a lack of action instead of an action. In a health context, we may ask parents of elementary aged children not to bring peanuts to school in order to reduce exposure for children who are allergic to peanuts. In an environmental context, we may ask people not to litter. In both cases, we are asking people to *avoid* doing something rather than to do something (such as the case for blood donation, monetary donation, covering ones' cough, etc…)

Appeals for environmentally friendly behavior, similar to appeals for altruistic health behavior, also tend to involve asking the audience to engage in behavior that is inconvenient. For example, asking parents to avoid packing nuts in their childs' lunches in order to reduce the amount of nut protein in an elementary school (and thus reduce the risk of allergic reactions) is arguably inconvenient. Similarly, asking hotel guests to reuse their towels is an inconvenience. Goldstein, Cialdini, and Griskevicius studied just this topic (2008) when they found that appeals asking guests to reuse towels were more

successful when they included descriptive norms than when they focused solely on environmental protection.

Biospheric altruism can also be compared to altruism in a health context. Biospheric altruism (or biospheric value orientations) are values emphasizing the biosphere (the sum of all ecosystems) and the environment in general (Stern, Dietz, & Kalof, 1993), independent of humanistic benefits. Defining biospheric altruism in terms of how it is measured, previous research (e.g. Schultz & Zelezny, 1998) indicates that biospheric altruism tends to be predicted positively by tendencies toward acting for the benefit of others and tendencies toward being open minded, two of the value dimensions in Schwartz's (1994) instrument of universal values (although Schultz and Zelezny do mention that some proenvironalmental behaviors may be positively predicted by self-interest when behaviors can lead to personal gain, such as receiving money for recycling). Thus, being open-minded and self-less is likely an important aspect of biospheric altruism.

Biospheric altruism has been distinguished from egoistic (self-oriented) and altruistic (also referred to as humanistic altruism or social altruism) value orientations via confirmatory factor analysis (e. g. de Groot & Steg, 2007), yet the distinction isn't always clear cut. For example, Dietz, Fitzgerald, and Shwom (2005) discuss two studies in which biospheric altruism and humanistic altruism loaded onto the same factor

(indicating that people were treating them as one overarching altruism), but argue that "most studies do find this distinction" (p 358).

This concept is similar to humanistic altruism in that environmental behaviors and health behaviors are often connected to each other. For example, littering can cause health problems by increasing water pollution, fire hazards, traffic accidents, and pest infestations (Geller, Winett, & Everett, 1982). In addition, altruism in general involves a conflict between benefits for the self and long-term collective interests (Stern, 2000), which is arguably also the case for biospheric altruism. Dietz (2013) also brings up a good point that shows a similarity between biospheric and social altruism in that with biospheric altruism we must decide the degree to which we weigh the more distant future relative to the near term, which I would argue is similar to weighing the pros versus consequences of social altruism.

However, although the concepts have a good deal of overlap, the two are conceptually different. Evidence for this distinction can be found by several different methods, such as examining actual behavior, behavioral intentions, and behavioral beliefs. For example, when looking at the determinants of pro-environmental behavior, Stern, Dietz, Kalof, and Guagnano (1995) found that while biospheric values had a significant positive relationship with pro-environmental behavior, neither egoistic nor social altruistic values did.

Independent Variables

The mediating factors described in Chapter 2 are likely to be influenced by several independent variables such as perceived fairness and the use of an exemplar.

Fairness/Justice

Fairness, or a sense of justice, is an important variable to examine in the context of prosocial behavior (Besley, 2009). There are different types of fairness/justice. For example, bad luck (i.e., situational justice) is particularly relevant in the area of health communication because it is generally an unfair sort of bad luck that results in a person developing a health issue such as food allergy or type one diabetes.

However, to make the message manipulation stronger and consistent with a broad conceptualization of justice, this study will also include in its manipulation of justice elements of distributive justice (perceived fairness of decision outcomes; Adams in 1965), procedural justice (perceived fairness of procedures by which outcomes are established; Colquitt in 2001), and interpersonal justice (perceived fairness regarding social sensitivity and interpersonal treatment; Bies and Moag in 1986). Informational justice (Greenberg, 1993), a more recent concept, is also relevant in this context. This type of justice involves the evaluation that authorities have provided adequate information needed to make a decision (Besley, 2009). In this study, the goal is not to isolate the effects of the different types of injustice. Instead, the goal is to conceptualize these as being various possible dimensions of injustice, and include as many dimensions as is possible in this initial attempt to manipulate perceived injustice in a health context.

Situational Justice: This concept is similar to the concept of distributive justice. Distributive justice is the perceived fairness of decision outcomes (Adams, 1965) and a perception of fair distribution of risks and benefits (Besley, 2009). The similarity between what we are calling "situational justice" and distributive justice is that the burden of having a health-related food restriction (such as type 1 diabetes or food allergies) is not evenly distributed throughout the population. Some people will develop the health problem, and others won't. However, this is different in a health context because it involves the burden of getting the health condition. There was no person or group of people who decided who would and who wouldn't suffer from an ailment that is health related, such as food allergies or diabetes. Having no one to blame for the problem except for luck of the draw seems to make this type of fairness qualitatively different than the original concept of distributive justice.

Interpersonal Justice. This type of justice can be defined in regard to fairness in treatment from peers or other social actors. It involves a sense that the decision maker is unbiased, truthful, and respectful (Besley, 2009). Bullying is an intentional violation of interpersonal justice and relevant in elementary schools, the context of interest to the current study.

Decisional/Procedural justice. In this case, it is perceived fairness of procedures by which outcomes are established that determine if an action is fair or unfair.

A fair situation would be one in which everyone had a fair voice in the decision making process (Besley, 2009).

Informational Justice. This type of justice describes the accuracy and quality of explanations individuals receive about procedures. In the case of food allergies and diabetes, it can be represented by a lack of information being sought by those who are not afflicted with the food restrictions.

These different types of justice can intermix in health. For example, when something is both unfair (because an individual developed a health issue beyond their control) and there is procedural injustice in the societal reaction to it. Because this type of intermixing can be common, the stimuli examined in the current study will utilize each of the types of justice described above.

In addition to intermixing, there is also an issue of balancing fairness to everyone. For example, when personal fairness and group fairness are in conflict, one may override the other. In the case of food allergies, for example, is it fair to ask a parent of a child who doesn't have peanut allergies to avoid packing peanuts in their child's lunch in order to help keep other children safe?

In order for a viewer to feel that a situation is unfair, some prerequisites for fairness likely need to be met. These might include social responsibility, norms, perceived threat, agency/blame, and reactance.

It is possible that perceptions of these types of injustice may increase the desire to engage in altruism. For example, the amount of protection or care that a person needs may play a role in how much empathy is felt toward them (de Vignemont & Singer, 2006). Additionally, perceptions of injustice may increase altruism independent of empathy. As an example, de Vignemont and Singer describe a hypothetical situation in which a political prisoner is being help under a dictatorship. Someone might want to help this prisoner escape, not because they feel empathy for the prisoner, but because they oppose the government and have strong feelings about justice.

Narrative/Exemplar Elements

Narrative-exemplar elements as related to empathy and emotions: When a health campaign has an exemplar featured in the ad, this can increase empathy and emotions for the exemplar, and it may generalize to other people who have the same health condition. When a health campaign has an exemplar featured in the ad, this can increase the level of identification the viewer feels with the model in the campaign, and this could generalize to other people who have the same health condition. The rationale for this argument is detailed below, as it is integrally involved with the mediators examined in this study.

Mediators

The influence of persuasive messages on altruistic behavior is likely to depend on several mediating factors. These include empathy/oneness, discrete emotions, and identification with the beneficiaries of altruistic behavior.

Empathy

Hoffman (1975) was one of the first to propose that empathy is the basis for altruistic motivation (motivation to help others as opposed to any egoistic, self-serving motivations). Batson and Coke (1981) later proposed the Empathy-Altruism Hypothesis, stating that empathic concerns can evoke motivation directed toward the ultimate goal of reducing the other's need. Indeed, research suggests that people help others more when they reporting feeling empathy for them (de Vignemont & Singer, 2006).

Other previous work has shown that empathy can play a role in policy support for prosocial issues. For example, Johnson et al (2009) found that empathy mediated the relationship between stereotype primes (images of Black people looting after Hurricane Katrina) and support for public policy regarding victims of a natural disaster. This indicates that empathy can mediate the effects a message has on APBs.

But what is empathy? Batson (1981) recognized that altruistic behaviors can have egoistic benefits (e.g. pride), but argues that these are simply consequences of the behavior and not motivation to engage in the behavior; the motivation is empathy. He found that one factor leading to increased altruism was the decrease of personal distress. However, he also found support for the premise that empathy has a stronger role in

altruism than egoistic concerns, such as praise, honor and reduced guilt and shame (Batson, Dyck, Brandt, Batson, Powell, McMaster, & Griffitt, 1988). However, some would argue that reduced personal distress/guilt/shame is a component of empathy, not it's antithesis. For example, Davis (1983) has a subscale for his empathy measure which examines personal distress when exposed to another person's distress (as discussed below).

In previous studies, empathy has been supported as a mediator, a mediator that measures empathy as a state rather than a trait variable (e.g. Abo, Slater, and Goodall, in preparation). Empathy is often measured with Davis's 1983 Interpersonal Reactivity Index (IRI). It's a 28-item, self-rating survey that consists of four subscales. The subscales include perspective taking, the tendency to put oneself into entertainment narratives, empathetic concern (willingness to feel compassion and concern for other people), and personal distress regarding the distress of others. Although the IRI was designed and mostly used to measure trait empathy, it has been successfully altered to measure state empathy as well (Abo & Slater, in preparation). For example, the item "I can easily put myself in the place of characters" can be modified to "I could easily put myself in the place of someone hurt by a driver under the influence of alcohol". This was one of the main findings in the Abo & Slater study.

After altering the IRI to measure state empathy, Abo, Slater, and Goodall (in preparation) found evidence that empathy mediates the effect of news stories on support

for alcohol control policy. The study examined the mention of alcohol as a causal factor in newspaper articles regarding crimes and accidents. Participants who read versions of the newspaper articles that mentioned alcohol as a causal factor reported stronger anger and disgust responses to the articles, as well as higher self-report of trait empathy (suggesting that the measure was to some degree sensitive to state as primed by the news stories as well as assessing trait empathy). These feelings of anger and disgust and trait empathy in turn predicted stronger support for alcohol control policies.

We extended that research in a follow up study (in preparation) by examining empathy as a mechanism for explaining the effects of other-harm vs harm to self as threats in drinking and driving PSAs. We also examined the concept and operations for empathy more closely, by examining the locus of empathy in response to the message. It was found that empathy for the victims of drunk drivers, but not empathy for drunk drivers, mediated the effect of the PSAs on alcohol control policy support.

Additional previous work has also shown that empathy can be an important variable influencing altruistic motivation (e.g. Batson, Duncan, Ackerman, Buckley, & Birch, 1981). For example, Johnson et al (2009) found that empathy mediated the relationship between stereotype primes and support for public policy regarding victims of a natural disaster. In addition, Gault and Sabini (2000) found empathy to be a mediator between gender and policy support for distressed others in society. These studies support the notion that empathy is an important variable for prosocial behaviors. It can be

important to study empathy both as a general trait and as a victim-specific state as the two states of empathy can differ in terms of how an individual treats others. For example, Brown, Harkins, and Beech (2012) found that when sexual offenders were treated in prison, increases in victim-specific empathy scores were associated with lower rates of sexual recidivism. However, aside from the Personal Distress Scale on the IRI, none of the general empathy scores were associated with recidivism rates. In addition, treatment had a larger impact on victim-specific state empathy than it did on general trait empathy, perhaps indicating that state empathy can be more easily manipulated.

In addition, it's possible that increases in specific state empathy may in turn lead to increase more general empathy. For example, Batson and colleagues (1997) found that when participants felt more empathy for a member of a stigmatized group, their attitude toward the group as a whole improved. They found similar results across different stigmatized groups, including people with AIDS, homelessness, and even violent criminals as a very stigmatized group. When the group was highly stigmatized, the improved attitudes toward the group as a whole was not strong immediately, but improved 1-2 weeks posttest (Batson et al., 1997).

H1: Empathy will act as a mediator between messages that make injustice salient and altruistic behaviors.

Additionally, exemplars should also increase altruistic behaviors as altruism is more likely to be evoked when a specific person can be visualized or imagined. This is

because altruism is hard wired into us, as a means of looking after our group (Henrich, 2006). Therefore, it is likely that characteristics that enhance feelings of group membership will be key in eliciting altruism.

H2: Empathy will act as a mediator between messages that include an exemplar and altruistic behaviors.

Identification and Liking

Participants who feel empathy for an exemplar are more likely to identify with and like the exemplar of the health message, and this empathy may in turn result in improved opinions of the group the exemplar represents as a whole (Batson, et. al., 1997). Empathy, as defined and measured in the IRI, even includes a perspective-taking element. Indeed, this dimension of the IRI particularly addresses the ability to identify with people seen in the media (Davis, 1983).

Identification, even perhaps more so than empathy, is likely to depend on the presence of an exemplar. It is difficult to identify with a person or people who are abstractions. This increased identification and liking can create an increase in the desire to participate in altruistic behaviors.

Given the success of narratives in the field of persuasion (e.g. Slater & Rouner, 2002), identification with beneficiaries of APBs and liking of those same characters, are two of the most prominent concepts that have been demonstrated to be important in the persuasive influence on PSBs and APBs. Identification occurs when an audience

member adopts the character's perspective, but does so through the filters of his or her own understanding and experience (Cohen, 2001).

Injustice salience may also increase feelings of identification by increasing shared affect. Shared affect (or perspective taking) is part of identification, and injustice salience might lead to viewers feeling the frustration, hurt or fear of the person who has been subjected to the injustice. For example, Chung and Slater (2013) found that when viewers engaged in perspective-taking with a stigmatized character in a movie, this character was not viewed as an outgroup member to the extent that they were without the same level of perspective-taking. Their explanation for why perspective-taking was such a strong driving force in in-group/out-group distinctions was that perspective-taking can motivate audience members to view stigmatized characters as people not unlike themselves, facing challenges and experiencing emotions that they too have experienced. Unfortunately, many people experience some form of injustice in their lives. The injustice that they experience may not be exactly the same as the experiences of children who are dealing with food allergies or type 1 diabetes. However, viewers may share some of the feelings of unfairness that a child experiences when that unfairness is made salient.

H3: Identification with people with food allergies or diabetes will act as a mediator between messages that make injustice salient and altruistic intentions.

Additionally,

H4: Identification with people with food allergies or diabetes will act as a mediator between messages that include an exemplar and altruistic intentions.

Discrete Emotions

Emotions can have a strong impact on our decision making process, and likely will be affected by messages that make injustice salient and include an exemplar. Several theories have been examined in previous research to help understand how emotions affect our decisions. The affect heuristic (Slovic, Finucane, Peters, & MacGregor, 2007) argues that we rely on feelings of goodness or badness to guide our judgments and decisions. Slovic and colleagues propose that representations of objects and events in our minds have an emotion connected to them (for example, imagine that my representation of a puppy has a positive emotion connected to it), and when we need to make a decision, we consult this emotional heuristic.

Additionally, Avramova and Inbar (2013) describe evidence that emotions amplify moral judgments. Whether emotions come before or after moral judgments is an unanswered question. However, they state that evidence is strong that emotions play an active role in producing and altering moral judgments by prioritizing or amplifying preexisting moral concerns.

Emotions can be categorized as approach or avoidance emotions (Elliot, 2008). Approach emotions motivate one to move toward a desirable stimulus while avoidance emotions motivate one to move away from undesirable stimuli. For example, some

emotions that are positive approach emotions include happiness/joy, excitement, hope, and affection. Some negative approach emotions include guilt and regret, sadness, worry, and anger. Avoidance emotions can include shame, disgust, fear, and distress. Some emotions can also be a mix between positive and negative, such as relief. Therefore, it is important to study a variety of emotions. For the purposes of this study, we examined anger, sadness, fear, disgust, gladness, happiness, resentment, irritation, aggravation, concern, remorse, and annoyance. These emotions were chosen because of their significance in previous work (e.g. Goodall, Slater, & Myers, 2013; Solloway, Slater, Chung & Goodall, 2013; Vitaglione & Barnett, 2003).

In this line of research, the same target may elicit approach or avoidance, depending on the goal. This is where messages have the potential to manipulate emotions. For example, messages can manipulate whether a stimulus is seen as approachable or not by influencing the motivational state. Perhaps if we put viewers in a protective motivational state, emotions such as anger will be more likely to result in approach (helping behavior) than avoidance (running away). Empathetic anger is discussed below.

H5: Messages that make injustice salient will have a direct, positive effect on discrete emotions such as sadness and anger.

H6: Messages that include an exemplar will have a direct, positive effect on discrete emotions such as sadness and anger.

H7: Messages that make injustice salient or include an exemplar will increase altruistic intentions through discrete emotions such as sadness and anger.

Empathetic Anger

Empathy may be a component of particular types of discrete emotions as well. For example, if you're reading a newspaper article about a violent crime, you may feel anger at the perpetrator of the crime, but this anger is infused with empathy for the victim. I am particularly interested in the role of empathic anger in policy support and other APBs. It is possible that a measure of empathetic anger may perform better than a measure of general empathy (the IRI).

Typically in the literature, anger and empathy are examined as polar opposites in the realm of prosocial behaviors (e.g. studies on children and prosocial behavior such as Roberts, Strayer, & Denham, 2014, Roberts and Strayer, 1996, and Strayer and Roberts, 2004, and studies of aggressive males such Mohr et al, 2012). Empathic anger (Staub, 1987; Hoffman, 1989) is a much less understood variable, but has a presence in the literature. For example, Vitaglione and Barnett (2003) had participants listen to what was ostensibly an audio tape of a woman discussing her experience as the victim of drunk driving, and read a police report on the incident. The dependent behaviors of interest included participants' stated desire to assist the victim (through interpersonal interaction) and punish the perpetrator (by petitioning to have his driver's license permanently

revoked). State empathic anger was found to mediate the relationship between trait empathic anger and helping and punishing desires.

The State Empathic Anger Scale (SEA scale) was developed by Vitaglione and Barnett (2003). Eight items (mad, angry, furious, resentful, irritated, enraged, aggravated, and outraged) are rated on a 7-point Likert scale (1=Not at all to 7 = Extremely). However, this scale seems to tap much more into the anger than the cause of the anger, which is ostensibly empathy. Therefore, I'd like to examine the SEA scale in relationship to Davis's IRI to see if increases in reported empathy are related to increases in reported negative discrete emotions from the SEA.

Gender may also be related to empathy, anger, and willingness to engage in altruistic behaviors. However, the difference here may be that men are more likely to engage in behaviors that punish a perpetrator. In the current study, we are examining altruistic behaviors that help a child with food restrictions.

RQ1a: Will participants scores on the SEA scale will correlate positively with scores on the IRI?

If this was the case, the measure of empathetic anger could replace empathy in other hypothesis tests.

RQ1b: Since the current measure of state empathetic anger seems at face value to tap more into anger than empathy, it is possible that **the SEA scale may interact with**

the IRI scale to give a more accurate reflection of state empathetic anger. This will be examined using PROCESS model 7 to test moderated mediation.

Bagozzi and Moore's 1994 Model

A model that is applicable to the current study is Bagozzi and Moore's 1994 model of message characteristics on helping behavior through negative emotions and empathy. In their study introducing this model, public service announcements designed to increase helping behavior against child abuse were examined under conditions of stronger and weaker emotional portrayals of child abuse. Both empathy and negative emotions were significant mediators of PSAs on the decision to help. In addition to negative emotions and empathy, I would like to examine other potential mediations such as positive emotions and cognitive/cognitive-affective responses (such as norms and social responsibility as discussed below). The basic structure of the theory is similar to Bagozzi & Moore's in that message characteristics will have an indirect effect on prosocial and altruistic responses through various emotional and cognitive mechanisms. Within each box of the theory, several variations can be tested independently or in combination. For example, message characteristics (discussed in more detail below) could include aspects of the message such as use of humor, framing, and narrative elements. Our box of emotions could include both positive and negative, approach and avoidance emotions.

Relationships Between the Mediators

Each of these mediators is likely to be related to the others. For example, if the viewers likes a model in a health campaign, they will likely feel more empathy for them. Likewise, if viewers feel more empathy, they will likely also experience discreet emotions such as sadness or anger. Therefore, I will assess the extent of multicollinearity, look at the effects of each separately, and explore multistep mediation models as described in the research questions below:

RQ2: Will participants who like and/or identify with people with food allergies/diabetes have more empathy for them?

RQ3: Will participants who feel more empathy for people with food allergy/diabetes also experience more sadness and anger in response to the posts?

RQ4: Will participants who identify more strongly with people who have food allergies or diabetes also experience more sadness and anger in response to the posts?

Other Potential Mediators

We recognize that effects are likely moderated by traits; some people are likely to be more receptive than others. However, this is a matter for future research, as the current study is more interested in the question of the possible impact of altruistic messages on priming these personality characteristics. Part of this rationale, from a practical point of view, is that it isn't easy to segment audiences/messages by personality traits like this, so the utility of testing the moderating relationships is less urgent. It is

important to know how these messages function overall before confirming the very plausible suggestion that people who are empathetic will respond more to exemplars and people who believe in social responsibility and a just world will respond more to messages invoking fairness and justice. However, it is possible that these concepts may act as mediators. As discussed in the section above about state empathy, concepts typically examined as individual differences can sometimes be influenced by the manipulation (e.g. Abo, Slater, & Goodall, in preparation, and Morrison & Ybarra, 2009, who found that Social Dominance Orientation, a concept typically measured as a trait variable, was influenced by symbolic threat to group values). Such potential mediators may include feelings of social responsibility, egoistic motivations, norms, perceived level of threat, agency, efficacy, reactance and counterarguing, and belief in a just world, in addition to other demographics.

Social Responsibility

Feelings of being responsible for others in society is likely to be influential on the decision to engage in APBs, and also may be something we can influence with well-designed messages. Altruism involves willingness to sacrifice for other in-group members; social responsibility suggests an orientation to take care of the needs of other members of society (one's larger community, ideally). This should increase that willingness to sacrifice to others. Thus I'd like to examine social responsibility as a potential mediator.

Social responsibility is often measured with the Social Responsibility Scale (Berkowitz & Lutterman, 1968), although this scale could use some updating as the wording is a bit dated. This is an 8-item scale in which participants are asked questions about their belief in the value of working for the greater good.

In their article, Berkowitz and Lutterman (1968) describe highly responsible people as tending to be "conservative" and "people who embrace the traditional ideas of their society". The scale consists of eight items, six of which came from a previously developed scale. The following items are assessed on a 5-point scale ranging from "strongly agree" to "strongly disagree": (1) It is no use worrying about current events or public affairs; I can't do anything about them anyway; (2) Every person should give some of his time for the good of his town or country; (3) Our country would be a lot better off if we didn't have so many elections and people didn't have to vote so often; (4) Letting your friends down is not so bad because you can't do good all the time for everybody; (5) It is the duty of each person to do his job the very best he can; (6) People would be a lot better off if they could live far away from other people and never have to do anything for them; (7) At school I usually volunteer for special projects; (8) I feel very bad when I have failed to finish a job I promised I would do.

Berkowitz and Lutterman were concerned with how alienated a person felt from their society, believing that socially responsible people would not feel alienated, and they did indeed find that those who scored high on the SRS were less likely to report feeling

alienated than those who scored low on the SRS. People who scored high in the SRS were also more likely to have given money to educational institutions and religious organizations, and they were more likely to have spent time volunteering. High scorers also had greater political knowledge and involvement.

This appears to give the scale strong face validity, however, I think it's important to control for factors such as disposable income and free time. The authors did mention that what is socially responsible can vary by culture, and they noted some differences based on income (lower income participants who scored high on the SRS were likely to support social security initiatives which high scorers of high income were not likely to support). This seems like a good step toward controlling for culture and disposable income, but I think we could go farther to make the scale even more universal.

It is also a concern that some of the items in the SRS (e.g. "It is the duty of each person to do his job the very best he can") are tapping a construct more similar to a personal responsibility than responsibility to others. I'm really interested in a person's feeling of responsibility toward others, which seems like it is difficult to disentangle from personal responsibility. Perhaps, personal responsibility could be viewed as working to take care of yourself and not be a burden on others, while social responsibility can be viewed as working to take care of others for their benefit.

The reliability of the SRS appears to be a bit low, perhaps due to this conflation between personal and social responsibility. For example, in a study with 303 participants

examining the indirect effects of humor on policy support for food allergic children in elementary schools, Abo, Slater, and Jain (2015) were unable to examine social responsibility as a potential mediator because the reliability of all of the items together had a dismal Cronbach's alpha of .305. If we had taken out an item that didn't hang with any of the others in factor analysis, the alpha would have gone up to only .373, which is the highest alpha we could have obtained while examining the scale as a whole.

However, in the factor analysis, there appeared to be two or three factors. Four items seemed to hang together ("it is not use worrying about current events…", "our country would be better off if we didn't have some many elections…", "people would be a lot better off if they could live far away from other people", and "Letting your friends down is not so bad…". These four had an alpha of .571, which could be increased to .577 by dropping one item.

Three others seem to hang in second factor, "Every person should give some of his time…", "It is the duty of each person to do his job…", and "At school I usually volunteer…". This second factor seems to be more individual responsibility. These have an alpha of .345, which could be increased to .381 by dropping an item.

One item seems to be alone in its own factor ("I feel very bad when I have failed to finish a job I promised I'd do"). Perhaps a dual effort of only examining the items that appear to tap into social responsibility, and rewording the items so that they are more current could result in a scale with greater validity and reliability.

Considering that empathy can act as a state variable (in addition to a trait), it is possible that feelings of social responsibility are also vulnerable to manipulation. Perhaps being exposed to different types of stimuli (including an exemplar or making injustice salient) could influence feelings of social responsibility (discussed below as the same issue is possible for Belief in a Just World).

Belief in a Just World

Belief in a Just World (Hafer & Sutton, 2016) could also influence the dependent variable. The concept evolved from Lerner's work (1980) in which Lerner proposed that people need to believe that the world is a just (fair) place, meaning that people get what they deserve. Hafer and Sutton explain that people respond to threats (instances of unjust outcomes) by trying to restore justice, which is often accomplished through defensive means. Such defensive means may include victim derogation in the case of someone being harmed or undue praise of the beneficiary of something positive.

Hafer and Sutton describe the different ways that Belief in a Just World (BJW) may be positive or negative for prosocial behavior. BJW is associated with trust, which is beneficial to social cooperation. It is also negatively correlated with positive attitudes toward bullying and positively associated with donations to charity, helping strangers, buying ethical products, and voluntarily sharing with others in economic games.

However, it is at the same time associated with harsh attitudes toward victims and those who are high in BJW may support antisocial behaviors if those behaviors are

viewed as a punishment for moral violations. BJW may legitimize existing biased social systems and lead to perceived legitimacy of biases and a reduced ability to see discrimination where it exists. People who are high in BJW are also less likely to engage in action to change the status quo because they see this action as unnecessary.

In the case of health campaigns aimed at increasing prosocial or altruistic health behavior, it is unclear if people high in BJW would be more or less likely to help others when presented with information making the beneficiary's situation seem more or less fair. Will people high in BJW want to help those in need to maintain their idea that the world is a just place? Or will they be inclined to deny help to those in need because they feel that somehow the people who are afflicted with health problems deserved them?

Similar to social responsibility, it is possible that BJW could be examined as a state variable. While these variables are conceptualized as moderators, they may be influenced by exposure to the stimuli. We will check for this possibility, and if so they will be examined as mediators or in a simultaneous mediation/moderation model (model 74 in PROCESS).

RQ5: Will measures of Belief in a Just World and Social Responsibility vary depending on the manipulations? If so, will they act as moderators between message manipulations and empathy or emotions?

Other Measured Variables

Norms. Both descriptive and injunctive norms also intuitively are important to increase the occurrence of APBs. Using a social norms approach in persuasion often works because people overestimate the prevalence of negative behaviors (such as excessive drinking), yet they use their perceptions of peer norms as a standard for which to compare their own behavior (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). However, the reasons why norms are so often successful in persuasion can also lead to boomerang effects. For example, Schultz and colleagues (2007) found that descriptive normative messages were successful in producing household energy savings depending on whether households were already consuming at a low or high rate. However, the inclusion of an injunctive message eliminated this boomerang effect.

The distinction between norms as descriptive or injunctive is not the only important factor to look at though. The reference of the norm message can also vary in effectiveness. For example, Rhodes, Ewoldsen, Shen, Monahan, and Eno (2014) found that while family norms were significantly related to intent to engage in health-risk behaviors (smoking marijuana and cigarettes, alcohol use, and sexual behavior), peer norms were only related to reports of current behavior.

Level of perceived threat. The level of perceived threat of a health condition, both in terms of susceptibility and severity, can also be manipulated by a message and influence the process of persuading people to engage in APBs. There is reason to believe

that this may be different when trying to persuade people to engage in behaviors that are altruistic than behaviors that are not altruistic.

For example, Goei and colleagues (1992) used an EPPM framework to examine an individual's likeliness to intervene on behalf of another. They found that both threat and efficacy increased likelihood to help, but they didn't interact the way that EPPM suggests. Perhaps when it comes to helping others, increasing threat without necessarily including efficacy is more successful than when you are trying to convince someone to do something to help themselves.

Egbert, Miraldi, and Murniadi (2014) also used an EPPM framework to examine willingness to help others (in this case talking to a friend with depression). They found that while self-efficacy, response efficacy, and perceived severity predicted behavioral intentions to intervene with a depressed friend, perceived susceptibility did not. Higher self-efficacy may also be related to decreased cost of compliance. This is more evidence that convincing people to do something to help others may differ somewhat than convincing people to do something to help themselves. Perhaps perceived susceptibility is less important for altruistic behaviors.

Agency/Blame. Gault and Sabini (2000) studied gender differences in preference for punitive versus reparative human services. Without a manipulated message (no independent variable), they found that women prefer human service actions and men prefer punitive and preventative actions. State anger among men predicted more support

for punitive actions, yet among women state empathy predicted willingness to volunteer. In a follow-up study, they used a message manipulation (information only versus emotional appeals) for refugee aid. The message manipulation did not influence the decision to aid refugees, yet the gender effects remained for punitive versus reparative support. In the final part of their study, they had participants read scenarios about toxic waste dumping. However, the exact message manipulations are unclear. I believe that the effects they found could be examined with messages that are manipulated to examine blame for the issues at hand. In addition, this study looked at anger and empathy as opposites. I'd like to try to replicate also looking at empathetic anger, the relationship between anger and empathy.

Negative Reactions. Because altruistic appeals, and many prosocial appeals as well, are asking people to engage in behaviors that are inconvenient or costly, these appeals are particularly vulnerable to negative reactions such as counteraruging and reactance. It is important then to examine message characteristics that may decrease these negative reactions and whether this in turn increases the likelihood of adaption of the prescribed behavior. The use of narrative exemplars is one avenue to explore in reducing reactance and counterarguing. Another is the influence of empathy on reduced reactance. For example, Shen (2010) found that empathy reduced reactance in a variety of public service announcements.

Reactance. Reactance can occur when a viewer feels that their ability to make their own autonomous decisions is being compromised and would like to reassert their freedom in response to overtly persuasive messages (Brehm, 1966). If viewers are made to feel overly guilty or shamed, they may experience reactance, which could influence their altruistic intentions. Measuring reactance, then, can be accomplished by asking participants about the extent to which they perceived persuasive intent (Moyer-Guse, Jain, & Chung, 2012). Reactance was measured with nine items adapted from Moyer-Guse, Jain, and Chung (2010), and asked participants to rate their agreement on an 11 point scale (from Very Strongly Disagree to Very Strongly Agree) on the following items: Clearly, the poster was pushing an agenda, The poster tried to manipulate me, The poster tried to pressure me to think a certain way, The poster tried to force its opinions on me, The poster tried to tell me how to live my life, The poster tried to make a decision for me, The poster did not have any hidden motive, The poster was straight forward and honest, The poster was factual and not manipulative.

Reactance can confound measurement of discrete emotions. Negative emotions might be in concert with the intention of the message or perhaps these negative emotions might be anger or irritation at the message. Therefore, reactance may need to be controlled in analyses of negative emotions.

Other Measured Concepts

Additional variables to examine include level of inconvenience of the behavior. Is what is being asked of the target of the persuasion lesser than the cost to society of not doing the recommended behavior.

Religious beliefs, such as a literal interpretations of bible may also impact an individual's willingness to engage in altruism.

Health Issues

Food Allergies: The context we examine has its own substantive importance: Food allergies can cause anaphylaxis, a serious allergic reaction that is rapid in onset and might cause death (Sampson, et al., 2006). In the US population, 8% of children under age 18 live with a food allergy (Gupta, et al., 2011), which averages two children per classroom. Serious food allergies can disrupt the lives of children and their parents. For example, children with peanut allergy reported a lower quality of life than those with diabetes, apparently due to anxiety regarding the possibility of sudden fatality (Avery, King, Knight, & Hourihane, 2003). Children with nut allergies also report poor emotional, social, and psychological quality of life compared to healthy normative data (Cummings, et al., 2010; Le, et al., 2008). There is also a burden on parents and other caretakers of food allergic children, who report distress related to guilt and worry, unresolved anger and sorrow, and long-term uncertainty (Williams, Parra, & Elkin, 2009).

Authorities on food allergies as a public health concern emphasize the importance of policies invoking cooperation of school authorities and other parents and children, as well as regulations ensuring clear food content labeling, to protect the lives and well-being of affected children (Powers, Bergren, & Finnegan, 2007; Rhim & McMorris, 2001; Weiss, Muñoz-Furlong, Furlong, & Arbit, 2004). Therefore, we focus on support for such policies as our outcome of interest.

Diabetes: Type 1 Diabetes is a chronic disease with an onset that typically occurs with little forewarning, causing families of those affected to make multiple life changes simultaneously and in a short period of time (Streisand et al., 2008). These life changes can include checking blood glucose levels, administering insulin injections, learning about and making changes in diet, and being vigilant about exercise. Type 1 diabetes is caused by an autoimmune destruction of cells in the pancreas, and although there is a genetic predisposition, there are also environmental factors related to onset that are poorly understood (Moltchanova, Schreier, Lammi, & Karvonen, 2009). However, according to Moltchanova and colleagues, the incidence of the disease has been increasing worldwide for decades at an average annual rate of 3%.

Type 1 Diabetes and Food Allergies have some similarities and differences which make them interesting to examine (Avery, King, Knight, & Hourihane, 2003; Flokstra-de Blok et al., 2010) in similar contexts. Both children with food allergies and children with diabetes have dietary restrictions which can (and often do) lead to social restrictions and

have an impact on family members of those afflicted with the illness (Streisand et al., 2008). Neither of the two health issues has a cure, and both tend to be life-long afflictions, influencing daily life. Children with each health condition need to relate their issues to the school and work with faculty and staff to create a plan for their health. People with food allergies and people with diabetes both need to carry emergency medication with them, most of which involves an injection. Both health issues can be life-threatening, although for food allergies this threat is more immediate and thus is related to lower reported quality of life, including more anxiety about eating, especially away from home (Avery, et. al., 2003).

For both food allergies and type 1 diabetes, the quality of life for children in school is largely dependent on the willingness of other youth, parents, and school officials to inconvenience themselves. For example, these children rely on others to take the time to make sure they do not expose them to foods they shouldn't consume, to make sure that they do have food available that is safe to consume, and that they have access to emergency medication in case it is needed. These various forms of help from adults in school or parents are inconvenient and provide no direct benefit to those adults/parents and thus represent altruistic pro-social behavior. Thus they are appropriate topics for the study of messages about altruism.

Chapter 2: Methods

Study Design

The study design was a 2 (unfairness made salient or not) x 2 (exemplar included or not) x 2 (type of health condition) between-subjects factorial experiment. The stimuli were visual ads with both words and pictures, such as those commonly seen on social media sites. All stimuli included facts (e.g. prevalence, treatment, financial cost). For example, with the appeal for policies for food allergy management in elementary schools, the ad had a picture accompanied by the words "Things You Should Know About Food Allergies". One version of the ad showed a picture of a child and another version of the ad showed a picture of food. Most facts were the same in each version of the poster (e.g. prevalence, treatment, financial cost, effectiveness of policies). However, the manipulated facts (e.g. cause of the condition) differed as the injustice manipulation. Another version of the ad contained more personalized text, saying that the cause is unknown and neither children nor their parents have any control over whether they will develop the allergy.

The main study took about 20 minutes and tested the successful stimuli from the pretest. Participants were shown the image and asked to type their reactions to it (cognitive responses). Next, they were shown the image again and asked about the

dependent measures (willingness to engage in altruistic behaviors). Finally, demographic variables were collected.

Stimuli. Participants were told that the study investigates opinions about various Facebook posts. The messages needed to be pretested. Because this study used a 2x2x2 factorial design, there were a total of eight different messages. Each participant only rate one version of the ads. Thus for the pretest, a minimum of 25 participants rated each of the stimuli. The pretest took about 10 minutes and examined whether the stimuli have an impact on empathy, emotions, identification, and perceived injustice as intended. The versions of the ads were also checked to make sure they are comparable on likeability, readability, etc…

[See Appendix A and B for stimuli matrices, and see Appendix 1 for the actual stimuli used.]

Participants. The population of interest, parents of school-aged children, was recruited through Qualtrics online panels. For the main study, with categorical independent variables and alpha set at .05, based on Cohen's (1988) recommendation of a minimum of .80 for power and with d = .5, power analyses recommend approximately 64 participants per group. With eight groups, this brings the recommended total for the main study to 512. The sample consisted of English-speaking adults living in the U.S. with elementary school aged children.

There were 331 females and 228 males with ages ranging from 18 to 75. Seventy-five participants identified as Hispanic and 66.8% were married. Race and educational statistics are below in Tables 1 and 2:

Table 1: Participant Race

Which of the following best describes your race?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	427	76.1	76.1	76.1
	Black or African American	64	11.4	11.4	87.5
	American Indian or Alaska Native	4	.7	.7	88.2
	Asian	40	7.1	7.1	95.4
	Native Hawaiian or Pacific Islander	2	.4	.4	95.7
	Mixed	8	1.4	1.4	97.1
	Other	14	2.5	2.5	99.6
	Do not wish to answer	2	.4	.4	100.0
	Total	561	100.0	100.0	

Table 2: Participant Education

What is your highest level of educational attainment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some high school	9	1.6	1.6	1.6
	High school degree or GED	94	16.8	16.8	18.4
	Some college	128	22.8	22.8	41.2
	Trade/vocational school	40	7.1	7.1	48.3
	College/university degree	214	38.1	38.1	86.5
	Graduate degree	76	13.5	13.5	100.0
	Total	561	100.0	100.0	

Procedure. The main study took about 20 minutes and tested the successful stimuli from the pretest. Participants were shown the image and asked to type their reactions to it (cognitive responses). Next, they were shown the image again and asked about the dependent measures (willingness to engage in altruistic behaviors). Finally, demographics were collected.

Measures. The study was taken on computers (no cell phones) and all items were measured on an 11-point scale ranging from "0" to "10". Instructions were given for each scale (see Appendix A for a printed version of the instrument).

Manipulation Checks.

Fairness. The five items ("It is unfair that some children have this health condition", "Schools do not do a good job handling health conditions like this", "Parents should not send food to school that they know can make another child sick", "Children without food restrictions sometimes bully children who do have this health condition", and "There is not enough information available for people to understand this health condition" of the Perceived Fairness Scale (PFS) were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .733, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of

Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 43.75% of the variance (four other components had eigenvalues ranging from .548 to .934). An inspection of the screeplot revealed a clear break between the first and second components. Using Catell's (1966) scree test, it was decided to retain one component for further investigation. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

The Cronbach's Alpha for all five items was .668. This number could not be increased by deleting any of the items. Therefore, the five items were indexed by creating a mean. Higher numbers on this index were indicative of stronger perceived unfairness or injustice. Given the modest reliability, I also examined effects on individual justice items.

Mediators.

Identification. The 10 items ("While reading the post, I felt as if it was relevant to me", "While reading the post, I forgot myself and was fully absorbed", "I was able to understand the post in a way similar to how someone with [health condition inserted, either food allergies or diabetes] would", "I think I have a good understanding of people with [health condition]", "I tend to understand the reasons why people with [health condition] feel the way they do", "While reading the post, I felt like I was inside the head

of someone with [health condition], “While reading the post, I felt I knew what people with [health condition] go through”, “While reading the post, I felt like I was rooting for people with [health condition] to achieve their goals”, “When people with [health condition] are treated well, I feel joy”) of Cohen’s Identification Scale (2001) were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .943, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett’s Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 67.43% of the variance (nine other components had eigenvalues ranging from .175 to .602). An inspection of the screeplot revealed a clear break between the first and second components. Using Catell’s (1966) scree test, it was decided to retain one component for further investigation. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

The Cronbach’s Alpha for all five items was .945. This number could not be increased by deleting any of the items. Therefore, the ten items were indexed by creating a mean. Higher numbers on this index were indicative of stronger perceived unfairness or injustice.

Empathy. Twelve items ("I can imagine what it would feel like to be a child with food allergies/diabetes", "I could get really involved thinking about how it'd feel to be a child with food allergies/diabetes", "I can imagine how I would feel if I was having food allergies/diabetes", "I could very easily put myself in the place of someone having food allergies/diabetes", "I find it difficult to imagine being someone having food allergies/diabetes", "I have warm, compassionate feelings for anyone who has food allergies/diabetes", "I do not feel much sympathy for anyone with food allergies/diabetes", "I am not concerned about anyone being hurt by food allergies/diabetes", "I feel kind of protective toward anyone hurt by food allergies/diabetes", "I felt tender, concerned feelings for anyone hurt by food allergies/diabetes", "I would feel sad and want to help anyone hurt by food allergies/diabetes", "The misfortunes of anyone with food allergies/diabetes would not disturb me a great deal".) from Davis's (1983) IRI were adapted to be specific for empathy for people with either food allergies or type 1 diabetes, depending on which condition participants were in. These 12 items were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .818, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of two components with eigenvalues exceeding 1, explaining 52.25% and 22.02% of the variance respectively (10 other components had eigenvalues ranging from .024 to .990). An inspection of the screeplot revealed a clear break between the second and third components. This was further supported by the results of the Component Matrix, which loaded all items onto two factors. Further examination revealed that the second component consisted entirely of items that had been recoded due to be negatively worded (the rest of the scale was positively worded).

Therefore, all 12 items were examined for reliability. The Cronbach's Alpha for all 12 items was .780. This could only be increased marginally to .801 by deleting one of the items. Because this increase in reliability is relatively small, all 12 items were indexed together by calculating a mean.

Concern. There were four items related to concern about food allergies or diabetes. These were asked on an 11-point scale on how concerned participants were about: "food allergies/diabetes causing severe sickness or death in the United States", "food allergies/diabetes causing severe sickness or death in my state", "food allergies/diabetes causing severe sickness or death for a family member or close friend", "food allergies/diabetes causing severe sickness or death for me". These 4 items were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .728,

exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 69.139% of the variance (three other components had eigenvalues ranging from .193 to .715). An inspection of the screeplot revealed a clear break between the first and second components. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

Therefore, all 4 items were examined for reliability. The Cronbach's Alpha for all 4 items was .825. This could only be increased marginally to .847 by deleting one of the items. Because this increase in reliability is relatively small, all 4 items were indexed together by calculating a mean.

SEA (state empathetic anger). The four items of the scale (angry, resentful, irritated, aggravated) were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .755, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 66.981% of the variance (three other components had eigenvalues ranging from .163 to .795). An inspection of the screeplot revealed a clear break between the first and second components.

Therefore, all four items were examined for reliability. The Cronbach's Alpha for all nine items was .778. This could be increased to .892 by deleting one of the items ("resentful"). However, to stay consistent with the measurement in the study from which it was derived, all four items were used for the index variable since those measures had an acceptable level of reliability.

Conceptually, anger may be a part of empathetic anger, but it may also be anger that is not empathetic, so it is worth looking at anger separately for comparison's sake. In analyses in which the SEA index was used, this will be indicated, and in analyses in which anger was examined as a single item, these will be indicated as well.

SadX. The three items of the scale (sad, concerned, and remorseful) were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .635, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 59.695% of the variance (two other components had eigenvalues of .506 and .703). An inspection of the screeplot revealed a clear break between the first and second components.

Therefore, all three items were examined for reliability. The Cronbach's Alpha for all nine items was .657. This could not be increased by deleting any of the items. Therefore, SadX was indexed by averaging.

Moderators/Controls.

Belief in a Just World. Belief in a Just World was measured using a GRID with anchors at "Very Strongly Disagree" and "Very Strongly Agree). The items included: "I feel that people get what they are entitled to have", "I feel that people earn the rewards and punishments they get", "I feel that people who meet with misfortune have brought it upon themselves", "I feel that people get what they deserve, and I basically feel that the world is a fair place".

The five items of the Belief in a Just World (BJW) were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .865, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and

Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 72.291% of the variance (four other components had eigenvalues ranging from .167 to .522). An inspection of the screeplot revealed a clear break between the first and second components. Using Catell's (1966) scree test, it was decided to retain one component for further investigation. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

The Cronbach's Alpha for all five items was .903. This number could only be increased marginally to .906 if one of the items were deleted. Because this increase is small, the five items were indexed by creating a mean. Higher numbers on this index were indicative of stronger belief in a just world.

Social Responsibility. The five items from the social responsibility scale were: "It is pointless to worry about current social issues; I can't do anything about it anyway", "Every person should do what they can to help others", "I'm confident that other people will deal with current social issues, so I don't need to get involved", "I spend time thinking about what I can do and would like to do to help others, and I feel responsible for other people, even if I don't know them".

These items were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was

assessed. Inspection of the correlation matrix revealed the presence of many coefficients above .3. The Kaiser-Meyer-Olkin value was .548, which is approaching the recommened value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), partially supporting the factorability of the correlation matrix.

PCA revealed the presence of two components with eigenvalues exceeding 1, explaining 71.283% of the variance. An inspection of the screeplot revealed a clear break between the third and fourth components. Examining the pattern matrix and structure matrix, the reverse coded items loaded onto one factor while the non-reverse coded items loaded onto a second factor. Cronbach's alpha was only .586 for all five items, but increased to .650 by decreasing one of the items ("Every person should do what they can to help others"). The remaining four items were indexed by averaging.

Norms. The five items of the norms scale were: "Most of the people I know try to do something to make the world a better place", "People who are close to me would want me to help others", "I know a lot of people who are involved in activities that help others", "Most of the people close to me think it's a good thing to help others, even strangers", and "Most parents take steps to ensure that children are safe at school, even children that aren't theirs".

These items were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was

assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .923, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 94.313% of the variance (four other components had eigenvalues ranging from .043 to .106). An inspection of the screeplot revealed a clear break between the first and second components. Using Catell's (1966) scree test, it was decided to retain one component for further investigation. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

The Cronbach's Alpha for all five items was .985. This number could not be increased by deleting any of the items. Therefore, all five items were indexed by creating a mean. Higher numbers on this index were indicative of stronger belief in norms to act in ways that benefit children with food allergies or diabetes (depending on condition).

Convenience of Behaviors that Contribute to Helping Kids with Food Allergies. The five items of the scale were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .706, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett,

1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of two components with an eigenvalue exceeding 1, explaining 51.485% and 22.067% of the variance respectively (three other components had eigenvalues ranging from .346 to .556). An inspection of the screeplot revealed a clear break between the second and third components. Further examination revealed that the second component consisted entirely of items that had been recoded due to be negatively worded (the rest of the scale was positively worded).

Therefore, all 5 items were examined for reliability. The Cronbach's Alpha for all 5 items was .756. This could not be increased by deleting any of the items. Thus, all 5 items were indexed together by calculating a mean.

Convenience of Behaviors that Contribute to Helping Kids with Type 1 Diabetes. The five items of the scale were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .613, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of two components with an eigenvalue exceeding 1, explaining 44.456% and 31.246% of the variance respectively (three other components had eigenvalues ranging from .304 to .555). An inspection of the screeplot revealed a clear break between the second and third components. Further examination revealed that the second component consisted entirely of items that had been recoded due to be negatively worded (the rest of the scale was positively worded).

Therefore, all 5 items were examined for reliability. The Cronbach's Alpha for all 5 items was .650. This could not be increased by deleting any of the items. Thus, all 5 items were indexed together by calculating the mean.

Psychological Reactance. The nine items of the scale were: "The poster tried to manipulate me", "The poster tried to pressure me to think a certain way", "The poster tried to force its opinions on me", "The poster tried to tell me how to live my life", "The poster tried to make a decision for me", "The poster did not have any hidden motive", "The poster was straight forward and honest", and "The poster was factual and not manipulative".

These items were subjected to principal components analysis (PCA) using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .866, exceeding the recommended

value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of two components with an eigenvalue exceeding 1, explaining 54.696% and 22.491% of the variance respectively (seven other components had eigenvalues ranging from .072 to .758). An inspection of the screeplot revealed a clear break between the second and third components. Further examination revealed that the second component consisted entirely of items that had been recoded due to be negatively worded (the rest of the scale was positively worded).

Therefore, all nine items were examined for reliability. The Cronbach's Alpha for all nine items was .862. This could be increased to .901 by deleting one of the items. However, all nine items were used for the index variable to stay with the original scale and still have acceptable reliability.

Dependent variables. Dependent variables included policy support for elementary schools, behavioral intentions (general helping behaviors), behavioral willingness (with specific scenarios given), behavioral approval, and information seeking. In addition, there was an item included to measure actual behavior by asking participants to make recommendation on how a set amount of money should be divided between various charities.

*Policy Support.*For policy support, participants answered on a scale of 0 (Very Strongly Oppose) to 10 (Very Strongly Support) how much they support various policies.

These policies included new rules that restrict food from classrooms, requirements that schools carry emergency medication for students, and restrictions on food-related activities for school parties.

Behavioral Intentions. Behavioral intention items assessed willingness to help via behaviors of differing degrees of inconvenience. Participants rated from 0 (not willing at all) to 10 (very willing) how willing they would be to engage in various behaviors. These include signing a petition to limit foods in the classroom, volunteering a few hours to pass out a petition to limit foods in the classroom, and making a small monetary donation to help keep emergency medication on hand at school.

For behavioral willingness, a scenario was given, and participants were asked to quickly decide how they would respond in the situation. For example, participants were asked to imagine that they are packing their child a lunch to bring to school and that one of their child's friends has a peanut allergy. The participant's child, in this hypothetical scenario, has asked them to pack a peanut butter and jelly sandwich. Participants were asked if they would choose to (A) pack the peanut butter and jelly sandwich; (B) tell their child they will only pack food that is safe around their friend; or (C) use an alternative (like sunbutter or soybutter) and lie to the child by saying that it is real peanut butter.

For behavioral approval, participants were asked to rate from 0 (Strongly disapprove) to 10 (strongly approve) how much they approve of various behaviors. These included parents of non-food allergic children bringing foods into the classroom.

For the item measuring behavior, participants were told that the group sponsoring the study would make a donation to a charitable cause and would like their input in deciding which cause to donate to. Four different charitable organizations were presented (including diabetes and food allergies) and two other choices were also included that also involved children (cystic fibrosis and attention deficit disorder). Participants were asked to divide $10 among the four organizations, however they saw fit.

There were three items related to policy support for issues regarding food allergies or diabetes. These 3 items were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .754, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 91.053% of the variance (two other components had eigenvalues ranging from .085 to .184). An inspection of the screeplot revealed a clear break between the first and

second components. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

Therefore, all 3 items were examined for reliability. The Cronbach's Alpha for all 3 items was .951. This could only be increased marginally to .954 by deleting one of the items. Because this increase in reliability is relatively small, all 3 items were indexed together by calculating a mean.

Behavioral Willingness. There were three items related to behavioral willingness to help people with food allergies or type 1 diabetes. These items asked, on a 10-point scale, whether participants would be willing to volunteer a few hours to pass out a petition to restrict certain foods from classrooms, sign a petition to restrict certain foods from classrooms, and make a small donation to help keep emergency medication in schools. Although there were some correlations above .3, the Kaiser-Meyer-Olkin value was only .542, lower than the recommended .6 to be suitable for factor analysis. Additionally, the Cronbach's Alpha for these three items was a low .482. Therefore, these items were not indexed, but were examined individually.

*Behavioral Intentions***.** There were three items related to behavioral intentions. These items were introduced to participants as a hypothetical situation. Participants were asked to imagine that they were tasked with binging food to their child's classroom party. They are told that there is a child in the classroom who has type one diabetes or food allergies (depending on which condition the participants are in). They are then asked to

rank, on a scale of 0 to 10, how likely they are to make three different decisions. One decision is to bring food that is safe for all students, taking care to bring food that is OK for the child with food allergies/diabetes to eat and for the rest of the class as well, so that each child in the class has the same treat (thus the child with the food restrictions is included). Another decision is to bring the foods they want to bring without regard to whether or not the child with food restrictions can safely eat it. This decision carries with it the possibility that the child with food restrictions may not be able to have any treat at all. The final decision was to bring food that the child with food restrictions can't eat for the rest of the class, but to bring in a special treat for the child that he or she can eat safely, but that is different than what the other children are eating.

These items were not indexed because they are conceptually different choices with different consequences. Thus, these will be looked at individually. In hindsight, it would have been preferable if I had created items for this concept in a different way. Instead of having the participants rate how likely they would be to make each decision, I should have framed this item in a way that would make the decisions more exclusive of each other. For example, instead of rating each decision, ranking them would have been more informative perhaps. Alternatively, I could have asked participants to choose just one of the three, choosing the one they believe they would be most likely to do. Given that I did not explicitly ask participants to rank these, I could still examine the items

competitively with each other by seeing which decision participants rated the highest. However, not all participants rated one decision clearly higher than the other two.

Diabetes Outcome Anticipations. There were three items related to outcome anticipations for issues regarding diabetes. These 3 items were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .630, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 70.668% of the variance (two other components had eigenvalues ranging from .242 to .638). An inspection of the screeplot revealed a clear break between the first and second components. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

Therefore, all 3 items were examined for reliability. The Cronbach's Alpha for all 3 items was .790. This could be increased to .856 by deleting one of the items. Indeed, it makes sense conceptually to delete this item from the index because the two items are related to outcomes that are possible if a child eats a food they should not, and

the third item is related to response efficacy of emergency medication. Thus only the two items about illness outcomes were indexed.

Food Allergy Outcome Anticipations. The data for the food allergy outcome anticipations were very similar to the data for the diabetes outcome anticipations. The 3 items were subjected to PCA, using SPSS version 24. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 or above. The Kaiser-Meyer-Olkin value was .647, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 66.057% of the variance (two other components had eigenvalues ranging from .365 to .653). An inspection of the screeplot revealed a clear break between the first and second components. This was further supported by the results of the Component Matrix, which loaded all items onto one factor.

Therefore, all 3 items were examined for reliability. The Cronbach's Alpha for all 3 items was .741. This could be increased to .772by deleting one of the items. Indeed, it makes sense conceptually to delete this item from the index because the two items are related to outcomes that are possible if a child eats a food they should not, and

the third item is related to response efficacy of emergency medication. Thus, only the two items about illness outcomes were indexed.

Demographics. Demographic information asked included age, gender, education, race/ethnicity, nationality, political ideology, number of children and ages of children, and whether or not their children have any of the disabilities advocated for in the posters.

Data Cleaning

Quality control items were included in the study and spaced out every 30 to 40 questions. These quality control items ask participants to select a particular answer to the question. Participants who did not successfully answer one of these quality control items were not included in final analysis.

We were also concerned about participants who finished very quickly. It is possible that participants who finish very quickly are not really paying attention to the study. Therefore, we ran the data analysis with both those who completed the study in less than 10 minutes included and not included (researchers familiar with the study took about 10 minutes to complete it, so it is unlikely that participants who finished in a shorter time period were focused on the study). The main findings did not differ depending on whether or not these participants were included in the data set, so they were all left in, minimizing data cleaning.

Any items that needed to be reverse coded (to match the other items in a scale) were recoded into new variables before indexing.

Data Analysis.

Data analysis began by examining information on correlations between variables in the model, including the control variables, and analyses of variance with main effects, before going on to test hypotheses using Hayes's PROCESS macro (2013), with 10,000 bootstrap iterations.

Control Variables. Effects were looked at both with and without controls variables. Reactance was a control variable of interest because of its potential influence on discrete emotions. In addition, whether or not the participants knew someone with a food allergy or diabetes was a factor that we examined as a control since this familiarity could influence the mediating variables, particularly empathy and emotions.

Chapter 3: Results

Manipulation Checks

The independent variables were the fairness manipulations (fairness made salient or not made salient) and the health condition (food allergies or type one diabetes). Items were included in the study to access whether the different versions of the posters were similar on items we did not want to manipulate and that they were different on items that were intentionally manipulated. The conditions did not differ on anything of the measured items that were not intentionally manipulated. There were no significant differences between conditions on the items evaluating whether the stimuli was "Well done", "Clear", "Interesting", "Visually Appealing", or "Informative".

The exemplar versions were rated significantly higher for the items "written like a story" and "emotional". Looking into that further with the specific emotions, the exemplar versions rated higher for "sad" and "aggravated". The exemplar versions were significantly lower on "happy" and "glad". The exemplar versions are approaching being significantly different on “anger” ($p = .076$) and "concerned" ($p = .061$). Thus, there is some evidence that the exemplar manipulation was having the expected effect on emotions and that it did feel more like a story.

While the exemplar manipulation seemed to be working well, the fairness manipulation was not as strong. There were 5 manipulation checks for "fairness". The first one was for "situational fairness". It did not differ significantly between the injustice

salient and injustice not salient conditions. This one may have a ceiling effect because the mean was 8.03 (on a scale from 0 to 10). The item looking at interpersonal fairness was significantly higher for the conditions that had injustice salient. However, the other 3 items accessing fairness were not significantly different between participants who saw the injustice salient or injustice not salient versions.

Thus, we can say with confidence that the interpersonal justice dimension was manipulated and that the others were either not successfully manipulated or the checks didn't assess justice effectively. However, there is at least evidence that one of the justice dimensions was manipulated successfully.

Main Effects/Interactions

Food allergy condition versus the diabetes condition. First we examined the food allergy and diabetes conditions to see if there were any main effects on the quality of the stimuli checks, which assessed these variables for production quality. If there had been a difference between the two conditions regarding quality, this would suggest that we would have to account for the different base messages in the analytic models. There were a large number of items tested for these main effects and interactions. When testing so many single items for differences by topic, having one or two show up significant is likely due to chance and therefore will not be examined substantively in the discussion unless there is a clear pattern across multiple items. There were no significant differences between the food allergy condition and the diabetes condition on the

following assessment variables: well done (p = .489), clear (p = .312), interesting (p = .058), visual appeal (p = .118), and informative (p = .378).

There were no significant differences between the food allergy condition and the diabetes condition on the following emotions evoked from the message (manipulation checks/mediators): anger (p = .453), sadness (p = .077), fear (p = .495), disgust (p = .432), gladness (p = .808), happiness (p = .965), resentment (p = .392), irritation (p = .968), aggravation (p = .863), concerned (p = .554), remorse (p = .255), annoyance (p = .870).

There were no significant differences between the food allergy condition and the diabetes condition on the following manipulation checks/mediators/moderators (which were all indexed measures): empathy (p = .110), concern (p = .606), policy support (p = .451), belief in a just world (p = .431), norms (p = .258), psychological reactance (p = .454), fairness (p = .073), identification (p = .809), state empathetic anger (p = .917), and the sadness/concern/remorse index (p = .121).

Since there were no significant differences between the food allergy and type one diabetes conditions on any of these quality assessment variables, manipulation checks, mediators, or moderators, these two conditions were collapsed in further analysis.

Comparing the exemplar versions and the versions that did not contain an exemplar. Next, we examined the main effects of the exemplar manipulation as a manipulation check. To do this, we assessed the quality of the manipulation based on

whether there was an effect on at least some of the hypothesized mediators. The only measure that really addressed the manipulation of narrative element (via the inclusion of an exemplar) was the item asking if the poster was "written like a story", which was significant, $F(1, 560) = 21.209$, $p < .001$. Participants who saw the non-exemplar version ($m = 6.681$, $se = .167$) were lower than those who saw the exemplar version ($m = 7.766$, $se = .166$), when rating the item "written like a story" on an 11-point scale.

There was also a significant difference between the versions of the posters that either did or did not include an exemplar on the following variables: anger ($p = .007$. $m = 3.358$, $se = .203$ without an exemplar and $m = 4.131$, $se = .202$ with an exemplar), sadness ($p < .001$, $m = 4.903$, $se = .205$ without an exemplar and 6.440, $se = .204$ with an exemplar), glad ($p = .016$, $m = 3.950$, $se = .209$ without an exemplar and $m = 3.238$, $se = .208$ with an exemplar), concern ($p = .003$, $m = 6.961$, $se = .178$ without an exemplar and 7.709, $se = .177$ with an exemplar), remorse ($p = .021$, $m = 3.591$, $se = .210$ without an exemplar and 4.280, $se = .209$ with an exemplar), emotional ($p < .001$, $m = 6.903$, $se = .156$ without an exemplar and 7.926, $se = .155$ with an exemplar), empathy ($p = .034$, $m = 6.626$, $se = .091$ without an exemplar and 6.900, $se = .091$ with an exemplar), fairness index ($p = .002$, $m = 6.654$, $se = .116$ without an exemplar and 7.398, $se = .116$ with an exemplar), and the sadness index comprised of sadness, concern, and remorse ($p < .001$, $m = 5.152$, $se = .152$ without an exemplar and 6.143, $se = .151$ with an exemplar).

There were no significant differences between the versions of the posters that either did or did not include an exemplar on the following variables: fear ($p = .693$), disgust ($p = .389$), happy ($p = .127$), resentful ($p = .456$), irritated ($p = .097$), aggravated ($p = .092$), annoyed ($p = .318$), well done ($p = .774$), clear ($p = .475$), interesting ($p = .758$), visual appeal ($p = .521$), easy to read ($p = .189$), informative ($p = .836$), concern as an index ($p = .466$), belief in a just world ($p = .154$), norms ($p = .851$), reactance ($p = .896$), identification ($p = .111$), and the state empathetic anger scale ($p = .179$).

Comparing the injustice salient vs injustice not salient conditions. Next, we examined the main effects of the injustice manipulation as a manipulation check. There were significant differences between the versions of the posters that either did or did not make injustice salience on the following variables: anger ($p = .002$, $m = 3.281$, $se = .205$ when injustice was not made salient and 4.192, $se = .200$ when it was), disgust ($p < .001$, $m = 2.690$, $se = .200$ when injustice was not made salient and 3.704, $se = .196$ when it was), irritated ($p = .007$, $m = 2.858$, $se = .206$ when injustice was not made salient and 3.645, $se = .202$ when it was), aggravated ($p = .010$, $m = 3.142$, $se = .211$ when injustice was not made salient and 3.909, $se = .206$ when it was), and annoyed ($p < .001$, $m = 2.438$ when injustice was not made salient and 3.512 when it was). There was also a significant difference on the reactance index, $p = .035$ with those who did not see the injustice made salient ($m = 3.413$, $se = .138$) experiencing less psychological reactance than those who did see the versions with injustice made salient ($m = 3.819$, $se = .135$).

Similarly, the state empathetic anger scale was different, p = .022, with those who did not see the injustice made salient (m = 3.027, se = .188) expressing less empathetic anger than those who did (m = 3.630, se = .183).

There was no significant difference between the versions of the posters that did or did not make injustice salient on the following variables: sad (p = .440), afraid (p = .238), glad (p = .363), happy (p = .244), resentful (p = .904), concern as a single item (p = .618), remorse (p = .223), the empathy index (p = .581), the concern index (p = .671), belief in a just world (p = .905), norms (p = .225), the fairness index (p = .447), the identification index (p = .929), and the sadness/concern/remorse index (p = .477).

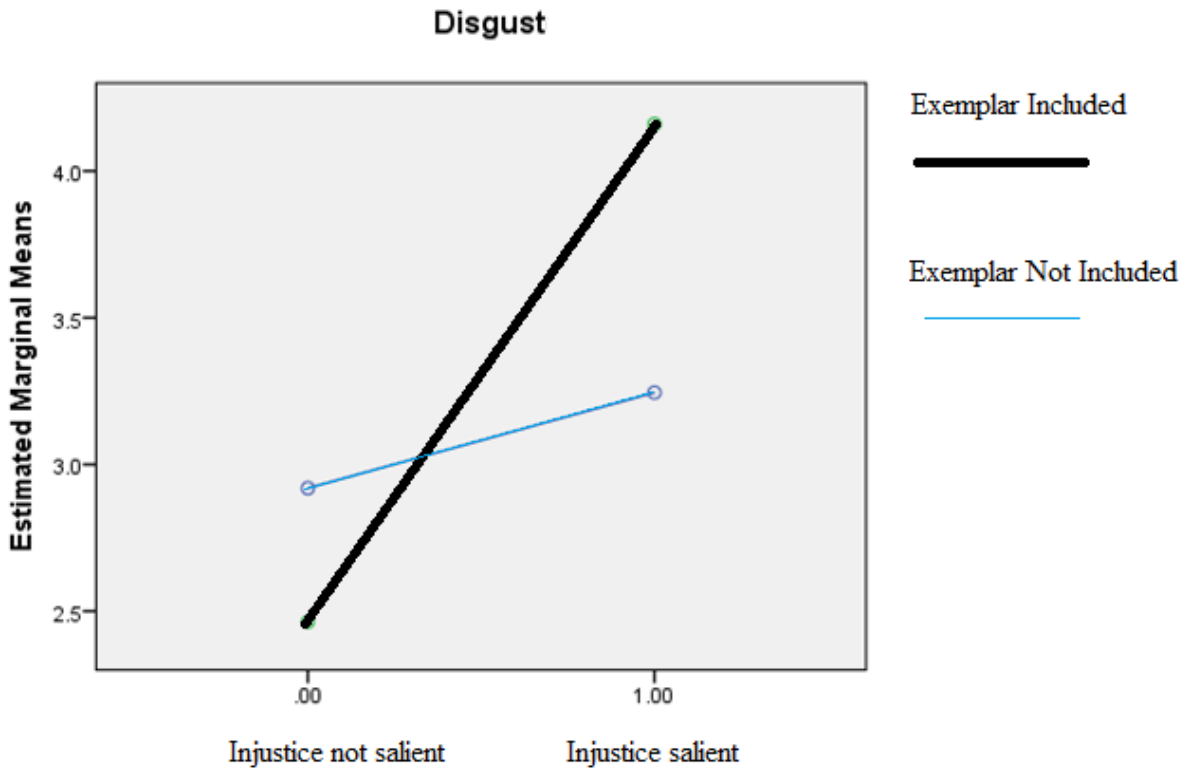
Comparing interactions between the exemplar manipulation and the injustice manipulation. Finally, we examined any possible interactions between the two manipulations. There was no significant interaction between the two manipulations on the following variables: anger (p = .090), sadness (p = .148), afraid (p = .468), happy (p = .057), resentful (p = .779), aggravated (p = .099), concern as a single item (p = .354), remorseful (p = .388), annoyed (p = .221), the empathy index (p = .077), the concern index (p = .655), belief in a just world (p = .422), norms (p = .225), psychological reactance (p = .628), the fairness index (p = .667), state empathetic anger (p = .173), and the sad/concerned/remorseful index (p = .492).

There was, however, a significant interaction between the injustice manipulation and the narrative manipulation for disgust (p = .014, η^2= .011). Participants who saw

versions of the posters that both included an exemplar and made injustice salient experienced the highest amount of disgust. Participants who saw the versions that did not make injustice salient but did contain an exemplar experienced the lowest amount of disgust.

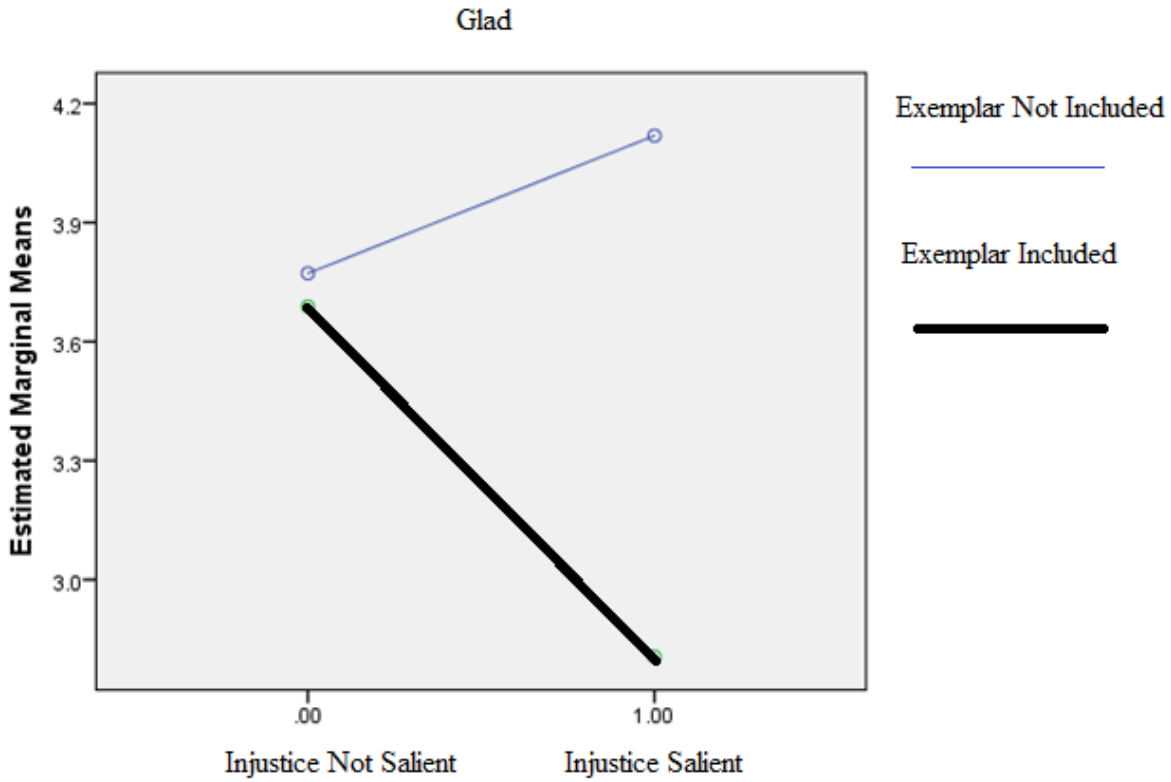
For policy support, there was no direct effect of either the exemplar manipulation or the injustice manipulation, nor was there a significant interaction between the two manipulations in terms of policy support. The injustice manipulation also did not have any direct effect on the donation recommendations, nor did the interaction between the two manipulations have any impact on the donations recommendations. However, the exemplar manipulation did have a direct effect. Those who saw the version of the poster with the exemplar included (m = 3.431 for those in the injustice not salient condition and 3.424 for the injustice salient condition) reported higher donation recommendations for the target charity (the charity that was related to the health condition in the poster they saw-either food allergies or type 1 diabetes) than those who did not see the exemplar (m = 3.206 for those in the injustice not salient condition and 3.424 for those who were in the injustice salient condition). This direct effect was statistically significant, $F(1, 560) = 9.205$, $p = .026$. This direct effect is of obvious importance substantively, though the theoretical focus of this study was on the mediation effects.

Figure 1: Interaction of Injustice and Exemplar on Disgust



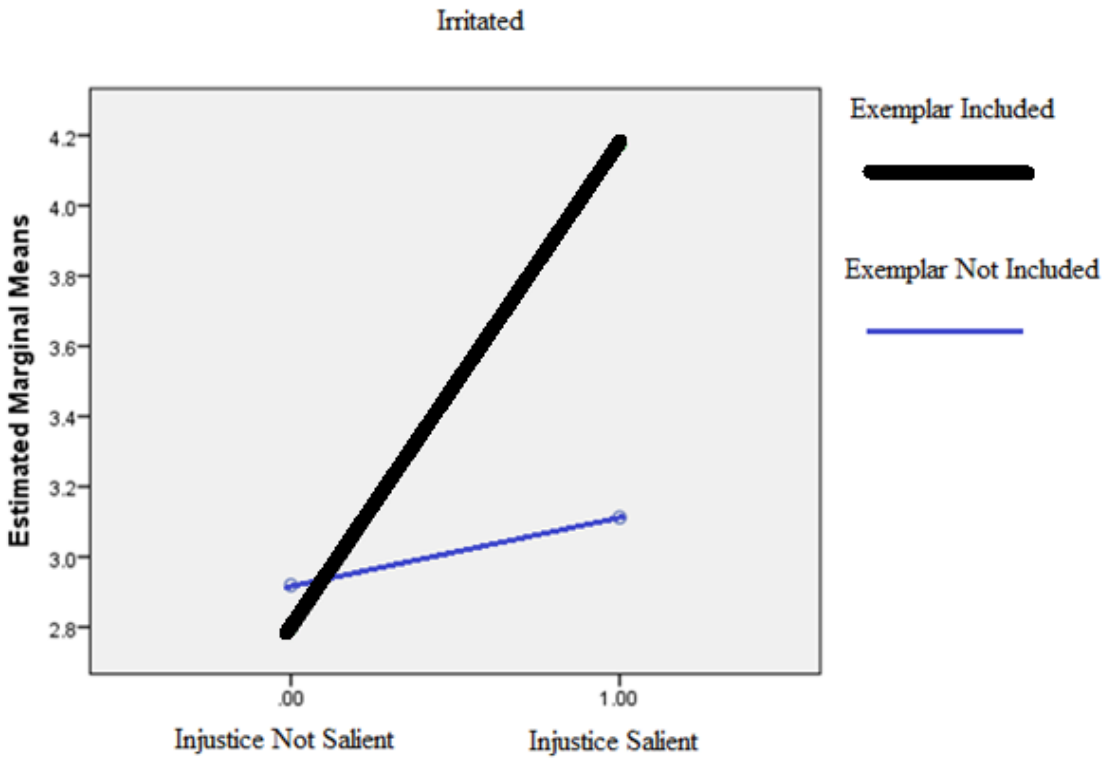
There was also a significant interaction between the two manipulations on the how much participants experienced the emotion "glad", $p = .037$, $\eta^2 = .008$. Although "happy" did not quite reach statistical significance ($p = .057$), the pattern was very similar to "glad".

Figure 2: Interaction of Injustice and Exemplar on Gladness



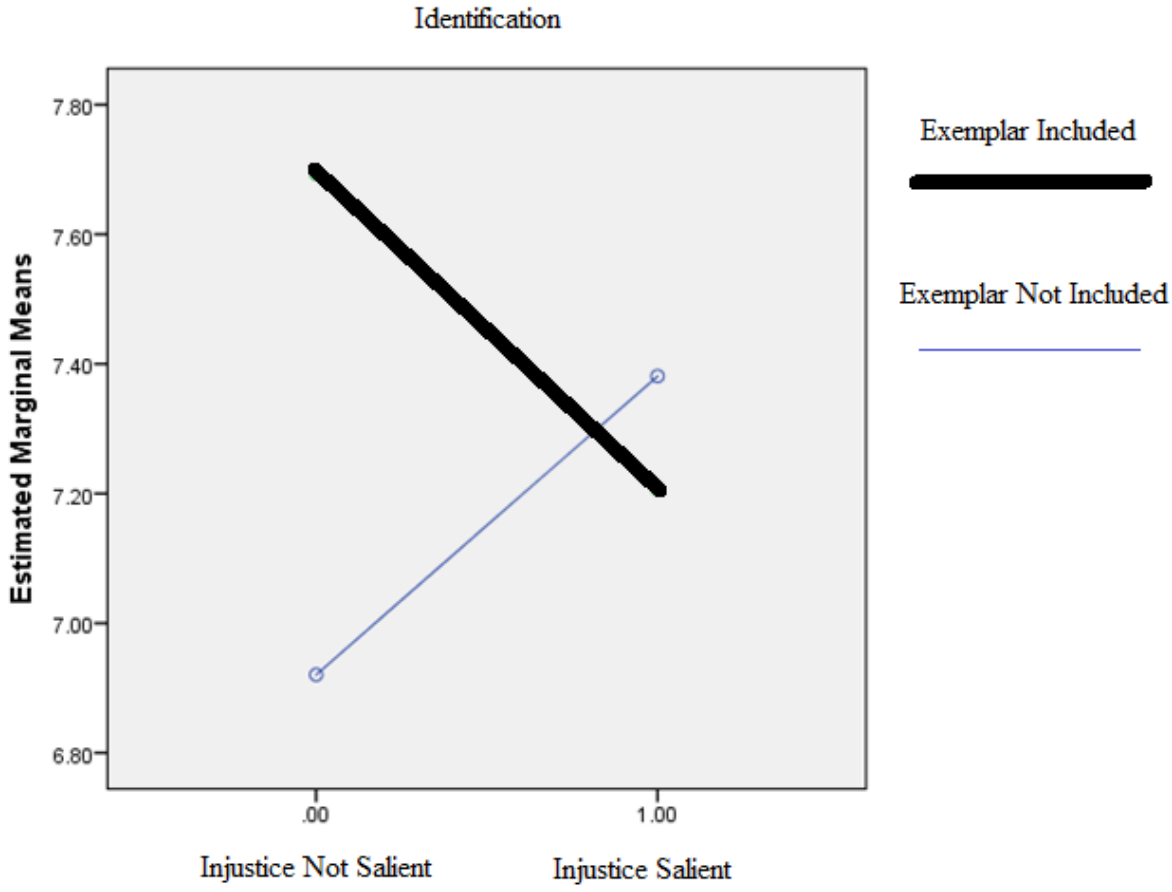
There was also a significant interaction between the two manipulations on the item "irritated", $p = .040$, $\eta^2 = .008$.

Figure 3: Interaction of Injustice and Exemplar on Irritation



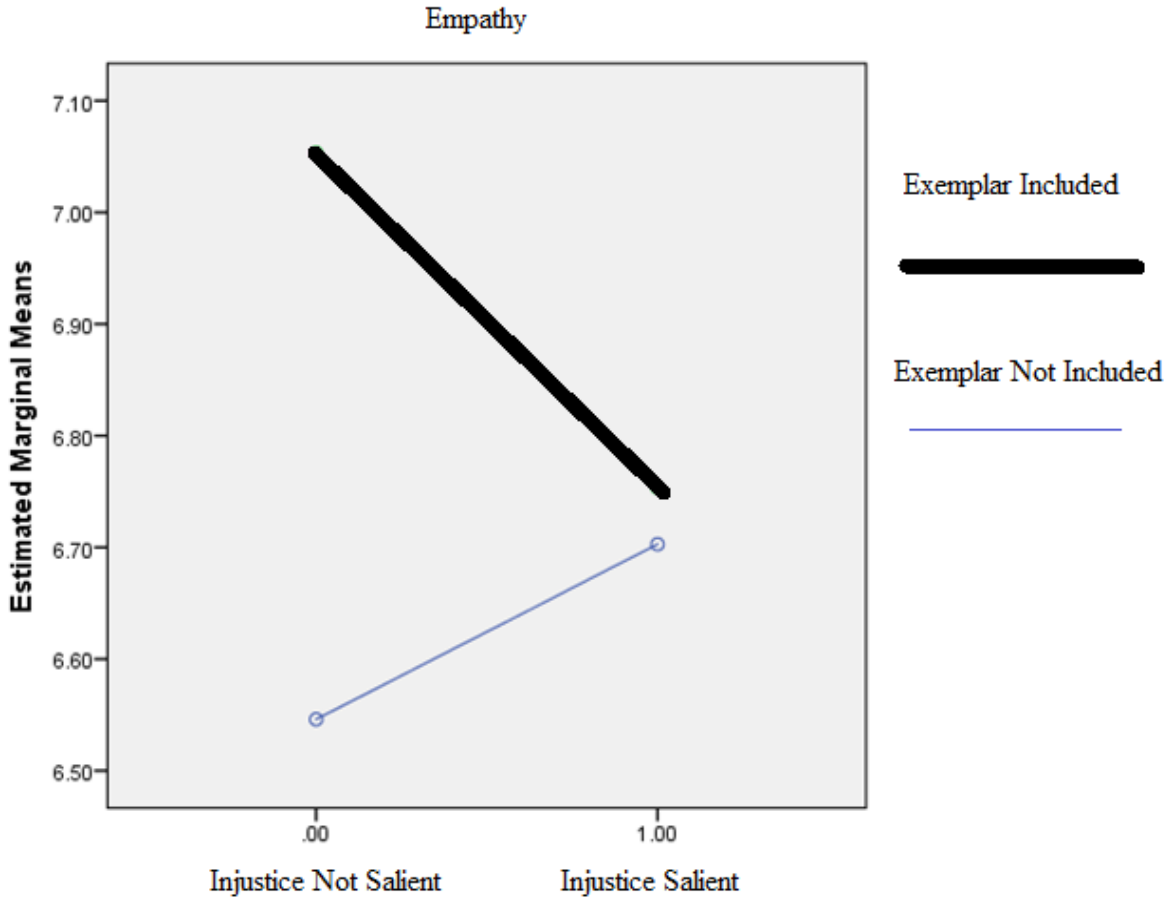
There was also a significant interaction between the two manipulations for the identification index, $p = .009$, $\eta^2 = .012$.

Figure 4: Interaction of Injustice and Exemplar on Identification



Although the empathy index was only approaching a significant interaction ($p = .077$, $\eta^2 = .006$), the pattern is very similar to identification.

Figure 5: Interaction of Injustice and Exemplar on Empathy



Hypothesis Testing

H1: Empathy will act as a mediator between messages that make injustice salient and altruistic behaviors. H1 was examined using Process Model 4, but the hypothesis was not supported. The injustice manipulation did not have a direct effect on policy support ($p = .1580$) nor was there a significant indirect effect of the injustice

manipulation on policy support (LLCI = -.2517, ULCI = .1300). While empathy did influence policy support ($p < .001$, $\beta = .7512$, LLCI = .6540, ULCI = .8483), empathy was not influenced by the injustice manipulation (p = .4302). The statistical significance of these findings did not differ when knowing someone with the health condition and reactance were included as controls, though reactance did have a significant direct effect on policy support ($\beta = -.1469$, LLCI = -.2167, ULCI = -.0770, $p < .001$).

While policy support was the main dependent measure of interest in this study, other dependent variables were examined as well. This included concern for the health condition and the behavioral measure for donating to charities for the two health conditions. These results mirrored those of policy support in that increased empathy did increase concern and the total amount of money participants felt should be donated to charity. However, as in the model tested for the policy support index, the injustice manipulation did not influence empathy in either of these models, nor did the injustice manipulation have a direct effect on concern (p = .4002) or donation recommendations (p = .8081).

H2: Empathy will act as a mediator between messages that include an exemplar and altruistic behaviors. H2 was examined using Process Model 4. H2 was supported, regardless of whether knowing someone with the health condition was controlled or not. While the exemplar manipulation did not have a direct effect on policy support (p = .7871), the indirect effect of the exemplar manipulation on policy support,

through empathy, was significant (β = .2053, LLCI= .0180, ULCI = .3936). The exemplar manipulation had a significant relationship with the empathy index (p = .0344, β = .273) and the empathy index in turn had a significant relationship with policy support (p <.001, β = .7562). Thus, the messages that included the exemplar increased empathy for those with food allergies or diabetes, and this empathy in turn increased support for policies that help protect these individuals.

Given the interaction between the injustice manipulation and the exemplar manipulation on empathy reported above, a post-hoc analysis was also included of moderated mediation (using model 7 in PROCESS) with the injustice manipulation moderating the effect of the exemplar manipulation on empathy. Adding injustice as a moderator between the exemplar manipulation and empathy increased the strength of the mediation model. While it was statistically significant regardless of whether injustice was included as a moderator (β = .5074) or not (β = .273), the beta size increased when injustice was included as a moderator.

The results for the other two dependent variables of interest (concern for people with food allergies or diabetes and the amount of money participants recommended be donated to charities for these two health conditions) mirrored the results of the model for policy support. In both cases, the exemplar manipulation led to increased empathy for people afflicted with the health condition, and this in turn increased concern for the health condition and the amount of money recommended for donation.

H3: Messages with salient injustice will increase altruistic intentions through identification with people with food allergies or diabetes. H3 was not supported. The direct effect of injustice salience on policy support was insignificant ($p = .1260$) and the indirect effect of injustice salience through identification was also insignificant (LLCI = -.2196, ULCI = .1942). The injustice manipulation did not have a significant influence on identification with people with food allergies or diabetes ($p= .9291$), although identification did have a positive influence on policy support ($p < .001$, $\beta = .5723$, LLCI = .3858, ULCI = .7587). The significance of these results did not change when knowing someone with the health condition and reactance were controlled. However, it should be noted that reactance did have a significant, negative impact on identification ($\beta = -.2617$, LLCI = -.3369, ULCI = -.1865, $p < .001$) as well as policy support ($\beta = -.2180$, LLCI = -.4001, ULCI = -.0359, $p = .0191$).

The injustice manipulation also did not have a significant direct effect on concern for people with the health conditions ($p = .5694$) nor a significant indirect effect on concern through identification (LLCI = -.2217, ULCI = .1892). Similarly, there was no direct effect on donation recommendations ($p = .7435$) nor an indirect effect on donation recommendations through identification (LLCI = -.0499, ULCI = .0415).

H4: Messages that include an exemplar will increase altruistic intentions though identification with people with food allergies or diabetes. Like H3, the message manipulation for including an exemplar did not have a significant influence on

identification with people with food allergies or diabetes. The exemplar manipulation did not have a direct effect on policy support ($p = .3516$) nor was there an indirect effect of the exemplar manipulation on policy support through identification (LLCI = -.0317, ULCI = .3756). The significance did not change when knowing someone with the health condition was included as a control.

However, given the interaction between the exemplar manipulation and the injustice manipulation on identification reported above, a post-hoc test was also ran in which the injustice manipulation was included as a moderator for the effect of the exemplar manipulation on identification. With this moderation included, the effect of the exemplar on identification became significant ($p = .0028$, $\beta = .7729$). There was still no direct effect of the exemplar manipulation on policy support ($p = .3506$), but the indirect effect on policy support through identification was significant when injustice was not salient ($\beta = .4474$, LLCI = .1600, ULCI = .7510). When the injustice was made salient, the exemplar did not have a significant indirect effect on policy support through identification (LLCI = -.3784, ULCI = .1837). Thus the index of moderated mediation was significant (LLCI = -.9547, ULCI = -.1464). So H4 was partially supported, only in the absence of the injustice manipulation.

H5: Messages that make injustice salient will have a direct, positive effect on discrete emotions such as sadness and anger. H5 was examined with an ANOVA and was partially supported. Those who saw the posters with injustice made salient (m =

4.192) reported feeling more anger than those who saw the poster with injustice not made salient (m = 3.281), and this result was significantly different. $p = .002$, F (1, 560) = 10.127. There was also a significant influence on disgust with those who did not see the injustice salient version (m = 2.690) experiencing lower disgust than those who did (m = 3.704) see a version with injustice made salient, $p < .001$, F (1, 560) = 13.139. Those who saw the injustice salient version ($m = 3.645$) were also more likely than those who saw the non-salient version ($m = 2.858$) to report feeling irritated. The results were similar for feelings of aggravation, $p = .010$, F (1, 560) = 6.753 with those seeing the injustice salient version ($m = 3.909$) feeling more aggravation than those who didn't (m = 3.142). The same pattern is shown for feelings of annoyance, $p < .001$, F (1, 560) = 14.894, with those who did not see the injustice salient version ($m = 2.438$) feeling less annoyance than those who did ($m = 3.512$).

However, the injustice manipulation did not have a significant influence on sadness ($p = .440$), fear ($p = .238$), glad ($p = .363$), happy ($p = .244$), resentful ($p = .904$), concerned, or remorseful. Due to the influence that the injustice manipulation had on reactance, a post hoc analysis was also examined to see if reactance was a moderator between the injustice manipulation and the SadX index of concerned (not angry) emotions (sad, concerned, remorseful). It turns out that when reactance is controlled, the injustice manipulation did create a positive increase in SadX, p = .0014, β = 1.2964, LLCI = .5045, ULCI = 2.0884. The R square increase due to the interaction between the

injustice manipulation and reactance was also significant (p = .0017). People in the injustice salient condition who experienced a low amount of reactance experienced more concerned negative affect (SadX) than those in the injustice condition who experienced moderate to high levels of reactance.

H6: Messages that include an exemplar will have a direct, positive effect on discrete emotions such as sadness and anger. Messages that included an exemplar also had an influence on reports of discrete emotions. Those who saw the version of the poster which included an exemplar (m = 4.131) felt more anger than those who saw the version without an exemplar (m = 3.358), p = .007, F (1, 560) = 7.261. They also reported higher levels of sadness (means at 6.440 versus 4.903), p < .001, F (1, 560) = 28.266. Likewise, while the exemplar manipulation increased sadness, it decreased levels of gladness (means of 3.950 for those who did not see the exemplar and 3.238 for those who did), p = .016, F (1, 560) = 5.810. Concern was also increased for those who saw the exemplar version than those who did not (respective means = 7.709 and 6.961), p = .003, F (1, 560) = 8.886. Remorse was higher for those who saw the exemplar poster than those who did not (respective means = 4.280 and 3.591) p = .021, F (1, 560) = 5.386.

The exemplar manipulation did not, however, influence the extent to which the participants felt fear (p = .693), disgust (p = .389), happiness (p = .127 was unexpected since the effect of the manipulation on "glad" was significant), resentful (p = .456), irritation (p = .097), aggravation (p = .092), or annoyed (p = .318).

In sum, the impact of the exemplar manipulation was different than the impact of the injustice manipulation in terms of the emotions they invoked because the exemplar manipulation increased sadness, concern, and remorse, and it decreased gladness (which the injustice manipulation did not). The injustice manipulation, however, increased disgust, irritation, aggravation and annoyance (which the exemplar manipulation did not).

Both manipulations increased feelings of anger, which is interesting because it is likely empathetic anger (see RQ1 below). However, it is noteworthy that neither of the manipulations had a significant impact on fear, happiness, or resentment.

H7: Messages that make a) injustice salient or b) include an exemplar will increase altruistic intentions through emotions such as sadness and anger.

Exemplar:

(Anger) The posters that included an exemplar did result in an increase in altruistic intentions though anger. While there was no direct effect of the exemplar inclusion on policy support ($p = .4399$), the indirect effect of the exemplar inclusion on policy support through anger was significant ($\beta = .1111$, LLCI = .0267, ULCI = .3533). Model 4 of the Process Macro indicated a significant mediation model ($p = .05$) with the exemplar manipulation increasing anger ($\beta = .7728$) and anger increasing policy support ($\beta = .1438$). The strength of this relationship (indirect effect) is stronger when reactance is controlled ($\beta = .1139$, as compared to $\beta = .1139$). The direct effect of reactance on policy support was significant ($\beta = -.3660$, LLCI = -.5435, ULCI = -.1884, $p < .001$).

In addition to increasing policy support, anger also mediates the impact of the exemplar on the behavior measure with those who saw the exemplar version allocating more money to the advocated health issue than those who saw the version of the poster without the exemplar ($p = .04$).

(SEA) However, when looking at the SEA scale (state empathetic anger) as a potential mediator between the exemplar manipulation and policy support ($p = .2095$) or between the exemplar manipulation and the donation behavioral item ($p = .0799$), the SEA scale is not supported as a mediator in general. Reactance was used as a control in this analysis because it was expected that given the correlation between reactance and the SEA scale, that SEA items might measure both empathetic anger and reactance. There was no direct effect of the exemplar manipulation on policy support ($p = .4883$), nor was there a significant indirect effect of the exemplar manipulation on policy support through SEA (LLCI = -.0059, ULCI = .2487). It is noteworthy though that reactance did have a positive influence on SEA ($p = .0006$, $\beta = .1971$, LLCI = .0850, ULCI = .3092) and reactance also had a negative influence on policy support ($p < .001$, $\beta = -.3909$, LLCI = -.5703, ULCI = -.2115).

As a post-hoc analysis, this mediation model was also examined separately for those in the injustice salient condition and those in the injustice not salient condition, given that reactance was stronger when injustice was made salient. When we look at only those who were in the injustice salient condition, the indirect effect (but not the

direct effect) of the inclusion of an exemplar on policy support through SEA (state empathetic anger) is significant, when reactance is controlled, β = .1376, LLCI = .0062, ULCI = .7371.

(SadX) Although there was no direct effect of the exemplar manipulation on policy support (p = .2207), the indirect effect of the exemplar manipulation on policy support through SadX (sad, concerned, remorseful) was significant (LLCI = .1617, ULCI = .4648). As expected, the exemplar manipulation had a significant impact on the sadness index (sad, concern, remorseful) β = .9937 and the sadness index in turn influencing policy support β = .2869. Results were similar for the model with behavioral donation. There was a marginal direct effect of the exemplar manipulation on donation recommendations, p = .0540, LLCI = -.0038, ULCI = .4506. The indirect effect of the exemplar manipulation on donation recommendations through SadX was significant (LLCI = .0014, ULCI = .1006).

Injustice:

(Anger) While there was no direct effect of the injustice manipulation on policy support (p = .1181), as expected, there was an indirect effect of the injustice manipulation on policy support through anger (LLCI = .0432, ULCI = .4286) when reactance was controlled. The injustice manipulation increased feelings of anger β = .8902, which in turn increased policy support (β = .1560) for an overall significant model fit (p < .001). While this indirect effect was significant, the direct effect was not. The direct effect of

reactance on policy support was negative and significant (β = -.3540, LLCI = -.5319, ULCI = -.1760, p < .001).

However, there was no direct effect of the injustice manipulation on donation recommendations (p = .9821) nor an indirect effect of the injustice manipulation on donation recommendations through anger when reactance was controlled (LLCI = -.0457, ULCI = .0174). The direct effect of reactance on donation recommendations was negative and significant (β = -.0616, LLCI = -.1110, ULCI = -.123, p = .0145).

(SEA) While there was no direct effect of the injustice manipulation on policy support (p - .1460), as expected, there was an indirect effect of the injustice manipulation on policy support through the state empathetic anger scale, SEA (LLCI = .0125, ULCI = .3347). The injustice manipulation had a significant influence on the SEA emotions (β = .5428) and the SEA emotions had a significant influence on the policy support index (β = .1671) p < .001.

However, there was neither a significant direct effect of the injustice manipulation on donation recommendations (p = .9079) nor an indirect effect through SEA (LLCI = -.0117, ULCI = .0391).

(SadX) There was no direct effect of the injustice manipulation on policy support (p = .1007) nor was there a significant indirect effect through SadX (sad, concerned, remorseful), LLCI = -.0805, ULCI = .1919. There was also no direct effect of the

injustice manipulation on donation recommendations (p = .6761) nor an indirect effect through SadX (LLCI = -.0124, ULCI =.0470).

RQ1a: Will participants scores on the SEA (state empathetic anger) scale will correlate positively with scores on the IRI? No. The correlation was only .040, which was not significant (p = .343).

RQ1b: The SEA scale may interact with the IRI scale to give a more accurate reflection of state empathetic anger. The index of moderated mediation with the injustice manipulation as the independent variable, empathy as the mediator, moderated by SEA, and policy support as the dependent variable, did not reach significance. The index of moderated mediation with the narrative manipulation as the independent variable, empathy as the mediator (moderated by SEA) and policy support was also not statistically significant. This moderated mediation was tested both with and without reactance controlled. It may be interesting to note that reactance had a negative impact on empathy (β = -.2887, LLCI = -.3394 and ULCI = -.2381) while SEA had a positive impact on empathy (β = .0789, LLCI = .0958 and ULCI = .7679).

RQ2: Will participants who like and/or identify with people with food allergies/diabetes have more empathy for them? Participants who identified with people with food allergy/diabetes did have more empathy for them. The correlation was r = .755, p < .001.

RQ3: Will participants who feel more empathy for people with food allergy/diabetes also experience more sadness and anger in response to the posts? Yes, for the sadness index, participants who felt more empathy for people with these food restrictions also felt more sadness/concern ($r = .298$, $p < .001$). Similarly, when looking at sadness as a single item, the correlation was statistically significant ($r = .197$, $p < .001$).

However, more empathy was not necessarily related to more anger when examining anger as a single item, $r = .051$, $p = .225$, even when controlling for reactance ($r = .070$, $p = .101$). Also, the State Empathetic Anger scale did not correlate with the IRI scale for empathy when reactance was not controlled ($r = .040$, $p = .343$). Yet, when doing a partial correlation controlling for reactance, the SEA scale (state empathetic anger) and empathy did correlate significantly ($r = .114$, $p = .007$). This may provide evidence that the SEA scale does not simply measure state empathetic anger, but measures reactance as well since the correlation with empathy was only significant when reactance was controlled.

RQ4: Will participants who identify more strongly with people who have food allergies or diabetes also experience more sadness and anger in response to the posts? Identification and anger (as a single item) were correlated at $r = .149$, $p < .001$ when reactance was controlled. Similarly, the empathetic anger index (SEA) had a significant correlation with identification when reactance was controlled ($r = .195$, $p < .001$). Both anger as a single item and as the SEA index were still statistically

significantly correlated with identification when reactance was not controlled, but the correlation was higher when it was. When looking at only participants who saw the version of the poster that did make injustice salient, the correlation was $r = .134$, $p = .023$, with reactance controlled. This was increased to $r=.263$, $p < .001$ when looking at only participants who saw the version of the poster that did not make injustice salient, with reactance controlled.

Identification and the sadness index were also correlated at $r = .369$, $p < .001$ when reactance was controlled, and the correlation was higher when it was not ($r = .391$, $p < .001$). When examining the correlation between identification and sadness did not differ at all for those who saw the version of the poster that did make injustice salient and those who saw the poster that did not make injustice salient.

RQ5: Will measures of Belief in a Just World and Social Responsibility vary depending on the manipulations? If so, will they act as moderators between message manipulations and empathy or emotions? The social responsibility index was indeed influenced by the exemplar manipulation. Those who saw the versions of the poster that did not include an exemplar ($m = 6.744$) reported lower feelings of social responsibility than participants who did see the version with the exemplar ($m = 7.115$), $F(1,512) = 4.882$, $p = .028$. However, feelings of social responsibility did not vary depending on whether participants saw the version of the poster that made injustice

salient or not (p = .572). Neither the injustice manipulation (p =.905) nor the exemplar manipulation (p = .154) influenced BJW.

When examining whether the social responsibility measure acted as a moderator between the injustice manipulation and empathy, which in turn influenced policy support, the index of moderated mediation did not reach statistical significance. Likewise, social responsibility did not moderate the influence of the injustice manipulation on anger nor the influence of the exemplar manipulation on anger.

The index of moderated mediation was also insignificant when examining BJW as a moderator for between the manipulations (injustice or exemplar) and empathy or anger.

However, the index of moderated mediation did reach statistical significance when examining Model 7 in Process with the exemplar manipulation as X, empathy as the mediator, social responsibility moderating the impact of the exemplar manipulation on empathy, and empathy influencing policy support. There was no direct effect of the exemplar on policy support (p = .9472), but there was a conditional indirect effect of the exemplar on policy support when social responsibility was low (β = .3938, LLCI = .1397, ULCI = .6501).

Social responsibility was also supported as a mediator between the exemplar manipulation and policy support via Model 74 of PROCESS, β = .1813, LLCI = .0235, ULCI = .3630.

Chapter 4: Discussion, Limitations and Future Directions

Exemplar Manipulation and Injustice Manipulation

Exemplar. The exemplar manipulation worked well to increase altruism (policy support and donation recommendations) via increased empathy, identification, and emotions. In particular, the exemplar manipulation increased state empathy for people with food allergies or diabetes and this empathy in turn increased APB intentions or recommendations. The exemplar also increased identification with people with food allergies or diabetes, but only for those in the condition in which injustice was not made salient.

The exemplar manipulation also may increase empathetic anger. When anger was measured as a single item, and reactance was controlled, the exemplar inclusion had a positive indirect effect on APBs through anger. Additionally, when anger was measured using the SEA scale for state empathetic anger, and reactance was controlled, the exemplar manipulation had a positive indirect effect on APB through SEA, but only for those who were in the condition in which injustice was made salient.

The exemplar manipulation also increased APBs indirectly through the sadness index (sadness, concern, and remorse).

Thus, it appears that the exemplar inclusion increased APBs through the sadness index and state empathy regardless of whether injustice was made salient or not. However, the exemplar inclusion only had an indirect effect on APBs through anger and

state empathetic anger when reactance was controlled and participants were in the condition in which injustice was made salient.

Injustice. While the inclusion of an exemplar increased policy support and donation recommendations via increased empathy and emotions, the salience of injustice did not have the strong effect that the exemplar manipulation did. These results are similar to Gollust, Lantz, and Ubel (2009) in which articles explaining genetic or social determinants of type two diabetes (thus relieving some of the personal responsibility for the health condition) was not an effective way to increase policy support. Gollust and colleagues found, however, that the effectiveness of the inclusion of these social determinants (similar to our manipulation of injustice here) depended on the pollical orientation of the participants. Particularly, participants who identified as "Republican" reacted negatively to the articles that explained that type two diabetes can be caused in part by social (as opposed to individual) factors. The Republicans disagreed with the idea that social situations can influence the development of diabetes. This disagreement lead to less support for public health interventions.

For this study, we did not ask participants which political party they identify with, but we did ask them to tell us if they identify as extremely conservative, conservative, somewhat conservative, neither conservative nor liberal, somewhat liberal, liberal, or extremely liberal. Indeed, we find post-hoc that those who identified as either extremely conservative or conservative experienced higher psychological reactance to the health

appeals (m = 3.923) than those who identified as either liberal or extremely liberal (m = 3.161), f (1, 270) = 6.602, p = .011. Conservatives also experienced marginally less empathy for people with food allergies or diabetes than did liberals (p = .064). However, if we control for whether or not the participants knew someone with these health conditions (a situation that tends to increase empathy), we find that the difference between those who identify as liberal verses conservative does reach the threshold of statistical significance (p = .036) with liberals reporting higher empathy than conservatives. Liberals also have marginally more concern for people with these health issues than do conservatives (p = .061). Thus it is possible that the inclusion of injustice factors in message appeals will not be particularly successful with people who identify as conservative.

Also of note, the injustice manipulation created an effect for empathetic anger, which was consistent with our expectations. However, the injustice manipulation did not have an effect on the fairness index, which was unexpected. Additionally, injustice made salient increased anger, irritation, aggravation and annoyance, which was consistent with what we expected. However, it also increased reactance, which was not expected. In fact, the stimuli in this study were intentionally designed to try to avoid eliciting reactance from participants.

For future research, we need to consider why this manipulation generated reactance and what the implications of this are. Some of the emotional responses (e.g.

irritation) might be against the message, and not in response to topic. For example, participants may have been irritated by the way the message was presented (perceiving it as manipulative) and not irritated by the message itself. So, we need to control for reactance when looking at emotional responses to eliminate this confound.

State Versus Trait Variables

BJW and norms did not vary due to the injustice or exemplar manipulation. Perhaps in a study like this, these function well as moderators instead of mediators and as trait rather than state variables.

However, there was a significant difference between the versions of the posters that either did or did not include an exemplar on empathy ($p = .034$, $m = 6.626$ without an exemplar and 6.900 with an exemplar). This is an indication that we have good reason to examine empathy as a state rather than a trait variable in future research.

Empathy and Identification

The exemplar did not increase identification. This could be because identification with a child is not really relevant for the adult population studied here. However, the inclusion of an exemplar did increase emotional response. Thus it seems that the construct of identification may not be right for these contexts; empathy was not a terribly strong predictor either. Though empathy was a statistically significant predictor of policy support and donation recommendations, the inclusion of the exemplar really seems to

focus on the capacity of individual exemplars to generate relevant emotional responses such as anger, sadness, and concern.

Reactance Versus State Empathetic Anger

In this study, it is difficult to know if participants were reacting to the injustice salient versions of the posters with anger, aggravation, annoyance, and irritation because they were feeling state empathetic anger due to the unfair conditions that children with food allergies or diabetes face or whether these were feelings of psychological reactance. In fact, the two measures are very similar. Future research would be useful to help understand this as much of our analysis on this issue was post hoc. Given the post hoc results, it seems that while making injustice salient does increase SEA (state empathic anger) to some degree, it also increases psychological reactance. The benefits of the increase in SEA seem to be washed out by the reactance, and that is likely why the participants who saw versions of the poster that made injustice salient did not experience an increase in state empathy (as measured by an alteration of the IRI), identification with people who have food allergies or diabetes, or the sadness index (sadness, concern, and remorse).

On the one hand, there is some evidence that SEA may not be measuring reactance because SEA had a positive impact on empathy while reactance had a negative impact on empathy. On the other hand, the measures used make it difficult to pin point the motivation behind participants' feelings of anger, irritation, aggravation, and

annoyance because the measures simple examine how much of each emotion participants are feeling, not why they are feeling them. Perhaps one way to address this issue further in future research would be to ask about anger and irritation with a more direct link to the cause. For example, participants could rate on a scale from Very Strongly Disagree to Very Strongly Disagree, how they feel about statements such as "I felt anger at the unfairness of the situation the child was in" and "I felt anger because the poster was clearly trying to manipulate me".

We can speculate that the reason was that the injustice manipulations might have been perceived as suggesting people like the respondents (who were all parents of elementary-aged youth), and by extension the respondents themselves, were potentially at fault, resulting in reactance. We were aware of the possibility and wrote the manipulations to minimize this risk, but possibly enough of the respondents were reactant anyway.

There are some implications of these findings regarding reactance for measurement of SEA. In particular, it is important to control for reactance when using the existing SEA measure since the two measures are so similar. To the best of our knowledge, this is the first attempt to apply injustice approaches systematically to health topics such as these (food allergies and type 1 diabetes in an altruistic context). There are several reasons why the injustice manipulation may not have been as successful as we had anticipated, including participants feeling reactance to the items in the appeal in

which the schools were blamed for not having good measures in place to keep children safe. These parents may feel that the school is an extension of themselves (or that they are an extension of the school), and thus they would feel more defensive regarding these items. Certain kinds of topics might also lend themselves to this kind of injustice manipulation better than others. For example, if there is a topic in which participants are less likely to feel psychological reactance, the injustice manipulation may work better.

Limitations and Future Directions

Stimuli. The stimuli in this study had some limitations that should be discussed and considered for future research.

Gender. This study used only one image of a child, and that image was of a male child. This has ecological validity because it came from a real poster. However, it would be better in the future to see if the gender of child may interact with gender of participant or gender of participant's children. Including more images to improve stimulus sampling would also help to provide evidence that the results are generalizable.

The diabetes message, however, was not screened by an expert in diabetes education, as the focus was on making the messages as parallel as possible. It is possible that a message more precisely written to reflect diabetes education norms might have had a different effect, and should be examined in subsequent research.

First Versus Third Person Narrative. The stimuli in this study used only the third person narrative. This was because the use of first person narrative could be a confound since first person wouldn't be appropriate for the versions of the poster without an exemplar, it would be difficult to know if results were due to the presence of the exemplar or the increased intimacy of the poster via the use of the first person. However, the use of firs person may increase the extent to which the audience identifies with or empathizes with the child in the poster. Future work could replicate this study using first person versus third person as another variable to look at with the narrative manipulation as it is possible that people respond differently to the two styles.

Design. This study employed a 2 (food allergies, diabetes) x 2 (exemplar included or not) x 2 (injustice salient or not) design. One of the unexpected findings was that the injustice manipulation was not as strong as expected. Particularly, only one form of injustice salience (interpersonal) seemed to have been increased by the manipulation. The item that accessed this interpersonal unfairness was related to the bullying that child with health conditions may endure at school. However, the procedural unfairness, situational unfairness, and informational unfairness rating were no higher for participants in the injustice salient condition that the injustice not salient condition. This could be because our manipulation check was not a good way to access these variables. Alternatively, it could be that the actual manipulation as not strong enough.

In hindsight, it would have been preferable if I had created items for this concept in a different way. Instead of having the participants rate how likely they would be to make each decision, I should have framed this item in a way that would make the decisions more exclusive of each other. For example, instead of rating each decision, ranking them would have been more informative perhaps. Alternatively, I could have asked participants to choose just one of the three, choosing the one they believe they would be most likely to do.

Conclusions

This study was an effort to better understand message factors that will increase compliance with altruistic behaviors that improve the health and well-being of others. We examined state empathy and discrete emotions as mediators between message effects and altruistic prosocial behaviors (APB's).

The message characteristics examined had different results. When injustice was made salient, participants experienced an increase in negative emotions, but they also experienced an increase in reactance. To our knowledge, this injustice element had not been studied as a potential motivating factor in a health topic before. At this point, we cannot make any firm conclusions about the utility of the use of injustice except for a word of caution that the creators of messages regarding APB should take extra caution to be sure that their injustice manipulation does not induce reactance. In our case, the stimuli were designed intentionally trying to avoid reactance by placing blame on other

parents and the school instead of placing blame at the feet of the participants themselves. However, this effort does not seem to have been sufficient to avoid the induction of psychological reactance.

When the message included an exemplar, however, the exemplar acted as something that stimulates empathetic response and emotions. These increases in empathy and emotions lead to increases in APB's.

In conclusion, the use of an exemplar does in fact increase empathy, identification, and concerned emotional responses, which in turn increase policy support and donation recommendations. The results of the study help identify the mediating processes through which exemplars facilitate willingness to engage in altruistic prosocial behaviors. This will hopefully will encourage further research and practical application in encouraging pro-social messages in the field of Health Communication.

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Appendix A: Questionnaire

Note: Items in RED were not seen by participants. Also, items shown here are relevant to food allergies. Similar items were shown replacing "food allergies" with "Type I Diabetes" for participants in the diabetes condition.

Screener to determine if they are eligible to participate

Are you the parent of at least one elementary aged child?

- ❍ Yes
- ❍ No

[If "Yes" is selected, survey will continue. If "No" is selected, participants will be re-directed to a page that says "Thank you for your interest in this study. However, only parents of elementary aged children are eligible to participate."]

[If they select "yes" for "are you the parent of at least one elementary aged child", the Consent page will be shown and is not different than the previously approved form]

Click on the ">>" button if you are willing to participate in the survey.

Thank you for participating in this study! If you have a cell phone with you, a chat window open, or any other distractions, we ask that you turn them off while you are working on this study. Thank you so much! To begin the study, we'd like to ask a few questions about your media use habits.

Please click ">>" to begin the study.

Please answer the following questions by selecting a number between 0 and 7.

	0	1	2	3	4	5	6	7
About how many days in a typical week do you post on social media sites (e.g. Facebook, Twitter, Instragram, etc....)?	❍	❍	❍	❍	❍	❍	❍	❍
How many days did you post on social media last week?	❍	❍	❍	❍	❍	❍	❍	❍
About how many days in a typical week do you view posts by others on social media (e.g. Facebook, Twitter, Instragram, etc...)?	❍	❍	❍	❍	❍	❍	❍	❍

How many days did you view posts by others on social media last week?	❍	❍	❍	❍	❍	❍	❍	❍

Next, we'd like you take a look at a social media post. Please highlight any of the text that you find relevant to you so that we can get an idea of which parts are the most relevant to the highest number of people. After about 30 seconds, the ">>" button will appear. Any time after the ">>" button appears, you can click the ">>" button, and you'll be asked some questions about the post you saw.

[Only one of the images below were shown for 30 seconds before the >> button appeared to continue. The two health conditions were food allergies and diabetes. Questions that followed varied slightly depending on whether participants saw a poster about food allergies or diabetes. For example, "I have warm, compassionate feelings for anyone who has food allergies." was altered to read "I have warm, compassionate feelings for anyone who has Type I
Diabetes."]

Allergic Living

Food allergies occur when the immune system mistakes a food for something dangerous and attacks the body. Here are some things you should know

Some facts include...

- that 8% of American children have a food allergy
- that food allergies are life-threatening
- that no one knows what causes food allergies

Quality of life...

- Sometimes life is not fair for some children. Eight percent of American children get food allergies. There is no way to prevent or predict which child will develop these allergies. It is not a choice.
- Many students with food allergies get sick at school, sometimes from bullying from peers. More than half of these incidents involve threatening children with the food they are allergic to, potentially causing life-threatening reactions and isolation.
- School boards often are not willing to pay to keep life saving emergency medication available to students should it become needed.
- Schools very rarely provide adequate information to parents of children without allergies on what they can do to help keep kids with severe food allergies safe at school.

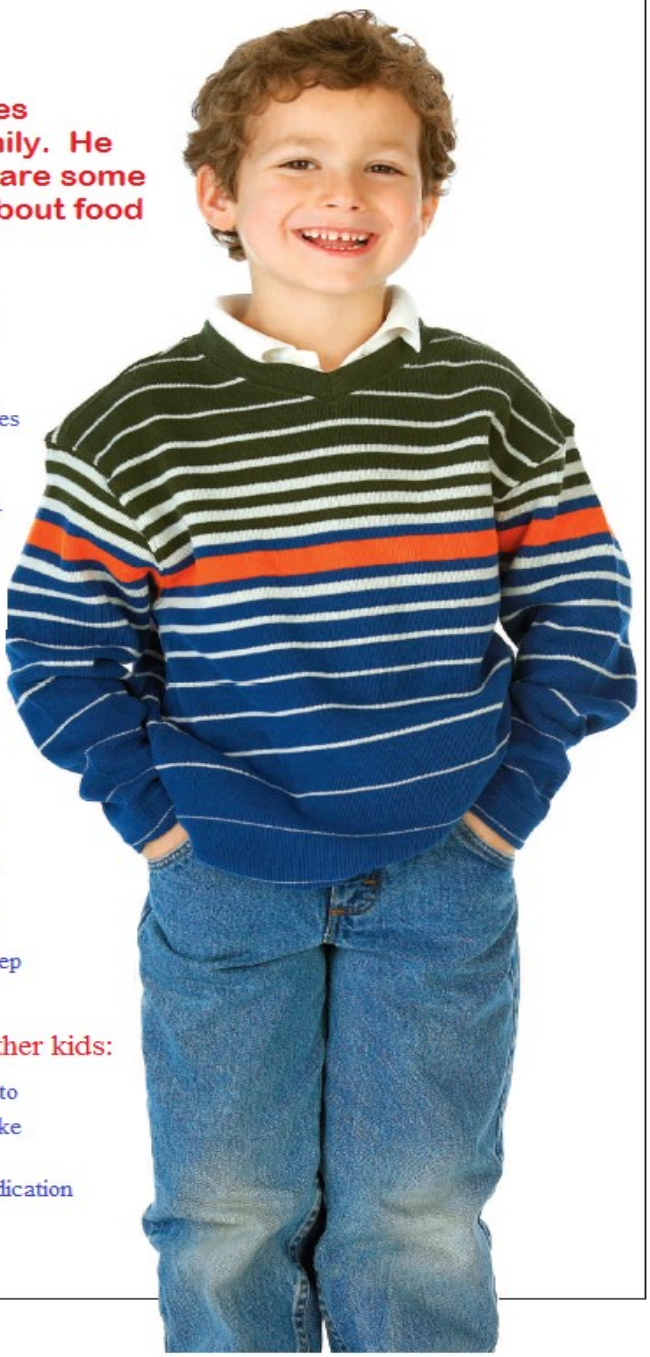
Here's how you can help...

- Don't bring foods that are common allergens to class
- Do bring non-food treats for class parties like pencils, games, and books
- Support the school keeping emergency medication for kids with food allergies

Visit us at Allergicliving.com

Allergic Living

This is James. He's 7 and loves Pokemon, soccer, and his family. He also has food allergies. Here are some things he'd like you to know about food allergies...



He wants to tell you...

- that 8% of American children have a food allergy
- that food allergies are life-threatening
- that no one knows what causes food allergies

Things that make him sad...

- Sometimes life is not fair for some children. Like James,eight percent of American children have food allergies. They could not have prevented or predicted that they would develop these allergies. It is not a choice.
- James, like many kids with food allergies, has been bullied at school. Children have chased him with food, rubbed the food on him, and tried to force him to eat it. This makes him feel isolated.
- James worries that the school board is not willing to pay to keep emergency medication available for him and other kids.
- James's school does not provide adequate information to parents of children without allergies about what they can do to help keep kids like him safe at their school.

Here's how you can help him and other kids:

- Don't bring foods to class that he's allergic to
- Do bring non-food treats for class parties like pencils, games, and books
- Support the school keeping emergency medication for kids with food allergies

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Allergic Living

Food allergies occur when the immune system mistakes a food for something dangerous and attacks the body. Here are some things you should know

Some facts include...

- that 8% of American children have a food allergy
- that food allergies are life-threatening
- that no one knows what causes food allergies

Quality of life...

- While eight percent of American children get food allergies, the cause of these food allergies is unknown. Therefore, there is no way to predict or prevent them. Evidence from research regarding a cause is inconclusive.
- Many students with food allergies get sick at school, from being exposed to food they are allergic to. Often, these incidents involve accidental exposure to common food allergens, potentially causing life-threatening reactions and isolation for kids.
- Most elementary schools do not have any life saving emergency medication available to students with food allergies should it become needed.
- Information about what parents can do to help keep kids with severe food allergies safe at school is often hard to find for parents of children without allergies.

Here's how you can help...

- Don't bring foods that are common allergens to class
- Do bring non-food treats for class parties like pencils, games, and books
- Support the school keeping emergency medication for kids with food allergies

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Allergic Living

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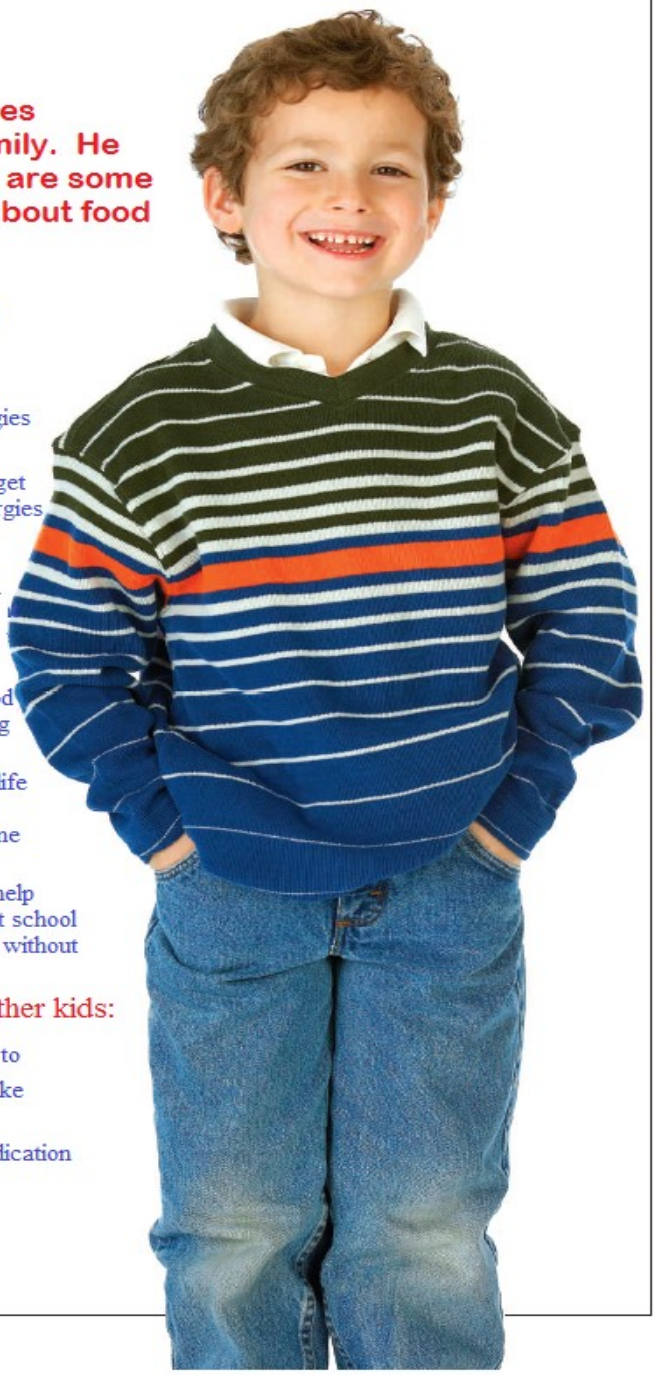


He wants to tell you...

- that 8% of American children have a food allergy
- that food allergies are life-threatening
- that no one knows what causes food allergies

Things that make him sad...

- While eight percent of American children get food allergies, the cause of these food allergies is unknown. Therefore, there is no way to predict or prevent them. Evidence from research regarding a cause is inconclusive.
- Many students with food allergies get sick at school, from being exposed to food they are allergic to. Often, these incidents involve accidental exposure to common food allergens, potentially causing life-threatening reactions and isolation for kids.
- Most elementary schools do not have any life saving emergency medication available to students with food allergies should it become needed.
- Information about what parents can do to help keep kids with severe food allergies safe at school is often hard to find for parents of children without allergies.

Here's how you can help him and other kids:

- Don't bring foods to class that he's allergic to
- Do bring non-food treats for class parties like pencils, games, and books
- Support the school keeping emergency medication for kids with food allergies

Visit us at Allergicliving.com

Diabetic
Living

Type 1 Diabetes is a chronic condition in which the pancreas produces little or no insulin. Here are some things you should know...

Some facts include...

- that about 1.25 million American children have Type 1 Diabetes
- that diabetes can be life-threatening
- that no one knows what causes Type 1 Diabetes

Quality of life...

- Sometimes life is not fair for some children. Around 1% of American children get type one diabetes. There is no way to prevent or predict which child will develop this. It is not a choice.
- Many students with type one diabetes get sick at school, sometimes due to pressures from peers to eat food they should not. This lack of regard for children with diabetes can result in depression and isolation.
- School boards often are not willing to pay to keep life saving emergency medication available to students should it become needed.
- Schools very rarely provide adequate information to parents of children without diabetes on what they can do to help keep kids with type one diabetes safe at school.

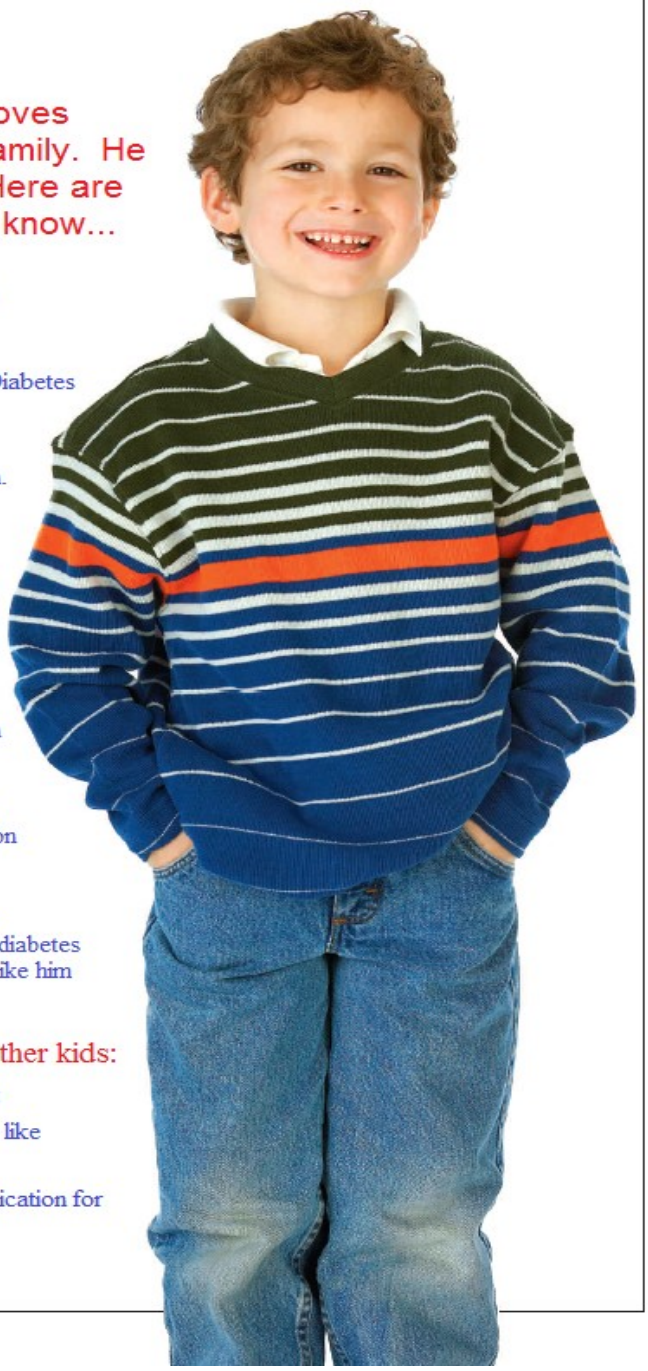
Here's how you can help...

- Don't bring sugary foods for the classroom
- Do bring non-food treats for class parties like pencils, games, and books
- Support schools keeping emergency medication for kids with diabetes

Visit us at Diabeticliving.com

Diabetic Living

This is James. He's 7 and loves Pokemon, soccer, and his family. He also has Type I Diabetes. Here are some things he'd like you to know...



He wants to tell you...

- that about 1.25 million American children have Type 1 Diabetes
- that diabetes can be life-threatening
- that no one knows what causes Type 1 Diabetes

Things that make him sad...

- Sometimes life is not fair for some children. Just like James, one percent of American children have type one diabetes. They couldn't have prevented or predicted developing this. It is not a choice for them.
- James, like many kids with type one diabetes, has been bullied at school. Children have teased him with food he cannot eat and called him names. This makes him feel isolated and has resulted in depression.
- James worries that the school board is not willing to pay to keep emergency medication available for him and other kids.
- James's school does not provide adequate information to parents of children without diabetes about what they can do to help keep kids like him safe at their school.

Here's how you can help him and other kids:

- Don't bring class foods that he cannot eat
- Do bring non-food treats for class parties like pencils, games, and books
- Support schools keeping emergency medication for kids with diabetes

Visit us at Diabeticliving.com

Diabetic
Living

Type 1 Diabetes is a chronic condition in which the pancreas produces little or no insulin. Here are some things you should know...

Some facts include...

- that about 1.25 million American children have Type 1 Diabetes
- that diabetes can be life-threatening
- that no one knows what causes Type 1 Diabetes

Quality of life...

- While about one percent of American children get type one diabetes, the cause is unknown. Therefore, there is no way to predict or prevent it. Evidence from research regarding a cause is inconclusive and unclear.
- Many students with type one diabetes get quite sick at school and sometimes require emergency medical care. Even when it is an accident due to eating sugary foods, these incidents can result in depression and isolation.
- Most schools do not have any life saving emergency medication available to students with type one diabetes should it become needed.
- Information about what parents can do to help keep kids with type one diabetes safe at school is often hard to find for parents of children without diabetes.

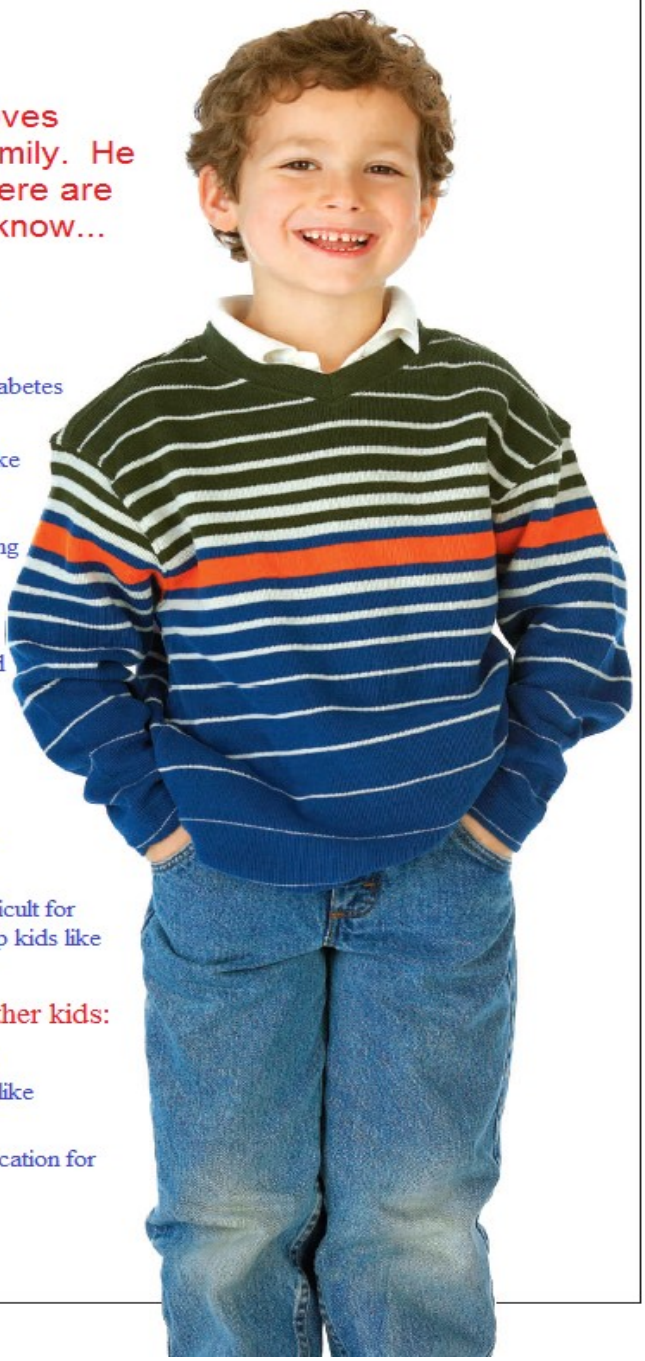
Here's how you can help...

- Don't bring sugary foods for the classroom
- Do bring non-food treats for class parties like pencils, games, and books
- Support schools keeping emergency medication for kids with diabetes

Visit us at Diabeticliving.com

Diabetic Living

This is James. He's 7 and loves Pokemon, soccer, and his family. He also has Type I Diabetes. Here are some things he'd like you to know...



He wants to tell you...

- that about 1.25 million American children have Type 1 Diabetes
- that diabetes can be life-threatening
- that no one knows what causes Type 1 Diabetes

Things that make him sad...

- While one percent of American children, like James, get type one diabetes, the cause is unknown. There is no way to prevent or predict it. Evidence from research regarding a cause is inconclusive and unclear.
- James, like many other kids with type one diabetes, has gotten really sick at school. Once was an accident in which he required emergency medical care. He now feels isolated at school and has developed depression.
- James worries that his school, like so many others, does not have emergency medication available to students should it become needed.
- Parents of James's friends find that it is difficult for them to find information about how to keep kids like him with type one diabetes safe at school.

Here's how you can help him and other kids:

- Don't bring class foods that he cannot eat
- Do bring non-food treats for class parties like pencils, games, and books
- Support schools keeping emergency medication for kids with diabetes

Visit us at Diabeticliving.com

Please spend up to one minute writing out any thoughts and feelings that came up while you were viewing the post.

We'd like to ask you some more questions about the post you just saw, so to refresh your memory, we will show it to you again.

[The exact same poster shown again]

Please think about how you felt while reading the post and answer the following from 0 (Did not feel at all) to 10 (Felt very strongly). For example, if you only felt that way a little bit, you might choose a “1” or “2”. If you felt moderately, you’d choose a “5”. A

feeling that is stronger than “moderate” might choose a higher number, like a “7” or an “8”.

	0 (Did not feel at all)	1	2	3	4	5	6	7	8	9	10 (Felt Very Strongly)
Angry	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Sad	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Afraid	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Disgusted	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Glad	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Happy	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Resentful	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Irritated	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Aggravated	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Concerned	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Remorseful	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Annoyed	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

In order to verify our system is working properly, please click on the number 2.

- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10

Please think about the following statements in regards to the social media post you saw, and answer the following from 0 (Very Strongly Disagree) to 10 (Very Strongly Agree).

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
It is unfair that some children have this health condition.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Schools do not do a good job handing health conditions like this.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Parents should not send food to school that they know can make another child sick.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Children without food restrictions sometimes bully children who do have this health condition.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

For this item, please click the number "4"	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
There is not enough information available for people to understand this health condition.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please think about the post you saw and answer the following from 0 (Not at All) to 10 (Very Much). The post I saw was…

	0 (Not at All)	1	2	3	4	5	6	7	8	9	10 (Very Much)
Well Done	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Clear	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Interesting	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Visually Appealing	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Easy to Read	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Informative	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Written like a story	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Emotional	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please imagine a typical child with food allergies and answer the following questions from 0 (Very Strongly Disagree) to 10 (Very Strongly Agree).

	0(Very Strongly disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly agree)
I like this child.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
This child is similar to me.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I can imagine myself spending time with this child.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please read the following statements and chose from 0 “Very Strongly Disagree” to “Very Strongly Agree”

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
I can imagine what it would feel like to be a child with food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I could get really involved thinking about how it'd feel to be a child with food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I can image how I would feel if I was having an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I could very easily put myself in the place of someone having an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I find it difficult to imagine being someone having an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

I have warm, compassionate feelings for anyone who has food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I do not feel much sympathy for anyone with food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I am not concerned about anyone being hurt by an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I feel kind of protective toward anyone hurt by an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I felt tender, concerned feelings for anyone hurt by an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

I would feel sad and want to help anyone hurt by an allergic reaction to food.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The misfortunes of anyone with food allergies would not disturb me a great deal.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
If you were talking about children with food allergies, how likely would you be to use the word "we"?	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please read the following statements and chose from 0 “Very Strongly Disagree” to “Very Strongly Agree”

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
While reading the post, I felt as if it was relevant to me.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
While reading the post, I forgot myself and was fully absorbed.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I was able to understand the post in a way similar to how someone with food allergies would.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I think I have a good understanding of people with food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I tend to understand the reasons why people with food allergies feel the way they do.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

While reading the post, I could feel the emotions that someone with food allergies would feel.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
While reading the post, I felt like I was inside the head of someone with food allergies.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
While reading the post, I felt I knew what people with food allergies go through.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
While reading the post, I felt like I was rooting for people with food allergies to achieve their goals.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
When people with food allergies are treated well, I feel joy.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Thank you for completing this task. We would now like to ask some questions that will help us understand your responses to the post.

Please respond to the following questions using the following scale: 0= "Not a concern at all" to 10= "One of my biggest concerns." These concerns should be relative to all the other things you are concerned about.

Food allergies causing severe sickness or death in The United States:

- ❍ 0 Not a concern at all
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 One of my biggest concerns

Food allergies causing severe sickness or death in my state:

- ❍ 0 Not a concern at all
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 One of my biggest concerns

Food allergies causing severe sickness or death for a family member or close friend:

- ❍ 0 Not a concern at all
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 One of my biggest concerns

Food allergies causing severe sickness or death for me:

- ❍ 0 Not a concern at all
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 One of my biggest concerns

Please respond to the following questions using the following scale: 0= “Strongly Oppose” to 10= “Strongly Support.”

New rules that restrict food from classrooms.

- ❍ 0 Strongly Oppose
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 Strongly Support

Policies that mandate schools have emergency medication available for students who have allergic reactions at school.

- ❍ 0 Strongly Oppose
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 Strongly Support

Policies that require class parties to provide non-food treats (such as pencils, rings, games, etc..) instead of food.

- ❍ 0 Strongly Oppose
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 Strongly Support

Would you be likely to sign a petition to limit foods in your child's classroom?

- ❍ 0 Not Likely At All
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 Very Likely

Would you be likely to volunteer a few hours to pass out a petition to limit foods in your child's classroom?

- 0 Not Likely At All
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 Very Likely

If asked, would you be likely to make a small donation to help keep emergency medication in schools?

- 0 Not Likely At All
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 Very Likely

How much time and/or money would you be willing to donate to food allergy research and education?

To better understand your reactions to the post, we'd like to know more about what you might do when you are in a situation that involves food allergies at your child's school. Just tell us what first comes to mind regarding what you would do in such a situation if it did occur.

For these questions, if you would be totally willing to do the behavior listed, choose a 10. If you would not be willing to do it at all, please choose a 0. If you're split down the middle, choose a 5. Slide the slider to provide the most accurate answer for what you think you would do in these situations. For these questions, if you think you probably wouldn't do the behavior, you might answer a 2, 3, or 4; if you probably would, perhaps a 7, 8, or 9..

Suppose you are packing your child's lunch. You know that your child has a friend who is allergic to peanuts, and they often sit together during lunch. Your child has asked you to pack a peanut butter and jelly sandwich in their lunch. Would you:
_____ Pack the peanut butter and jelly sandwich.
_____ Tell your child you want to pack food that is safe around their friend.
_____ Use a peanut butter alternative (like sunbutter or soybutter) and tell your child it is peanut butter.

Suppose you found out that your child's friend has a food allergy, but that you didn't know much about the allergy. Would you:
_____Google information about food allergies
_____Ask the child's parents to tell you about their child's allergies
_____Assume the child can be responsible for handling their own allergy

Suppose your child's school was looking for donations to buy emergency medication for children with food allergies. Would you:
_____Donate money
_____Offer to donate time helping with fundraising
_____Take a pass

Suppose your child's class was having a Halloween party at school and the teacher asked that everyone bring a non-food treat. Would you:
_____Bring a non-food treat
_____Bring Halloween candy
_____Bring nothing

For the following questions, please answer from 0 (strongly disapprove) to 10 (strongly approve).

How much do you approve of parents of non-food allergic children bringing foods into the classroom?

- ❍ 0 Very Strongly Disapprove
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10 Very Strongly Approve

Please answer from 0 (Not At All Likely) to 10 (Extremely Likely).

	0 (Not At All Likely)	1	2	3	4	5	6	7	8	9	10 (Extremely Likely)
How likely is a child to have an allergic reaction if they eat the food they are allergic to?	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
How likely is a child to die from an allergic reaction to food?	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
For this item, please choose "0"	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
How likely is emergency medication to save a child's life?	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

This time, please click on answer #8.

- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10

Please answer the following from 0 “Very Strongly Disagree” to 10 “Very Strongly Agree”

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
I feel that people get what they are entitled to have	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I feel that people earn the rewards and punishments they get	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I feel that people who meet with misfortune have brought it upon themselves	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I feel that people get what they deserve	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I basically feel that the world is a fair place	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please answer the following from 0 “Very Strongly Disagree” to 10 “Very Strongly Agree”

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
It is pointless to worry about current social issues; I can't do anything about it anyway.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Every person should do what they can to help others.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I'm confident that other people will deal with current social issues, so I don't need to get involved.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

I spend time thinking about what I can do and would like to do to help others.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I feel responsible for other people, even if I don't know them.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please answer the following from 0 "Very Strongly Disagree" to 10 "Very Strongly Agree"

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
Most of the people I know try to do something to make the world a better place.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
People who are close to me would want me to help others.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I know a lot of people who are involved in activities that help others.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Most of the people close to me think it's a good thing to help others, even strangers.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Most parents take steps to ensure that children are safe at school, even children that aren't theirs.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Please answer the following from 0 "Very Strongly Disagree" to 10 "Very Strongly Agree"

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
It is inconvenient to have to restrict what food my child brings to school because of another child's allergy.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I don't mind making accommodations for other people's children if I think it makes them safer at school.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Avoiding bringing certain foods to school is a lot of work.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
It's easy for me to find ideas of non-food items my child can bring to school parties.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
It's easy for me to avoid bringing common allergens to school.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

For the following, please answer from 0 (Very Strongly Disagree) to 10 (Very Strongly Agree)

	0 (Very Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Very Strongly Agree)
Clearly, the poster was pushing an agenda.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster tried to manipulate me.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster tried to pressure me to think a certain way.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster tried to force its opinions on me.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster tried to tell me how to live my life.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster tried to make a decision for me.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster did not have any hidden motive.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
The poster was straight forward and honest.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

The poster was factual and not manipulative.	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Are you male or female?

- ❍ Male
- ❍ Female

Please type in your age. Please use digits (for example, "36") instead of typing out the number (for example, "thirty-six").

Are you of Hispanic origin?

- ❍ Yes
- ❍ No

Which of the following best describes your race?

- ❍ White
- ❍ Black or African American
- ❍ American Indian or Alaska Native
- ❍ Asian
- ❍ Native Hawaiian or Pacific Islander
- ❍ Mixed
- ❍ Other
- ❍ Do not wish to answer

What is your highest level of educational attainment?

- ❍ Some high school
- ❍ High school degree or GED
- ❍ Some college
- ❍ Trade/vocational school
- ❍ College/university degree
- ❍ Graduate degree

How many children currently live in your home?

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more

Please click on the ages of the children living in your home. Please click more than one answer if you have more than one child living in your home.

- ❑ Less than one year old
- ❑ 1
- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5
- ❑ 6
- ❑ 7
- ❑ 8
- ❑ 9
- ❑ 10
- ❑ 11
- ❑ 12
- ❑ 13
- ❑ 14
- ❑ 15
- ❑ 16
- ❑ 17
- ❑ 18
- ❑ 19+

What kind of school does your child/do your children (under the age of 18) attend primarily?

- ❍ Public School
- ❍ Private School
- ❍ Home School

Are your children male or female?

- ❍ Male
- ❍ Female
- ❍ I at least one male and at least one female child

What is your marital status?

- ❍ Married, living with spouse
- ❍ Separated
- ❍ Divorced
- ❍ Widowed
- ❍ Single, never married
- ❍ Domestic partnership

What is your present religion, if any?

- ❍ Protestant
- ❍ Roman Catholic
- ❍ Mormon
- ❍ Eastern or Greek Orthodox
- ❍ Jewish
- ❍ Muslim
- ❍ Buddhist
- ❍ Hindu
- ❍ Atheist
- ❍ Agnostic
- ❍ Nothing in particular
- ❍ Something else

Would you describe yourself as a "born-again" or evangelical Christian?

- ❍ Yes
- ❍ Maybe
- ❍ No

People practice their religion in different ways. Outside of attending religious services, how often do you pray?

- ❍ Several times a day
- ❍ Once a day
- ❍ A few times a week
- ❍ Once a week
- ❍ A few times a month
- ❍ Seldom
- ❍ Never
- ❍ Don't know

Which of these statements comes closest to describing your feelings about the Christian Bible?

- ❍ The Bible is the actual word of God and is to be taken literally, word for word.
- ❍ The Bible is the word of God, but not everything in it should be taken literally, word for word.
- ❍ The Bible is an ancient book of stories, history, and moral precepts recorded by men.

Which of the following best describes your current employment status?

- ❍ Working full time now
- ❍ Working part time now
- ❍ Temporarily laid off
- ❍ Unemployed
- ❍ Retired
- ❍ Permanently disabled
- ❍ Taking care of home or family
- ❍ Student
- ❍ Other

In general, do you think of yourself as:

- ❍ Extremely conservative
- ❍ Conservative
- ❍ Somewhat conservative
- ❍ Neither conservative nor liberal
- ❍ Somewhat liberal
- ❍ Liberal
- ❍ Extremely liberal

How often do you send your child to school with food for the class (e.g. for class parties/birthdays)?

- ❍ Never
- ❍ Less than Once a Month
- ❍ Once to three times per month
- ❍ Once per week
- ❍ More than once a week, less than every day
- ❍ Once a day
- ❍ Twice or more each day

Do you know someone who has a food allergy?

- ❍ No
- ❍ Yes

[only asked if they do know someone with a food allergy]Who do you know that has a food allergy?

- ❑ No one
- ❑ Myself
- ❑ My child
- ❑ A family member besides my child
- ❑ A friend of mine
- ❑ A friend of my child's
- ❑ A coworker
- ❑ Other

In at least one of these incidents, did the person have a reaction severe enough to require emergency treatment?

- ❍ Yes
- ❍ No
- ❍ Don't know

The anonymous sponsor of this research has agreed to give each participant $10 to donate to the charity of his or her choice. Each participant can decide how to allocate the $10 (e.g., give it all to one charity, or divide it up among two or more charities). Please indicate how much money you want to give to each of the following organizations. Note. The total should add up to $10.

- Food Allergy Research and Education _____
- Diabetes Research and Education _____
- Cystic Fibrosis Research and Education _____
- Attention Deficit Disorder Research and Education _____

TOTAL (should be $10) _____

You have now completed the study. Thank you for your participation! If you would like to learn more about food allergies, and how you can help, please click "Learn More". Otherwise, please click "End Study".

- ❍ Learn More
- ❍ End Study

[If "Learn More" is chosen, Web addresses of food allergy or diabetes related educational and research sites will appear on the final page of the study along with the debriefing page. If "End Study" is chosen, the study will close at the debriefing screen.]

Final (Debriefing) Page:

We'd like to let you know that while the anonymous researcher is making donations to the health organizations you were asked about earlier, and while those donations will be based on participant preferences, the total amount of money donated may not equal $10 per person who participated in the study. We used "$10" in the question because it's easier to think about allocating $10 than to think of dividing up an unknown amount of money.

If you feel that you do not want your data to be used in this study, please check the "withdraw from study" option below. Otherwise, please click the "<<" button to end the study.
Thank you for your participation!

Appendix B: Stimulus Tables

Injustice Type	Topic/Blame	Non-exemplar/Inj Salient	Non-exemplar/Injustice Not Salient	exemplar/Inj Salient	exemplar/Inj Not salient
"Situational" Bad luck. Similar to "Distributive" but in a health context it involves the burden of getting the health condition	Developing the health condition/Alleviate blame from parents of kids with diabetes and the kids themselves	Sometimes life is not fair for some children. Around 1% of American children get type one diabetes. There is no way to prevent or predict which child will develop this. It is not a choice.	While about one percent of American children get type one diabetes, the cause is unknown. Therefore, there is no way to predict or prevent it. Evidence from research regarding a cause is inconclusive and unclear.	Sometimes life is not fair for some children. Just like James, one percent of American children have type one diabetes. They couldn't have prevented or predicted developing this. It is not a choice for them.	While one percent of American children, like James, get type one diabetes, the cause is unknown. There is no way to prevent or predict it. Evidence from research regarding a cause is inconclusive and unclear.
Word Count		35	35	35	35
"Interpersonal" Fairness in treatment from peers	Getting sick at school/Blame attributed to other kids	Many students with type one diabetes get sick at school, sometimes due to pressures from peers to eat food they should not. This lack of regard for children with diabetes can result in depression and isolation.	Many students with type one diabetes get quite sick at school and sometimes require emergency medical care. Even when it is an accident due to eating sugary foods, these incidents can result in depression and isolation.	James, like many kids with type one diabetes, has been bullied at school. Children have teased him with food he cannot eat and called him names. This makes him feel isolated and has resulted in depression.	James, like many other kids with type one diabetes, has gotten really sick at school. Once was an accident in which he required emergency medical care. He now feels isolated at school and has developed depression.
Word Count		36	36	36	36
"Decisional/Procedural" Fairness in procedures and decisions	Getting proper treatment at school/Blame attributed to poor school policies	School boards often are not willing to pay to keep life saving emergency medication available to students should it become needed.	Most schools do not have any life saving emergency medication available to students with type one diabetes should it become needed.	James worries that the school board is not willing to pay to keep emergency medication available for him and other kids.	James worries that his school, like so many others, does not have emergency medication available to students should it become needed.
Word Count		21	21	21	21
"Informational" Fair access to and use of information	Getting information about the health condition and using it/Blame attributed to schools	Schools very rarely provide adequate information to parents of children without diabetes on what they can do to help keep kids with type one diabetes safe at school.	Information about what parents can do to help keep kids with type one diabetes safe at school is often hard to find for parents of children without diabetes.	James's school does not provide adequate information to parents of children without diabetes about what they can do to help keep kids like him safe at their school.	Parents of James's friends find that it is difficult for them to find information about how to keep kids like him with type one diabetes safe at school.
Word Count		28	28	28	28

Injustice Type	Topic/Blame	Non-narrative/Inj Salient	Non-narr/Injustice Not Salient	Narrative/Inj Salient	Narrative/Inj Not salient
"Situational" Bad luck. Similar to "Distributive" but in a health context it involves the burden of getting the health condition	Developing the health condition/Alleviate blame from parents of kids with food allergies and the kids themselves	Sometimes life is not fair for some children. Eight percent of American children get food allergies. There is no way to prevent or predict which child will develop these allergies. It is not a choice.	While eight percent of American children get food allergies, the cause of these food allergies is unknown. Therefore, there is no way to predict or prevent them. Evidence from research regarding a cause is inconclusive.	Sometimes life is not fair for some children. Like James, eight percent of American children have food allergies. They could not have prevented or predicted that they would develop these allergies. It is not a choice.	While eight percent of American children, like James, get food allergies, the cause of food allergies is unknown. There is no way to prevent or predict them. Evidence from research regarding a cause is inconclusive.
Word Count		35	35	35	35
"Interpersonal" Fairness in treatment from peers	Getting sick at school/Blame attributed to other kids	Many students with food allergies get sick at school, sometimes from bullying from peers. More than half of these incidents involve threatening children with the food they are allergic to, potentially causing life-threatening reactions and isolation.	Many students with food allergies get sick at school, from being exposed to food they are allergic to. Often, these incidents involve accidental exposure to common food allergens, potentially causing life-threatening reactions and isolation for kids.	James, like many kids with food allergies, has been bullied at school. Children have chased him with food, rubbed the food on him, and tried to force him to eat it. This makes him feel isolated.	James, like many kids with food allergies, has had allergic reactions at school. One was from accidental exposure to the food he's allergic to, and it caused a life-threatening reaction. He now feels isolated at school.
Word Count		36	36	36	36
"Decisional/Procedural" Fairness in procedures and decisions	Getting proper treatment at school/Blame attributed to poor school policies	School boards often are not willing to pay to keep life saving emergency medication available to students should it become needed.	Most elementary schools do not have any life saving emergency medication available to students with food allergies should it become needed.	James worries that the school board is not willing to pay to keep emergency medication available for him and other kids.	James worries that his school, like so many others, does not have emergency medication available to students should it become needed.
Word Count		21	21	21	21
"Informational" Fair access to and use of information	Getting information about the health condition and using it/Blame attributed to schools	Schools very rarely provide adequate information to parents of children without allergies on what they can do to help keep kids with severe food allergies safe at school.	Information about what parents can do to help keep kids with severe food allergies safe at school is often hard to find for parents of children without allergies.	James's school does not provide adequate information to parents of children without allergies about what they can do to help keep kids like him safe at their school.	Parents of James's friends find that it is difficult for them to find information about how to keep kids like him with severe food allergies safe at school.
Word Count		28	28	28	28