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Exemplar versus base rate information messages: Effect on African-Americans' intentions toward signing a donor card

Aisha O'Mally

The Rochester Institute of Technology

Department of Communication

College of Liberal Arts

Exemplar versus Base Rate Information Messages: Effect on African-Americans' Intentions toward Signing a Donor Card

by

Aisha O'Mally

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The members of the Committee approve the thesis of
Aisha O'Mally presented on June 27, 2011

_____

Bruce A. Austin, Ph. D.
Chairman and Professor of Communication
Department of Communication

_____

Tracy Worrell, Ph. D.
Assistant Professor of Communication
Department of Communication
Thesis Advisor

_____

Esa Rantanen, Ph. D.
Associate Professor
Department of Psychology
Thesis Advisor

_____

Rudy Pugliese, Ph.D.
Professor of Communication
Director, Communication & Media
Technologies Graduate Degree Program
Department of Communication

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EXEMPLAR VERSUS BASE RATE INFORMATION MESSAGES: EFFECT ON AFRICAN-AMERICANS' INTENTIONS TOWARD SIGNING A DONOR CARD

Name: Aisha O'Mally
Department: Communication
College: Liberal Arts
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Abstract

This study examines factors that may play a role in moderating the influence of a message on African-Americans to become organ donors. The message and sender were both manipulated to examine the impact of exemplars versus base rates within the message as well as the race of the sender. An anthropomorphic agent was used to present information about organ donation. Respondents completed a pre-test survey, viewed a short video, and then completed a post-test. There was no significant evidence found that either base rate or exemplar information influenced African-Americans to become organ donors. The expectation that participants would identify more with the African-American anthropomorphic agent was not supported by the current study's results.

Keywords: exemplification, identification, anthropomorphic agents, organ donation

Exemplar versus Base Rate Information Messages: Effect on African-Americans' Intentions toward Signing a Donor Card

The United Network of Organ Sharing reports that there are over 108,000 people waiting for a transplant as of September 2010. From January to June of that same year there were only 14,139 transplant surgeries performed (United Network for Organ Donation, 2010). This indicates a clear and significant shortage of organs available for transplant. Nowhere is this scarcity greater than within the minority communities, specifically African-Americans. According to U.S. Department of Health and Human Services, 17,317 Caucasians (60.8% of the number on the waiting list) received an organ transplant in 2009, compared to the 5,697 African-Americans (20% of the number on the waiting list) that received an organ transplant that same year (Organ Procurement and Transplantation Network, n.d.).

Kidneys are in high demand compared to other major organs. In 1989, there were 16,294 people on the waitlist for a renal transplant, today that number has increased to 92,293 (Organ Procurement and Transplantation Network, n.d.). When we look specifically at kidney transplants among these two populations African-Americans suffer from End Stage Renal Disease (ESRD) much more often than Caucasians. Due to high rates of diabetes, hypertension and heart disease, African-Americans have a higher risk of going into renal failure that will require dialysis treatments or a kidney

transplant to sustain life (National Kidney Foundation, 2010). African-Americans contract these diseases at a younger age than Caucasians, and are four times more likely to develop complications and experience kidney failure than Caucasians (National Kidney Foundation, 2010).

While several factors can play a role in whether or not a transplant is successful an important one is ethnicity. A transplant can be more successful by matching organs between members of the same racial and ethnic groups, due to the fact that people are genetically more like people of their own ethnicity or race than people of other races (Office of Minority Health, n.d.). Even though ethnicity is not the first and only criteria for organ donation, matches are more likely and timely when donors and potential recipients are members of the same ethnicity (Office of Minority Health, n.d.).

Another area of concern is the wait time for organs prior to a transplant. There is a disparity among the amount of time Caucasians wait versus other ethnicities. While other minorities also have longer waiting periods than Caucasians this study will focus on just the African-American population. According to Siminoff, Burant, and Ibrahim (2006), the wait time for African-Americans is 82% longer than Caucasians for a kidney transplant, "African-Americans, on average wait 1,335 days compared with 734 days for Caucasians." Despite the number of African-Americans in need of an organ transplant, African-Americans are less willing to donate their organs than Caucasians (Morgan,

Miller & Arasaratnam, 2003). It is clear that the number of minorities on the organ transplant waitlist far exceeds the number of minority organ donors, "Non-Caucasians are not donating organs in proportion to their racial-group specific needs" (Organ Donation Factline, 2005). Currently, African-Americans make up 35% of patients on the renal transplant list (Organ Procurement and Transplantation Network, n.d.). As of July 2010 there are 2,055 African-American donors (about 14 %) and 9,988 Caucasian donors (about 68.3%) for all organs (Organ Procurement and Transplantation Network, n.d.).

The reason for the shortage of African-American donors is complex. One significant barrier is a lack of trust in the medical community mostly stemming from incidents such as the Tuskegee Experiment. Even though this experiment ended over 30 years ago many in the African-American community still view this experiment as unforgivable. The distrust, betrayal and suspicion still remain (Minniefield, Yang, & Muti, 2001). Minniefield et al. (2001) found that approximately one half of African-Americans showed a lack of trust for doctors and the medical system in caring for them. In the same study, three fourths of Caucasians indicated they trusted doctors and the medical system caring for them (Minniefield et al., 2001). African-Americans' lack of trust in the medical system presents a significant barrier in recruiting donors within the African-American communities (Minniefield et al., 2001). A different study reported that African-Americans are more likely than Caucasians to believe that donating their

organs is against their religion, and that it is important to be buried intact (Siminoff, Burant & Ibrahim, 2006). Even though most churches do not object to organ donation the lack of support sends a strong negative message (Morgan, 2006). The belief in bodily integrity is also negatively correlated with African-Americans' willingness to donate organs (Morgan, 2006). Recognizing the barriers that stop African-Americans from donating organs is only one part of the equation. Looking at new and innovative methods to reach this population must be addressed as well.

In today's society more people are looking to the Internet for health information for themselves and family members (Bernhardt & Felter, 2004). Eighty percent of American Internet users have searched for information on at least one of seventeen health topics (Pew Internet and American Life Project, 2006). Some of these topics include diet, nutrition, alternative treatments, sexual health, cardiac health and organ donation. The current researcher utilizes the Internet to display specific types of organ donation messages targeted to African-Americans. Caucasian and African-American anthropomorphic agents were created to present organ donation information to African-American participants. The experiment examines whether the African-American sample population feels stronger identification with the same race agent versus the Caucasian agent and if this will influence those individuals' intention to donate their organs. Secondly, the experiment manipulates and examines the types of

appeals that may affect the individual the most, base rate or narrative, based on the exemplification theory.

The current study also examines the use of anthropomorphic agents in order to spread the message about increasing organ donors among the African-American community. Using an anthropomorphic agent can reduce confounds such as attractiveness or liking that may be found with "live" individuals. The results from this experiment will help organ donation agencies around the country find additional ways to reach African-Americans and other minorities so that more people are aware of how important organ donation is and the need for more African-Americans to become an organ donor.

Literature Review

When discussing persuasion Hovland, Janis, and Kelley (1953) addressed four topics: the communicator, the stimuli transmitted by the communicator, the audience, and the responses made by the audience to the communication (Hovland et al., 1953). The communicator is an important factor influencing the effectiveness of the message and demonstrates trustworthiness and intention. Source credibility is important in obtaining immediate opinion change. A communicator with low credibility is perceived to be unfair and biased more so than one with high credibility. A communicator with high credibility will be more persuasive than one with low credibility. The stimuli

consist of communication content that arouses emotional states, or are capable of providing strong motivations for acceptance of a new opinion and/or reject the original ones held by the audience (Hovland et al., 1953). This study highlights three of the four aspects examined by Hovland et al. The person transmitting the communication will be the African-American/Caucasian anthropomorphic agent. The stimuli transmitted will consist of two different message types about organ donation. The participant will complete a survey after viewing the treatment to capture their responses about the message.

Persuasion and the impact of messages have been examined specific to organ donation. Kopfman, Smith, Ah Yun, and Hodges (1998) examined reactions of narrative versus statistical messages exclusively in organ donation communications. Kopfman et al. (1998) demonstrated that an organ donation message supported by statistical evidence had a larger influence on the participant's cognitive reactions such that overall thought about organ donation improved, and higher message rankings were given after reading the statistical messages versus after reading narrative messages.

Feeley (2006) replicated Kopfman et al. (1998) however, the findings were not duplicated. Feeley (2006) examined the comparative merit of the message content and the persuasive evidence of public communication campaigns promoting organ and tissue donation. Results of the study found that narrative messages were evaluated

more positively, seen as more casually relevant and rated as more credible (Feeley, 2006). Weber, Martin, Corrigan, and Members of COMM 201 (2006) conducted two studies that focused on the persuasiveness of messages that encouraged people to sign organ donor cards. The first study investigated public knowledge of facts regarding organ donation and to what effect such knowledge had on the decision to sign an organ donor card. Results indicated that overall knowledge about donation explained a participant's willingness to sign an organ donor card. The second study manipulated the content of the message (narrative versus statistical) and the affect of the message. Results indicated that narrative messages were more persuasive than statistical messages (Weber et al., 2006).

There is a definite conflict in the previous research as to which type of message is more persuasive, narrative or statistical. Some researchers have found narrative appeals to be more persuasive and others have found the opposite. This study intends to use the exemplification theory to determine which type of appeal is more persuasive to the targeted population. The next section discusses the exemplification theory and which type of appeal about organ donation influences the attitude and/or behavior of the participant the most, base rate or narrative.

Exemplification Theory

Exemplification focuses on representational accuracy of reports of relevant social events and the heuristic processing of exemplar collection in shaping judgments of these events (Bryant & Zillman, 2002). Exemplification theory maintains that when processing media messages most people do not engage in extensive cognitive processing (Andsager, Bemker, Choi, & Torwel, 2006). Individuals will use heuristics such as availability and representativeness to process information. Availability refers to whatever relevant representation that is readily available in a person's mind that may be called upon to assess the exemplar (Andsager et al., 2006). Representativeness is the extent to which the exemplar is similar to or representative to the situation or issue it is supposed to exemplify (Andsager et. al., 2006). In other words, the representative heuristic looks at generalizations from small exemplar groups as subjectively persuasive and compelling; the sample size of events to the population of events is irrelevant (Zillmann, 2006). Zillmann (2006) takes this one step further by adding a third heuristic, quantification. He explains that quantification speculates that people will attain a sense of frequency of occurrences that are important to them with minimal cognitive investment.

The exemplar is more affective and influential depending on the information it conveys, and the affective reactivity the information elicits (Zillman, 2006). Affect-

evoking exemplars dominate the attention of an audience and often ensure overrepresentation which can bias an issue but this may work in favor of that particular issue (Zillman, 2006). Over-representation of health issues may bring the issue to the attention of more individuals. When dealing with a health risk, affective reactivity exemplars will receive much more attention which magnifies the threat to health (Zillman, 2006). Base rate information usually includes a large number of cases and is representative, systematic and used to quantify a problem (Brosius, 1999). This type of information is made available by very reliable sources such as the government and universities. Unlike exemplars, base rate information is considered to be highly valid and less vivid; however, both can be used to make judgments about a problem (Brosius, 1999). The perception of a problem is more influenced by exemplars because they are more vivid and have emotional proximity (Brosius, 1999). Brosius (1999) confirmed that there is a stronger effect with vivid but less valid exemplars than less vivid but valid base rate information. The study found that exemplars had a decisive influence on the perception of majority and minority opinions, and also affected the recipients' own opinions.

Studies pertaining to health and safety confirm the theory of exemplification. One study utilized a news report focused on the difficulties of controlling weight after successful weight loss. This report was manipulated to feature negative versus positive

exemplars (Zillmann, Perkins, & Sundar, 1992). Researchers used interviews with people who failed to control their weight versus people who succeeded in controlling it to represent these negative and positive exemplars (Zillmann, et al., 1992). Failure rate was expressed in base rate information as a percentage or reported as one third of the population and less precisely as "the minority of cases." The findings showed that exemplification dominated over the formal quantifications, the use of base rate information proved to be inconsequential to the beliefs about prevalence of weight gainers. The use of exemplars proved to foster assessments of weight control in accordance with the degree of representativeness (Zillmann et al., 1992).

Another study conducted in 1996 found similar results. Researchers manipulated a television news program about salmonella poisoning in a particular restaurant (Aust & Zillmann, 1996). The report used facts about individuals being harmed and showed interviews (exemplars) conducted in calm or highly agitated emotional manner with grieving relatives. In the control condition no interviews were used. The finding from this study showed that compared to no interviews the exemplars elevated the assessment of risk to oneself and others (Aust & Zillmann, 1996). The next experiment altered a health newscast about the risk of developing skin cancer from extreme sun exposure (Zillmann, 2006). The report included detailed information about melanoma and finished with an appeal to take protective measures. For the emotion-arousing

condition the second piece included explicit shocking pictures of melanoma in a more advanced stage. The findings showed that the emotional exemplar (the picture of melanoma) even though in a fact based program was capable of increasing assessment of risk to oneself and others (Zillmann, 2006).

There are a few studies that have researched perceived similarity using exemplars to elicit a desired behavior. Brosius (1999) tested 159 participants to determine whether an increased similarity between the exemplar and the recipient increases the persuasiveness of the exemplar. The effects of the exemplars were traced back to their function as agents for identification or models of the recipient. Again the vivid but less valid exemplar had a stronger effect on the participants than the less vivid but valid base rate information. The exemplars not only affected the perception of the population's opinion but also in part the recipients' own opinions. This study argued that learning from a model could play a role in the presentation and reception of exemplars; the recipient may adopt the attitudes and behaviors of the model in their own life. Brosius also argued that "perceived similarity between model and recipient is among the most effective variables in the imitation of model behavior" (Brosius, 1999, p.216).

As in Brosius (1999), this study anticipates that exemplars exert a stronger influence on the opinions and judgment of recipients than base rate information. The

researcher will compare organ donation messages that include exemplars and base rate information to examine their effect on recipients. Based on results of previous studies that focused on the exemplification theory the first research question arises.

RQ1: What differences are there for African-Americans regarding their intention to donate after viewing exemplars or base rate information messages about organ donation?

This study will also examine the communicator and audience. As mentioned earlier the communicator is an important factor influencing the effectiveness of the message. The next section will discuss the use of an anthropomorphic agent as the communicator transmitting the message.

Anthropomorphic Agents

Anthropomorphic agents are "digital representations of computer programs that have been designed to interact with, or on behalf of, a human" (Nan, Anghelcev, Myers, Sar, & Faber, 2009, p.2). Recently, anthropomorphic agents have been widely used on educational and commercial websites. They usually take on the role of web hosts, welcoming visitors and delivering information about the websites or as interactive consultants (Nan et al., 2009). There are only a few studies examining the influence and effects of the presence of an anthropomorphic agent on people's perceptions and

attitudes toward the website as well as the products or services associated with it (Nan et al., 2009).

Appiah and Elias (2009) examined the impact of an anthropomorphic agent in a consumer-related setting while looking at the effect of the ethnicity of the agent on consumers' attitudes. The distinctiveness theory and ethnic identity were used to explain the research. The researchers examined the effects of using black, white, and ethnically ambiguous agents on participants' evaluations of commercial websites. The results showed that blacks perceived themselves "more similar to, identified more strongly with, had more positive attitudes toward, and recalled more information from the black agent than the white agent" (Appiah & Elias, 2009, p.177). The findings demonstrate that ethnic identification is a key variable that predicts blacks' responses to race-specific messages on the web (Appiah & Elias, 2009).

One important aspect that has been researched regarding agents is social presence. Blascovich, Loomis, Beall, Swinth, Hoyt, and Bailenson (2002) defined social presence as "the extent to which individuals treat anthropomorphic agents as if they were other real human beings" (p.103). Russo (2001) defined social presence as "the perception by a communicator that another person in a mediated environment is real, immediate, or present" (p.4). Nan et al. (2009) conceptualized social presence as a person's perception of an anthropomorphic agent rather than on a person's responses to

the agent, which is in accordance to Russo's (2001) definition. The perception that the agent is like a real human being makes the interaction between an individual and the agent engaging much like an interpersonal interaction (Nan et al., 2009). Nan et al. (2009) found that the presence of anthropomorphic agents increased perceived social presence, which led to more positive emotional responses to the website. More specifically, the agent engendered a stronger feeling of being stimulated, which mediated the impact of the agents on people's attitudes toward the website (Nan et al., 2009). Choi, Miracle, and Biocca (2001) also examined anthropomorphic agents and the role of presence on websites. Results showed that an anthropomorphic agent on a website can contribute to presence, which played an important role in producing more favorable attitudes toward an advertisement and stronger intention to revisit the website.

Early persuasion research also examines the effects of source recipient similarity and has shown that people are more likely to be influenced by a persuasive message if they identify it as coming from a source similar rather than dissimilar to themselves (Whittler, 1989). Looking specifically at race, researchers found that African-Americans show better recall of content and have a more positive attitude toward advertisements that feature African-Americans rather than Caucasian actors (Whittler, 1991). The next

section explains in detail the identification theory and how it relates to the current study.

Identification Theory

Identification theory explains that individuals automatically evaluate their level of similarity with a source and make similarity judgments during an interaction (Appiah, 2001; Kelman, 1961). This process compels a person to favor models based on perceived similarities between themselves and the model (Appiah, 2001; Kelman, 1961). Identification may take place when an individual concludes that their tastes and preferences are similar to those of the source (Appiah, 2001). If an audience member perceives that the source has similar characteristics to their own, such as race, they will also begin to conclude that the source will have other characteristics as well, which can lead to greater identification. Kelman (1961) also suggests that racially sensitive audience members would not want to classify themselves in relation to a racially dissimilar source. That person instead would show a negative identification process where their general feelings toward the different race source would be unfavorable which would lead to most likely not accepting the source's message about a product or service (Whittler, 1991). In other words the source's race is a characteristic that can encourage audience members to infer similarity or dissimilarity. A person may say to themselves, this person is not like me so it is difficult for me to agree with him

(Whittler, 1991). Among African-Americans racial identity and ethnicity are important components of self-concept and how they respond to media, how information is processed, and how marketing-related decisions are made (Appiah, 2001; Green 1999).

By examining college students' reactions to storyboard advertisements that contained actors of differing race, Whittler (1989) found that African-American participants displayed an increased probability of purchasing products advertised by African-American actors than Caucasians. Green (1999) found that African-American female adults who identified strongly with African-American culture responded more favorably to African-American models in advertising than did African-Americans who were low on cultural identification. Strong African-American identifiers have a greater connection to their ethnicity and expression of African-American values. These people may appreciate and feel more targeted by advertisements that include African-American culture than African-Americans with weaker ethnic identities (Appiah, 2001). Schlinger and Plummer (1972) found that television commercials featuring African-American models were more meaningful to blacks than all-white commercials, and African-Americans reacted more positively to the advertised brand. Appiah (2002) showed that both African-American and Caucasian viewers' perceptions of occupational characters were affected by the race of the character. African-Americans had better recall of the African-American occupational characters than they did the

Caucasian character. The findings in Appiah (2002) suggest that African-Americans are more attentive to African-American characters and less attentive to Caucasian characters. The results of this study provided support for the identification theory because African-Americans viewers perceived themselves to be more similar to the African-American model based in part on race.

Many researchers have proposed that matching source and audience race in promotional messages is an important strategy in health communication. Studies have shown that similarity between the source and the audience could aid in favorable evaluations of the advertisement (Wang & Arpan, 2008). A number of studies have found that African-American audiences respond to sources or messages more favorably when the source is African-American than of other races (Wang & Arpan, 2008). Kelman (1961) explains that identification with a source can improve message acceptance or internalization of the beliefs. The identification process takes place when audience members evaluate their level of similarity with the source based on the perceived physical and/or speech characteristics of the source (Wang & Arpan, 2008). Wang and Arpan (2008) examined the effects of HIV public service announcements (PSAs) from spokespersons that either matched or did not match participants' race. The purpose of the study was to assess the effect of a spokesperson's race on participants' responses to the spokesperson and their message in a health communication context.

Researchers found that matches between participant and spokesperson races resulted in more positive evaluations of spokesperson credibility and the PSA.

This discussion leads to the overall expectation that African-Americans will identify more with the African-American anthropomorphic agent than the Caucasian agent. Also, based on identification theory the recipients will have a more positive response towards the African-American anthropomorphic agent than the Caucasian anthropomorphic agent. Being able to identify more and have a more positive attitude toward the African-American agent should create a stronger influence on the recipients' decision to donate their organs (see Figure 1).

H1: Recipients will identify more with the African-American anthropomorphic agent than the Caucasian anthropomorphic agent.

H2: Recipients will have a more positive response toward organ donation after viewing the African-American anthropomorphic agent versus the Caucasian agent.

H3: African-American anthropomorphic agents have a stronger influence on the decision of African-American recipients' intention to donate their organs than Caucasian agents.

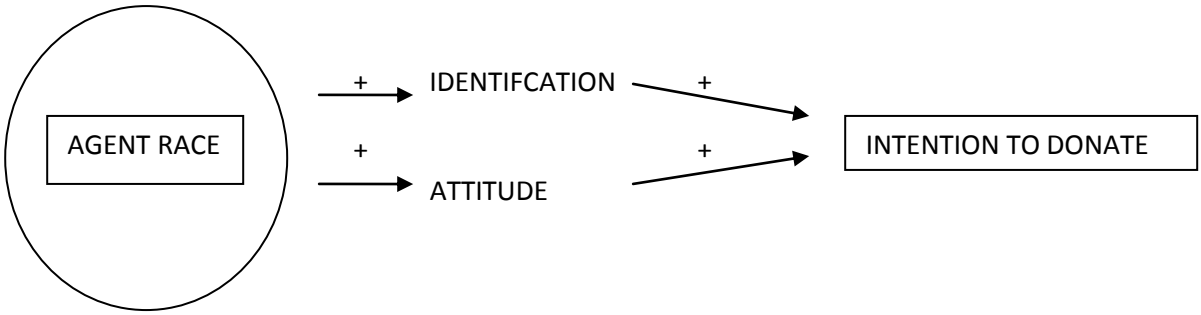

Figure 1: *Graphical representation of hypotheses*

Methods

Experimental Design

An online experiment was designed by creating four surveys that were linked to four anthropomorphic agents. Due to the format of the survey software used the only way to make sure that each participant had an equal chance of seeing a random message, four agents were designed. Two agents were created to simulate an African-American agent and the other two were Caucasian. Agents 1 and 3 were African-American and identical except for type of message; agents 2 and 4 were Caucasian and identical except for type of message as well. Agents 1 and 2 read the same script presenting the base rate information. Agents 3 and 4 read the same script presenting the exemplar message. The experimental design was a 2 x 2 factorial design, where the participants viewed either a(n) (1) African-American agent presenting base rate information, or (2) Caucasian agent presenting base rate information, or (3) African-

American agent presenting the exemplar, or (4) Caucasian agent presenting the exemplar.

Each respondent was given a link that randomized which survey and agent they would see. Before viewing the video each person was asked to answer eleven questions in the beginning of the survey and then they were directed to the website that contained one of the four anthropomorphic agents. After listening to either the statistical evidence message or narrative, the respondent was then redirected back to the survey and answered the same eleven questions regarding intentions to donate organs as in the beginning along with questions pertaining to the remaining variables (attitude and identification).

Materials

As mentioned earlier, respondents were asked eleven questions pertaining to their thoughts on organ donation before viewing one of the organ donation messages. The messages were manipulated so there was one presenting a statistical evidence message and one a narrative (from either an African-American or Caucasian agent). Both types of messages contained the same major premise urging participants to become registered donors. The statistical evidence message included the current number of individuals waiting for an organ transplant (United Network for Organ Sharing, 2010), statistics on the percentage of African-Americans that are registered

donors, and the number of African-Americans waiting for a kidney transplant. The narrative message used was a fictitious scenario created by the author after reading cases of actual organ donors and recipients. The narrative portrayed a young African-American college student in need of a kidney transplant due to complications of renal disease, but died while waiting. The story emphasized that there is a great need for more African-American donors. Both messages ended the same, urging respondents to sign organ donor cards (see Appendix A for both scripts).

Anthropomorphic Agent Design

An animated avatar was created to simulate an anthropomorphic agent similar to that in Qiu and Benbasat (2009). The animated characters were designed with Oddcast's SitePal, a Flash based animation design tool that can integrate human or animal characters and speech output with textual content. SitePal offers a wide range of animated characters, and each character can be customized in terms of its physical appearance and features (e.g. face, eyes, nose, hairstyle, makeup, attire, jewelry, and accessories). For the current experiment an agent was created to look exactly the same except for the skin color, one to represent an African-American agent and one to represent a Caucasian agent. Once all four agents were created, each was imbedded onto a screenshot of a manipulated page from Donate Life, an actual national organ donation website (see Appendix B). The researcher manipulated the webpage to display

pictures of African-Americans to create the sense that they were the target audience for that specific message.

Subjects

A non-random, convenience sample was collected for this study. Participants were recruited through invitations that were placed on Facebook and Twitter. Personal email invitations were sent to multiple local and national African-American organizations. Invitations were also handed out at two local predominantly African-American churches in a small Northeastern city. Once recruited, participants were randomly assigned to one of the four aforementioned message groups: African-American agent/exemplar, African-American agent/base rate, Caucasian agent/exemplar, and Caucasian agent/base rate.

Procedure

Participants were introduced to the survey with a start page that explained the steps of the survey and the length of time needed to complete the survey. This start page randomized which anthropomorphic agent the participant viewed. Everyone invited to participate in the survey received the same link. The start page included a "Proceed to Survey" button that the participant clicked to begin taking the survey after reading the instructions. The pre-test consisted of eleven questions (see Appendix C for pre-test questions). Next the participants were redirected to the next section of the

experiment, where an anthropomorphic agent presented one of the two organ donation messages. After viewing the anthropomorphic agent the individual then clicked a link at the bottom of the page to be redirected to the second half of the survey (see Appendix D for post-test questions). Once the final section was completed subjects were thanked for their participation.

Measures

The measurement instrument collected information for five dependent variables: individual's intent to donate organs, attitude toward organ donation, identification with anthropomorphic agents, type of message (base rate messages versus exemplar messages), and social presence. Demographic information was also collected.

Individual's intent to donate organs. Intent was measured by asking respondents to indicate whether they agreed with four statements of facts. The four statements of facts were "I intend to sign an organ donor card, I intend to seek out more information on organ donation, I intend to talk to my family about my wishes to become an organ donor, and I do not intend to become an organ donor." Each question used a 5-point Likert-type scale response format (scale was from 1-5, with 5 indicating strongest agreement with the item).

Attitude toward organ donation. Attitude toward organ donation was measured using a scale similar to that in Kopfman and Smith, 1996. Participants were asked to

respond to the following five statements: "I could help someone in need of an organ, I want to help someone in need of an organ, I have positive feelings about organ donation, I feel comfortable about organ donation, and I feel apprehensive about organ donation." Each question used a 5-point Likert-type scale response format (scale was from 1-5, with 5 indicating strongest agreement with the item).

Type of message. The current study focused on two different types of messages, base rate and exemplar. Similar to the previous variables, after viewing one of the message types participants were asked to agree with five statements of fact. The five statements used were "I clearly understand the information presented by Diane, the information given by Diane is accurate, I found Diane to be a credible source, I found the message in the video to be persuasive, and I found Diane to be believable." All scales used a 5-point Likert-type scale response format (scale was from 1-5, with 5 indicating strongest agreement with the item).

Identification with anthropomorphic agent. Participants were asked to respond to the following statements to measure how much they identified with the anthropomorphic agent they viewed. The first two statements were "How strongly did you identify with Diane" and "How strongly did you relate to Diane." The scale used here was also a 5-point Likert-type scale response format but had different responses than the previous scales (scale from 1-5, with 5 indicating very strongly). The next

statements that participants responded to were "I was comfortable listening to Diane, I found the information presented by Diane to be interesting, and I feel apprehensive about Diane." The scales used for these responses were the same as the previous with the 5-point Likert-type scale, with 5 indicating strongly agree. As mentioned in the literature review increases in social presence lead to more positive emotional responses toward a website advertisement and stronger intention to revisit the website. A small group of respondents were asked to choose on a Semantic scale if they found the anthropomorphic agent to be insensitive or sensitive, warm or cold, unfriendly or friendly, vivid or dull, and unemotional or emotional to measure social presence. (The full questionnaire is in Appendix D.)

Results

The first condition with the African-American/base rate information consisted of 36 participants, condition two, Caucasian/base rate consisted of 47 participants, condition three, African-American/exemplar consisted of 40 participants, and condition four, Caucasian/exemplar consisted of 36 participants. After the experiment, 156 usable surveys were available for data analysis. Of those that reported ethnicity 92% were African-American. The 8% non-African-American respondents were dropped from analysis for a purely African-American sample. Participants' ages ranged from 18 to

over 50 years, 72% of the sample population was female and 28% percent was male, 94.6% were college educated.

Because new scales were developed based on previous research for this specific topic it was necessary to run a confirmatory factorial analysis (CFA) to determine scale reliability. CFA will determine if the variables were accurately measured with the current scales. Measures found to be reliable were combined to create one variable. Cronbach's alpha for the variables intention to donate, identification, type of message and attitude exceeded the recommended level of .70.

Research Question 1

Research question one asked what differences are there for African-Americans regarding their intention to donate after viewing exemplar or base rate information messages about organ donation? The items comprising the intention to donate scales were found to be reliable, $\alpha = .849$. Items were then combined to create an intention to donate variable for both the pre-test and post-test. To examine what differences there were an independent samples T-test was run. Results showed that after viewing either the exemplars or base rate messages about organ donation more respondents had higher intentions to donate with the exemplar message ($M = 3.86$, $SD = .615$) than the base rate message ($M = 3.78$, $SD = .614$), however this difference was not statistically significant (see Table E1).

Hypothesis 1

Hypothesis 1 predicted that participants would identify more with the African-American anthropomorphic agent than the Caucasian anthropomorphic agent. Items comprising the identification scale were found to be reliable, $\alpha = .756$. These items were combined to create the identification variable. While respondents did identify more with the African-American agent ($M = 3.63$, $SD = .581$) than with the Caucasian agent ($M = 3.50$, $SD = .639$), this difference was not statistically significant. Identification to the agent based on gender was also examined. A *t*-test was conducted to see if African-American women identified with the African-American agent more than the Caucasian. Results showed that there was no significant difference between African-American women identifying with the African-American anthropomorphic agent ($M = 3.64$, $SD = .600$) and the Caucasian agent ($M = 3.67$, $SD = .530$).

Hypothesis 2

Hypothesis 2 expected respondents to have a more positive response towards organ donation after viewing the African-American anthropomorphic agent versus the Caucasian agent. Items comprising the attitude towards organ donation scale were found to be reliable, $\alpha = .898$. These items were combined to create the attitude variable. Attitude toward organ donation information was tested prior to viewing the anthropomorphic agents. The participants that were slotted to view the African-

American agent (*M* = 3.80, *SD* = .842) measured lower than the Caucasian agent (*M* = 4.18, *SD* = .585). After viewing the anthropomorphic agents participants had a more positive response towards organ donation information displayed by the Caucasian agent (*M* = 4.26, *SD* = .548) than the African-American anthropomorphic agent (*M* = 4.11, *SD* = .698). These findings were not statistically significant and do not support the second hypothesis. Lastly, an independent *t*-test was used to examine the overall means of attitude towards donation prior to viewing the agents and after viewing the agents to see if there was a difference. Though the increase was not statistically significant, the overall mean for attitude toward organ donation prior to viewing the anthropomorphic agent (*M* = 4.04, *SD* = .679) did increase after viewing the agent (*M* = 4.13, *SD* = .601; see Figure 2).

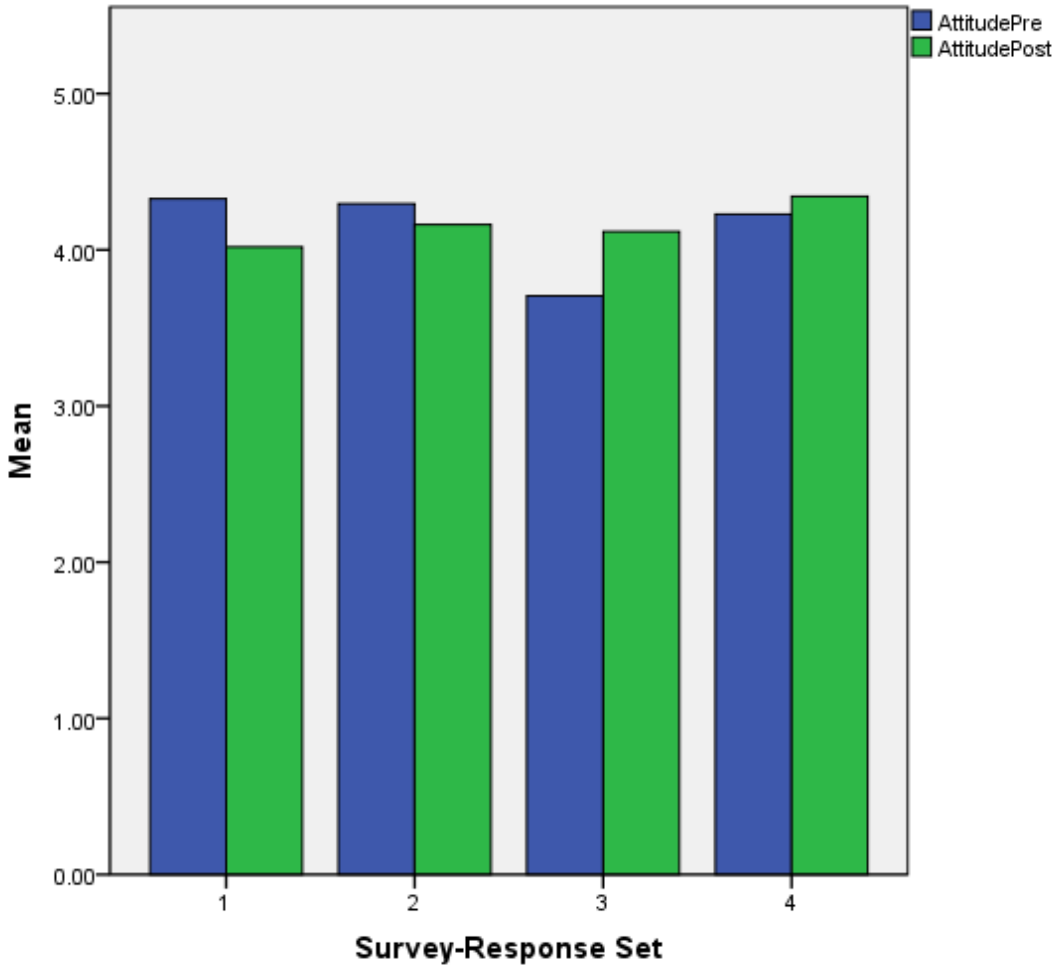

Figure 2: Increase in Attitude

1 = Condition 1, African American/base rate
2 = Condition 2 Caucasian/base rate
3 = Condition 3 African American/exemplar
4 = Condition 4 Caucasian/exemplar

According to research an area that should increase positive attitude towards a message or product is social presence. Similar to Blaskcovich et al. (2002) presence was measured using emotion, warmth, sensitivity, friendliness, and vividness. The measure for presence combined did not create a reliable scale, $\alpha = .244$. The five individual measures were then examined separately. Results from individual *t*-tests measuring sensitivity of the anthropomorphic agent showed that participants perceived the Caucasian agent ($M = 4.22$, $SD = .833$) to be more sensitive than the African-American agent. ($M = 3.50$, $SD = .577$). Participants also perceived the Caucasian agent ($M = 4.00$, $SD = .707$) to be warmer than the African-American agent ($M = 3.75$, $SD = .957$). Along the same lines results showed that African-Americans found the Caucasian agent to be more friendly ($M = 4.30$, $SD = .823$) and emotional ($M = 3.30$, $SD = 1.05$) than the African-American agent ($M = 3.25$, $SD = .500$) and ($M = 3.00$, $SD = 1.41$). However, participants did find the African-American agent to be more vivid ($M = 3.50$, $SD = 1.00$) than the Caucasian agent ($M = 3.29$, $SD = .488$). While none of these differences were significant it is interesting to note that only the vividness score was in the direction expected.

Hypothesis 3

Hypothesis 3 predicted that African-American anthropomorphic agents have a stronger influence on the decision of African-American recipients' intention to donate their organs than Caucasian agents. Prior to viewing the anthropomorphic agent

participants answered questions from the pre-test asking about their intention to donate. Items comprising the attitude towards organ donation scale were found to be reliable, $\alpha = .719$. Items were combined to create the intention variable. Participants' intention to donate was tested prior to viewing the anthropomorphic agents. Intention for the group that was to view the Caucasian agent ($M = 3.96$, $SD = .633$) measured higher than the African-American agent ($M = 3.53$, $SD = .698$). The difference here is statistically significant, $t\ (77) = -2.91$, $p = .005$. After viewing either the African-American or Caucasian agent results showed that the Caucasian anthropomorphic agent ($M = 4.14$, $SD = .632$) had a higher influence on respondents' intentions to donate their organs than the African-American agent ($M = 3.86$, $SD = .703$). The difference statistically was not significant but was very close, $t\ (90) = .638$, $p = .067$.

Another *t*-test was run to compare the overall means of the pre-test intention to donate against the post-test intention to donate variable. Results show that after viewing the anthropomorphic agents intention to donate increased from $M = 3.79$, $SD = .690$ to $M = 4.02$, $SD = .666$, which shows a significant difference, $t\ (65) = -3.19$, $p = .002$ (see Figure 3).

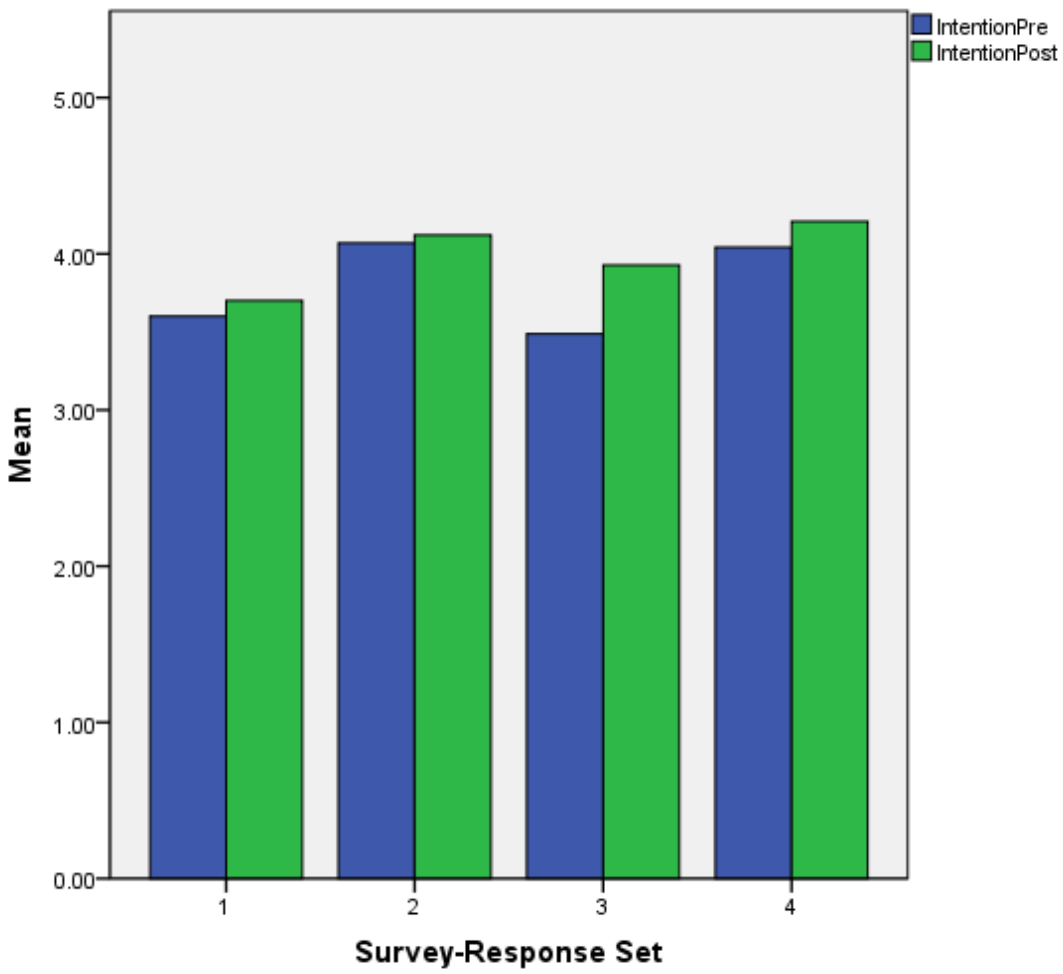

Figure 3: Increase in Intention to Donate

1 = Condition 1, African American/base rate
2 = Condition 2 Caucasian/base rate
3 = Condition 3 African American/exemplar
4 = Condition 4 Caucasian/exemplar

Discussion

There has been a long standing conflict between researchers to find which persuasive message type influences behavior and attitudinal change the most. Studies have shown that statistical messages are more persuasive than narrative (Allen & Preiss 1997, Massi, Ah Yun & Ah Yun 2003, Baesler & Burgoon 1994). On the other hand, there is also research which shows that narrative appeals are more persuasive than statistical appeals (Kopfman, Smith, Ah Yun & Hodges 1998, Feeley, Marshall & Reinhart 2006, Weber & Martin 2006). However, no studies have tested the persuasiveness of narrative messages and statistical messages using an anthropomorphic agent delivering these message types to a targeted audience. The current study explored which message type influences an individual of African-American descent the most, and whether the ethnicity of the agent has any influence on their perception of the information provided. The results of this study provide information on African-Americans' intentions to donate their organs based on the type of message presented and who is presenting the message. African-American viewers were exposed to both a Caucasian and African-American anthropomorphic agent presenting two different types of messages, exemplar and base rate information.

The first research question asked what differences are there for African-Americans regarding their intention to donate after viewing exemplars or base rate

information messages about organ donation? In the current study although it was not statistically significant respondents showed a higher intention to donate after viewing the exemplar. There could be a few reasons why exemplification did not occur. It is possible that exemplification did not occur because organ donation is not a topic that is discussed in detail among the African-American community; therefore, individuals have fewer examples available to draw upon to process the exemplar to the degree that the lack of African-American donors is a serious matter that warrants concern. In previous studies such as Aust and Zillman (1996), Zillman (2006) and Zillman et al. (1992) more than one exemplar was used which ensured overrepresentation. Using multiple exemplars can create a health risk among viewers and ensure over-inflation of number of cases causing the exemplars to receive more attention than base rate information.

A second reason it is possible that exemplification was not significant is because the exemplar used was not vivid or emotional enough. There were no explicit pictures shown or emotional relatives expressing their pain due to their loved ones not receiving a life saving transplant. Using multiple emotion-evoking exemplars may have a stronger influence on an individual's intention to donate. In previous studies such as Aust and Zillman (1996) exemplification takes place when the information presented is

vivid and is emotion-arousing. This can lead viewers of the exemplar to over-inflate the seriousness of the issue.

Hypothesis 1 predicted that African-Americans would identify more with the African-American anthropomorphic agent than the Caucasian agent. Results show that respondents did identify more with the African-American agent than the Caucasian agent, however identification was not significant. Appiah (2001) explains that identification takes place when an individual concludes that their tastes and preferences are similar to those of the source. If a person perceives that there are similar characteristics to their own, such as race, they will also begin to conclude that the source will have other characteristics as well, which can lead to greater identification. Respondents might have had greater identification if the agent showed more characteristics similar to an African-American person than just skin color. For example, Appiah and Elias (2009) discuss speech identification studies, which examine the abilities of listeners to distinguish black from white American voices. Kelman (1961) explains that a source's race can be a characteristic which can encourage audience members to infer similarity or dissimilarity. It is possible that respondents did not perceive the African-American agent to be similar to them and therefore, did not identify with the agent.

Hypothesis 2 predicted that respondents would have a more positive response towards organ donation after viewing the African-American anthropomorphic agent versus the Caucasian agent. Results showed that overall respondents' attitude towards organ donation was more positive after viewing both agents, although not statistically significant. This shows that the overall message and the presence of an anthropomorphic agent had a positive impact on peoples' attitude toward organ donation. However, respondents' attitude toward organ donation increased after viewing the Caucasian agent not the African-American agent as expected. It is possible that since participants did not strongly identify with the African-American agent they would not be more inclined to have a more positive attitude about organ donation based on just viewing the African-American agent. Green (1999) found that African-American females who identified strongly with African-American culture responded more favorably to African-American models in advertising than did African-Americans who were low on cultural identification. Strong African-American identifiers have a greater connection to their ethnicity and expression of African-American values; therefore these people may appreciate and feel more targeted by advertisements that include African-American culture than African-Americans with weaker ethnic identities. It is possible that the sample of African-American individuals who completed the survey did not have a strong connection to their ethnicity and therefore did not

connect with anthropomorphic agent. In the future this could be something that researchers may want to address.

The current study measured for social presence to find out if the anthropomorphic agent contributed towards or increased favorable attitude toward organ donation information. The scale for measuring presence was not reliable so each factor had to be examined individually. Results showed that overall attitude did increase after viewing either anthropomorphic agent. Respondents found the Caucasian agent to be warmer, more sensitive, more emotional and friendlier than the African-American agent. This is interesting because the only difference between the agents was skin color; everything else was exactly the same. However, respondents found the African-American agent to be more vivid than the Caucasian agent. Earlier studies have found that presence of an anthropomorphic agent increased perceived social presence, which led to more positive emotional responses to the website and information provided on the site (Nan et al. 2009). Overall, there was an increase in attitude towards organ donation after viewing either agent, so the agent did have an effect on people's attitude toward the message.

Lastly, the current study hypothesized that an African-American anthropomorphic agent would have a stronger influence on the decision of an African-American's intention to donate than a Caucasian agent. Results show that intention to

donate prior to viewing both agents was significantly different. This could mean that the sample was not a true random sample. It is possible that there was a factor within a particular group that was different than the other groups.

Results also show that the Caucasian agent had more influence on respondents' intentions to donate than the African-American agent. Due to identification measuring low with the African-American agent it is possible that respondents did not relate to the information provided by the African-American agent. Respondents also found the Caucasian agent to be more friendly, sensitive, warmer and emotional than the African-American agent which could explain why identification measured so low with the African-American agent. This also could explain why the Caucasian agent had more influence on an individual's intention to donate than the African-American agent. There is little to no previous research that has found Caucasians to have more influence on African-American intentions to donate. This study, however, does suggest that Caucasians may have more influence on African-Americans' intentions to donate. It is interesting to note that there was one previous study that investigated the effect of ethnicity of communicator on social influence. The results of that study suggest that a Caucasian communicator had more influence than a Chicano communicator among the Chicanos in that study (Albert Ramirez, 1977).

Limitations

One limitation of the current study relates to the exemplar used. The exemplar should be more emotion-evoking and vivid. It is possible that using a more graphic story line may draw more emotion while also being more dramatic. It is also possible that exemplification would have been more significant if more than one story was used. Using one story may not have shown that the issue being addressed was important.

A second limitation of the study relates to the anthropomorphic agent. In the present study a two-dimensional animated avatar was used to represent an anthropomorphic agent. Using an anthropomorphic agent may yield better results, because an actual anthropomorphic agent can be manipulated to be more human like. This could increase identification because the agent could possess more physical attributes of an African-American and that population may be able to feel more similarity than compared to the two-dimensional avatar used in the current study.

Another limitation relates to the survey. After taking the pre-test the participants were instructed that they would be directed to an organ donation website that housed the anthropomorphic agent. Some individuals clicked out of the survey before they could be taken to the next step of the experiment, which led to a number of incomplete surveys. After recognizing this issue the re-direct time was shortened. One last limitation concerns the surrounding material on the website page. The information is all

positive regarding "hope" and survivors and the like; this may have affected how people perceived the more negative message presented.

Conclusion and Future Research

It is unclear which type of message, base rate information or exemplar based message has a greater influence on African-Americans becoming organ donors. There is some evidence that exemplars may influence intentions more than base rates but the results were not significant. No conclusive evidence was found showing that one message is better than the other. More research is needed to determine which message type has an impact on the African-American community to increase their intentions to become an organ donor. Future research may want to examine using messages that combine both base rate information and exemplars to see if such a message can increase African-Americans' intention to become organ donors.

The current research did find that the presence of an anthropomorphic agent on an organ donation website increased favorable attitude toward organ donation. However, the current study could not determine if using an anthropomorphic agent reduces confounds. Even though both anthropomorphic agents were exactly the same respondents still found one to be more sensitive, emotional, friendlier, warmer, and vivid than the other. Future research may want to conduct more studies using

anthropomorphic agents for health communication to truly see if there is a benefit to using them to present such information.

This study wanted to examine if ethnicity of the agent would influence African-Americans to have a more positive attitude toward organ donation information and their intention to donate their organs. It was expected that based on the identification theory, using a model of the same race would help to influence African-Americans' intentions to donate. Results showed that identification measured low with the African-American agent. Future research should examine more ways to create increased identification with the anthropomorphic agent. This could mean increasing ethnic cues in the message. Increased identification could lead to more positive attitudes toward organ donation and increased intentions to become organ donors.

It is interesting to note that a majority of prior research suggests that African-Americans have lower attitudes about organ donation and lower intentions to donate their organs. However, this study suggests differently. The sample consisted of African-Americans that have positive attitudes towards organ donation and higher intentions to donate. Future research may want to strictly examine African-Americans that have lower intentions to donate and a less positive attitude towards organ donation to begin with.

Much of the research on organ donation and increasing donors among minority communities has been done using text messages and human presenters. No study has used an anthropomorphic agent to present organ donation information in attempts to increase knowledge and organ donors among minority community. Due to this fact more research is needed to find out the benefits of using an anthropomorphic agent to present organ donation information.

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Appendix A: Scripts

Base Rate Script

Welcome, my name is Diane Johnson and I am here to give you information on organ donation. Did you know that there are over 108,000 people waiting for a life saving organ transplant? Currently there are only 14,139 people registered as organ donors. It will be impossible to help more patients waiting for a life saving organ unless more people become donors. The organ most in need for transplants is the kidney. African-Americans make up 35% of people waiting for a kidney transplant. That's 31,444 African-Americans in need of a kidney, but only 13% of donors are African-Americans.

The ethnicity of an individual isn't a primary characteristic in organ matching. Research shows that receiving a kidney from someone of the same ethnicity decreases rejection of the organ. Also African-Americans wait much longer than Caucasians for an organ transplant due to the shortage of African-American donors. Increasing African-American donors will ultimately increase the donor pool and help the overall population of people needing organs.

You can help decrease the shortage of tissues and organs by filling out a donor card and talking with family members. Show your compassion and humanity by becoming an organ donor today!

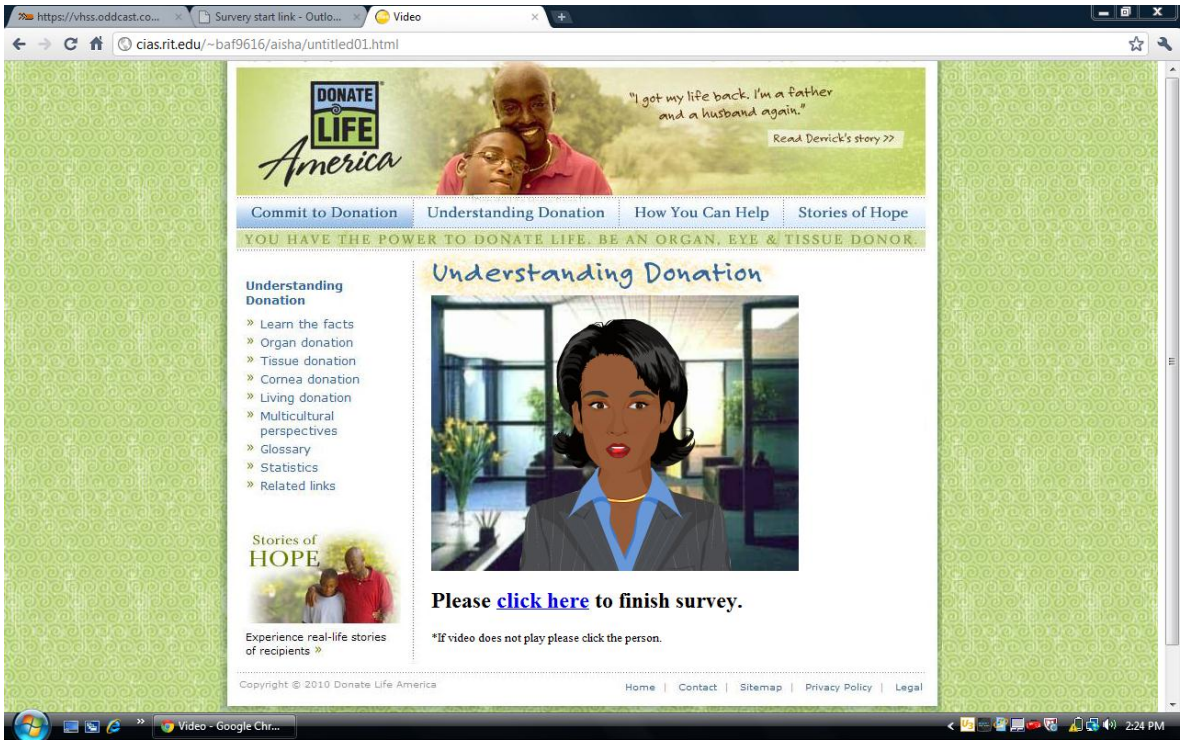
Testimonial/Narrative Script

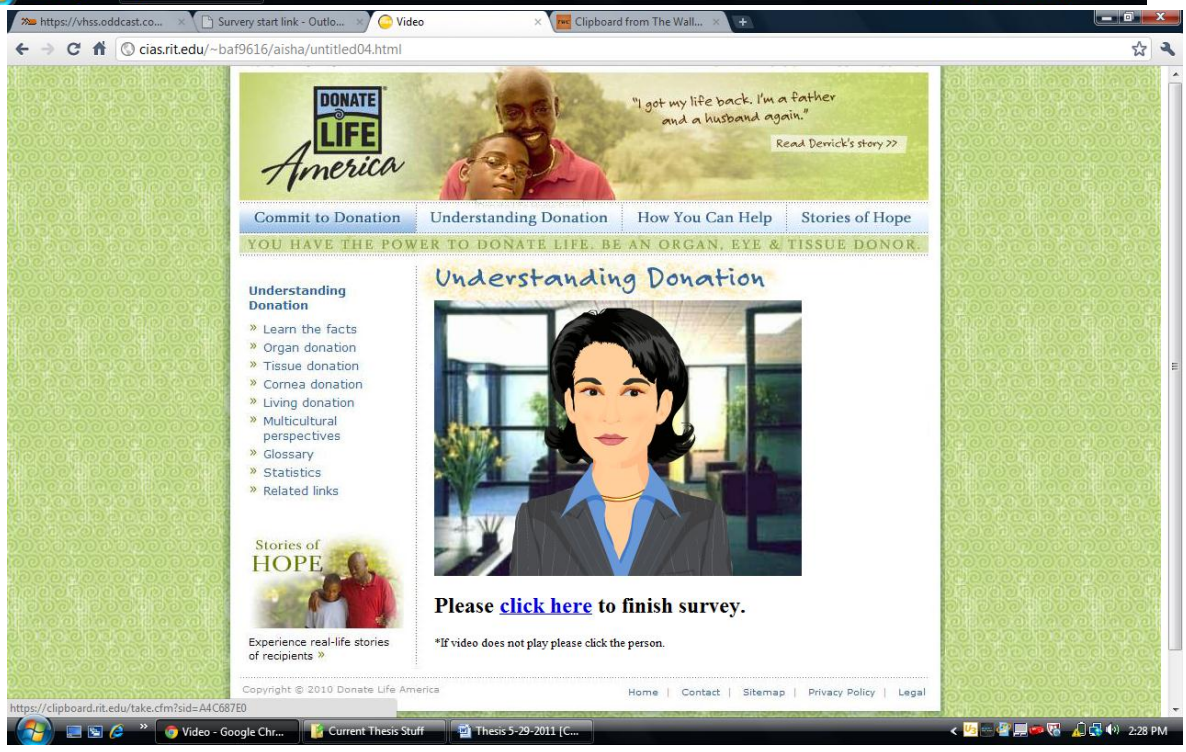
Welcome, my name is Diane Johnson and I am here to tell you a story about my friend's daughter April. As a freshman in college she developed type 2 diabetes. A few years later she started having problems with one of her kidneys. April was then diagnosed with End Stage Renal Disease and began receiving dialysis treatment. Unfortunately, her health deteriorated very quickly, so much so that the doctors said her best chance for living would be to receive a kidney transplant. April waited on national transplant list for four years but her body couldn't hold on any longer. Because she never received that life saving kidney transplant April died at the age of 22.

April was African-American and would still be here today if more people became organ donors. Specifically, we need more African-Americans signing donor cards because African-Americans are at a higher risk of developing End Stage Renal Disease than any other ethnicity. This results in a higher number of African-Americans in need of a kidney transplant and waiting longer for a kidney to become available. Research shows that receiving a kidney from someone of the same ethnicity decreases rejection of that organ. Also, increasing African-American donors will ultimately increase the donor pool and help the overall population of people needing organs.

You can decrease the shortage of tissues and organs by filling out a donor card and talking with family members. Show your compassion and humanity by becoming an organ donor today!

Appendix B: Survey Webpages





Appendix C: Pre-test

Pretest

Select One:

Are you a registered organ donor? Yes No

I intend to sign an organ donor card.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I intend to seek out more information on organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I intend to talk to my family about my wishes to become an organ donor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I could help someone in need of an organ.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I want to help someone in need of an organ.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I have positive feelings about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I feel comfortable about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I do not intend to become an organ donor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I feel apprehensive about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

African-Americans make up what percentage of people waiting for a kidney transplant?

_____%

Appendix D: Post-test

Post Test

Please read each statement/question and select the response that you most agree with.

I intend to sign an organ donor card.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I intend to seek out more information on organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I found the message in the video to be persuasive.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I intend to talk to my family about my wishes to become an organ donor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I could help someone in need of an organ.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I want to help someone in need of an organ.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I clearly understand the information presented by Diane.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I found the information presented by Diane to be interesting.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

The information given by Diane is accurate.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I found Diane to be believable.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I was comfortable listening to Diane.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I feel apprehensive about Diane.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I found Diane to be a credible source.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I have positive feelings about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I feel comfortable about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I do not intend to become an organ donor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

I feel apprehensive about organ donation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

How strongly did you identify with Diane?

Not Strongly	Somewhat Strongly	Neutral	Strongly	Very Strongly
1	2	3	4	5

How strongly did you relate to Diane?

Not Strongly	Somewhat Strongly	Neutral	Strongly	Very Strongly
1	2	3	4	5

African-Americans make up what percentage of people waiting for a kidney transplant?

_____%

How long did April wait before she could get her kidney transplant? _____ years

Please select which number on the scale reflects how you felt about the agent.

Did you find the agent to be?

Insensitive	1	2	3	4	5	Sensitive
Warm	1	2	3	4	5	Cold
Unfriendly	1	2	3	4	5	Friendly
Vivid	1	2	3	4	5	Dull
Unemotional	1	2	3	4	5	Emotional

Please select the response which best describes you.

I am:

1) 18-25 years old

2) 26-29 years old

3) 30-39 years old

4) 40-49 years old

5) 50 years old and over

I am:

1) Male

2) Female

I consider myself to be:

1) African-American

2) American Indian

3) Asian

4) Caucasian

5) Hispanic

The highest level of education I've completed:

1) High School Diploma

2) Some College

3) Bachelors Degree

4) Masters Degree

Appendix E

Table 1

Pre-Test and Post-Test Agent t-test results

African-American Agent	**Pre-Test**	**Post-Test**
Attitude	*M* = 3.80, *SD* =.842	*M* = 4.11, *SD* =.698
Intention	*M* = 3.53, *SD* =.633	*M* = 3.86, *SD* =.703
Base Rate	------	*M* = 3.78, *SD* =.614
Exemplification	------	*M* = 3.86, *SD* =.615
Identification	------	*M* = 3.63, *SD* =.581
Caucasian Agent		
Attitude	*M* = 4.18, *SD* =.585	*M* = 4.26, *SD* =.548
Intention	*M* = 3.96, *SD* =.633	*M* = 4.14, *SD* =.632
Base Rate	------	*M* = 3.78, *SD* =.614
Exemplification	------	*M* = 3.86, *SD* =.615
Identification	------	*M* = 3.63, *SD* =.581