This is to certify that the

dissertation entitled

Narrative and Logical Argument Messages that Persuade the High Willingness Target Audience to Become Potential Organ Donors: A Test of Attitude-Behavior Consistency

presented by

Jenifer E. Kopfman

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Communication

Sandra W. Smith
Major professor

Date July 12, 1995

NARRATIVE AND LOGICAL ARGUMENT MESSAGES THAT PERSUADE THE HIGH WILLINGNESS TARGET AUDIENCE TO BECOME POTENTIAL ORGAN DONORS: A TEST OF ATTITUDE-BEHAVIOR CONSISTENCY

By

Jenifer E. Kopfman

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Communication

1995

ABSTRACT

NARRATIVE AND LOGICAL ARGUMENT MESSAGES THAT PERSUADE THE HIGH WILLINGNESS TARGET AUDIENCE TO BECOME POTENTIAL ORGAN DONORS: A TEST OF ATTITUDE-BEHAVIOR CONSISTENCY

By

Jenifer E. Kopfman

This study examines the general theoretical persuasion issue of attitude-behavior consistency in the applied context of organ donation. Individuals high in willingness to sign organ donor cards, but who have not yet signed a card, demonstrate simple attitude-behavior inconsistency; they possess a positive attitude toward signing cards, but they have not done so. This dissertation attempts to determine an effective method for reducing the attitude-behavior discrepancy in this audience. Characteristics of the high willingness audience are examined. Explanations for attitude-behavior consistency are reviewed, and then two types of messages are suggested to be strategies for increasing consistency: logical arguments and narratives. Narrative messages were found to be more effective than logical arguments in persuading the high willingness participants to sign donor cards, and three explanations for this suggestion also are hypothesized. Of the three explanations (vividness, causal relevance, and affect), the most support was found for the model suggesting that the type of message read (narrative

or logical argument) tends to influence both positive and negative affect, both of which determine whether or not an organ donor card will be signed. Post hoc analyses indicate that across both message types, altruism affects perceptions of similarity with the message, which in turn influences card signing behavior. The possibility that the unavailability of actual organ donor cards is the cause of attitude-behavior inconsistency also is explored, although no support is found for this claim. Implications of all results are discussed.

ACKNOWLEDGEMENTS

Many people gave me assistance, support, and encouragement as I completed this dissertation, and I would like to thank:

Sandi - you have been wonderful. You gave me all the help and advice I needed, and at the same time you were pushing me out of the nest, letting me fly on my own. Working with you these past four years has meant a lot to me, but your friendship means even more.

Galen, Alicia and Chuck - you gave me many things to think about as I worked on this, and you improved it in innumerable ways. Thanks for your help and guidance.

Jill - you punched large amounts of data in a short amount of time, and I am eternally grateful to you!

Mom and Dad - as always, your love and support helped me through this large and challenging project.

Kevin - you have been amazingly patient, encouraging, and loving throughout the dissertation process and all during four Michigan winters (and my four years of school).

Miranda - you made writing this dissertation a challenge, but you also have given me eight wonderful months of amusement, amazement, and love.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

> The fact that people do not always act consistently with their attitudes has long been recognized in Western culture and is reflected in such common sense sayings as "Talk is cheap," "Practice what you preach," "Put up or shut up," and "Put your money where your mouth is." While social scientists point to the central role of attitude in explaining behavior, they have been exceedingly slow to study this phenomenon systematically and have frequently assumed a consistent relationship between attitude and behavior. Yet, a discrepancy between attitude and behavior has been consistently "rediscovered" with each new generation of social scientists, and this generation is no exception (Liska, 1975, p. vii).

The relationship between attitudes and behaviors has intrigued researchers since the 1930's (LaPiere, 1934), and it still is problematic today. Early studies in this area suggested that these two constructs indeed were related, although rather weakly (e.g. Kutner, Wilkins, & Yarrow, 1952; LaPiere, 1934), but criticism of this view pervaded during the 1960's (e.g. Deutscher, 1966; 1973; Campbell, 1963; Festinger, 1964). In fact, in his review of 42 studies on the relationship between attitudes and behaviors, Wicker (1969) claimed that there was very little evidence that people possess stable, underlying attitudes which influence their behaviors. What followed was a great deal of research devoted to trying to prove Wicker's statement incorrect (e.g. Kelman, 1974; Schuman & Johnson, 1976; Fishbein & Ajzen, 1974, 1975; see Eagly & Chaiken (1993) for an extensive review). Some of this literature seems to suggest that a

substantial relationship exists between attitude and behavior, however there is a sizable amount of research indicating that attitudes and behaviors do not always correspond.

Discrepancies between attitudes and their corresponding behaviors can be seen in the domain of organ donation. Nationwide polls indicate that approximately 50 to 70 percent of Americans indicate that they are willing to have their own organs donated after death, but only an estimated 20 percent of the population actually carry signed and witnessed organ donor cards (Gallup Poll, April, 1987). In Michigan, the percentage of individuals with signed and witnessed donor card stickers on the back of their drivers licenses has been estimated only to be between 10 and 15 percent (Lansing State Journal, October 31, 1993). This information indicates that the population at large can be divided into three segments: individuals who have signed and witnessed organ donor cards, those who report willingness to donate organs but do not have a signed and witnessed card, and those without a signed card who report little or no willingness to donate organs.

Of the three population groups, the first already has performed the behavior of signing organ donor cards, thus demonstrating high attitude-behavior consistency. The last group also demonstrates consistency between their attitude and their behavior as they hold a negative attitude toward becoming an organ donor and they have not signed donor cards. The remaining group of individuals represents the focus of

this dissertation. They are individuals who indicate a positive attitude toward becoming a potential organ donor, but none of them actually are performing the simple behavior of signing an organ donor card[1]. This inconsistency between attitude and behavior is a critical problem. Over 55,000 people were waiting for organ transplants in 1993, and only 18,164 received the needed organs. Almost 3,000 of those people waiting died due to a lack of donor organs (Stich, 1994). Given these disturbing statistics, it is crucial that any individual who indicates an attitude of willingness to become an organ donor actually performs the behavior of signing a donor card. Although signed organ donor cards do not guarantee an increase in the number of organs available for transplantation, it is the first step toward reducing the large organ shortage.

Ajzen and Fishbein have suggested that persuasive communications, when constructed appropriately, are effective tools for increasing the consistency between attitudes and behaviors (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1981). The goal of this dissertation is to determine the type of persuasive communication most effective in increasing the attitude-behavior consistency for those individuals high in willingness to become potential organ donors. To do so, several steps will be taken. First, characteristics of the high willingness target audience will be examined. Next, the attitude-behavior consistency literature will be examined for

possible causes of inconsistency in this audience. Then, two types of persuasive messages will be examined as strategies to remedy the consistency problem. Finally, several hypotheses will be proposed and tested regarding which type of communication strategy should be most effective in reducing this attitude-behavior discrepancy in the high willingness audience and why.

LITERATURE REVIEW

Characteristics of the Audience

Kopfman and Smith (in press) suggest that there are five key constructs which influence an individual's decision to sign an organ donor card, but that these variables differ in importance for members of the separate population segments (those who already possess signed organ donor cards, those high in intent to sign cards, and those low in intent to sign cards). They indicate that:

> Individuals who are high in intent to sign organ donor cards, but have not done so, tend to be people who are somewhat knowledgeable about organ donation, but do not quite have all of the information possessed by those who already have signed cards. They may or may not believe that signing a donor card is a fearful activity, but they tend to have a positive attitude toward the donation procedure in general and toward signing a donor card, even though they may not specifically understand that a signed card expresses their wish for organ transplantation after death. These individuals tend to be predisposed toward cheerfulness, warmth, helpfulness, and truthfulness (all aspects of altruism), and they perceive that at least one other person who is important to them would be pleased if they should sign an organ donor card (p. 17).

Members of this audience hold positive attitudes toward signing organ donor cards, but they simply have not performed the behavior of signing them. Since they are already high in intent to sign, it should not be difficult to persuade these individuals to do so. Messages could be developed to provide this audience with information they need and to urge them to sign the donor cards. Based on Kopfman and Smith's (in press) results, these messages would need to target the specific knowledge gaps of this group and encourage these individuals to discuss the issue of organ donation with their friends and family members so that they have a better understanding of the opinions of these important others on this matter. Persuasive messages for this group also would need to let the audience know that the signed donor card is sufficient to inform medical personnel about the intent to donate. Messages containing these components are likely to be effective in persuading the high willingness audience to sign donor cards.

While an understanding of the characteristics and needs of the target audience is beneficial, the reasons behind the inconsistency between their attitudes and their behavior remain unknown. The literature on attitude-behavior consistency will be explored next in an effort to discern the factors that may influence this discrepancy.

Attitude-Behavior Consistency

A current conceptual definition indicates that an "attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p.1). While this view of attitudes makes no reference to a link between attitudes and behaviors, definitions of this concept did at one time. When the study of attitudes first began to intrigue the social scientists of the early 1900's, researchers defined the concept by stating that attitudes were processes that determined behavior (Thomas & Znaniecki, 1918; Liska, 1975). In 1935, the concept of attitude still was conceptualized in terms of behavior, as Allport (1935) suggested this definition: "An attitude is a mental and neural state of readiness, organized throughout experience, exercising a directive or dynamic influence upon the individual's response to all objects and situations with which it is related," (p. 810). Around the same time, LaPiere (1934) was the first to recognize that attitudes were not always capable of predicting individual behaviors in his classic study reporting his travels across America with a Chinese couple. Out of 251 encounters in restaurants and hotels across the country, only one establishment refused service to the Chinese couple, however when responding to a questionnaire six months later, only one of the restaurant/hotel managers indicated that she would accept members of the Chinese race in her establishment.

Although LaPiere's (1934) results clearly indicate that attitudes and behaviors can be discrepant, his study had little impact on the research of attitudes (Liska, 1975). In fact, almost two decades elapsed before research addressed this issue again. In the 1950's, a number of studies confirmed the findings of LaPiere (1934), and documented attitude-behavior inconsistency in a variety of topic areas (e.g. Kutner et. al., 1952; Lohman & Reitzes, 1954; Minard, 1952). "By the middle of the 1960's there emerged a general consensus across various research traditions (survey sociology, persuasive communication, Human Relations) that the relationship between attitude and behavior is problematic and a fitting topic for research" (Liska, 1975, p. 5).

The research that has been produced since the 1960's has addressed many aspects of attitude-behavior consistency, but a good portion of this research has been devoted to identifying factors that influence "just how closely attitudes and behaviors will be related" (O'Keefe, 1990, p. 190). Since it could no longer simply be assumed that attitudes and behaviors were related directly, examining factors that moderate attitude-behavior consistency allowed scholars to attempt to determine when these concepts would be strongly related. Several of these moderating factors will be explored for their relevance to the attitude-behavior consistency problem associated with the segment of the population that is high in willingness to sign donor cards.

Direct Experience

One factor that determines whether or not attitudes will predict corresponding behaviors is the manner in which attitudes are formed. Attitudes that are formed from direct experience are better at predicting behavior than attitudes formed from indirect experience (Fazio & Zanna, 1981; Fiske & Taylor, 1991; Eagly & Chaiken, 1993). While research presents support for the validity of this factor, it unfortunately cannot be applied in the present study. Those individuals who have had direct experience with organ donation itself are no longer available for consultation, and those individuals who have had direct experience with signing an organ donor card are no longer in the population of interest. While some may argue that family and friends of organ donors have "direct experience" with the topic of interest, research indicates that these individuals comprise a very small percentage of the population (Smith, Kopfman, Morrison & Ford, 1993). Thus, direct experience should not be a factor influencing the attitude-behavior consistency of the high willingness audience in the present research.

Corresponding Measures

Fishbein and Ajzen argued that moderate to large correlations could be obtained provided that the attitudes and behaviors assessed are compatible, or correspondent (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1975; Eagly & Chaiken, 1993; O'Keefe, 1991). That is, specific attitudes, particularly attitudes toward behaviors, tend to be good

predictors of specific behaviors, while general attitudes tend to correlate with general behaviors. These authors used the compatibility principle to reanalyze the studies criticized in Wicker's (1969) article and found that attitude-behavior correlations were quite low under conditions of low compatibility, but when compatibility increased, moderately strong relationships were obtained. Thus, when care is taken by researchers to ensure that their attitude and behavior measurements are compatible, relatively high correlations should result. In this dissertation, compatibility should not be problematic, as the attitudes and behaviors assessed will be corresponding in specificity. Attitude toward signing an organ donor card will be used to predict the behavior of signing an organ donor card. Thus, this factor will be controlled as an influence on attitude-behavior consistency in the present study.

Attitude Accessibility

A third factor influencing whether or not individuals will act consistently with their attitudes is attitude accessibility. "It may be the case that, before an individual can use attitudes as guides to action, he or she must know his or her attitudes and the behavioral implications of those viewpoints" (Snyder, 1982, p. 112). Snyder (1982) suggests that often individuals may not realize that their attitude and behavior are discrepant, and that a person's attitude must be accessible to the individual before s/he can align behavior with it. Similarly, Fiske and Taylor

(1991) report that people are not always able to access their attitudes readily to influence behavior. However, Roskos-Ewoldsen and Fazio (1992) suggest that answering five relevant questions is sufficient to make an individual's attitude accessible to him/her. In the present research, one of the first measures respondents will be asked to complete is comprised of six questions assessing their attitude toward signing an organ donor card, and these six questions should be sufficient to make the respondents' attitudes accessible to them as they complete the remainder of the questionnaire. Thus, attitude accessibility should not influence attitude-behavior consistency in this research.

Perceived Relevance

Finally, an additional factor proposed to moderate attitude-behavior consistency is whether individuals perceive their attitude as relevant to their behavioral choices. O'Keefe (1991) suggests that "often the task the persuader faces is not that of inducing attitude change, because the desired attitude is already present; instead, the job is that of getting the audience to make the connection between attitude and action" (p. 192). Snyder (1982) indicates attitudes should predict behaviors only when individuals explicitly see their attitudes as relevant and appropriate guides to action. This factor suggests a possibility for the present research.

If perceived relevance is the only factor impeding attitude-behavior consistency, then it is possible that

simply drawing attention to this relationship, or making the individual see the relevance between the attitude they already hold and the behavior that corresponds with that attitude, may elicit consistency. As discussed in the previous section, asking questions about the attitude object should enable individuals to access their own attitude regarding signing an organ donor card. The goal, then, is to make the high willingness audience see the relevance of this attitude to the actual behavior of signing a card. One way to draw attention to the relevance of an attitude and its corresponding behavior is through the use of communication. Messages which "make the connection between attitude and action" (O'Keefe, 1991, p. 192) may be presented. Thus, if individuals high in willingness to sign organ donor cards read messages about organ donation, they are likely to realize that since they already possess a positive attitude toward signing a card, they should perform the behavior of signing one.

Summary

Four explanations for the inconsistency between the attitudes and behaviors of the audience high in willingness to become potential organ donors have been considered. These explanations present factors that researchers have proposed may moderate the relationship between attitudes and behaviors. It was suggested that direct experience and attitude accessibility are factors that should not influence this relationship in the present study. Similarly, the

measures used to assess attitudes and behaviors in this research will correspond in specificity, and therefore, this factor also should not moderate the attitude-behavior relationship here. Perceived relevance was suggested to have implications for this dissertation.

In the case of signing organ donor cards, in order to remedy the attitude-behavior inconsistency in high willingness individuals, it may be necessary to make this population see the relevance of the positive attitude they hold toward signing a card and the behavior of signing a card through the use of persuasive communication. Becoming aware of this relationship should influence these individuals to perform the behavior consistent with their attitude and to sign the donor card. While several venues are available for highlighting the relevance of this attitude and behavior, including mediated messages and interpersonal communication, printed messages will be considered in the present research. Specifically, two types of messages will be considered as strategies for increasing the relevance of attitudes toward signing organ donor cards and behaviors of signing cards, and thus for eliciting attitude-behavior consistency: logical arguments and narratives.

Logical Arguments

Logical argument messages commonly contain a major premise and supporting evidence for the major premise in the form of empirical statistics and facts. Typically, persuasive messages in the domain of organ donation have

followed this form. Winkel (1984) found that refutational messages, which present negative consequences of organ donation accompanied by the factual counterarguments to those consequences, were more effective in persuading people to fill out donor cards than one-sided messages containing only statements of positive consequences. Ford and Smith (1991) found results similar to those in the Winkel (1984) study when comparing one-sided and refutational messages, but Smith, Morrison, Kopfman, and Ford (1994) found no difference due to sidedness when examining the portion of the population that is high in willingness to become a potential organ donor. Specifically, they found that both types of messages in the form of logical arguments were successful in accentuating the respondents' positive attitudes toward donation and in persuading the high willingness respondents to obtain organ donor cards. Thus, logical argument messages have been shown to be effective in persuading people to see the relevance of their attitude about signing a donor card and to perform the behavior of becoming potential organ donors, but other research has examined the effects of narrative messages with identical purpose. The literature suggests that persuasive communication in this form also can be an effective persuasive tool.

Narratives

Narrative, or story, form is intuitively appealing to humans, as we are all essentially storytellers and avid story recipients. Stories typically involve human action sequences

connected by relationships of causality between events. In other words, "A narration is the symbolic presentation of a sequence of events connected by subject matter and related by time" (Scholes, 1981, p. 205). Generally, a story may be described as a causal chain of events in which events are connected by causal relationships of necessity and sufficiency (Leitch, 1986; Trabasso & van den Broek, 1985).

Narratives are powerful and compelling. They engage their audience by displaying a view of human experience, and the audience demands that the story provide a rationale which will guarantee a reason for hearing about this experience (Leitch, 1986). Stories capture the recipient's imagination and enlist him or her in the "performance of meaning under the guidance of the text" (Bruner, 1986, p. 25). Narratives can communicate a large amount of information with few words because at an early age, we are taught how to process and make sense of information presented in narrative form. "Stories engage widely shared cognitive routines that virtually any member of society can use to make elegant judgements about a described behavior or situation (Bennett, 1978, p.1).

In the area of organ donation, two types of narratives generally are seen in the media. There are stories that describe organ donors and/or recipients and focus on the positive aspects of organ donation. For example, a newspaper headline might read "Accident victim saves child's life." There also are those stories which sensationalize some

negative occurrence and relate it to the topic of organ donation, while fueling people's fears about the subject ("Organ thief for black market strikes again"). While the latter may be entertaining reading for some people, they do very little to encourage the signing of organ donor cards, and therefore will not be employed in this dissertation. Rather, stories that emphasize positive outcomes related to organ donation will be the focus of this research.

Narratives about individuals who have become organ donors, which emphasize the positive aspects of organ donation, have been shown to be quite effective in illustrating the relevance between attitudes and their corresponding behaviors. Skowronski (1990) found that participants who viewed a video of parents who decided to donate the organs of their deceased son demonstrated a significant positive attitude change regarding organ donation. Due to the video, this attitude enhanced both card -signing behavior and willingness to sign a donor card. Although a video format was employed rather than written, the narrative content was suggested to be an important factor influencing the outcomes.

Research by Harris, Jasper, Shanteau, and Smith (1990) found that participants with a positive attitude toward donation, who read narratives about deceased hypothetical individuals were highly likely to recommend donation of the fictional person's organs. Thus, narratives about organ donation have been shown to be effective persuasive tools for

highlighting the relationship between attitudes and their relevant behaviors, as were logical arguments, but research comparing these message types is lacking in this domain. Specifically, research assessing the relative effectiveness of logical arguments and narratives in increasing consistency between attitudes and behaviors is needed.

Logical Arguments vs. Narratives

Baesler and Burgoon (1994) note that "an issue unresolved in the persuasion and argumentation literature is the type of evidence that is most likely to bolster beliefs in a claim: statistical evidence or report evidence of a story or case variety" (p. 582), as there is mixed support for which type of evidence is more persuasive. Previous research on the persuasiveness of logical argument, or statistical information, versus case-history, or narrative, messages predominantly has found that narrative messages are significantly more memorable and persuasive (Borgida & Nisbett, 1977; Kazoleas, 1993; Koballa, 1986; Nisbett & Ross, 1980; Taylor & Thompson, 1982). However, other studies found either that statistical evidence is more persuasive than stories (Baesler & Burgoon, 1994; Dickson, 1982; Wells & Harvey, 1977) or that there is no difference in the persuasiveness of the different message types (Iyengar & Kinder, 1987; Nadler, 1983; Reyna, Woodruff & Brainerd, 1987). Thus, evidence can be found to suggest that both logical arguments and narratives can be effective persuasive

appeals, but an important question remains unanswered: Which message type is most effective for eliciting consistency between attitudes and behaviors in the domain of organ donation for the segment of the population with high willingness to sign donor cards? This dissertation will attempt to address this particular question.

Kopfman, Smith, Ah Yun, and Hodges (1994) began to address the issue of logical arguments versus narratives by examining the cognitive and affective reactions people demonstrate to these two types of persuasive messages. Their results indicate that logical argument messages tend to have a greater impact on individuals' cognitive reactions while narrative messages tend to influence their affective reactions. Specifically, logical argument organ donation messages had a greater influence on the respondents' cognitive reactions such that a higher number of thoughts about organ donation were produced and higher message ratings were given when participants read a logical argument message than when they read a narrative message. Narratives about organ donation demonstrated a greater influence on the respondents' affective reactions as stories were rated as significantly more anxiety-producing than logical arguments, and the stories compelled the individuals to generate a higher number of emotions in response to the message than logical arguments. While this study does demonstrate that different types of reactions are produced in response to logical argument and narrative messages, the authors provide

little insight into which message would be better suited for an audience with an attitude of willingness to become potential organ donors. Katz's (1960) functional theory of attitudes and the research by Kopfman and Smith (in press) which examines the characteristics of this target audience should shed some light on this matter.

Katz's (1960) functional theory of attitudes suggests that people hold attitudes for different reasons and that persuasive messages should be most effective when their content is tailored to the functional underpinnings of the attitude they are targeting (Eagly & Chaiken, 1993). Specifically, Katz (1960) proposed that any given attitude held by an individual serves one of four functions: a utilitarian function, a knowledge function, an ego-defensive function, or a value-expressive function. A utilitarian attitude is useful for obtaining positive outcomes or preventing negative outcomes for the person who holds it. An attitude can serve a knowledge function by providing a frame of reference for organizing an individual's perceptions of his/her environment. Ego-defensive attitudes enable people to cope with threats to their self image. Finally, value-expressive attitudes are a "means for expressing personal values and other core aspects of the self-concept" (Eagly & Chaiken, 1993, p. 481). Knowing what function an attitude serves should make it easier to address the attitude in written messages.

While the other three attitude functions may be useful to consider when trying to persuade the low willingness group to become potential organ donors, the value-expressive attitude function seems particularly relevant to the high willingness audience. Based on the attributes of the high willingness audience, Kopfman and Smith (in press) recommended that messages targeting this population should provide facts about donation and becoming a potential donor, and should encourage discussion about this issue with family and friends. Both logical argument and narrative messages can accomplish these goals. However, this research also identified that altruism is an important value to this audience. Thus, holding an attitude of willingness to sign organ donor cards may serve the function of expressing the value of altruism.

Eagly and Chaiken (1993) suggest that voicing value-expressive attitudes is inherently gratifying because it satisfies people's need to clarify and affirm their self-concept. If messages about organ donation appeal to the value of altruism, then they should be effective in targeting the functional underpinning of this attitude of willingness to sign an organ donor card. Expressing this attitude of willingness by performing the actual behavior of signing a donor card should be inherently satisfying because it expresses an altruistic value, which research has shown to be an important part of the self-concept of the high willingness individuals.

It seems likely that the high willingness audience would find altruism in others appealing. If they read a message about a person who gives their own organs to help others live, it is likely to appeal to their own sense of altruism and convince them that they should sign an organ donor card to express this important value. Thus, because a narrative type message can best portray an altruistic person who saves the lives of others through organ donation, these should be the most effective message forms for those individuals high in willingness to become potential organ donors.

Since the target audience tends to value altruism and narrative messages can convey that signing an organ donor card is altruistic, it seems that narrative messages about organ donation should be more effective than logical argument messages in producing consistency between the attitudes and behaviors of those individuals who are high in willingness to become potential organ donors but who have not signed donor cards. Since much of the previous research also indicates that narrative messages are significantly more memorable and persuasive than logical argument messages (Borgida & Nisbett, 1977; Kazoleas, 1993; Koballa, 1986; Nisbett & Ross, 1980; Taylor & Thompson, 1982), several different explanations have been advanced to account for these findings. Three of these accounts are relevant to the present research and will be considered as possible explanations for the suggestion that narrative messages should elicit more attitude-behavior consistency in the group high in willingness to sign organ

donor cards than logical arguments. The explanations that will be addressed are vividness, causal relevance, and affect.

Vividness

"It is generally accepted that stories are more concrete, more imagery provoking, and more colorful than statistics that are often abstract, dry, and pallid" (Baesler & Burgoon, 1994). This notion has led several scholars to suggest what has been called the vividness effect, which proposes, essentially, that vivid messages such as narratives should be more memorable and persuasive than are pallid messages (e.g. Nisbett & Ross, 1980; Taylor & Thompson, 1982). Although this explanation seemed to provide validation for the persuasive advantage of narrative over statistics, Baesler and Burgoon (1994) demonstrated that "the persuasive effect of statistical evidence could be boosted by making it more vivid" (p. 585). Thus, it is possible for logical argument and narrative messages to be equivalent in their vividness. Therefore, in the present study, vividness will be controlled in an attempt to demonstrate that this idea should not be the sole explanation for the effectiveness of narrative messages in producing attitude-behavior consistency.

Causal Relevance

A second possible explanation for the suggestion that narrative messages should be more effective in demonstrating relevance between attitudes and behaviors, and thus, in

producing attitude-behavior consistency, can be found in a cognitive process known as causal relevance. Generally, causal relevance occurs when a reader understands the relationship between the message and his or her own life. While Kazoleas (1993) notes that stories may be more effective than statistics because they are more vivid, he also suggests that individuals may have difficulty making causal inferences from statistical information because they are unable to utilize information presented in this format. This idea is consistent with Taylor and Thompson (1982) who state that "subjects can readily discern the causal relevance of case history information to the to-be-made judgments but are less able to see that causal relevance when information is presented statistically" (p. 163). Two components are suggested to comprise causal relevance: similarity and problem solving. Levels of both should be higher in narrative messages than in logical arguments, thus increasing the level of perceived causal relevance.

Similarity. "Information that describes the experiences of a particular individual may also be more compelling than abstract or statistical information about people in general because it permits identification with a specific person" (Rook, 1987, p. 353). Taylor and Thompson (1982) suggest that personal relevance generally increases attention to the information being presented which leads to increased persuasion. One way that messages are perceived to be personally relevant occurs when readers feel that they are

similar to the individuals in the message. If a reader perceives him/herself to be similar to the character portrayed in the narrative, then he/she will pay more attention to the purpose of the message, thereby increasing the persuasive effectiveness of the message.

Problem solving. The second component of causal relevance suggests that if the reader perceives that he/she can help solve the problem being presented in the message, attention again will be focused on the content of the message, and persuasion will increase. With logical argument messages, knowledge about the problem is provided to the reader and a logical solution to this problem is presented, however there is a cognitive gap between the problem and the solution such that there is no cognitive link between the two. With narrative messages, both the problem and a possible solution are typically presented such that the reader can see how the character is able to help solve the problem. Since narratives generally describe a causal chain of events in which the causal relationships between events are illustrated, there should be no cognitive gap perceived between problem and solution.

With logical argument messages, causal relevance is rather ambiguous (Hinsz & Tindale, 1992). Statistical information such as that which comprises logical arguments often is described in abstract terms that do not clearly relate the process of the events in question (Nisbett & Borgida, 1975). In other words, a clear path leading from

the problem to the solution is not seen. Since logical arguments should elicit less causal relevance, these messages should be less effective than narratives in illustrating the relevance between attitude and behavior, thus, producing less consistency between discrepant attitudes and behaviors.

With a narrative message, if the reader perceives him/herself to be similar to the character in the story, and the narrative enables him/her to forge a cognitive link between the problem and his/her part in the solution, then causal relevance is increased, and the reader's attention should be focused on the content of the message. By paying attention to the message, the reader easily should be able to see the relevance between his/her own attitude toward the topic and the corresponding behavior. If this attitude is positive toward the topic of the message, but the reader's behavior is inconsistent with the behavior recommended by the narrative message, Festinger's (1957) dissonance theory suggests that this inconsistency, or dissonance, should make the reader uncomfortable. Since the presence of dissonance creates a pressure to eliminate it, the reader should be compelled to remedy this inconsistency. Thus, due to the causal relevance elicited by a narrative message, attitude-behavior consistency should result.

To summarize, logical argument messages should elicit low levels of the similarity and problem solving components of causal relevance for individuals high in willingness to become potential organ donors, and this should not produce

attitude-behavior consistency. On the other hand, narrative messages should elicit high levels of similarity and problem solving in this population, which should produce higher levels of attitude-behavior consistency with regard to signing a donor card. These relationships indicate that a path model may be proposed to test the effect of causal relevance as a mediating variable influencing the relationship between message type and behavioral outcome. This model may be illustrated as shown in Figure 1.

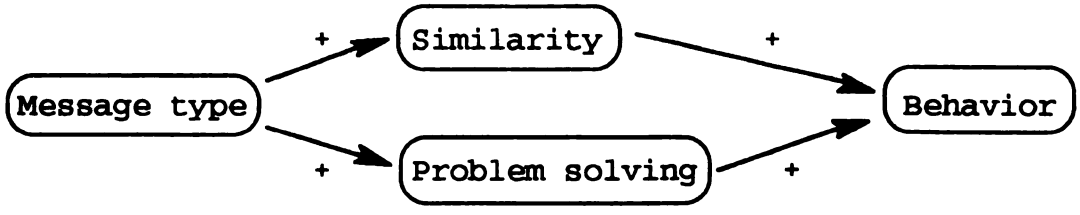

Figure 1. Illustration of causal relevance as an explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards.

Previous research indicates that causal relevance is an appropriate construct to be examining when studying individuals who are high in intent to sign organ donor cards. Kopfman, et al. (1994) demonstrated that when reading both narrative and logical argument messages about organ donation, the high willingness group felt a greater sense of causal relevance than those with low willingness, in that they perceived themselves as similar to the people in the messages and they felt that they could contribute to reducing the organ shortage by becoming a potential organ donor. The

behavioral implications of the causal relevance produced by organ donation messages will be explored in this study.

While the Kopfman, et al. (1994) study found that causal relevance was a cognitive reaction produced in response to messages about organ donation, strong affective responses to these messages also were found to exist. Next, affect will be considered as a possible explanation for the suggestion that narrative messages should elicit more attitude-behavior consistency in the group high in willingness to sign organ donor cards than logical arguments

Affect

Research has shown that narrative information may contribute to greater behavior change because it is more emotionally arousing (Nisbett & Ross, 1980; Taylor & Thompson, 1982). Rook (1987) suggests that case examples, or narratives, are believed to evoke greater imagery and affect than abstractly presented information, and that health information, in particular, is best presented in an affect-evoking form. Her research on health-related issues suggests that narratives aroused greater affect than statistical information, and that these narratives were more effective in eliciting behavioral results. Evocative messages, such as narratives, are said to be more demanding and interactive because the readers will be more actively and emotionally involved in the dialogue of the text rather than simply receiving information, as is the case with logical argument messages (Bochner, 1994).

Positive affect. If, when reading a message about a particular topic, individuals experience positive affective responses to this topic, they are likely to focus their attention on the content of the message, since it is pleasing. By paying attention to the message, the reader easily should be able to see the relevance between his/her own attitude toward the topic and the corresponding behavior. If they discover that their attitude toward the topic is positive, but that their behavior is inconsistent with their attitude and with the recommendation of the message, they may be motivated to remedy this discrepancy in order to perpetuate the positive affect experience. Negative affect, however, should produce different results.

Negative affect. Individuals experiencing negative affect in response to a message may not focus their attention on the content of the message, since it is unpleasant. Research on fear appeals (one form of negative affect) suggests that extreme levels of fear are likely to stimulate defensive, or avoidance, behaviors such as not reading a message thoroughly, if at all (Janis & Feshbach, 1953; McGuire, 1968; 1969; Leventhal, 1970; Witte, 1992). Therefore, since individuals experiencing negative affect are unlikely to read the messages, attitude-behavior consistency is not likely to be elicited since the relevance of attitude and behavior may not be observed.

Kopfman, et al. (1994) examined individuals' affective responses to logical argument and narrative organ donation

messages. They found that narratives elicited more emotions overall than logical arguments, and specifically, that positive emotions increased when respondents read narrative messages. The number of negative emotions produced were similar for the two types of messages. When examining individuals high in willingness to sign organ donor cards in particular, interesting results were found. Although this audience did not generate a significantly higher number of positive emotions in response to both narratives and logical arguments than the low willingness group, these individuals did produce significantly fewer negative emotions in response to the messages.

Since negative affect about organ donation is not characteristic of the high willingness group, it should not impede the resolution of attitude-behavior inconsistency. Instead, the positive affect experienced by these individuals when reading messages about organ donation should lead them to higher attitude-behavior consistency in this domain. As narrative messages were found to elicit more positive emotions, these should be effective in eliciting this consistency than logical argument messages. Thus, narrative messages should elicit low levels of negative affect and high levels of positive affect, both of which in turn should produce higher levels of behavior consistent with the positive attitude. Logical argument messages should elicit higher levels of negative affect lower levels of positive affect when compared to the narrative messages, both of which

then should produce lower levels of attitude-behavior consistency. These relationships suggest that the model in Figure 2 may be proposed.

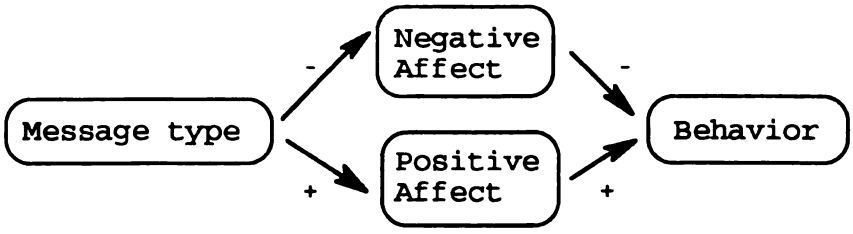

Figure 2. Illustration of affect as an explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards.

Summary

Three explanations supporting the suggestion that narrative messages should elicit more attitude-behavior consistency in the group high in willingness to sign organ donor cards than logical arguments were considered: vividness, causal relevance, and affect. In the present study, vividness will be controlled so that it can be eliminated as a potential explanation for the hypothesis. Causal relevance and affect each will be examined individually for their ability to support the present hypothesis, but it is possible that these two explanations may work in conjunction to influence the effectiveness of narrative messages. Many researchers suggest that cognitive and affective processes are integrally related (e.g.

Bornstein, 1992), so the combination of causal relevance and affect also will be examined as a possible explanation for the present hypothesis. This model would be diagrammed as shown in Figure 3.

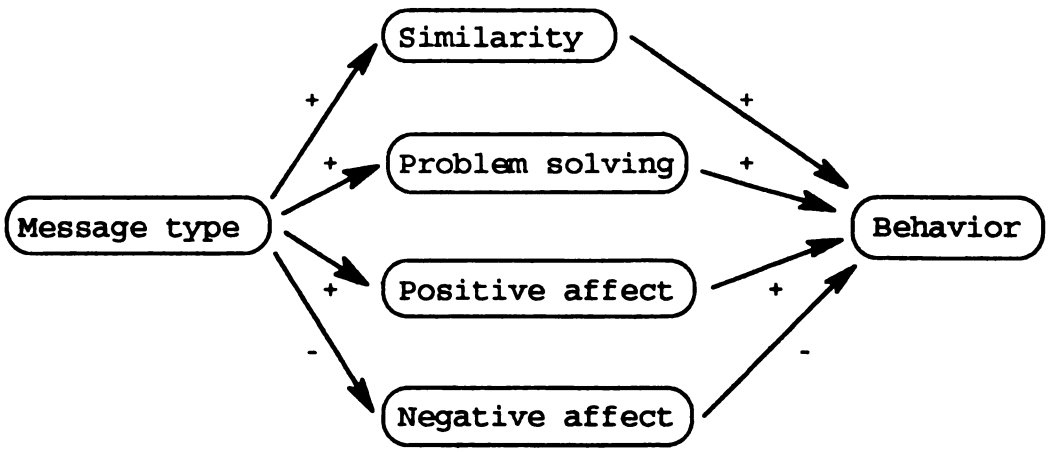

Figure 3. Illustration of causal relevance and affect as an explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards.

Given these considerations, the following four hypotheses can be offered:

H1: High willingness individuals who read narrative messages describing positive aspects about organ donation will be more likely to sign organ donor cards than those who read logical argument messages.

H2: Narrative messages describing positive aspects about organ donation will increase perceptions of similarity and problem solving, both of which will lead to increased card signing behavior in high willingness individuals. Logical argument messages will elicit lower levels of similarity and problem solving (compared to narrative messages), both of which will lead to lower levels of card signing behavior in high willingness individuals.

H3: Narrative messages describing positive aspects about organ donation will elicit lower levels of negative affect and higher levels of positive affect, both of which will lead to increased levels of card signing behavior in high willingness individuals. Logical argument messages will elicit higher levels of negative affect and lower levels of positive affect (compared to narrative messages), both of which will lead to lower levels of card signing behavior in high willingness individuals.

H4: Narrative messages describing positive aspects about organ donation will elicit higher levels of similarity, problem solving, and positive affect and lower levels of negative affect, all of which will lead to increased levels of card signing behavior in high willingness individuals. Logical argument messages will elicit lower levels of similarity, problem solving, and positive affect and higher levels of negative affect (compared to narrative messages), all of which will lead to lower levels of card signing behavior in high willingness individuals.

While the first hypothesis suggests which type of message should be more effective in eliciting attitude-behavior consistency, the other three provide potential explanations for the superior effectiveness of narrative messages in this effort. For the second, third, and fourth hypotheses, it is expected that findings indicating support for one necessarily will negate the other two. In other words, one of these hypotheses should emerge as the best explanation for hypothesis one.

An Alternate Explanation for Consistency

Inconsistency characterizes this high willingness group. They demonstrate a positive attitude toward signing an organ

donor card, yet they have not performed the simple behavior of doing so. As is common in persuasion research, the present study provides the target audience with persuasive messages in an attempt to reconcile the inconsistent attitude and behavior, but it is possible that no message is needed. It may be that these individuals have every intention to sign a donor card but that they simply do not have one to sign. If this is the case, then unavailability is the only barrier to attitude-behavior consistency. The following research question investigates this possibility:

RQ1: Is the unavailability of organ donor cards a significant factor affecting the attitude-behavior inconsistency of the high willingness group?

METHODS

Participants

Two hundred sixty-one students at a large Midwestern university were recruited from communication courses, and they were given credit toward their course grade for participating. It should be noted that a student population is greatly desired for research about organ donation because the ideal and typical donor is a healthy young adult, and individuals in this population tend to live dangerous lives. Also, if they sign donor cards at this age, they are likely to continue to carry them throughout their lifetimes (Horton & Horton, 1991; Smith, Morrison, Kopfman, & Ford, 1994).

For the purposes of this research, only those high in willingness to become potential organ donors were needed, but it is impossible to pre-identify these individuals. Therefore, all students who volunteered were permitted to participate, but only data from those with high willingness were used in the analysis. From a total sample of 261 participants, 54 had signed an organ donor card prior to completing the questionnaire and were excluded from the analysis. Of the remaining participants, 83 demonstrated low willingness to sign an organ donor card and were removed from analysis. Thus, 124 high willingness individuals comprised the sample used for the present research.

Stimulus Materials

Overview

To examine the present hypotheses and research question, the high willingness respondents were randomly assigned to one of three groups and were asked to complete several measures. All respondents first were asked to complete a measure assessing their general level of altruism and to indicate their willingness regarding becoming a potential organ donor. One group then was presented with one of two logical argument messages about organ donation while a second group received one of two narrative messages. They were asked to read the message carefully and then to complete measures assessing the causal relevance and affect elicited by the message. A manipulation check for vividness also was completed. The third group received no message. All

respondents then were asked to complete a measure assessing their knowledge about organ donation, and they were given the opportunity to remove a brochure containing information about donation and an actual organ donor card that could be signed and placed on their drivers' licenses. One week after completing this portion of the research, respondents were asked to complete a brief measure on which they indicated whether or not they actually did perform the behavior of signing a donor card. Each of these measures will be described in detail.

Altruism

To measure altruism, a 13-item scale (alpha = .83) which asked participants to indicate their agreement on a seven-point scale ranging from "Strongly Agree" to "Strongly Disagree" was used (see Appendix A). Items on this scale were part of a larger altruism measure used by Kopfman and Smith (in press) and reflected aspects of altruism such as broadmindedness, helpful, warm, and giving. After the deletion of one item, this scale was shown to be unidimensional according to confirmatory factor analysis procedures in Hunter's PACKAGE.

Attitude

Respondents first were asked whether they carried a signed donor card prior to completing the present study. Those responding "No" to this question then were asked to indicate their willingness to become a potential organ donor on six 7-point Likert-type scales (See Appendix B). Items on

this scale asked respondents to indicate their agreement with six statements on a seven point Likert-type scale from "Strongly agree" to "Strongly disagree." Since available responses for each item were from one to seven, individual scores on this scale could range from 6 to 42. High willingness individuals were identified as those selecting the midpoint or above on all items. Thus, only those participants indicating levels of willingness above the median scale score of 24 were selected for analysis purposes. This scale yielded a Chronbach's alpha of .82, and was shown to be unidimensional using confirmatory factor analysis procedures in Hunter's PACKAGE.

Messages

Three different logical argument and three narrative messages were pretested to assess the level of vividness elicited by each. Ninety-eight students, comprising a sample separate from the primary data collection, were asked to read one of the six messages and to indicate how vivid they perceived the message to be on a series of Likert-type items (see discussion of Vividness measure below). The messages which demonstrated the highest (a narrative, M = 39.2) and lowest (a logical argument, M = 33.1) levels of vividness were eliminated, and two of each message type then were selected for use in data collection (See Appendix C) A oneway analysis of variance with Scheffe's follow up procedure indicated that these four messages (logical argument 1: M = 36.6, logical argument 2: M = 36.8,

narrative 1: M = 38.00, narrative 2: M = 37.8) were not perceived as significantly different in their levels of vividness during the pretest ($F(3,96) = 1.64$, $p < .28$).

An additional pretest examined the quality of the messages to determine whether the fundamental structural properties of the messages led to the enjoyment of one message type over the other. Seven items were developed to assess the three major discourse structures proposed by Brewer and Lichtenstein (1982) to account for the enjoyment of narratives as well as to assess general liking and enjoyment of the message types (see Appendix D). A oneway analysis of variance with Scheffe's follow up procedure indicated that the four messages employed in the primary data collection were not perceived as significantly different in quality during the pretest ($F(3,96) = 1.45$, $p < .22$). This finding indicates that structural message properties which influence perceived message quality should not have any impact on the outcome measures in this study. Any differences in outcomes should be due to the unique effects of the message type.

The logical argument messages presented factual information from organ procurement agencies and urged commitment to organ donation. Narrative messages were actual newspaper articles describing individuals whose lives were saved due to an organ transplant, and the end of the stories emphasized that someone's decision to sign an organ donor card was the reason that the transplant was possible. The

narrative messages were augmented by the author to incorporate some factual information about organ donation such that all messages provided equal knowledge to the participants.

Vividness (manipulation check)

To ensure that the messages employed in the present study were equivalent in their levels of vividness, respondents were asked to complete eight items rating the message for vividness on 7-point Likert-type scales from "Strongly Agree" to "Strongly Disagree" (see Appendix E). It was necessary to eliminate one item to produce a unidimensional scale using confirmatory factor analysis procedures in Hunter's PACKAGE, and this scale yielded an alpha of .89.

Causal Relevance

After reading each message, respondents were asked to complete ten items assessing the causal relevance of the message on 7-point Likert-type scales from "Strongly Agree" (1) to "Strongly Disagree" (7) (see Appendix F). Six of these items have been used in previous research (Kopfman, et al., 1994) in which confirmatory factor analysis procedures indicated that this measure yielded two distinct factors. The first factor, labeled "problem solving" (alpha = .88), contained four items demonstrating that participants feel that donating their organs would help solve the organ shortage. The second factor, labeled "similarity" (alpha = .88) contained two items indicating that participants

believed they were similar to the individuals portrayed in the message.

Additional items have been incorporated into the both factors in order to increase the ability to assess the reliability of this measure. In the present study, the similarity items demonstrated a reliability of alpha = .86 while the problem solving items yielded an alpha = .83. Both scales were shown to be unidimensional using confirmatory factor analysis procedures. These two factors (similarity and problem solving) were used as separate indicators of causal relevance in the data analysis.

Affect

Previous research on organ donation has employed open-ended measures to assess affect (Kopfman & Smith, in press; Kopfman, et al., 1994). The present research used responses to those measures to construct items which were used to assess affective responses to the messages. Respondents were asked to indicate their agreement with eleven statements on seven-point Likert-type scales from "Strongly Agree" to "Strongly Disagree" (see Appendix G). Five of these items assessed positive affect experienced by the participants (alpha = .88) and six measured negative affect (alpha = .91). Both the positive affect scale and the negative affect scale were shown to be unidimensional using confirmatory factor analysis procedures in Hunter's PACKAGE.

Knowledge (manipulation check)

Eight items that are unequivocally either true or false assessed the knowledge of the participants to ensure that all messages conveyed the same information (see Appendix H). These statements are part of a measure developed by Horton and Horton (1990) to represent public facts about organ donation. Participants were asked to indicate whether they believed each statement to be true or false.

Behavior

Brochure. Following completion of all measures, participants were given the option to remove a brochure containing an actual organ donor card that could be signed and placed on their drivers' licenses. The removal of this card from the questionnaire was employed as an initial behavioral indicator of the participants' intent to become a potential organ donor.

Outcome measure. One week after completing the initial questionnaire, respondents were asked to indicate whether or not they had signed an organ donor card by circling either "yes" or "no" in response to a question to this effect. Several other behaviors relevant to becoming a potential organ donor were assessed in a similar manner (see Appendix I), although signing the card was the behavior of interest in the present study.

ANALYSIS

Several preliminary statistical procedures were performed prior to analysis of the hypotheses. First, levels of vividness and knowledge elicited by each message were examined. T-tests indicated that there were no significant differences between the two logical arguments on either of these variables (vividness: $t(1,41) = -.53$, $p < .60$; knowledge: $t(1, 41) = .68$, $p < .51$) and that there were no significant differences between the two narrative messages on either of these variables (vividness: $t(1,44) = .80$, $p < .43$; knowledge: $t(1,44) = -1.07$, $p < .29$). Thus, the two forms of each message type could be combined in subsequent analysis, providing two instantiations of each message type.

Manipulation checks also were performed prior to the examination of hypotheses. While equal levels of vividness were desired for logical argument ($M = 36.7$) and narrative ($M = 40.5$) messages, t-tests indicated that there were significant differences between the two message types for vividness ($t(1,87) = -2.65$, $p < .01$). Since the vividness of the messages was not equivalent, this variable was entered as a covariate in all subsequent analyses.

T-tests indicated that the overall knowledge demonstrated by participants reading logical argument messages ($M = 5.28$) was not significantly different than the knowledge of those reading narrative messages ($M = 5.04$; $t(1,87) = .38$, $p < .39$). However, knowledge demonstrated by those participants receiving no message ($M = 4.57$) was shown

to be significantly different than the overall knowledge of both the group reading logical argument messages ($t(1,76) = -2.49$, $p < .01$) and the group reading narrative messages ($t(1, 79) = -1.78$, $p < .05$). Since the narrative messages were augmented with information, an additional analysis examining the knowledge items assessing certain key facts was performed. Items one, two, four, and six in the knowledge measure were examined separately and similar results were obtained. T-tests indicated that the partipants' knowledge on key items after reading logical argument messages ($M = 2.91$) was not significantly different than the knowledge of those reading narrative messages ($M = 2.72$; $t(1,87) = 1.74$, $p < .55$). Knowledge of key items demonstrated by those participants receiving no message ($M = 1.77$) was shown to be significantly different than the overall knowledge of both the group reading logical argument messages ($t(1,76) = -5.13$, $p < .01$) and the group reading narrative messages ($t(1, 79) = 2.08$, $p < .05$). Thus, the messages were effective in providing information not previously possessed by the participants, and both messages relayed similar amounts of information.

To examine hypothesis one, which suggested that narrative messages would be more effective than logical arguments in eliciting attitude-behavior consistency in the high intent audience, analysis of variance (ANOVA) procedures were employed. The control condition (no message) was entered into this analysis to determine if availability of

organ donor cards is a barrier to attitude-behavior consistency (RQ1). Hypotheses two, three and four were examined by means of path analysis procedures using Hunter's PACKAGE. Correlations between all of the variables in the path models are shown in Table 1.

Table 1. Correlations between the variables in path models.

	Altr	Mtype	Negaff	Posaff	Sim	Prob	Sign
Altruism	1.00						
Message type	-.16	1.00					
Negative affect	.02	-.51	1.00				
Positive affect	.26	.38	-.34	1.00			
Similarity	.49	-.16	.02	.46	1.00		
Problem solving	.20	-.07	-.06	.39	.25	1.00	
Sign card	.14	.18	-.38	.32	.24	.20	1.00

RESULTS

Hypothesis 1

Hypothesis 1 predicted that high willingness individuals who read narrative messages describing positive aspects about organ donation will be more likely to sign organ donor cards than those who read logical argument messages. The ANOVA on

signing behavior revealed a significant main effect for message type ($F(2,120) = 2.60$, $eta2 = .04$, $p < .05$). Vividness, entered as a covariate in the analysis, demonstrated no significant effects ($F(1,120) = .48$, $p < .49$). Thus, significantly more people signed organ donor cards after reading a narrative message ($M = .20$) than after reading a logical argument ($M = .07$) ($t(1,87) = -1.97$, $p < .05$). In terms of the raw data, nine of the 46 high willingness individuals who read a narrative signed donor cards (20%) while three of the 43 people who read logical arguments signed cards (7%). Given these results, the data are consistent with the prediction made in Hypothesis 1.

Research Question 1

RQ1 asked whether or not the unavailability of organ donor cards is a significant factor affecting the attitude -behavior inconsistency of the high willingness group. This question may be answered by examining the card signing behavior of those individuals who read no message in comparison with those who read one of the two message types. To do so, the control condition was included in the analysis of variance described above and a series of t-tests were performed. Participants in the control condition (reading no message) signed significantly fewer organ donor cards ($M = .06$) than those reading a narrative message ($t(1,79) = -1.94$, $p < .05$). In fact, those in the control condition exhibited behavior similar to those participants who read a logical argument in that their behavior was not significantly

different ($t(1,76)= -.23$, $p < .82$). In terms of the raw data, only two of the 35 participants in the no message condition signed organ donor cards (6%).

An additional indication that the unavailability of organ donor cards is not a barrer to card signing is demonstrated by the fact that 86 of the 124 high willingness participants (69%) took the organ donor card and brochure provided at the end of the questionnaire, yet only 14 of those individuals indicated in the one-week follow-up measure that they actually signed the donor card. Thus, it can be concluded that the unavailability of organ donor cards is not a factor preventing individuals from signing them. In fact, providing donor cards in the no message condition produced results equivalent to the condition in which logical argument messages were presented. Only narrative messages were significantly better in eliciting attitude-behavior consistency.

Hypothesis 2

A model was proposed suggesting causal relevance as an explanation for the persuasive superiority of narratives over logical arguments for the high willingness audience. With logical arguments coded as 1 and narratives coded as 2, message type was predicted to influence both similarity and problem solving (the two components of causal relevance), both of which were expected to influence the signing of organ donor cards. Path analysis procedures indicated that this model did not provide a good fit with the data (chi-square =

3.61, df = 2, p < .16). However, post hoc analyses indicated that a different model containing the same variables provided a better fit with the data. Although errors were higher than desired (average error = .14) and not all relationships are in the predicted direction, a model suggesting that message type influences perceptions of similarity, which influences problem solving, which in turn influences card signing behavior (See Figure 4) was found to fit the data fairly well (chi-square = 2.80, df = 3, p < .42). All of the other links in the model were shown to be non-significant (1-3 link: z = 0.17, p < .86; 1-4 link: z = 1.25, p < .21; 2-4 link: z = 1.10, p < .27).

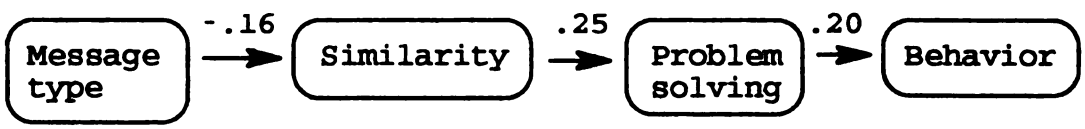

Figure 4. Illustration of alternate model of causal relevance as an explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards.

Thus, full support for Hypothesis 2 was not found, but an alternate model comprised of the same variables provided partial support for causal relevance as an explanation for the effectiveness of the messages.

Hypothesis 3

A model suggesting affect as an explanation for the persuasive superiority of narratives was proposed in

Hypothesis 3. Message type was expected to influence levels of positive affect and negative affect, and both types of affect were expected to predict signing behavior. (See Figure 5 for the path coefficients).

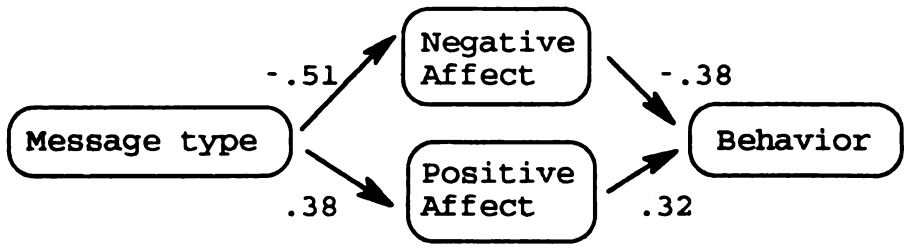

Figure 5. Path coefficients for the model of affect as an explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards.

Path analysis procedures indicated that this general model provided a good fit with the data (chi-square = .94, df = 2, $p < .63$). All errors were less than .09, and all of the alternate links were shown to be non-significant (1-4 link: $z = -0.41$, $p < .68$; 2-3 link: $z = -0.88$, $p < .38$). This suggests that narrative messages describing positive aspects about organ donation elicited higher levels of positive affect and lower levels of negative affect than logical arguments, which led to increased levels of card signing behavior in high willingness individuals. Similarly, logical argument messages elicited lower levels of positive affect (compared to narrative messages), which led to lower levels

of card signing behavior in high willingness individuals. Thus, support was found for Hypothesis 3.

Hypothesis 4

Hypothesis 4 proposed a model suggesting that both causal relevance and affect would serve as explanations for the effect of message type on the signing of organ donor cards. Path analysis procedures indicated that the data did not fit this model (chi-square = 15.42, df = 7, $p < .03$). Although several post hoc alternative models which incorporated all of these same variables were examined, none provided an acceptable fit with the data. Therefore, no support for Hypothesis 4 was found.

Post hoc Analyses

Earlier in this dissertation, it was suggested that the value of altruism should play an important role in eliciting attitude-behavior consistency in the audience with high willingness to sign organ donor cards. Appealing to altruism was proposed as a justification for narrative messages to be more effective in persuading this population to behave consistently with their attitudes. Because of this, the role of altruism in influencing the signing of organ donor cards was explored in post hoc analyses. Several path models incorporating this variable were examined, but only one produced significant results (chi-square = .02, df = 1, p = 1.00). For both narratives and logical arguments, a model suggesting that altruism influences perceptions of similarity which in turn affects card signing behavior was found to fit

the data perfectly (See Figure 6). An analysis of variance was performed to determine whether altruism and message type interacted to influence card signing, but this interaction was found to be non-significant ($F(2,123) = 1.99$, R-squared = .05, $p < .22$)

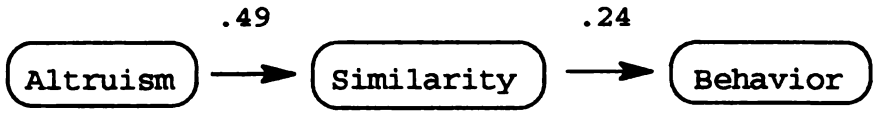

Figure 6. Illustration of model suggesting altruism influences perceptions of similarity, which influences the signing of organ donor cards (across both message types).

DISCUSSION

General Discussion

This dissertation explored two types of messages designed to reduce the attitude-behavior inconsistency for people who hold a positive attitude toward willingness to sign organ donor cards but who have not yet performed the behavior of signing a donor card. Results of this study indicated support for the hypothesis suggesting that narrative messages which discuss positive aspects of organ donation should be more effective than logical argument messages in persuading high willingness individuals to sign organ donor cards, thus eliciting attitude-behavior consistency. Overall, 14 of the 124 high intent participants (11%) signed donor cards after completing the research

questionnaire, and nine of those fourteen (64%) read narrative messages.

One of the most important findings of this dissertation is that a negative answer must be given in response to Research Question 1, which asked whether the unavailability of organ donor cards is a significant factor affecting the attitude-behavior inconsistency of the high willingness group. Results indicated that the number of people who signed donor cards in the control condition was significantly less than the number of people who signed cards in the narrative condition. However, the number of card signers in the control condition (2) was NOT significantly different than the number in the logical argument condition (3). The implications of these findings suggest good news for communication researchers working in the domain of organ donation, but this good news also is tempered by certain limitations.

These results imply that the unavailability of organ donor cards has no significant impact on the attitude-behavior consistency problem plaguing this audience. Lack of access to organ donor cards does not influence whether or not the high willingness individuals will sign cards. Thus, some form of communication is needed to convince the high willingness individuals to behave in a manner consistent with their attitude, but logical arguments are not likely to be effective to this end. The findings of this dissertation suggest that giving a logical argument message about organ

donation to a high willingness individual is no better than simply providing them with an organ donor card to sign. Both tactics will elicit attitude-behavior consistency in a few people, but a substantial number of signed donor cards will not be the result. Effective communication for the high willingness audience must take the form of carefully crafted narrative messages.

Knowing that narrative messages were better than logical argument messages for producing attitude-behavior consistency in the high willingness audience, the goal was to determine why this is so. Three models were advanced in Hypotheses 2, 3 and 4 which suggested potential explanations for the superiority of narratives over logical arguments. Hypothesis 2 proposed that causal relevance should explain this finding, Hypothesis 3 suggested that affect should provide the explanation, and Hypothesis 4 advanced the idea that both causal relevance and affect should account for the results.

Although no support was found for the combination of causal relevance and affect as an explanation (Hypothesis 4), some support for each of these individual concepts was indicated. The model proposed in Hypothesis 3 suggesting that message type should influence both positive and negative affect, both of which then influence card signing behavior, was found to fit the data rather well. Although the model for causal relevance proposed in Hypothesis 2, in which similarity and problem solving simultaneously influence card signing, did not fit the data, support was found for an

alternate model which proposed that message type influences perceptions of similarity, which influences problem solving, which in turn influences card signing behavior.

It was suggested earlier that findings indicating support for one of these three hypotheses necessarily would negate the other two. In other words, one of these hypotheses should have emerged as the best explanation for hypothesis one. Models of both causal relevance and affect produced positive results indicating support for the hypotheses, but the parameters indicate that the model including affect provides a better fit with the data (chi-square = .94, df = 2, $p < .63$) and produces lower errors (average error = .05 with none higher than .09) than the model with causal relevance (chi-square = 2.80, df = 3, $p < .42$; average error = .14). Also, some of the variables in the causal relevance model did not correlate in the predicted direction. Message type and similarity were predicted to be positively correlated, but results indicated that these two variables were negatively correlated. All variables in the affect model correlated in the predicted directions. These findings indicate that the affect model provides the best fit with the data, and thus, that affect should be the best explanation for the persuasive superiority of narratives over logical arguments for the audience high in willingness to sign organ donor cards. In other words, for high willingness individuals, narrative messages discussing the positive aspects of organ donation elicited higher amounts of positive

affect and lower amounts of negative affect than logical argument messages. These levels of affect then led more individuals to sign organ donor cards. On the other hand, logical argument messages produced lower levels of positive affect and higher levels of negative affect than narratives, both of which led to fewer individuals signing donor cards.

While affect was found to be the best explanation for the effectiveness of narratives over logical arguments, interesting results also were obtained indicating that altruism plays an important role in the signing of organ donor cards. A path model proposing that altruism influences perceptions of similarity which in turn influences card signing was found to fit the data perfectly. This suggests that regardless of message type, individuals with higher levels of altruism were more likely to relate to the people described in the message, and this sense of similarity led more participants to sign organ donor cards. These results are consistent with the functional theory of attitude discussed earlier, which was employed to develop the suggestion that the attitude of willingness to sign an organ donor card serves the underlying function of value expression. By demonstrating an attitude of willingness sign organ donor cards, this audience is expressing their value of altruism.

Interpreting this model incorporating altruism in combination with the model of affect as an explanation for the predominance of narrative messages over logical

arguments, an interesting picture emerges. Essentially, these results indicate that altruism is the driving factor determining whether or not any given high willingness individual will sign an organ donor card. A highly altruistic high willingness person is able to read either a narrative or a logical argument and find some relevance between the people in the message and his or her own life, which leads him/her to be more willing to sign an organ donor card. Thus, it makes no difference which type of message the high willingness altruist reads. At the same time, the two different types of messages have different effects on those high willingness individuals with somewhat lower levels of altruism. Narrative messages tend to elicit a greater level of positive affect and a lower level of negative affect, both of which lead to card signing behavior, while logical arguments increase negative affect and decrease positive affect which results in the lack of a signed donor card. Thus, as is shown by the results of Hypothesis 1, for the high willingness, low altruism individuals, narrative messages are most effective in eliciting attitude-behavior consistency by persuading these individuals to sign organ donor cards.

Beyond the realm of organ donation, the results of this study also provide interesting implications for practical attempts to increase attitude-behavior consistency associated with other health issues. Many people hold positive attitudes toward certain health behaviors (exercise, diet,

safe sex, safety precautions, and regular medical examinations, just to name a few), but a large proportion of these people do not actually perform the behavior that corresponds with their attitude. Remedying their attitude-behavior inconsistency perennially occupies researchers in many different fields such as medicine, communication, psychology, and public health. The present research suggests that narrative messages should be the most effective method for increasing attitude-behavior consistency in high willingness audiences. Whereas logical argument messages simply present statistical or factual information in a manner which may or may not allow individuals to associate attitude with action, narrative messages allow the audience to perceive the relevance between the attitude they already possess and the corresponding behavior through the actions of the character in the message. This study suggests that affect is the key to success for these messages. Narratives which increase feelings of positive affect and decrease feelings of negative affect should be effective in highlighting the audience's perceived relevance between their own attitude and behavior, and this in turn should lead to increased attitude-behavior consistency.

While altruism was found to be an important factor influencing the increase of attitude-behavior consistency in the present research, this construct may not be quite so important in other health domains. While most other health behaviors tend to be performed for the benefit of oneself,

organ donation is one area where behaviors performed benefit other people. Thus, for behaviors such as organ and blood donation, appealing to altruism in the high willingness audience should be quite effective, but this tactic may not have such impact in other areas since behaviors are not performed for others. One possibility for these other health domains (for which research is needed to provide validation) may be to suggest that behaviors performed primarily benefit oneself, but that these behaviors also have great importance to the loved ones of the person being targeted. The influence of altruism on persuasion and attitude-behavior consistency should be one focus of future research in the health domain.

Limitations

Several limitations of this research must be acknowledged. First, limitations due to the sample selected must be acknowledged. Respondents in the present study all were college students, and while the ideal organ donor is a young, healthy adult, not all organ donors fit this description. Indeed, potential organ donors of all ages are needed. Information gained from this research may easily be used to generalize to the high willingness young adult population, especially on college campuses, but additional research is needed to determine if these findings may be generalized to other populations of interest or even to the population at large.

Related to the first limitation, a second caveat must be noted. Research about organ donation has been conducted on this campus by the author, her advisor, and other colleagues for over four years. It is quite likely that some of the individuals who completed the present questionnaire have participated in other research projects on the topic of organ donation. The implication of this limitation is that the proportion of people in this study who already have signed organ donor cards and the distribution of those falling into the high and low willingness categories may be substantially different than the general campus population and/or the population at large.

Directions for Future Research

This dissertation provides many ideas for future research which must be pursued. For the audience high in willingness to sign organ donor cards, several opportunities for research are provided. First, this study found that narrative messages were more effective than logical arguments in eliciting attitude-behavior consistency because of the affect they elicit, but research is needed to determine what specific types of affect are produced in response to these messages. Additionally, different formats for presenting narrative messages should be considered. Written messages were employed in the present study, but the effects of other venues such as narratives told by individuals in person or on video must be examined on order to determine the optimal format for presenting messages about organ donation.

Also, research should determine the specific effects of the narrative messages used in the present study to find the reason that they are so effective in eliciting attitude-behavior consistency. Does the information contained in the narrative remain memorable for a longer period of time? Does the fact that a narrative message describes an actual person rather than a statistic make the message more personal for the reader? Further research on the components of causal relevance also is needed to determine why similarity was negatively correlated with message type when a positive correlation was expected.

For the audience low in willingness to sign organ donor cards, it is necessary to determine the effect of the messages used in this dissertation. In the present study, logical arguments were found to be no more effective in convincing high willingness people to sign donor cards than simply providing them with the cards. Research needs to establish whether or not this finding holds true for the low willingness audience, as well as examining the effectiveness of the narrative messages. If either of these messages decreases the audience's willingness even further, then the reason(s) for this effect must be considered. If the messages increase their willingness to become potential organ donors, then effective strategies for persuading them to sign donor cards must be found.

For all three of the target audiences in this study (those with signed organ donor cards, those high in

willingness to sign cards, and those low in willingness to sign cards), it would be interesting to determine which of Katz's (1960) attitude functions is served by their attitudes toward organ donation. Altruism was suggested to be the underlying value served by the value-expressive attitude of willingness to sign donor cards for the high willingness individuals in this dissertation, but additional research is needed to verify this claim as well as to examine the other audiences (low willingness individuals and those who already have signed organ donor cards).

CONCLUSIONS

Increasing the number of individuals who carry signed organ donor cards is crucial if the supply of organs available for transplantation is to equal the demand for these organs. This dissertation represents a step toward increasing the organ supply by examining messages which persuade individuals with attitudes of willingness to sign donor cards to behave consistently with their attitudes. Most importantly, it was found that communication is a necessary component to increasing the number of signed organ donor cards, but the results of this study indicate that only one type of message is most effective for this audience. Narrative messages were found to be better than logical argument messages in producing attitude-behavior consistency in the high willingness individuals, and this finding is due to the fact that narrative messages elicit more positive

affect and less negative affect than the logical arguments. Giving logical argument messages to this audience was equally as effective as giving them no message at all. Regardless of message type, though, highly altruistic people perceive relevance between the people in the message and their own lives, and this leads to an increase in their card signing behavior. The findings of this dissertation must be used in the continuing efforts to increase the number of organ donors so that the supply of organs available for transplantation someday can meet the evergrowing need for these organs.

APPENDICES

APPENDIX A: Altruism measure

Based on your own values and beliefs, please indicate the extent to which you agree or disagree with the following statements:

1. I am generally a sincere and truthful person.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

2. I stand up for what I believe in.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

3. I only do things that will benefit me.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

4. I enjoy doing small favors every day for the people I care about.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

5. I am an affectionate and caring person.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

6. If I could help save somebody's life, I would do everything possible.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

7. My parents always stressed to me that helping other people is one of the most important aspects of life.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

8.* I think I am a very open-minded person.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

9. If I help someone else, there has to be something good in it for me.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

10. I am only helpful to strangers in need when I absolutely have to be.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

11. I enjoy working for the welfare of others.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

12. My family tends to do what we can to help those less fortunate than ourselves.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

13. I agree with the old saying "It is better to give than to receive."

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

* Item deleted during data analysis.

APPENDIX B: Willingness Measure

Do you currently have a signed and witnessed organ donation card?

NO YES

Please respond to the following questions ONLY if you answered "NO" to the question above:

1. I intend to sign an organ donation card.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

2. I would consider the possibility of becoming an organ donor.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

3. I plan to discuss the issue of organ donation with my family members very soon.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

4. I have thought about signing an organ donor card.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

5. I would strongly consider donating the organs of a deceased family member or loved one.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

6. At some time in the future I plan to sign an organ donation card.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

APPENDIX C: Messages

On the following pages are the logical argument and narrative messages that were used in the present study. All of these messages were selected from the pretest due to their equal levels of vividness.

Logical argument 1

Important facts about organ and tissue donation

Anyone can become an organ donor.

Just by making your wishes known to your family, you can become an organ and tissue donor. Old age or a history of disease does not mean you can't donate. Organs and tissues that can't be used for transplants can often be used to help scientists find cures for serious illnesses.

Many organs and tissues can be donated.

The heart, lungs, liver, kidneys and pancreas as well as corneas, bone, skin, heart valves and blood vessels are some of the organs and tissues that can be used to help improve the quality of life for people needing transplants and other surgical procedures.

Signing a donor card will not affect the care you receive at the hospital.

If you are injured and brought to an emergency room, you will receive the best possible care, whether or not you have signed a donor card. Donation procedures begin only after all efforts to save your life have been exhausted, and death has been declared. One set of doctors will remove your organs while another set of doctors transplant the organs into the recipients.

The organ transplant system is fair.

The distribution of donated organs allows equal access for all patients awaiting a transplant in the United States. The National Transplant Act mandated the establishment of a national computer system for organ sharing that is based on need and availability.

Major religions support organ and tissue donation.

Many faiths openly encourage it, seeing this as a final act of giving and as an expression of hope on the part of the donor.

Organ donation does not eliminate the possibility of regular funeral services.

A traditional, open casket funeral service can still take place even though many organs and tissues have been donated. The surgical procedures used are performed by highly skilled professionals, and the appearance of the donor's body is unchanged.

Make a very important difference in someone's life.

Signing a donor card signifies your commitment to renewing the life and health of others in need. In the event of your death, your family will be asked what your wishes were. Now is the time to discuss this important issue with them. The gift of organ and tissue donation can truly be a gift of life for someone else.

(Continued on next page)

Logical argument 1, continued

1. Talk to your family about this important decision.
2. Fill out a donor card in the presence of two witnesses and sign your name in the space provided.
3. Have both witnesses sign their names in the space provided.
4. Carry this card in your purse or wallet where it can be easily found.

Be an organ donor... it's the chance of a lifetime!

Logical argument 2

Why should you consider becoming an organ/tissue donor?

Medical advances have made it possible to transplant numerous tissues and organ from one human being into another to improve and save lives. The first corneal transplant was performed in 1905, the first blood transfusion in 1918, the first kidney transplant in 1954, and the first heart transplant in 1967. Now, current medical technology also enables the transplantation of skin, heart-lung combinations, lung, pancreas, liver, bone, and bone marrow.

In 1991, there were 9,949 kidney, 2,954 liver, 2,125 heart, 532 pancreas, 51 heart-lung, and 401 lung transplants performed in the U.S. The number of transplantations has nearly doubled since 1983, due primarily to dramatic increases in the number of heart and liver transplants. However, the number of individuals awaiting transplants also continues to grow.

Did you know that:

- Approximately 21,149 patients are awaiting kidney transplants.
- Almost 25 percent of all individuals awaiting liver transplants are age 10 or younger.
- The one-year survival rate for heart transplants is 82 percent.
- One set of doctors is responsible for removing a donor's organs, while another set of doctors transplants the organs into the recipient.
- One donor, a victim of an automobile accident, recently was responsible for saving the lives of five individuals awaiting transplant surgery.
- Most major religious groups support organ donation.
- A signed organ donor card is all you need to let medical personnel know that you wish to become an organ donor.

Please make a decision to become an organ and tissue donor. Discuss your decision with your family and let them know of your desire to become a donor. Then sign and carry in your wallet a donor card.

You can make a miracle, give the gift of life!

Narrative 1

Mom gives gift of life twice

By Tony Scotta
Lansing State Journal

DeWITT- The gift Carol Tyler gave her son couldn't be wrapped in a bow. She explains this fact in a note she still can't read without breaking into tears, some three weeks after being released from a hospital.

"To give a child life once was something, but to be able to give a child life twice is a miracle," said Tyler, 56, of East Lansing. Her gift this time was a kidney that was transplanted into her son, David Kane, on Dec. 14.

Kane, a 1983 graduate of Mason High School, was diagnosed with chronic nephritis about five years ago while he was a senior at Brigham Young University in Provo, Utah. The condition results in kidney failure and is caused by undetected strep throat during childhood.

Since then, the 29-year-old Grand Ledge resident suffered gradually increasing fatigue and weight loss. Most days after work, he had to go straight to sleep and take several three- to four-hour naps on Saturdays and Sundays. He also was counseled to maintain a high-fat, high-sugar diet with just one-half cup of dairy products a day, no red meat, limited grains and fruits and vegetables.

Last year, doctors tried an experimental treatment with chemotherapy that has been found to stop the progress of the disease in 25 percent of nephritis cases. For six months, the treatment seemed to be working. But toward the end of therapy the deterioration returned, working twice as fast, Kane said.

He was told he could prepare for kidney dialysis treatments to clean his blood or have a kidney transplant by the end of 1994. The latter would be no easy task, Kane said, because finding a kidney donor typically takes about four years.

To speed up the process, Kane's sister, Cathy Wallace of DeWitt, and Tyler tested to see if they could provide a kidney of their own. After several tests, doctors agreed Tyler's kidney could be used. It was removed in a three-hour surgery at the University of Michigan hospital in Ann Arbor.

Doctors took the kidney from Tyler's side by making a large incision, cutting through muscle and removing a piece of rib. The kidney was rushed down the hall to a different set of doctors in another operating room where Kane was anesthetized and waiting to receive it during a four- to five-hour surgery. The new kidney was implanted near his stomach with his own two kidneys left intact, each original kidney functioning at about 10 percent. Following surgery, Kane's new kidney immediately began to function.

Kidneys transplanted from close family members can be expected to last some 20 to 30 years, Kane said. "It's given him back his quality of life," said his wife, Julie, 27. "I haven't seen this same person in four to five years."

In 1994, 123 Michigan residents died waiting for organ transplants, said Richard Pietroski, clinical director of the Gift of Life, Michigan's organ procurement agency. This year, 1,229 Michigan residents await a kidney transplant, 68 a new heart, 68 a new lung, 101 a new liver, 49 a new pancreas and 308 a new cornea. Two patients await both a new heart and lung.

(continued on next page)

Narrative 1, continued

Kane now is looking forward to spending more time with his children, Joseph, 5, and Katie, 2, and to playing golf, volleyball, and tennis again. He has returned to a regulat diet, gained about 15 pounds, and plans to return to his job as an accounting and budget manager for Blue Care Network - Health Central in Lansing in six months.

Kane and Tyler urge people to fill out an organ donor card so that others, such as Kane, may be helped in the future. Others who are most thankful for their new chance at life. A signed organ donor card is enough to let medical personnel know of an intent to donate, but it also is important to discuss this decision with family members.

"It is the best Christmas present I could have ever received," Kane said.

Narrative 2

In Italy, boy's death a lesson in life

By Daniel J. Watkin
The Associated Press

ROME - Reginald Green says the easiest decision he and his wife, Maggie, ever made was to donate the organs of their 7-year-old son, fatally shot by bandits during a vacation in southern Italy.

But the decision by the Bodega Bay, Calif., couple, who headed home Tuesday, has stunned Italy. Many here saw it as a gesture of extraordinary generosity and a lesson for a society that sometimes seems all to selfish and violent.

"They have taught us what it means to be civilized," said talk show host Maurizio Costanzo, echoing many newspaper and TV commentators this week. "We are truly in (their) debt."

Nicholas Green was asleep in the back sear of the car next to his sister, Eleanor, 4, as the family drove through Calabria toward Sicily last Thursday night.

Robbers pulled alongside to force them off the road. Green managed to elude them, but the bandits fired. A bullet lodged in Nicholas' brain. Police have not arrested anyone.

The boy lapsed into a coma and on Sunday was declared brain-dead by doctors caring for him. A different set of doctors transplanted his liver, kidneys, heart and pancreas into five young Italians.

"We had a fine little boy who we thought would become a fine, upright man," Green said, appearing on Costanzo's show Monday evening after returning from Messina, Sicily, where Nicholas was hospitalized.

"But his future was taken away from him," Green said. "We thought it was very important to give his future to someone who had lost theirs."

Raffaello Cortesini, a doctor who performed one of the transplants, complained that just half the families of eligible donors in Italy give their permission for transplants.

Despite the fact that most religious groups support organ donation, Italy, where 10,000 await transplants, has one of the lowest rates of organ donation in the West.

"It is serious," Cortesini told the Rome newspaper *Il Messaggero*. "It makes one doubt the generosity of Italians."

The Greens have been showered with civic honors.

Italy's president presented them with a gold medal. If Nicholas had lived, "it would have been his most prized possession," Green said of his son, who loved ancient history.

Messina made the Greens honorary citizens to "exalt (their) spirit of altruism." The city said it would pay for the transport of the boy's body and his parents' stay. Provincial officials of Catanzaro established a $3,200 elementary school scholarship. The city of Cosenza promised to name a street after Nicholas.

And the family was flown to San Francisco on an Italian military plane after meeting President Oscar Luigi Scalfaro and Premier Silvio Berlusconi.

"We so much wanted to say how we are participating in your suffering," Scalfaro told the couple.

"I know that some say that your generosity is normal, but I say it is exceptional."

(Continued on next page)

Narrative 2, continued

The killing of his son was not the true Italy, Green said. "The real Italy is warmth, generosity of spirit and this feeling about the importance of humanity."

Many Italians disagreed.

"With us, violence is an ancient evil, and marks many destinies," wrote commentator Enzo Biagi in an open letter Monday on the front page of Milan's newspaper, *Corriere della Sera.*

"This land, famous for history, beauty, art, suffers from an invincible cruelty, which hides behind the oleanders, the sycamores, among the ruins ... and which at night strikes a little sleeping Nicholas."

Biagi said American values are often dismissed as naive by Italians "who by now hardly have faith in anything."

"However, every once in a while we discover that your customs, your upbringing are not just talk, and that truly you believe in feelings," he said.

Before leaving Rome, Green spoke of how special the vacation in Italy was to have been after a summer reading ancient history with Nicholas.

"He was passionately interested in the idea of Rome, the Eternal City. The roads, the army, the gods. He lived those parts," Green said. "I felt his spirit expand and fill the places we read about."

In the United States and in Italy, the need for organ donors is very great. A signed organ donor card is sufficient to let medical personnel know of the desire to become an organ donor. All people who eventually would like to donate their organs also should discuss this issue with their families so that this intention is known in advance.

APPENDIX D: Message quality pretest

Respondents were asked to respond to each item on the following scale:

Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

Items used on the message quality pretest:

1. While reading this message, I was curious about what would be said next.
2. I thought this was a good message.
3. I liked this message.
4. This message did not interest me.
5. I was surprised by the outcome of this message.
6. I was concerned about the consequences for the people in this message.
7. I did not enjoy this message. (reflected)

APPENDIX E: Vividness manipulation check

Respondents were asked to respond to each item on the following scale:

Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

Items used on the Vividness scale:

1. I thought this message was stimulating.
2. This message provoked many images for me.
3. This message was vivid in its discussion of organ donation.
4. This message did not hold my attention. (reflected)
5. I thought this message was very interesting.
6. This message was too graphic.* (reflected)
7. This messages was colorful.
8. This message kept me interested the whole time I was reading it.

* Item deleted during data analysis.

APPENDIX F: Causal Relevance Measure

Respondents were asked to respond to each item on the following scale:

Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

Items used on the Problem solving scale:

1. After reading the message I can see that signing an organ donor card might help to save others' lives.
2. After reading the message I can see that by signing an organ donor card I may help reduce the organ donor shortage.
3. The message is realistic.
4. The message is believable.
5. If I signed an organ donor card it wouldn't really help solve any problems. (reflected)

Items used on the Similarity scale:

1. I can identify with the message.
2. I cannot relate to the message. (reflected)
3. I am similar to the people in the message.
4. I feel connected to the people in the message.
5. I could see myself as one of the people in the message.

APPENDIX G: Affect Measure

Respondents were asked to respond to each item on the following scale:

Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

Items used on the positive affect scale:

1. This message made me feel good.
2. This message made me happy.
3. I was comforted when reading this message.
4. I felt glad when I read this message.
5. This message made me feel hopeful.

Items used on the negative affect scale:

1. I felt threatened when I read this message.
2. I felt afraid when reading this message.
3. This message made me feel nervous.
4. I felt uneasy when reading this message.
5. This message made me feel uncomfortable.
6. This message made me feel sad.

APPENDIX H: Knowledge measure

WITHOUT LOOKING BACK AT THE MESSAGE YOU JUST READ, please indicate whether you believe each of the following statements to be TRUE or FALSE by circling either T or F

1.	Once signed, an organ donation card is irrevocable.	T	F
2.	Almost all Western religious groups support the concept of organ donation.	T	F
3.	Before a donor's organs can be removed, a physician must certify that the potential donor's heart has ceased to function and that all pulmonary activity has ceased.	T	F
4.	It is considered unethical for the same physician to have primary responsibility for the care of both the organ donor and the organ donee.	T	F
5.	Anyone over the age of 40 is not acceptable as an organ donor.	T	F
6.	For an organ donor card to be valid, a copy must be filed with the U.S. Department of Health and Human Services.	T	F
7.	The 'ideal' donor is a young adult who has died of a head injury.	T	F
8.	For most organs, demand is significantly greater than supply.	T	F

APPENDIX I: Outcome Measure

Student Number _____

Below are a few follow-up questions to the organ donation questionnaire you completed approximately one week ago. Please answer each question as honestly as possible by circling either "yes" or "no".

1. Did you have a signed and witnessed organ donor card prior to completing the questionnaire one week ago?

YES NO

2. In the past week have you:

A. given any additional thought to the idea of signing an organ donor card? YES NO

B. read any of the information in the organ donation brochure that was attached to the questionnaire? YES NO

C. discussed the topic of organ donation with any of your family members? YES NO

D. discussed the topic of organ donation with others (friends, coworkers, etc.)? YES NO

E. signed an organ donor card? YES NO

F. had your signed organ donor card witnessed by anyone else? YES NO

3. If you have any additional comments, please write them below:

Again, thank you for your time and participation!

ENDNOTES

[1] It has been suggested that the attitude of willingness to sign an organ donor card demonstrated by the participants in this study actually is not an attitude, but rather that it is an intent. Fishbein and Ajzen (1975; Ajzen & Fishbein, 1977) indicate that attitudes toward behaviors tend to be good predictors of specific behaviors. It is the belief of this author that an individual who indicates that he/she is willing to sign an organ donor card at some point in the future is in fact demonstrating an attitude toward a behavior, which is quite different from the individual who indicates an intent to sign a card as soon as one is available. Results of this study support this belief such that all of the participants used in this research demonstrated an attitude of willingness to sign a donor card. If this were an intent, a majority of these individuals would have been expected to sign a donor card, but in reality, only 11% of the population actually signed cards. Thus, participants in this research are said to possess an attitude of willingness to sign organ donor cards, not an intent.

LIST OF REFERENCES

LIST OF REFERENCES

Ajzen, I. & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84, 888-918.

Ajzen, I. & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.

Allport, G.W. (1935). Attitudes. In C.A. Murchison (Ed.), A Handbook of Social Psychology. Worcester, MA: Clark University Press.

Baesler, E.J. & Burgoon, J.K. (1994). The temporal effects of story and statistical evidence on belief change. Communication Research, 21, 582-602.

Bennett, W.L. (1978). Storytelling in criminal trials: A model of social judgment. Quarterly Journal of Speech, 64, 1-22.

Bochner, A.P. (1994). Perspectives on inquiry II: Theories and stories. In M.L. Knapp & G.R. Miller (Eds.), Handbook of Interpersonal Communication (pp. 21-41). Thousand Oaks, CA: Sage.

Borgida, E. & Nisbett, R.E. (1977). The differential impact of abstract vs. concrete information of decisions. Journal of Applied Social Psychology, 7, 258-271.

Bornstein, R.F. (1992). Inhibitory efects of awareness on affective responding: Implications for the affect-cognition relationship. In M.S. Clark (Ed.), Emotion (pp. 235-255). Newbury Park, CA: Sage.

Brewer, W.F. & Lichtenstein, E.H. (1982). Stories are to entertain: A structural-affect theory of stories. Journal of Pragmatics, 6, 473-486.

Bruner, J. (1986). Actual minds, possible worlds. Cambridge, MA: Harvard University Press.

Campbell, D.T. (1963). Social attitudes and other acquired behavioral dispositions. In S. Koch (Ed.), Psychology: A study of a science (Vol. 6, pp. 94-172). New York: McGraw-Hill.

Deutscher, I. (1966). Words and deeds: Social science and social policy. Social Problems, 13, 235-265.

Deutscher, I. (1973). What we say/what we do: Sentiments and acts. Glenview, IL: Scott, Foresman.

Dickson, P.R. (1982). The impact of enriching case and statistical information on consumer judgments. Journal of Consumer Research, 8, 398-406.

Eagly, A.H. & Chaiken, S. (1993). The psychology of attitudes. Orlando FL: Harcourt Brace Jovanovich.

Fazio, R.H. & Zanna, M.P. (1981). Direct experience and attitude-behavior consistency. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 14, pp. 162-203). New York: Academic Press.

Festinger, L. (1964). Behavioral support for opinion change. Public Opinion Quarterly, 28, 404-417.

Festinger, L. (1957). A theory of cognitive dissonance. Evanston, IL: Row, Peterson.

Fishbein, M. & Ajzen, I. (1974). Attitudes toward objects as predictors of single and multiple behavioral criteria. Psychological Review, 81, 59-74.

Fishbein, M. & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.

Fishbein, M. & Ajzen, I. (1981). Acceptance, yielding and impact: Cognitive processes in persuasion. In R.E. Petty, T.M. Ostrom & T.C. Brock (Eds.), Cognitive responses in persuasion (pp. 339-359). Hillsdale, NJ: Erlbaum.

Fiske, S.T. & Taylor, S.E. (1991). Social Cognition. New York: McGraw-Hill.

Ford, L.A. & Smith, S.W. (1991). Memorability and persuasiveness of organ donation message strategies. American Behavioral Scientist, 34, 695-711.

The Gallup Organization. (1987, April). The U.S. public's attitudes toward organ transplants/donation: 1987 (Survey conducted for the Dow Chemical Co., Inc.). Princeton, NJ: Author.

Harris, R.J., Jasper, J.D., Shanteau, J., & Smith, S.A. (1990). Organ donation consent decisions by the next of kin: An experimental simulation approach. In J. Shanteau & R.J. Harris, (Eds.), Organ donation and transplantation: Psychological and behavioral factors (pp. 13-24). Washington DC: American Psychological Association.

Hinsz, V.B. & Tindale, R.S. (1992). Ambiguity and human versus technological sources of information in judgments involving base rate and individuating information. Journal of Applied Social Psychology, 22, 973-997.

Horton, R.L. & Horton, P.J., (1991). A model of willingness to become a potential organ donor. Social Science and Medicine, 33, 1037-1051.

Iyengar, S. & Kinder, D.R. (1987). News that matters. Chicago: University of Chicago Press.

Janis, I.L. & Feshbach, S. (1953). Effects of fear-arousing communications. Journal of Abnormal and Social Psychology, 48, 78-92.

Katz, D. (1960). The functional approach to the study of attitudes. Public Opinion Quarterly, 24, 163-204.

Kazoleas, D.C. (1993). A comparison of the persuasive effectiveness of qualitative versus quantitative evidence: A test of explanatory hypotheses. Communication Quarterly, 41, 40-50.

Kelman, H.C. (1974). Attitudes are alive and well and gainfully employed in the sphere of action. American Psychologist, 29, 310-324.

Koballa, T.R., Jr. (1986). Persuading teachers to reexamine the innovative elementary science programs of yesterday: The effect of anecdotal versus data-summary communications. Journal of Research in Science Teaching, 23, 437-449.

Kopfman, J.E. & Smith, S.W. (in press). Understanding the audiences of a health communication campaign: A discriminant analysis of potential organ donors based on intent to donate. Journal of Applied Communication Research.

Kopfman, J.E., Smith, S.W., Ah Yun, J.K., & Hodges, A. (1994). Affective and cognitive reactions to narrative versus logical argument organ donation strategies. Paper presented to the Health Communication Division at the annual meeting of the Speech Communication Association, New Orleans, LA.

Kutner, B., Wilkins, C. & Yarrow, P.R. (1952). Verbal attitudes and overt behavior involving racial prejudice. Journal of Abnormal and Social Psychology, 47, 649-652.

LaPierre, R.T. (1934). Attitudes vs. actions. Social Forces, 13, 230-237.

Leitch, T.M. (1986). What Stories Are: Narrative theory and interpretation. University Park, PA: Pennsylvania State University Press.

Leventhal, H. (1970). Findings and theory in the study of fear communications. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 5, pp. 119-186), San Diego, CA: Academic Press.

Liska, A.E. (1975). The Consistency Controversy: Readings on the impact of attitude on behavior. New York: Schenkman Publishing.

Lohman, J.P. & Reitzes, D.C.(1952). Note on race relations in mass society. American Journal of Sociology, 58,240-246.

Mandler, J.M. (1984). Stories, scripts, and scenes: Aspects of schema theory. Hillsdale, NJ: Erlbaum.

McGuire, W.J. (1968). Personality and susceptibility to social influence. In E.F. Borgatta & W.W. Lambert (Eds.), Handbook of personality theory and research (pp. 1130-1187). Chicago: Rand McNally.

McGuire, W.J. (1969). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), Handbook of social psychology (2nd ed., Vol. 3, pp. 136-314). Reading, MA: Addison-Wesley.

McLaughlin, M.L. (1984). Conversation: How Talk is Organized. Beverly Hills, CA: Sage.

Minard, R.D. (1952). Race relationships in the Pocahontas coal field. Journal of Social Issues, 8, 137-143.

Mitchell, W.J.T. (1981). On Narrative. Chicago: The University of Chicago Press.

Nadler, M.A.K. (1983). Evidence usage in persuasion. Dissertation Abstracts International, 44, 910A.

Nisbett, R. & Borgida, E. (1975). Attribution and the psychology of prediction. Journal of Personality and Social Psychology, 32, 932-943.

Nisbett, R. & Ross, L. (1980). Human inference: Strategies and shortcomings of social judgment. Englewood Cliffs, NJ: Prentice-Hall.

O'Keefe, D.J. (1990). Persuasion: Theory and Research. Newbury Park, CA: Sage.

Reyna, R.M., Woodruff, W.J. & Brainerd, C.J. (1987). Attitude change in adults and adolescents: Moderation versus polarization, statistics versus case histories. Unpublished manuscript, University of Texas, Dallas.

Rook, K.S. (1987). Effects of case history versus abstract information on health attitudes and behaviors. Journal of Applied Social Psychology, 17, 533-553.

Roskos-Ewoldsen, D.R. & Fazio, R.H. (1992). The accessibility of source likability as a determinant of persuasion. Personality and Social Psychology Bulletin, 18, 19-25.

Schleifer, R., Davis, R.C., & Mergler, N. (1992). Culture and Cognition: The boundaries of literary and scientific inquiry. Ithaca, NY: Cornell University Press.

Scholes, R. (1981). Afterthoughts on narrative. In Mitchell, W.J.T. (Ed.), On Narrative (pp. 200-208). Chicago: The University of Chicago Press.

Schuman, H. & Johnson, M.P. (1976). Attitudes and behavior. Annual Review of Sociology, 2, 161-207.

Shepard, G.J. (1985). Linking attitudes to behavioral criteria. Human Communication Research, 12, 275-284.

Skowronski, J.J. (1990). Increasing the number of people who agree to donate organs: Can persuasion work? In J. Shanteau and R.J. Harris (Eds.), Organ Donation and Transplantation: Psychological and Behavioral Factors (pp. 122-135). Washington DC: American Psychological Association.

Smith, S.W., Kopfman, J.E., Morrison, K., & Ford, L.A., (1993, May). The effects of message sidedness, fear, and prior thought and intent on the memorability and persuasiveness of organ donor card message strategies. Paper presented at the annual meeting of the International Communication Association, Washington D.C.

Smith, S.W., Morrison, K., Kopfman, J.E., & Ford, L.A., (1994). The influence of prior thought and intent on the memorability and persuasiveness of organ donation message strategies. Health Communcation, 6(1), 1-20.

Snyder, M. (1982). When believing means doing: Creating links between attitudes and behaviors. In M.P. Zanna, E.T. Higgins, & C.P. Herman (Eds.), Consistency in social behavior: The Ontario Symposium, Volume 2, (pp. 105-130). Hillsdale, NJ: Erlbaum.

Stich, S. (1994), The gift of life. Correspondent, 92(574), 18-19.

Taylor, S.E., & Thompson, S.C. (1982). Stalking the elusive "vividness" effect. Psychological Review, 89, 155-181.

Thomas, W.I. & Znaniecki, F. (1918). The Polish Peasant in Europe and America. Boston: Badger Press.

Trabasso, T. & van den Broek, P. (1985). Causal thinking and the representation of narrative events. Journal of Memory and Language, 24, 612-630.

Waiting for Life. (1993, October 31). Lansing State Journal, pp. 1F, 3F.

Wells, G.L. & Harvey, J.H. (1977). Do people use consensus information in making causal attributions? Journal of Personality and Social Psychology, 35, 279-293.

Wicker, A.W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. Journal of Social Issues, 25, 41-78.

Winkel, F.W. (1984). Public communication on donor cards: A comparison of persuasive styles. Social Science and Medicine, 19, 957-963.

Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. Communication Monographs, 59, 329-349.