PUBLIC INFORMATION CAMPAIGNS:
AN APPLICATION OF THE THEORY OF REASONED ACTION

by

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DEDICATION

This thesis is dedicated to all the men and women serving the Armed Forces in the Persian Gulf during the present crisis. May we all return safely.
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ABSTRACT

The purpose of this study was to investigate the utility of the Theory of Reasoned Action in designing persuasive public information campaigns. The Theory of Reasoned Action (TRA) explains behavior by assessing individuals' beliefs about the consequences of the behavior in question in association with the individuals' perceptions that significant referents will either support or disapprove of the behavior. Though most investigations of the TRA have focused on testing the hypothetical relationships among its components, the purpose of this thesis was to test its utility in an applied setting.

The topic of blood donation was investigated using the procedures outlined by the TRA. A pilot study survey was first designed to gather basic information about respondents' beliefs regarding the advantages and disadvantages of giving blood and what significant referents were perceived to be either in favor of their behavior or opposed to it. From this raw data, a second, more comprehensive questionnaire was developed, again, following
the guidelines of the TRA model. The responses were correlated with other components within the model, specifically, intention to give blood, and then were regressed to investigate the relative importance of each component in predicting intention to give blood. The beta coefficient for participants' attitude toward giving blood was found to be insignificant ($\beta = .06, p < .38$); however, the beta coefficient for respondents' subjective norm was significant ($\beta = .36, p < .0001$). Therefore, the findings showed that the participants' subjective norm was the most important determinant in their intention to give blood.

Based on this information, a public information campaign was designed from a normative angle, urging college students to participate in a campus blood drive. A second campaign was designed based on current Blood Bank of Delaware information. Both messages were presented on the same day to different experimental groups, while a control group received no persuasive message. Names of students who received the messages were compared to a list of actual blood donors and scheduled prospective donors provided by the Blood Bank. One student from each experimental group signed up on the donor schedule, but only the student who received the traditional Blood Bank of Delaware message actually gave blood.
In general, the utility of the TRA as a tool for applied use was not supported in this study, suggesting that the TRA might not be suitable for designing public information campaigns. However, a number of methodological limitations have been cited; most notably, the use of small, non-random samples may have contributed to the unexpected findings. This suggests that a similar experiment without these limitations might be more effective than the present study and would give support to the notion of using the Theory of Reasoned Action in future public information campaigns.
CHAPTER 1
THEORETICAL BACKGROUND AND REVIEW OF LITERATURE

1.1 Rationale

There is a constant demand for a healthy blood supply by health care facilities. Unfortunately, the supply does not always meet the demand with the result that hospitals and blood banks are always looking for suitable donors to give blood. While recruiting donors, these agencies use communication campaigns to educate the public about the need for blood and try to persuade the public to become donors.

Frequently, such persuasive communication is in the form of a public information (PI) campaign. These campaigns, as the name implies, aim to inform and educate a public on a given subject. They are persuasive in nature and their ultimate goal is to change a public's behavior by altering the public's attitude.

Although many professional organizations use public information campaigns, case studies indicate that they are
primarily used by groups that perform social services such as health care and governmental agencies. Cohen (1987) stated that organizations which by definition are devoted to public services, will often develop a public relations program to educate the public on a particular issue or promote a particular public service message. (p. 95)

Grunig and Hunt (1984) stated that public information campaigns have three things in common: they are media campaigns, they use marketing strategies, and they are social marketing programs (p. 364). Attempts are made to alter public behavior through the use of mass mediated public service announcements on radio and television, advertisements in newspapers and magazines, as well as in-house publications. The campaigns frequently try to stop an undesirable behavior, such as smoking, unlike product promotion which tries to start a behavior, such as product use. However, like product promoters who try to encourage product use through advertising campaigns, blood bank personnel try to start blood donation behavior through the use of public information campaigns.

Reviews of research on public information campaigns have been fairly limited in number and in scope. In the past, public relations practitioners have developed PI campaigns based on "traditional" approaches to persuasion
(see Petty & Cacioppo, 1981) or by "seat of the pants" design, disregarding any type of research. A few researchers, however, have incorporated traditional approaches into scholarly field experiments on PI campaign effectiveness. These traditional approaches have focused on source credibility (Lirtzman & Shuv-Ami, 1986), level of involvement with topic (Grunig & Ipes, 1983), fear arousal (Maddux & Rogers, 1983; Siero, Kok, & Pruyn, 1984), mass media effects (Atkin, 1979; Gray, 1982), and demographic factors (Ettema, Brown, & Leupker, 1983). The results have produced findings that are both inconsistent and inconclusive regarding the effectiveness of PI campaigns. These traditional approaches will be discussed in greater detail in the next section.

In some cases, PI campaigns were found to be relatively effective, while in others, PI campaigns were found to be ineffective. In a study of a PI campaign aimed at women, Siero et al. (1984) concluded that a fear-arousing campaign was effective in persuading women to perform a breast self-examination to check for tumors. By contrast, Larson and Massetti-Miller (1984) found that a PI campaign about recycling was ineffective and attributed the failure to the use of a mass media program. According to Grunig and Hunt (1984), the majority of these campaigns, dating back as far as the 1940s, have had no effect on
changing attitudes and behaviors (also see Bauer, 1964; Hyman & Sheatsley, 1947). Some scholars point out that the lack of effectiveness of some of the campaigns may be attributed to the haphazard application of traditional persuasion concepts and a lack of systematic assessments of their results. These shortcomings then prevented the development of a single, unified, and effective approach.

Like persuasive research on PI campaigns, persuasive research on procuring blood donors has relied heavily on traditional theories. Researchers have also used incentives (Kushnir, 1980), different channeling techniques, such as, television, radio, or print media (Jason, Rose, Ferrari, & Barone, 1984), and behavioral approaches, such as, group incentives and competitions (Jason, Jackson, & Obradovic, 1986) as methods of procuring blood donors. Like the findings within the general persuasive literature, results within this area have also proven to be inconsistent or insignificant.

A more recent approach, the theory of reasoned action (Ajzen & Fishbein, 1980), has attempted to overcome the shortfalls of the past approaches and has shown promising results in the area of attitude and behavioral prediction. Moreover the TRA can be easily adapted in developing a PI campaign. The theory of reasoned action
model is used to assess peoples' intentions to perform a specific behavior by examining their most deep-rooted beliefs about the pragmatic consequences of performing the behavior and their perceptions of the social support they would receive for performing that action. Over a decade of correlational data gathered with the Ajzen and Fishbein model has enabled researchers to predict various behaviors including smoking, dieting, use of birth control, and engaging in premarital sex.

The TRA suggests that the best predictor of behavior is the intention to perform the behavior in question. Intention is then predicted by two components: attitude about performing the behavior and perceptions of social support or subjective norm. Finally, both attitude and subjective norm are predicted by a set of beliefs--behavioral beliefs and normative beliefs respectively. Ajzen and Fishbein (1980) suggest that by knowing these deep-rooted beliefs, the related behavior can be understood and predicted. In theory, by altering these beliefs it is possible to alter the attitudes and subjective norm, which, in turn, alter intentions, and ultimately, behavior.

The majority of the work done with the model so far has focused on testing relationships between the component conscripts within the TRA; its practical utility in real-
life circumstances has yet to be established. Yet, the theory of reasoned action (TRA) is perhaps more useful to practitioners as a tool to combat negative behavior and to support positive behavior through a persuasive message than it is as a tool to predict such a behavior. Its applied value for behavioral change can be tested in this example as a tool to help recruit prospective blood donors.

As mentioned, the TRA has been used primarily as a tool of prediction; however, some recent work has examined the effectiveness of altering behavior through the use of persuasive messages designed by using the TRA. This is evident in the area of blood donation behavior. Three relevant studies (Bagozzi, 1981; Burnkrant & Page, 1988; Charng, Piliavin, & Callero, 1988) have successfully linked beliefs about giving blood to intentions to give blood, in accordance with the Ajzen and Fishbein model. Two related field experiments (Lima & D'Amorim, 1985; Warshaw, Calantone, & Joyce, 1986) went further than merely linking beliefs about blood donation to intentions to give blood. Warshaw et al. found correlations between beliefs discovered and actual blood donation behavior, while Lima and D'Amorim used the TRA not only to predict blood donation behavior in Brazilian college students, but to design specific persuasive messages to encourage such behavior.
Unfortunately, no measure of behavior was taken to check for message effectiveness.

It is apparent that the TRA has been supported consistently in theoretical examinations and in a few practical applications. Fishbein and Middlestadt (1987) concluded in their review of the 1980 model that

the theory of reasoned action can serve as both a guide to research into the factors underlying different . . . behaviors and [serve] as a framework for developing educational and other types of interventions directed at changing these behaviors. (p. 370)

It has been the attempt of this research project to use the theory of reasoned action in a such a practical application by giving precise guidance to the development of a public information campaign, when there has been very little guidance from public relations research or texts in the past. Specifically, the TRA will be used to discover the salient beliefs held within a target population, so that a persuasive message can be designed to alter those beliefs that prohibit blood donation.

1.2 Theories of Persuasion

In order to highlight the ways in which the TRA differs from past approaches to persuasion, it is important to discuss first the different methods of persuasion that have been used previously in the literature. In the next
section a brief review of five of the traditional persuasive approaches, as outlined by Petty and Cacioppo (1981), will be presented. Though all of these perspectives have several different theoretical approaches under the general titles, only a broad overview of each will be reviewed here.

1.2.1 Traditional Approaches to Persuasion

Persuasion is an attempt to change someone's mind about a behavior, a person, or an idea (also see Ajzen & Fishbein, 1980; Petty & Cacioppo, 1981; Roloff & Miller, 1980). There are constant attempts by people around us--advertisers, family members, friends, clergy, the government--to persuade us to do, or not to do something. For many years, researchers have investigated the processes of persuasion from many different angles. Some scholars have focused their research on message construction while many others have taken a more audience-centered approach. Though they may not all agree on what approach is most effective, "researchers in the field have usually distinguished among the following [components of persuasion]: attitudes, beliefs, and behaviors" (Petty & Cacioppo, 1981, p. 6). An attitude is an overall feeling about a topic, usually described as being either positive or negative, favorable or unfavorable. Beliefs are more complex, however, and represent the many ideas that a person
possesses about the topic. These ideas have been gathered from various sources and can be either facts or opinions the individual holds. Finally, behavior refers to the specific action in question.

Of the most commonly studied approaches to persuasion, Conditioning and Modeling Approaches (also see Razran, 1940; Staats & Staats, 1958) are the most familiar. Like Pavlov's famous dog, these models are based on the notion that people may respond to a neutral stimulus and learn to associate it with another stimulus. In order to change attitudes, then, participants in experiments are conditioned to associated a previously neutral stimulus and thereby acquire a more favorable attitude toward the neutral stimulus. Participants in experiments frequently learn through basic rewards or punishments. The basic premise of these approaches is that subjects learn to associate a positive or negative stimulus with a belief, an attitude, or a behavior through consequences of their own experiences or by observation of consequences of others.

Although conditioning approaches have met with some success, the basic problem with them occurs when attempting to condition a mass audience. That is, what stimuli will be perceived as rewarding and effective to all members of the population? Further, the acquisition of attitudes is
a complex process because attitudes serve a variety of functions (Katz, 1960). When attempting to condition an audience, however, it is probable that a given message will address more than one function; hence little attitude change is likely to occur. Perhaps more problematic, though, is that these approaches have only been found to be effective when using unfamiliar or neutral stimuli as attitude objects. Rarely do people come to a persuasive context without some evaluation of the relevant topic in existence, however. Hence, their usefulness as a method to change existing attitudes have not been empirically demonstrated.

The Message-Learning Approach (also see Hovland, Janis, & Kelly, 1953) investigates the four components of persuasive communication—who delivers the message (the source), who receives the message (the recipient), how the message is delivered (channel factors), and the message itself (message factors). Each component can be manipulated in order to investigate its impact on a message's effectiveness. Message source research has looked into how perceived source credibility, physical attractiveness of the source, and the source's similarity to the audience affect people's attitudes and behavior. Likewise, different demographic factors of the message recipient—age, sex, personality type, and even economic status—have been used to see who is more susceptible to persuasion. The method
of delivery, either by face-to-face communication or by mass media, has also been investigated as a possible determinate of behavior change. Finally, the content of the message can be changed to offer incentives, arouse emotion or fear, repeat the theme, or present numerous arguments, in the hope of being more persuasive. The approach stresses that one or all of these factors are important in regard to the audience's ability to "learn" the "message"—hence the "Message-Learning Approach."

Criticisms of this approach are similar to those of the Conditioning and Modeling Approaches. That is, the Message-Learning Approach is presumed to alter attitudes most effectively when incentives are provided in the persuasive message for adopting a new attitude. Again, however, with the mass audience, what is an incentive for one person may be a deterrent for another, so results could be inconsistent.

The notion that people judge something by comparing it to something else is the focus of Judgmental Approaches (also see Helson, 1959; 1964). Supporters of these approaches believe that it is possible to influence people's behaviors by readjusting the frame of reference they use to evaluate some object or event and suggesting to them that the new or desired behavior is much more favorable than it
was once perceived to be. If, for example, a salesperson wishes to convince a prospective buyer that a product is priced fairly, he or she may compare it to a similar product that is costlier. The idea behind judgmental research is to influence a person's attitude by expanding that person's range of acceptance regarding the attitude object by altering the "anchor" with which the attitude object is compared.

Although considerable research has been conducted on the Judgmental Approaches and many studies have supported the theory's most general premises, the theory has not been well supported when more specific hypotheses have been stated and examined. That is, messages that have been found to produce changes in a target's range of acceptance (or rejection) for a particular attitude, have not been found to produce consistent changes in attitudes; at times no change was produced and at other times attitudes were changed in ways that contradicted theoretical predictions. Thus, its usefulness in the applied domain has yet to be demonstrated.

Motivational Approaches (also see Festinger, Riecken, & Schachter, 1956; Heider, 1946; 1958) to persuasion are somewhat more complex than the models discussed above. They rely on the belief that a person will
change his or her own mind about a topic in order to avoid an internal conflict among cognitive and behavioral elements; thus a person will alter his or her attitude in order to achieve and work toward a more comfortable mental balance. Advertisers frequently use this method when using a famous or likable personality to promote a product. If the audience likes the personality, then theoretically, they will also like the endorsed product so as to achieve a balance among the cognitive elements. An unbalanced situation would occur if they liked the spokesperson and not the product. Thus, attitude change is likely to occur in order to achieve balance of the cognitive elements. Motivation theory says that people's desire to be consistent in thoughts and deeds will make them susceptible to persuasion when inconsistencies are introduced because people feel the need to be consistent across their beliefs, attitudes, and behaviors.

Even though these approaches have been shown to be somewhat effective, their biggest problem is that the effectiveness occurs in a very narrow range of circumstances, such as in laboratory experiments. For example, Cognitive Dissonance Theory (see Festinger, 1957) tends to work, but only in very limited, esoteric cases in which a particularly narrow set of characteristics prevail. In addition, other research indicates that even when the
appropriate conditions exist, people may avoid experiencing dissonance because they are able to misperceive the cues that would trigger the dissonance. Hence, motivational theories are often ineffective for designing persuasive campaigns.

Finally, Attributional Approaches (also see Bem, 1965; 1967) work on the notion "that people infer underlying characteristics--such as attitudes and intention--from the verbal and overt behaviors they observe" (Petty & Cacioppo, 1981, p. 163). This inference is the reason for attitude change, according to the theory. Introducing manipulated external cues to an audience causes attitude change from their own reasoned (but not necessarily logical) inferences about those cues. For example, if you can get people to behave in a manner that is inconsistent with their attitudes, in theory, they will stand back and realize that their behavior is now conflicting with their attitude and will conclude that perhaps their attitude is not what they originally thought.

Difficulties arise in trying to get people to behave in a manner that is inconsistent with their attitudes and then using this method as a means of persuasion. Over and above trying to get people to act in an inconsistent way, researchers using Attributional Approaches to persuasion
must also contend with all of the other influences on attitude.

The Traditional Approaches have been the core of persuasive research for much of this century. These approaches have been beneficial in the respect that they have enabled researchers to investigate persuasive effects from a wide range of theoretically grounded perspectives while looking at literally hundreds of variables. Although there have been numerous research projects that have shown support for each one of these approaches, there have been an equal number of studies in which the hypothetical relationships among variables were not supported and/or the relationships found could be simultaneously explained by competing theoretical perspectives. These problems have prompted scholars to develop more systematic and reliable theories, such as the theory of reasoned action. While traditional research is laden with inconsistencies, the data available shows that the TRA is consistent.

This section has given a very brief overview of some of the broadest approaches to persuasion. As previously noted, within each general approach are numerous underlying theoretical positions and variables that have been explored in persuasive research. Within the following section, the
TRA will be outlined and contrasted with the general perspectives discussed above.

1.2.2 The Theory of Reasoned Action

In addition to the five previously cited traditional approaches, Petty and Cacioppo (1981) also discussed a group of more contemporary perspectives on persuasion that they referred to as the Combinatory Approaches (also see Fishbein & Ajzen, 1975; Wyer & Goldberg, 1970). According to these perspectives, attitudes are "determined by the information a person has about the stimulus and by how that information is combined or integrated to form one overall impression" (p. 183). According to the Combinatory Approaches, the individual who is making the judgment unconsciously takes in as much information about the topic as possible. People listen to what others say about the topic, read what is published in the media, and assess what they have always believed to be true about the topic. Some beliefs are positive, some are negative, while others are more neutral in feeling. Also some of those positive or negative thoughts can carry more weight in the individual's mind than do others. Mentally, the person assesses the weighted information and mathematically derives a sum or an average feeling or attitude about the subject. When persuasive arguments are added, the previously held attitude is
altered, although the overall change in attitude may be slight. From this perspective, the goal of a persuader would be to find the right arguments to increase the number of positive beliefs or raise the average of the attitude beliefs in the desired direction, so that the adjusted attitude alters behavior.

Much attention has been given to these approaches in recent years as they appear to be more systematic in nature and more susceptible to scientific investigation than do the previous approaches. Ajzen and Fishbein (1980) have focused on such a systematic persuasive approach in their theory of reasoned action (TRA).

According to Ajzen and Fishbein (1980), previously used approaches to persuasion assessed people's general attitude toward some object or event. For example, a traditional approach to persuasion might assess whether or not an individual feels positively or negatively toward blood donation. People with positive attitudes toward blood donation would then be predicted to actually give blood; those with negative attitudes would not be expected to donate. The TRA model differs from previous approaches by investigating attitudes toward performing a very specific behavior within a particular time and place. Thus, the TRA would assess how people felt about themselves actually
giving blood, rather than how they felt about the general topic of blood donation.

This distinction in measurement found between traditional approaches and the TRA is important for a number of reasons. First, Ajzen and Fishbein argued that researchers must assess targets' attitudes toward performing a behavior rather than one's attitude toward some object or event, because the beliefs that make up one's attitude toward an object (e.g., the beliefs that Mercedes cars are luxurious, of high quality, etc.) do not predict behaviors in regard to the attitude object (e.g., the beliefs that Mercedes cars are too expensive to be afforded).

Second, time and place specifications are necessary, because how a person feels about a behavior is apt to change in different contexts. In the example of blood donation, a subject may feel positively about blood donation in general, but may feel totally different about himself or herself actually giving blood. The same person may also feel that it is good to donate blood at a campus blood drive, but not at a blood donation center. Likewise, the time the behavior is to be performed can also factor into how the person feels about giving blood. For example, a student may be feel more favorable about giving blood in the early weeks of the semester versus giving blood during
finals week. Clearly then, it is important to make such distinctions when assessing attitudes.

Unlike traditional approaches to persuasion that only address attitudes toward objects related to behaviors, the TRA takes a more in-depth look at attitudes toward performing some specific behavior. Because traditional approaches measure attitude to behavioral outcomes (objects) rather than attitude about behavioral performance, Ajzen and Fishbein (1980) criticize these approaches by referring to the variables being tested (emotional arousal, source credibility, incentives, message channeling variations, etc.) as merely external to the model, with little or no effect on behavior. The TRA states that understanding the components of the model is the key to altering intention toward performing the behavior and, in turn, those components will affect the behavior itself. According to this model, then, a persuasive campaign will have little or no effect if it fails to influence the relevant salient beliefs.

Ajzen and Fishbein (1980) propose that the best predictor of a behavior is a person's intention to perform or not to perform that behavior. According to the TRA, it is possible to predict behavioral intention from a person's attitude about performing the behavior and the person's
perceived social support from important interpersonal referents for performing the behavior. The term "subjective norm" refers to how people think their actions will be regarded by family members, friends, employers, social groups, or other significant referents. According to the model, both attitude and subjective norm must be assessed in order to accurately predict intention and, in turn, predict behavior. The procedures for calculating attitudes and subjective norm will be outlined below.

1.2.3 Theory of Reasoned Action Components

Like the general school of thought on combinatory approaches, the TRA also says that an attitude is based on the combined set of beliefs one holds to be true about an action. In the case of the TRA, however, attitude (denoted as $A$ in Equation 1, see below) is comprised of the set of beliefs an individual holds about performing some action (rather than beliefs about some attitude object). This set of beliefs, labeled "behavioral beliefs," is comprised of two types: (a) beliefs about the consequences that will occur from performing the action (denoted as $b_i$ in Equation 1), and evaluation of those consequences (denoted as $e_i$ in Equation 1). By understanding what the individual believes the consequences of performing an action are, and how the individual evaluates these consequences, it is then possible
to predict attitude from a combination of these two sets of components. To clarify, the sum of the value of each belief about the behavioral consequences multiplied by the value of its evaluations predicts an individual's overall attitude.

\[ A = \sum b_i e_i \]  

(Equation 1)

Like attitude, subjective norm (denoted as SN in Equation 2, see below) is also comprised of a set of beliefs. This set of beliefs is comprised of a mental list of significant referents who would either approve or disapprove of the subject performing the behavior, and is labeled "normative beliefs" (denoted as NB in Equation 2). In addition, subjects' "motivation to comply" (denoted as MC in Equation 2) with the significant referents contributes to subjective norm. By understanding what significant referents are perceived to approve or disapprove the individual's action and whether or not the individual is likely to comply with said referents, it is then possible to predict subjective norm from a combination of these two components. To clarify, the sum of the value of normative beliefs multiplied by the value of motivation to comply predicts an individual's overall subjective norm.

\[ SN = \sum (NB)_i (MC)_i \]  

(Equation 2)
After the attitude and subjective norm components are computed, the relative contribution each makes must be assessed. That is, some intentions (denoted as I in Equation 3, see below) are more strongly weighted by the attitude component, while others are more strongly weighted by the subjective norm component. The relative importance or "weights" of each component (denoted by $W_1$ and $W_2$ in Equation 3) are calculated for large samples within a population using regression analyses.

$$I = W_1[A] + W_2[SN] \quad (\text{Equation 3})$$

The TRA model, up to this point, has been discussed in reverse of how the process works in real life, in order to better understand the relationships and the ability of each component to predict the subsequent component. Because the model infers that both behavioral and normative beliefs about performing the behavior are the original components from which intentions, and ultimately behaviors, may be predicted, it is here where researchers should begin their investigation.

Ajzen and Fishbein argue that the source of behavioral choice will be found by discovering people's beliefs about the positive and negative outcomes that result from performing or not performing a particular behavior and by discovering their perceptions of the social support or
disapproval they will encounter as a result of their decision.

The TRA was originally designed to explain the relationship between attitudes and behaviors. However, its practical value of predicting behaviors and designing persuasive messages about those behaviors results from its ability to explain the relationship between attitudes, subjective norm, and intentions. That is, by discovering the target audience's salient beliefs about performing the behavior (giving blood, in this study), the researcher can design an effective message to change those beliefs. Such a message can be designed to change either the set of behavioral beliefs or the set of normative beliefs, if one set of beliefs is found to be more salient than the other. By changing the salient beliefs, the person's attitude and/or the person's subjective norm will also change. Those components, in turn, will affect intentions toward performing the behavior and ultimately, affect the behavior itself. According to this model, then, a persuasive campaign will have little or no effect if it fails to influence the relevant beliefs.

As noted above, salient beliefs are divided into two specific types. First, behavioral beliefs are the perceived consequences and outcomes of performing a
behavior; these influence attitudes. Second, normative beliefs are the individual's perceived reactions by important others in regard to performing the action; these beliefs influence subjective norm. Siero, Kok, and Pruyn (1984) talked about those important others in the normative belief concept and refer to them as "primary groups." Not only did Siero et al. reinforce what Ajzen and Fishbein (1980) said about normative beliefs, like Ajzen and Fishbein, they also refuted many of the traditional methods of persuasion in public education (information) campaigns.

They stated the following:

There exists strong doubt about the ultimate effects of public education via mass media; does it change peoples' knowledge, attitude and behavior and are the changes permanent? The effects of [traditional] public education . . . are slight compared with laboratory experiments. As a rule this is attributed to the fact that in real life situations mass media are only one of the many sources to which a person is exposed. 'Primary groups,' family, friends, workmates, etc. play a more important role particularly in the process of attitude formation and attitude change. Nevertheless [most public relations practitioners] continue to engage in campaigns in which . . . [promotion] is given through mass media. (p. 881)

The use of normative beliefs and social reinforcement by primary groups is where the TRA is unique as compared to other persuasive approaches. As stated earlier by Fishbein and Middlestadt (1987), this uniqueness
can help the TRA serve as a framework for such informational campaigns geared toward behavioral change.

The next two sections will review empirical research relevant the topics of PI campaigns and then more specifically, campaigns dealing with the procurement of blood donors.

1.3 Public Information Campaigns

Public relations and persuasive communication go hand-in-hand. Many functions in public relations are efforts to persuade a target audience to support an idea or to have a more favorable image of an organization. More specifically, public relations practitioners frequently try to persuade an audience through the use of public information campaigns. These campaigns are an integral part of nearly every public relations office. Be it corporate, nonprofit, health care, or agency work, public information is used extensively. PI campaigns can be seen everywhere in daily life—"Stop smoking," "Use seat belts," "Don't drink and drive," "Only you can prevent forest fires," and so on.

Public information campaigns, or public education campaigns, or public communication campaigns have been frequently used throughout the 200-year history of the
United States (Grunig & Hunt, 1984). Thomas Paine's *Common Sense* can be seen as a PI campaign for American Independence, and Alexander Hamilton and Thomas Jefferson used similar tactics in their campaign for Constitutional ratification in 1787. Abolitionists bombarded sympathizers in both North and South to educate the public about the evils of slavery. For as long as there have been causes for which to fight or dangerous situations to prevent, PI campaigns have been used.

By disseminating information about an idea or behavior, the PR practitioner tries to create a new, more favorable attitude about that idea or behavior. The programs themselves do not alter behavior; the information merely provides an awareness of the problem which enables the audience to attend to the message and form more favorable cognitions about the preferred behavior.

1.3.1 Traditional Information Campaigns

Like other studies on persuasion, PI research has relied heavily on traditional persuasive theory. A vast majority of PI campaigns are disseminated to the public via mass media (a channeling factor of the Message-Learning Approach). Many of these mass-mediated campaigns have failed, not because of relying only on mass media, but because of their ineffective use of the media.
Specifically, the type of media used was not the problem; the information contained in those messages was lacking because it failed to address the audiences' beliefs about the topic. Relevant research on PI campaigns has also focused on the how different media are related to campaign effectiveness. Atkin (1979) stated that experts in the field often disagree drastically with each other—some holding a highly optimistic view that the media can be successfully used to achieve strong effects, or [others who hold] the decidedly pessimistic view that media campaigns are a waste of money and doomed to failure. (p. 655)

In the 1930s and 1940s it was widely accepted by practitioners that mass media had an all-powerful effect on the public. This view changed, however, in the 1950s and 1960s with the onset of research in the public information discipline.

One of the more recent findings, for example, is that individuals' information processing is influenced more by their personal needs than by the media factors previously studied. In a study of a campaign promoting cardiovascular health, Ettema et al. (1983) investigated the effects of socioeconomic status (SES) on retention of information sent through the media. Although this study refuted a knowledge gap rationale, it investigated two aspects of the Message-Learning Approach, recipient factors (SES) and channeling
factors (mass media). Previous research had shown that information was diffused more effectively to higher SES individuals because of their higher education levels and presumed ability to process the information better than lower SES individuals. Ettema et al. hypothesized that this was not the case. Their findings showed that education was indeed related to knowledge, but a knowledge gap did not exist between members of different SES groups; rather, a knowledge gap was found between people who are more or less motivated to acquire the information. This meant that individuals who believed that they were at greater risk of cardiovascular disease, despite their SES, were more likely to process the information.

There are many works that have studied participants' levels of motivation. Subjects who are motivated to acquire information about a topic because of personal involvement with the topic, are considered to be an active public. Subjects who are not involved with the relevant topic and are not seeking information are a passive public. It is usually these passive publics that are targeted by persuasive informational campaigns.

Grunig and Ipes (1983) created a model of a PI campaign combating drunk driving, to see if passive audience members are truly influenced by such campaigns. In past
programs, it has been found that passive publics "seldom develop organized cognitions or solutions to problems. They retain only bits and pieces of disorganized information" (p. 38). Their experiment showed that a campaign aimed at a passive audience about a new topic that involved the public directly resulted in high levels of problem recognition and involvement. However, consistent with other studies, it was also noted that a PI campaign will put the problems and solution "on the [passive] public's agenda but it will not ... stimulate that public to develop organized cognitions, attitudes and behaviors" (p. 40).

A second important issue that explains media's lack of effectiveness concerns mass-mediated campaigns' reduced potency because of a lack of interpersonal communication. One study measured the change in recycling behavior after a nine-month education campaign urging California residents to take part in a voluntary program (Larson & Massetti-Miller, 1984). After the program, comparisons of pre- and postcampaign surveys showed people's perceptions about the seriousness of the trash crisis were greater, but their actual recycling behaviors were relatively unchanged. The researchers point to a heavy reliance on mass media as the probable cause for the failed campaign. They stressed the importance of interpersonal communication of interpersonal
communication techniques for enhanced results and stated the following:

This narrow approach to the problem [mass media] has yielded relatively poor results. But researchers now realize that campaign effectiveness may depend upon the creation of opportunities for interpersonal communication, participation, and social reinforcement. (p. 24)

1.3.2 Health Care Campaigns

Much literature exists in the area of health care communication and how that information is delivered to the public. A majority of the communicators and researchers have focused more on what communication channels to use (Message-Learning factor), than what the public's attitudes and beliefs are about the topic (see Atkin, 1979; Ferrari, Barone, Jason, & Rose, 1985). The TRA calls for an investigation into attitudes and beliefs about performing the behavior to understand the behavior in question. Ajzen and Fishbein (1980) argue that by knowing the attitudes about the behavior and the underlying beliefs, a message can be tailored to successfully inform and even persuade an audience. According to the TRA, altering the salient beliefs will have more effect on behavior than the type of medium used. Campaigns that rely only on mass media without assessing the audience's beliefs first, often fail because
channeling factors are considered external to the TRA model and have little or no effect on behavior.

In an ambitious attempt to review briefly dozens of health care campaigns on heart disease, safe driving, family planning, drugs, and smoking, Atkin (1979) tried to give some support to the use of mass media in such campaigns. Like parallel research in general persuasive communication, persuasive health care research up to this point is traditionally oriented in theory. This literature also shows the same patterns of failed campaigns and disappointing results. Atkin summarized the health campaigns by saying that these programs do not provide consistent results, but the general trend of these studies indicated that the use of mass media in health care campaigns can produce modest results on behavior. It is doubtful that any PR practitioner strives only for modest results when designing a campaign. Rather, a practitioner can achieve significant results by using the TRA in designing an information campaign.

It is also important to note that another general trend began to emerge from Atkin's review--the frequent references to interpersonal communication and social reinforcement. Many of the studies that did show positive results--even if marginal--dealt with health care campaigns
that used interpersonal support, community support services, and social reinforcement in their tactics.

Throughout all literature on PI campaigns, it is easy to assess the shortcomings and find answers within the theoretical framework of the TRA. It has been mentioned several times how most unsuccessful campaigns have used traditional methods of persuasion and how the TRA explains the shortcomings in terms of variables (media sources, demographics, emotional arousal, etc.) external to the model.

More specifically, Atkin (1979; also see Mendelsohn, 1973) discussed how many campaigns failed because of goals that were too broad to measure or reach. Goals should be narrowed down to more limited, specific ones. In that aspect, Ajzen and Fishbein stated the importance of researchers distinguishing a very specific targeted behavior at a specific time and place, rather than a broader behavioral category or an outcome of behavior.

Finally, citing another work (also see Rosenstock, 1960), Atkin (1979) added further support for an approach like the theory of reasoned action. He said that numerous past findings have had "reduced expectations because the beliefs and attitudes underlying poor health practices may
be deep rooted and intransigent [salient behavioral and normative beliefs]" (p. 656).

It is apparent by now that the TRA has a place in public information research and methodology. Where past programs have fallen short, the TRA provides possible answers and better guidance in the construction of more effective PI campaigns. The following section will take a look at persuasive literature concerning blood donor recruitment, including several studies that have shown successes that may be attributed to the TRA model.

1.4 Blood Donor Recruitment Campaigns

Although blood donation is closely related to health care topics, it is conceptually quite different. Most PI campaigns are geared toward persuading individuals to take some action that will benefit them personally; blood bank personnel, however, design messages geared toward getting individuals to perform an action that will benefit others' well-being. Therefore, relevant literature has been drawn from the areas of helping behavior or charitable behavior. Under these areas, blood donation is a common topic of investigation.
1.4.1 Traditional Approaches

Several studies conducted on traditional methods of persuasion have shown some promise in recruiting blood donors. However, looking deeper into their findings, one can see that aspects of the success could lie within the theoretical boundaries of the TRA, specifically the importance of the subjective norm and significant referents. Even though there has been a move away from purely traditional approaches in the area of blood procurement, well into the mid-1980s, a number of researchers were still employing traditional techniques. As will be seen, many of the studies focused on external variables and produced confusing or mixed results.

Some scholars have been more interested in the types of people who donated blood in the past rather than investigating what inspires them to donate in the first place. Burnett (1981) surveyed a list of donors provided by a local blood bank in the Southwest to profile different donor-types. His breakdown categorized them into personality types (i.e., risk-takers, religious, altruistic, health conscious, level of self-esteem, etc.) and basic demographics (i.e., sex, marital status, occupation, race, education, income, and blood type). Though no specific personality type emerged, Burnett was able to see that the
most "typical" blood donor is a married, white male with no children, and having O+ or A+ type blood. No significant difference in occupation or income was found. The high frequencies of O+ and A+ blood types is a reflection of how they occur in nature.

Few blood drives would be successful if they only targeted the most typical donor types. Instead it is desirable and beneficial to target all segments of society and look for similarity within the population as a whole. Though not everyone is potentially a blood donor because of possible health problems, targeting the whole population should maximize the number of potential donors who receive the message. Recall that Ajzen and Fishbein (1980) stated that demographic factors are merely external variables to the workings of the TRA, because they have no impact on beliefs about the behavior, behavioral evaluations, normative beliefs, or motivation to comply with referents. These components are the real key to understanding and influencing behavior.

Two other studies profiled donors by questioning their feelings after they gave blood. Kushnir (1980) assessed the emotional levels of anxiety a donor felt during and after the procedure. As can be expected, he found that subjects with high levels of anxiety during and after
donation felt less likely to give again than donors who felt less anxious. Likewise, Edwards and Zeichner (1985) investigated personality types and levels of motivation to donate blood. Findings replicated those of Kushnir. People who are more anxious by nature and had high levels of somatic complaining (about pain, discomfort, and time lost) responded less favorably to the idea of donating blood again than subjects who were less anxious. Once again, the TRA refutes the effectiveness of these types of studies since they do not target what is really important in understanding behavior--behavioral and normative beliefs.

While interesting, assessing individuals' levels of anxiety may be impractical in an applied setting for persuading people to give blood. As it stands, the considerations of levels of anxiety and somatic complaining in the Kushnir (1980) and Edwards and Zeichner (1985) studies are external to the TRA model since they are functions of personality types rather than being beliefs that are held by the individuals about performing the action. Ajzen and Fishbein (1980) would consider these levels of anxiety and somatic complaining to be evaluations of the outcomes of blood donation behavior, and such factors would be measured as a behavioral belief component of attitude toward donating blood.
Of greater interest to this research project are works that have used persuasive techniques to recruit donors in their methodologies, rather than after-the-fact categorizations of personal and demographic variables. However, like previously cited works in traditional PI campaigns, findings here are mixed.

Two studies with conflicting results investigated the use of incentives. Although O'Malley and Andrews (1983) hypothesized that monetary incentives would yield increased rates of blood donation, they found the opposite to be true. They discovered that there were no advantages in offering money in exchange for blood. By contrast Jason, Jackson, and Obradovic (1986) found that nonmonetary incentives (i.e., prizes, free meals, or parties for donor groups) were effective. It is interesting to note the differences in the types of experimental populations sampled. Aside from the obvious difference in monetary and nonmonetary incentives, the earlier study focused on individual prospective donors; the latter study focused on organizations—corporations, university fraternities and sororities, and social clubs. In the latter study, nonmonetary incentives were offered to the groups as a whole, not to individuals. Control groups were offered no group incentive and had significantly lower rates of donation. The higher donation rates of the experimental groups most likely can be attributed to
individual's desire to be part of the group and wanting their organization to be awarded the prize. Both of these explanations again confirm the role of the subjective norm concept in the TRA.

Other research that has attributed success to traditional means of persuasion also has hints of subjective normative grounding. Jason et al. (1984) studied the effects of a mass-mediated blood donation campaign. Results were consistent with the Larson and Massetti-Miller (1984) paper on public education campaigns. That is, Jason et al. reaffirmed that media-only campaigns were not successful: rather, campaigns using "personal approaches were more effective because they were socially dependent and relied on...referent power and cognitive dissonance (p. 140)."

The many shortcomings of the traditional approaches indicate that alternative methods of persuasion are needed. However, some traditionally based studies have shown promise in blood procurement, suggesting that the success may lie within the theoretical boundaries of the TRA, specifically the importance of subjective norms and significant referents.
1.4.2 Social Influences

Much attention has been given to the notion of social influences on behavior. As noted in the previous section, Jason et al. (1986) found success in obtaining blood donors by offering incentives to groups of people. Social support by fellow employees played an important role in getting other employees to donate blood. Ajzen and Fishbein (1980) also saw the importance of social influences when developing the theory of reasoned action. This section discusses some additional research on the socialization process in blood donation behavior.

Though not following the specific prescripts of the theory of reasoned action, a related group of research by Callero, Piliavin, and associates (Callero & Piliavin, 1983; Callero, 1985; Callero, Howard, & Piliavin, 1987; Charng, Piliavin, & Callero, 1988; Piliavin & Libby, 1986) falls somewhere between traditional thinking and the TRA.

Callero and Piliavin (1983) first began to look into how social pressures and rewards (i.e., evaluation of outcome of behavior in the TRA) relate to the commitment to regular blood donation. They theorized that behavior and behavioral intention were comprised of three independent factors. First, motivational factors deal with socialization that is relevant to blood donation. In other
words, whether or not any family members or friends have donated blood or have needed blood, may influence one's decision to give. Second, situational factors revolve around the actual activities related to the blood donation procedure. Note the similarity of these first two components to the ideas of normative beliefs/subjective norm and behavioral beliefs/attitude respectively in the TRA model. Third are affective factors, which are evaluations of any past donation experiences. Ajzen and Fishbein (1980) would classify these third factors as behavioral beliefs.

The findings of the above study suggest that these factors, though related to donation behavior, may change direction and magnitude as the person donates again and more often. These changes in direction and magnitude led Callero (1985) to investigate the concept of role-identity salience in relation to repeated blood donation. Such repeated behavior helps identify who a person is within his or her own mind—a smoker, a runner, a softball player, or in this case, a blood donor. Callero discusses how role-identity salience is "tied to relations with other [people] through interpersonal and societal expectations" (p. 205). He theorized that the blood donor role-identity was positively associated with referents' expectations that the donor should give blood. That is to say, when repeat donors identified themselves as "blood donors" and perceived that
others also identify them as blood donors, they are more likely to give blood in the future. Results supported this line of argument.

In a later study, Callero et al. (1987) diverged from Callero's earlier ideas. This study refuted the importance of social norms in blood donation behavior and suggested that blood donation is independent of social norms. Although data gave support for this notion, Callero et al. hesitantly admitted that much social behavior may be produced by what is essentially an overdetermined process, a process in which both social [normative beliefs] and individual [behavioral beliefs] factors combine to produce social behavior. (p. 255)

In this section the concepts regarding subjective norms and their relationship to behaviors as investigated by Callero, Piliavin, and associates have been presented. Their findings are confusing and methodologies complex due to the lack of consistent thought and guidance among the researchers. The following section looks at how these concepts are better organized and tested through the TRA model and are well suited to blood donation behavior.

1.4.3 Blood Donation and the Theory of Reasoned Action

It was mentioned earlier that Ajzen and Fishbein (1980) designed the TRA to explain and predict relationships
between attitudes, subjective norms, intentions, and behaviors. Much of the early empirical research using the TRA dealt only with testing the theoretical relationships among the components of the model. Earlier studies on blood donation behavior using the reasoned action model also only tested the relationships between beliefs and attitudes about blood donation and intention to give blood. These studies showed only a desire to predict blood donation behavior, rather than encouraging it.

In a field application that paralleled this research project, Warshaw et al. (1986) used the TRA to predict blood donation behavior with accuracy. Using questionnaire procedures prescribed by Ajzen and Fishbein (1980), the researchers assessed behavioral intention, attitudes toward behavior, and social norms toward performing the behavior. Correlation coefficients linked the components in the model to intention to give blood. A measure of actual blood donation was checked through the donor records of area blood banks and a relation was indeed found between intention to give and actual donation. Though relationship values were lower than expected, this was one of the first research projects that used the TRA to predict blood donation from related attitudes and subjective norms. Of particular interest is that attitude toward behavior was found to be
more strongly related to behavior and behavioral intention than was subjective norm.

Some more recent works have used additional components to complement or expand upon the TRA. In a follow-up to the Callero (1985) study, Charng et al. (1988) added blood donor role-identity to the TRA model. Over a seven-month study of donors, it was concluded that the TRA was an excellent predictor of blood donation behavior; however, it was a better predictor for first-time donors than it was for regular donors. Findings are consistent with Callero's earlier work on role-identity salience. Charng et al. found support for the suspicion that repeat donors are most likely to donate because of their self-identity as blood donors, not just because of beliefs they hold to be true and perceived social support. They concluded that the best approach to recruit repeat donors for future blood drives is through the use of the TRA, augmented with role-identity theory.

Though Charng et al. (1988) argue that role identity is a separate consideration in predicting repeat behaviors, they contradict themselves in saying that

role identity is a set of characteristics or expectations that simultaneously is defined by social position in the community and becomes a dimension of the actor's self. (p. 304)
It has already been discussed how role identity can be seen as an integral part of subjective norm instead of being considered a separate entity. This notion of role identity in the subjective norm component gives hope of the possible long-term effects of a blood donor campaign using the basic model of the TRA.

Two studies have expanded upon the components of behavioral intention—attitudes (Bagozzi, 1981) and subjective norms (Burnkrant & Page, 1988)—suggesting that each component is more complex than originally prescribed by Ajzen and Fishbein.

Bagozzi (1981) refuted the long-held notion that attitudes are unidimensional (either positive or negative), suggesting instead that they are multidimensional. At times attitudes can be both somewhat positive and somewhat negative. This is especially true when the behavior in question is complex or ambiguous. Ajzen and Fishbein (1980) insisted that it is vital when investigating behavior to pinpoint a specific behavior at a specific time and place to avoid such ambiguity. Recall that Atkin (1979) also concluded that many health care campaigns failed because of goals that were too broad to measure.

Bagozzi (1981) used the TRA model to select a subject's salient beliefs about blood donation behavior for
his study. He designed questionnaires assessing subjective norms and motivation to comply procedurally from Ajzen and Fishbein (1980); however, he then expanded his methodology to explore attitudes in greater depth. Results indicated that some attitudes appear to be multidirectional, especially those involving behavioral consequences and evaluation of those consequences. Three dimensions of consequences and evaluation were hypothesized and supported—(a) immediate physical pain, (b) immediate internal sickness, and (c) delayed consequences of donating blood.

Ajzen and Fishbein (1980) would have explained these components and findings as merely behavioral beliefs that together form one overall attitude, instead of being separate components of a multidimensional attitude. After all, an attitude that is somewhat positive and somewhat negative can be viewed by others as being neutral.

In contrast to the Bagozzi (1981) study, Burnkrant and Page (1988) focused on the normative component of the TRA, and searched for relationships between different referents. They suspected that normative beliefs would be composed of two dimensions—one including spouse and friends, the other including parents and employer. Presumably these groups were combined as they were because
spouses and friends are affiliative relationships whereas parents and employers are status relationships.

When tested, only the spouse/friend dimension was found to be a significant predictor of subjective norms. This is what one might expect, since spouses and friends are the most influential people in most people's lives. Since only a relationship was found only between one normative dimension and normative beliefs, there seems to be no reason to break down normative beliefs any further.

In all of the studies reviewed so far the TRA was used as a tool of prediction. The prescriptions of the TRA model were used to assess relationships and intensities of beliefs, attitudes, subjective norms, and intentions. In all cases, results showed positive relationships, supporting the general theory. However, these studies stopped short by not using the TRA to combat negative salient beliefs that were discovered and to design a persuasive message that encourages blood donation.

It would be of great interest to public relations practitioners to use the TRA to construct a persuasive blood donation campaign based on the information gathered about behavioral and normative beliefs. Such a persuasive message could be designed for a specific target population so that
it would increase the power of their positive beliefs and diminish the power of their negative beliefs.

Surprisingly, only one study has been found that does this. That is, the ability of the TRA to act as a tool for message design was tested in a field study conducted by Lima and D'Amorim (1985) on Brazilian college students. Following the prescribed questionnaire procedures, they developed a persuasive message that attacked negative beliefs common to Brazilian students and encouraged them to give blood. Lima and D'Amorim believed that their message would modify behavioral beliefs, influence attitudes, and, ultimately influence behavior.

After the persuasive message was presented, a follow-up measurement checked for changes. All three components showed significant change, supporting their claims. Although this is important information to theorists and blood bank personnel, the study still has one major flaw. Lima and D'Amorim (1985) wanted to influence behavior; however no measurement was taken to assess students' actual donation behavior. Only their intent to give blood was checked. It may be inferred that the positive intentions to give blood would have produced an equal number of actual donors, but there were no figures to confirm this. In an ideal situation, a perfect relationship
would exist between positive intentions to give blood and actual blood donation behavior. Unfortunately, in the real world, things are not so perfect; a measure of intention does not always link strongly to behavior. Sometimes problems arise, preventing some intended donors from actually donating blood.

Throughout all the relevant literature on blood donation and donor procurement, general trends emerge showing that there is grounding for the Ajzen and Fishbein (1980) theory of reasoned action. Past investigators have explored the components of the TRA, most notably, behavioral and normative beliefs, showing causal relationships between beliefs and intention and actual behavior. Though terminologies may differ and some concepts vary, the fundamentals are basically the same. What has been lacking is a follow-through from the main theoretical body of the TRA model, to a real-life blood donation program and a measurement of donation, without stopping short at only a measure of intention to give blood. Intentions do not save lives, actual pints of blood do.

1.5 Summary and Statement of Hypothesis

An historical look at the general theories of persuasion and their implications, mostly how traditional approaches have not proven to be successful, has been
presented in this chapter. The theory of reasoned action was introduced as an alternative to overcome the failures of traditional theory, offering sound theory, precise guidance, and supporting data.

Public information campaigns have also been discussed in detail. It was noted that quantitative research in this discipline is fairly limited. What little literature does exist has relied heavily on traditional persuasive thought. Because of the nature of PI campaigns, they are primarily a function of health care and altruistic topics, including blood donor recruitment.

Recent studies suggest that blood donation research has moved away from traditional theory and toward ideas of social reinforcement, including the TRA. Overall findings here support the claims made by Ajzen and Fishbein (1980) that the TRA is useful for predicting (blood donation) behavior and for designing persuasive messages. However, to date, there appears to be no research that assessed the practicality of TRA as a tool for designing messages and checks for results. Specifically, a measure to check for actual donation behavior after a persuasive campaign. This research has attempted to fill this void.

Following the TRA model, this research project investigated college students' salient beliefs about giving
blood. The information gathered was analyzed to see what components of the TRA model were more important to the students and a public information campaign was designed using this information. The campaign urged students to participate in a campus-wide blood drive.

The hypothesis underlying this study, then, is as follows:

A public information campaign aimed at persuading a target audience to donate blood will be more effective when it is designed using the theory of reasoned action than a similar campaign that exposes its audience to untailored information about blood donation. Specifically, the information contained in the persuasive message will be aimed at the salient beliefs particular to a specific audience, as discovered through the use of the TRA.

The second chapter will describe what procedures were involved, how the program was implemented, and how the hypothesis was tested.
CHAPTER 2
METHODS AND RESULTS

This second chapter discusses the procedures used in this study, the participants, the development of the questionnaires, and how the dependent variable was measured. The purpose of this study, again, was to use the theory of reasoned action to design a persuasive blood donor recruitment campaign. Before the TRA could be used for this purpose, a number of preliminary steps had to be taken. First, a pilot survey was used to discover a representative audience's salient beliefs about blood donation. Second, a more detailed questionnaire was constructed using the salient beliefs discovered on the first survey. This second questionnaire was used to identify which beliefs influenced the intention to donate blood and which did not. Third, a persuasive message was designed based on the findings of the second questionnaire. Finally, the message was tested in an experimental design and the experimental groups' blood donation behavior was analyzed in order to test the effectiveness of the TRA as a tool to design persuasive
In order to complete this project, help was sought from the Blood Bank of Delaware (BBD). The BBD usually holds one blood drive on the University of Delaware campus each semester. The drives are cosponsored by one regular student organization, where the organization members help recruit donors, operate sign-up tables, and assist BBD personnel during the week of the blood donations. In the spring of 1990, the BBD decided to try something new; it held blood drives once a month, sponsored each time by a different student group. The new program created an ideal situation for this research project, allowing for greater flexibility and providing several back-up dates for the experiment.

2.1 Pilot Study

In accordance with the theory of reasoned action, the first step in designing a persuasive message is to construct a preliminary survey in order to discover the target audience's modal salient behavioral and normative beliefs. Once tabulated, these beliefs can be used in a second, more comprehensive questionnaire that allows the relative importance of the attitude and subjective norm components in the TRA model to be examined.
2.1.1 Pilot Study Survey

The preliminary survey for the pilot study was used to obtain a list of beliefs that a sample from the target population held to be true about blood donation behavior and a list of significant referents who were believed to support or disapprove such behavior. According to Ajzen and Fishbein (1980) these beliefs form the basis for developing a persuasive message; therefore, it is necessary to use a preliminary survey to discover what these behavioral beliefs are and who the significant referents are. Using an example provided by Ajzen and Fishbein, an initial survey was developed to assess the salient behavioral and normative beliefs held by the majority of the participants who would participate in this study.

As noted earlier, the TRA requires that a very specific behavior be identified by the researcher. In this example the survey asked respondents how they felt about themselves giving blood at the University of Delaware during the spring semester, 1990. After all, people may feel very positive about blood donation in general or about someone else giving blood, but may feel quite the opposite about themselves giving blood. Likewise, the TRA requires that a specific time and place be identified with the behavior.
That is, a person might feel positively about giving blood during the semester, but would not want to be bothered over summer break.

With these conscripts in mind, the pilot survey was composed of five open-ended questions (see Appendix A). The open-ended questions allowed participants to list as many thoughts that came to mind as possible about giving blood, providing an unlimited range of responses. The first two questions asked subjects to list what they believed to be the advantages of giving blood at the UD in the spring semester, 1990, and then to list the disadvantages of the same behavior. This list provided the measure of behavioral beliefs (see Ajzen & Fishbein, 1980). The last two questions investigated normative beliefs by asking subjects to list the people or groups of people would approve of them giving blood at the UD in the spring semester, 1990, and then to list what people or groups of people would disapprove. Respondents were asked to cite specific titles, such as mother, father, boy/girl friend, fraternity, sorority, et cetera, rather than listing proper names in order to avoid confusion during the categorization process. Also as recommended by Ajzen and Fishbein one additional question asked the participants to list anything else that came to mind regarding their giving blood at the UD in the spring of 1990.
2.1.2 Sample

Two classes consisting of junior and senior communication students were used for the pilot study conducted during the first week of October, 1989 (N = 59, \( n_i = 45 \) or 78.9\% female, \( n_j = 12 \) or 21.1\% male). Since communication students were to be used for the second questionnaire and the experimental and control groups in the spring semester, it was believed that these classes would be representative of both subsequent sets of participants. Questionnaires were distributed at the beginning of the class period and collected after students completed them. The subjects' average age was 21.1 years (s.d. = 5.36), 49 were communication majors, two were undeclared majors, and the remaining six were from other majors.

2.1.3 Pilot Study Results

The initial surveys were analyzed for content and frequencies of the responses were tallied by hand. Responses that were very closely related were considered to be one belief category. Table 2.1 shows the frequencies of the advantages listed by the respondents. The 10 most frequently occurring responses were used in construction of the second questionnaire. Table 2.2 shows the frequencies
of the disadvantages listed by the respondents. Again, the 10 most frequently occurring responses were used in the second questionnaire.
### Table 2.1 Pilot Study: Advantages of Giving Blood

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Help others</td>
<td>45</td>
</tr>
<tr>
<td>* Increased blood supply for emergencies</td>
<td>26</td>
</tr>
<tr>
<td>* Save lives</td>
<td>17</td>
</tr>
<tr>
<td>* Feeling of self satisfaction</td>
<td>16</td>
</tr>
<tr>
<td>* BBD is a good cause</td>
<td>6</td>
</tr>
<tr>
<td>* Blood available if I need it</td>
<td>5</td>
</tr>
<tr>
<td>* Knowing blood test results</td>
<td>5</td>
</tr>
<tr>
<td>* Good relations between campus and community</td>
<td>3</td>
</tr>
<tr>
<td>* Blood available if my family need it</td>
<td>2</td>
</tr>
<tr>
<td>Being a universal blood donor</td>
<td>2</td>
</tr>
<tr>
<td>Being a rare blood type</td>
<td>1</td>
</tr>
<tr>
<td>Convenient location</td>
<td>1</td>
</tr>
<tr>
<td>U of D is a major blood supplier</td>
<td>1</td>
</tr>
<tr>
<td>No advantages</td>
<td>2</td>
</tr>
</tbody>
</table>

**Note**

N = 59

* Indicates responses used in second questionnaire.
Table 2.2 Pilot Study: Disadvantages of Giving Blood

<table>
<thead>
<tr>
<th>DISADVANTAGES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Fear of needles</td>
<td>35</td>
</tr>
<tr>
<td>* Side effects (faint, dizzy, tired, etc.)</td>
<td>15</td>
</tr>
<tr>
<td>* Time consuming</td>
<td>11</td>
</tr>
<tr>
<td>* Faint at sight of blood</td>
<td>9</td>
</tr>
<tr>
<td>* Might be rejected as a donor</td>
<td>7</td>
</tr>
<tr>
<td>* Donation process might not be sterile</td>
<td>7</td>
</tr>
<tr>
<td>* Might get AIDS</td>
<td>5</td>
</tr>
<tr>
<td>* Inadequate donation facility</td>
<td>3</td>
</tr>
<tr>
<td>* May not be able to function afterward</td>
<td>3</td>
</tr>
<tr>
<td>Reluctant to give blood again</td>
<td>3</td>
</tr>
<tr>
<td>* Inconvenient</td>
<td>2</td>
</tr>
<tr>
<td>May give someone a disease</td>
<td>2</td>
</tr>
<tr>
<td>Seeing other donors feel sick</td>
<td>1</td>
</tr>
<tr>
<td>No disadvantages</td>
<td>13</td>
</tr>
</tbody>
</table>

Note
N = 59
* Indicates responses used in second questionnaire.
Tables 2.3 and 2.4 included the normative responses to the survey. These are significant referents and referent groups that were perceived by the respondents to either approve (see Table 2.3) or disapprove (see Table 2.4) of the respondents donating blood in the spring semester, 1990. Seven of the most frequently occurring referents and groups in both tables were used for the second questionnaire. Only seven referents were used on the questionnaire because some of the other responses were either vague or were only listed by one respondent. Most of the responses to question #3, ("What else comes to mind?") were categorized in related topics under advantages or disadvantages. The few remaining responses were vague or irrelevant to the research; thus they were not listed in any table, nor were they used in the second survey.
Table 2.3 Pilot Study: Approving Normative Responses

<table>
<thead>
<tr>
<th>PEOPLE WHO WOULD APPROVE OF PARTICIPANTS GIVING BLOOD</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Parents (Mother, Father)</td>
<td>76</td>
</tr>
<tr>
<td>* Friends</td>
<td>17</td>
</tr>
<tr>
<td>* Social Groups (Fraternity, Sorority, Church)</td>
<td>17</td>
</tr>
<tr>
<td>Most everyone I know</td>
<td>14</td>
</tr>
<tr>
<td>Boyfriend/Girlfriend/Spouse</td>
<td>12</td>
</tr>
<tr>
<td>* Siblings</td>
<td>11</td>
</tr>
<tr>
<td>Family</td>
<td>7</td>
</tr>
<tr>
<td>* Roommate</td>
<td>7</td>
</tr>
<tr>
<td>* Hospital Patients</td>
<td>3</td>
</tr>
<tr>
<td>Me</td>
<td>2</td>
</tr>
<tr>
<td>Employer</td>
<td>2</td>
</tr>
<tr>
<td>Teacher</td>
<td>1</td>
</tr>
<tr>
<td>Service groups</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note**

N = 59

* Indicates responses used in second questionnaire.
Table 2.4 Pilot Study: Disapproving Normative Responses

<table>
<thead>
<tr>
<th>PEOPLE WHO WOULD DISAPPROVE OF PARTICIPANTS GIVING BLOOD</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>No one</td>
<td>41</td>
</tr>
<tr>
<td>* Parents</td>
<td>4</td>
</tr>
<tr>
<td>Persons fearing disease</td>
<td>3</td>
</tr>
<tr>
<td>* Doctor</td>
<td>2</td>
</tr>
<tr>
<td>Grandparents</td>
<td>2</td>
</tr>
<tr>
<td>Drug users</td>
<td>1</td>
</tr>
<tr>
<td>Boyfriend/Girlfriend/Spouse</td>
<td>1</td>
</tr>
</tbody>
</table>

Note
N = 59
* Indicates responses used in second questionnaire.
2.2 Second Questionnaire: Construction

The 20 most frequently listed behavioral beliefs (10 advantages and 10 disadvantages) and the seven most frequently listed normative beliefs discovered by the pilot study were used to develop the second questionnaire (See Appendix B). Again, the sample questions provided in the text by Ajzen and Fishbein (1980) were used as a guideline for wording and formatting the second questionnaire for this study.

2.2.1 Construction of Questionnaire

The secondary survey, as required by the TRA, used the participants' perceived advantages and disadvantages of giving blood to represent the modal salient behavioral beliefs. Also frequently cited specific others and reference groups were used to represent the modal salient normative beliefs. In order to assess the extent to which participants endorse these beliefs, the participants were asked to rate the likelihood that those consequences (advantages and disadvantages) would occur to them if they gave blood. Then participants were asked to rate the likelihood that each significant referent would approve or disapprove if they were to give blood and how likely they were to comply with the wishes of each referent. The items used on the second questionnaire were formatted on a seven-
point Likert scale using polar opposite endpoints, such as good/bad or likely/unlikely. The seven-point scale, recommended by Ajzen and Fishbein (1980), used numbers from one to seven on the scale, corresponding to the following values: (1) extremely good, (2) quite good, (3) slightly good, (4) neither good nor bad, (5) slightly bad, (6) quite bad, and (7) extremely bad.

As can be seen from Appendix B, question #1 assessed the respondents' intentions to give blood at the UD during the spring semester, 1990. Questions #2 to 4 assessed their attitude toward performing the behavior. These three questions have been included in past theoretical investigations of the TRA and are not particularly relevant to this study. They were included, however, primarily due to custom and also because their results might be helpful in explaining any odd findings that might occur. Statements #5 to 24 assessed the participants' beliefs about the consequences if they were to give blood. Specifically, these questions asked participants to evaluate the goodness or badness of each behavioral consequence. Again, these statements reflected the modal salient behavioral beliefs. They were combined in one section and were worded as statements that appeared to be neither advantageous nor disadvantageous, to prevent biasing responses. Statements #25 to 44 paralleled the previous 20 statements and assessed
the extent to which the participants believed that these consequences would occur for them if they donated blood.

The normative components were assessed in the last two sections of the survey. Statements #45 to 51 assessed the extent to which respondents' perceived social support from important referents and referent groups in regards to their giving blood, and finally, statements #52 to 58 assessed the respondents' motivation to comply with those individuals or groups mentioned in statements #45 to 51. In addition to the 58 model questions, five demographic questions were asked to insure that this sample was representative of the experimental and control groups. Demographics included the participants' sex, age, grade point average, and parent's income level (a measure of SES).

2.2.2 Second Questionnaire: Administration

The secondary questionnaire was distributed in December, 1989 to an introductory communication class, chosen for its large size to maximize the response rate. Because of the length and complexity of the questionnaire, students were offered an extra-credit point to be added to their semester grade if they returned the survey. Approximately 250 students had the opportunity to participate in the study and 205 usable surveys were returned. The average age of the participants was 19.5
years (s.d. = 3.19), 1.6 years younger than average for the participants in the pilot study. A similar ratio of male to female students was obtained (n_i = 153 or 74.6% female, n_j = 52 or 25.4% male). Other demographics revealed income levels of participants' families and participants' grade point average (G.P.A.). Only 4.9% reported family incomes of less than $25,000 a year, 21.0% had family incomes between $25,001 and $50,000, 29.8% had family incomes between $50,001 and $75,000, 23.9% had family incomes between $75,001 and $100,000, and only 0.5% reported family incomes in excess of $100,000. Two participants did not report an income level. No respondents had a G.P.A. under 1.0, 1.0% had G.P.A.s ranging from 1.0 to 1.9, 53.7% had G.P.A.s ranging from 2.0 to 2.9, 43.9% had G.P.A.s ranging from 3.0 to 3.9, and only 1.5% had a G.P.A. of 4.0.

2.2.3 Tabulation of Data

For simplified tabulation of data, participants answered the questions on a standard computer grid sheet. In accordance with the TRA model, intention is the immediate predictor of actual behavior, and both attitude and subjective norm, weighted according to calculations, are predictors of intention. Both attitude and subjective norm can be weighted equally in a subject's mind, but usually one component is weighted more heavily than is the other.
component. Frequencies were run on the computer for all responses as were means and standard deviations in order to check the validity of the computer's reading of the data. Reliability tests were performed to check the internal consistencies of the questions assessing beliefs. Finally, regressions were run in order to attain the relative weights of the attitude and subjective norm components in relation to the participants' intentions to give blood.

### 2.2.4 Second Questionnaire Results

Tables 2.5 through 2.9 are presented in this section to describe the data collected from the second questionnaire. As prescribed by Ajzen and Fishbein (1980), a seven-point Likert scale was used throughout the questionnaire. Participants rated statements using polar opposite endpoints ranging from extremely likely (1) to extremely unlikely (7), with a neutral response, neither (4), in the middle. Means and standard deviations for responses to each question are presented in the tables.

The data in Table 2.5 shows the magnitude of the participants' intention to give blood and attitudes about giving blood. The mean of 5.25 (s.d. = 1.95) shows a relatively low intention for the participants to give blood. The three statements assessing attitude are more favorable, ranging from 3.25 (s.d. = 1.96) to 2.83 (s.d. = 1.71). It
is interesting to note that these findings support Ajzen and Fishbein's (1980) contention that attitude toward an object or event is not necessarily related to one's behavioral intention.
### Table 2.5 Intention and Attitude toward Behavior

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention to give blood</td>
<td>5.25</td>
<td>1.95</td>
</tr>
<tr>
<td>(likely/unlikely)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants' giving blood</td>
<td>3.25</td>
<td>1.96</td>
</tr>
<tr>
<td>(good/bad)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants' giving blood</td>
<td>3.03</td>
<td>1.56</td>
</tr>
<tr>
<td>(wise/foolish)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants' giving blood</td>
<td>2.83</td>
<td>1.71</td>
</tr>
<tr>
<td>(beneficial/harmful)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**

N = 205

Extremely likely, good, wise, or beneficial = 1.0.
Extremely unlikely, bad, foolish, or harmful = 7.0.
Table 2.6 presents the data for statements #5 to 24, evaluations of the consequences of giving blood. Table 2.7 presents the results for the parallel statements #25 to 44, on which participants rated the likelihood of those consequences would actually occur for them. Table 2.8 presents the data for the normative belief statements #45 to 51, the extent to which participants perceived social support for giving blood, while Table 2.9 shows the data for statements #52 to 58, the participants' motivation to comply with those referential persons and groups. Respondents strongly believed that patients in need of blood wanted them to donate, but were somewhat neutral about believing that other referents (parents, friends, social groups, etc.) wanted them to donate blood. However, respondents were not as likely to comply with hospital patients. They were most likely to comply with their doctor and their parents. Values for Tables 2.5 to 2.9 have been rounded to the nearest one hundredth.
Table 2.6 Behavioral Beliefs: Evaluations

<table>
<thead>
<tr>
<th>BELIEFS ABOUT THE CONSEQUENCES OF GIVING BLOOD</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help people</td>
<td>1.42</td>
<td>0.71</td>
</tr>
<tr>
<td>Take time to donate</td>
<td>2.44</td>
<td>1.45</td>
</tr>
<tr>
<td>Save lives</td>
<td>1.22</td>
<td>0.58</td>
</tr>
<tr>
<td>Faint at sight of blood</td>
<td>5.17</td>
<td>1.41</td>
</tr>
<tr>
<td>Self Satisfaction</td>
<td>1.94</td>
<td>1.34</td>
</tr>
<tr>
<td>Contract AIDS</td>
<td>6.36</td>
<td>1.34</td>
</tr>
<tr>
<td>Increase blood supply</td>
<td>1.65</td>
<td>1.11</td>
</tr>
<tr>
<td>Side effects</td>
<td>5.23</td>
<td>1.33</td>
</tr>
<tr>
<td>Learn blood type</td>
<td>2.44</td>
<td>1.32</td>
</tr>
<tr>
<td>Learn of health problems</td>
<td>2.06</td>
<td>1.42</td>
</tr>
<tr>
<td>Needle in arm</td>
<td>5.37</td>
<td>1.42</td>
</tr>
<tr>
<td>Contribute to good cause</td>
<td>1.57</td>
<td>0.91</td>
</tr>
<tr>
<td>Rejection as a donor</td>
<td>4.88</td>
<td>1.65</td>
</tr>
<tr>
<td>Blood available for me</td>
<td>1.42</td>
<td>0.81</td>
</tr>
<tr>
<td>Blood available for family</td>
<td>1.32</td>
<td>0.67</td>
</tr>
<tr>
<td>Convenient place</td>
<td>2.02</td>
<td>1.12</td>
</tr>
<tr>
<td>Promote community relations</td>
<td>2.00</td>
<td>1.11</td>
</tr>
<tr>
<td>Adequate facility</td>
<td>1.71</td>
<td>0.90</td>
</tr>
<tr>
<td>Physical/Mental distress</td>
<td>2.36</td>
<td>1.50</td>
</tr>
<tr>
<td>Sterile place/equipment</td>
<td>1.34</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Note
N = 205
Extremely good = 1.0
Extremely bad = 7.0
### Table 2.7 Behavioral Beliefs: Likelihood of Consequences

<table>
<thead>
<tr>
<th>Perceived Likelihood of Behavioral Consequences</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help people</td>
<td>2.20</td>
<td>1.62</td>
</tr>
<tr>
<td>Take time to donate</td>
<td>4.96</td>
<td>1.58</td>
</tr>
<tr>
<td>Save lives</td>
<td>2.25</td>
<td>1.34</td>
</tr>
<tr>
<td>Faint at sight of blood</td>
<td>4.22</td>
<td>2.10</td>
</tr>
<tr>
<td>Self Satisfaction</td>
<td>2.30</td>
<td>1.30</td>
</tr>
<tr>
<td>Contract AIDS</td>
<td>5.95</td>
<td>1.46</td>
</tr>
<tr>
<td>Increase blood supply</td>
<td>2.13</td>
<td>1.49</td>
</tr>
<tr>
<td>Side effects</td>
<td>3.55</td>
<td>1.82</td>
</tr>
<tr>
<td>Learn blood type</td>
<td>1.96</td>
<td>1.25</td>
</tr>
<tr>
<td>Learn of health problems</td>
<td>2.31</td>
<td>1.37</td>
</tr>
<tr>
<td>Needle in arm</td>
<td>2.85</td>
<td>1.80</td>
</tr>
<tr>
<td>Contribute to good cause</td>
<td>1.65</td>
<td>1.16</td>
</tr>
<tr>
<td>Rejection as a donor</td>
<td>5.23</td>
<td>1.86</td>
</tr>
<tr>
<td>Blood available for me</td>
<td>2.48</td>
<td>1.49</td>
</tr>
<tr>
<td>Blood available for family</td>
<td>2.42</td>
<td>1.49</td>
</tr>
<tr>
<td>Convenient place</td>
<td>2.32</td>
<td>1.78</td>
</tr>
<tr>
<td>Promote community relations</td>
<td>2.64</td>
<td>1.34</td>
</tr>
<tr>
<td>Adequate facility</td>
<td>2.36</td>
<td>1.24</td>
</tr>
<tr>
<td>Physical/Mental distress</td>
<td>4.39</td>
<td>1.81</td>
</tr>
<tr>
<td>Sterile place/equipment</td>
<td>1.69</td>
<td>0.95</td>
</tr>
</tbody>
</table>

**Note**

- \( N = 205 \)
- Extremely likely = 1.0
- Extremely unlikely = 7.0
### Table 2.8 Normative Beliefs

<table>
<thead>
<tr>
<th>REFERENTS WHO THINK PARTICIPANTS SHOULD DONATE BLOOD (Likely/Unlikely)</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>3.79</td>
<td>1.54</td>
</tr>
<tr>
<td>Brother(s)/Sister(s)</td>
<td>3.80</td>
<td>1.42</td>
</tr>
<tr>
<td>Friends</td>
<td>3.89</td>
<td>1.34</td>
</tr>
<tr>
<td>Social groups</td>
<td>3.59</td>
<td>1.38</td>
</tr>
<tr>
<td>Roommate(s)</td>
<td>3.80</td>
<td>1.52</td>
</tr>
<tr>
<td>Hospital patients</td>
<td>1.95</td>
<td>1.41</td>
</tr>
<tr>
<td>Doctor</td>
<td>3.20</td>
<td>1.71</td>
</tr>
</tbody>
</table>

**Note**

N = 205
Extremely likely = 1.0
Extremely unlikely = 7.0
Table 2.9 Motivation to Comply

<table>
<thead>
<tr>
<th>Referent Type</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>2.98</td>
<td>1.48</td>
</tr>
<tr>
<td>Brother(s)/Sister(s)</td>
<td>3.60</td>
<td>1.52</td>
</tr>
<tr>
<td>Friends</td>
<td>3.59</td>
<td>1.39</td>
</tr>
<tr>
<td>Social groups</td>
<td>3.71</td>
<td>1.43</td>
</tr>
<tr>
<td>Roommate(s)</td>
<td>3.74</td>
<td>1.51</td>
</tr>
<tr>
<td>Hospital patients</td>
<td>3.26</td>
<td>1.43</td>
</tr>
<tr>
<td>Doctor</td>
<td>2.95</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Note:
- N = 205
- Extremely likely = 1.0
- Extremely unlikely = 7.0
2.2.5 Reliabilities For Belief Questions

It was also necessary to check the reliabilities of the four sets of belief questions that assessed participants' evaluations of blood donation, consequences of blood donation, normative beliefs, and motivation to comply with referents. This was necessary because each of these dimensions from the model would be added to the regression analysis as a unidimensional scale, thus, less than a respectable reliability would reduce the validity of the analysis. Each of the four sets of belief types were measured for internal consistency using Cronbach's Alpha (see Carmines & Zeller, 1979). Results of the test are presented in Table 2.10.
Table 2.10 Reliabilities

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>ALPHA</th>
<th>M</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>.68</td>
<td>2.38</td>
<td>0.44</td>
</tr>
<tr>
<td>Consequences</td>
<td>.76</td>
<td>2.87</td>
<td>0.63</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>.90</td>
<td>3.43</td>
<td>1.18</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>.90</td>
<td>3.44</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Note
N = 205
As the alpha coefficients indicate, normative beliefs (important referents and motivation to comply) each had an extremely high coefficient of .90. Although the behavioral beliefs (evaluations and likelihood of consequences) had somewhat lower alpha coefficients, .75 and .67 respectively, the levels of internal consistency for both of these scales were sufficiently high to use them as a unidimensional scale in the regression analysis. Thus, it is unlikely that reliability alone would prevent an accurate assessment of these scales' contribution to intention.

2.2.6 Regression Results

The value for intention to give blood was regressed on the values for both attitude and subjective norm. The regression on the equation was significant ($F[2,178] = 14.52, p < .001$), but accounted for only 14.0% of the variance in intention to give blood. The beta coefficient for the attitude component was not significant at .06 ($p < .38$). However, the beta coefficient for the subjective norm was highly significant ($\beta = .36, p < .0001$). According to the data collected, then, the subjective norm component contributed significantly in predicting participants' intention to give blood at the spring, 1990 campus blood drive, but the effects of the attitude component were
negligible. Therefore, if the data were valid, a persuasive PI campaign would have to be developed relying heavily on subjective norm and normative beliefs (consisting of the beliefs about who would and who would not approve of the behavior and the motivation to comply with those significant referents) in order to have an effect of blood donation behavior.

2.3 Construction of the PI Campaign

Once again, the normative components were found to be significantly related to intention, whereas the behavioral components were found to be not significant. This discovery was at first surprising. It was originally believed that both components would contribute significantly to the prediction of blood donation intention, although some variation in weight would normally be expected. Thus, it was expected that a persuasive message could be designed using both behavioral and normative beliefs. However, since the contributions of behavioral beliefs were negligible, the message would have to be designed from a normative angle.

Conceptually, the importance of the normative angle began to make more sense. In many behavioral-choice situations, people are likely to rely more heavily on what others think than on their own beliefs when deciding to perform or not perform some behavior. For example, in a
study on intentions to engage in premarital sexual intercourse, Fishbein (1966) found that for women the attitudinal components (consequence of getting pregnant) were better predictors of behavioral intention than were the normative components. However, for men, the opposite was true. The normative components (perceived social support from other men) were the more significant predictors of intention to engage in premarital sex than the attitudinal components (consequences of getting the woman pregnant or contracting a venereal disease). For potential blood donors in this study, the perceived social support they would receive was apparently more important than what they believed to be true about the consequences of donating. Creating an effective persuasive campaign from a normative angle without the message seeming contrived and corny, presented quite a challenge.

Personnel from the BBD helped in the design of the PI campaign. Most of these campaigns incorporate the use of an informational brochure as a primary tactic. The Blood Bank of Delaware already had such a student blood donor brochure. This brochure served as a model to design a new brochure using normative beliefs. The new brochure was to be used in the first experimental condition and the original brochure was to be used in a second experimental condition.
In order to test the effectiveness of the TRA in message design, the new brochure had to maximize the use of normative beliefs and minimize the use of behavioral beliefs existent in the original. The existing BBD brochure was very altruistic in nature. Since altruism is a behavioral belief, the overall theme of the existing brochure had to be changed from "An invitation to help others" to a more normative theme of "If they [significant referents] knew you were giving blood . . ." Presenting a normative angle was accomplished by simply rewording some sections and completely replacing other sections of the original brochure. The sections that were replaced still paralleled the original in style and format, but altered the altruistic ideas to normative ones. No facts were changed to bias the study.

The new brochure, Brochure 1 (see Appendix C), was laid out using a desk-top publishing program for the Macintosh computer. Brochure 1 appeared very similar in format to the original BBD brochure; however, its appearance was of lesser quality since it was an in-house publication. The original BBD brochure was printed by a professional printing agency on high-quality paper and used color. Such a professional-looking brochure might bias the experimental condition in favor of the original brochure. However, making the new brochure of equal quality would have been
both costly and time-consuming. To overcome this problem a second brochure, Brochure 2 (see Appendix D) was designed by reproducing the original BBD brochure on the Macintosh computer program. In creating Brochure 2, no information was changed; only the format was changed to make it look similar to Brochure 1.

2.4 Procedure

Prior research revealed that campaigns that relied only on mass media were generally ineffective (Jason et al., 1984; Larson & Massetti-Miller, 1984). Printed literature, like brochures, can also be considered to be mass-mediated material since they are frequently printed in large quantities and are circulated by bulk mail or free distribution. If this is the case, only presenting participants with brochures might also be ineffective. Therefore, a speaker would be needed to present the material to the participants and then pass out the supporting brochures for them to keep.

2.4.1 Presentation of the Campaign and Brochure

The students in three communication classes were used for the experiment; two classes were experimental conditions and the other served as a control group. Both experimental groups and the control group were 400-level
communication classes, comprised mostly of junior and senior communication majors. Experimental group 1 had 25 students present for the presentation (n = 20 or 83.3% female, n_j = 4 or 16.7% male) and all but one student were communication majors. Experimental group 2 had 22 students present for the presentation (n = 19 or 86.4% female, n_j = 3 or 13.6% male); 19 were communication majors and three were other majors. The control group had 26 students present the same day the presentations were given to groups 1 and 2 (n = 22 or 84.6% female, n_j = 4 or 15.4% male) and all but two were communication majors. As can be seen by the class sizes, male to female ratio, and number of communication majors in the classes, all three were very similar demographically. Because of the unobtrusive nature of the attendance rosters used for these three classes, no age demographics were available. However, since these classes also consisted primarily of junior and senior students it can be inferred that these classes were well represented by the participants in the pilot study and second questionnaire.

The Coordinator for the University of Delaware blood drives from the Blood Bank of Delaware was selected to be the speaker for both experimental groups. The presentations were strategically given on the day that sign-ups for the February blood drive were to start, just one week prior to the actual donation. The speaker was accustomed to giving
talks on campus and had become familiar with both Brochures 1 and 2, by working on them with the research team. She was instructed to give her usual introduction, present the appropriate message to the corresponding group, and announce the dates and locations of the sign-ups and actual donation. Lastly, she was to pass out the brochures to the students and urge them to take them home and read them.

The three classes used all met on the same day so that the experimental presentations were delivered as close together in time as possible. Only one student was present in both experimental class presentations and she was noted in the final analysis. Experimental group 1 was given a verbal message reflecting the information in Brochure 1 (TRA model) and was then given the corresponding brochure to keep. Experimental group 2 received the traditional message from the original BBD brochure and was given Brochure 2 to keep. The speaker tried, to the best of her ability, to keep both presentations the same length and similar in format; only the content of the message was different. The professor who taught both experimental classes observed the speaker's presentations and noted that she did an excellent job. Both presentations were, indeed, very similar in format and time, yet the contents were clearly different. The control group, Group 3, received no message but was given a piece of paper that only provided dates, times, and
places of the sign-ups and the blood drive. This notice resembled both brochures 1 and 2 since it was printed using the same paper, fonts, and logos (see Appendix E).

2.4.2 Measurement of the Dependent Variable

The ultimate goal of this research was to see if the PI campaign based on the TRA had significantly more effect on actual blood donation behavior than did the traditional campaign or the control. Since the number of pints of blood obtained by the blood bank is an outcome of donation behavior, one cannot simply count pints of blood to determine campaign effectiveness. Because of medical problems, scheduling conflicts, and other problems, some students would be rejected by the blood bank and others would be unable to produce a full pint of blood. Therefore, in addition to counting students who successfully donated blood, students who were unsuccessful donors, and students who only signed up to donate, but did not show, were counted as part of the grand total.

To determine these numbers, class attendance rosters from the day of the presentations were obtained and then compared to sign-up sheets and donor rosters provided by the BBD. Though time consuming, this unobtrusive measurement prevented any oversight that might have occurred
if a postcampaign survey had been distributed in class and some of the students were absent.

Numbers of actual blood donors and students who signed up to donate were tallied and then compared to the class rosters for the two experimental groups and one control group. In order to reject the null hypothesis, experimental group 1 needed to have significantly more donors and attempted donors than experimental group 2 or the control group.

Although this step is not a component in the TRA model, a postcampaign survey was developed to assess what motivated actual blood donors to give blood on the day of the blood drive. This procedure could serve as a post hoc method to check the validity of the findings of the second questionnaire that showed the normative component to be a better determinant of intention to give blood. The survey (see Appendix F) was given to students who actually donated blood while they rested at the donation site canteen after the procedure. This simple closed-ended survey asked donors to rank order the three main reasons they gave blood on that day. Seven options were provided. Three responses were behavioral in nature, three were normative in nature, and the last option provided for an open-ended response (other).
The results of this survey are discussed in the next chapter.

2.4.3 Results of the Behavioral Measure

As previously stated, to check for results at the blood drive, sign up sheets and actual donor rosters were compared to class attendance rosters from the day of the presentation. Comparisons of the rosters revealed that only one student from Group 1 (TRA message) signed up to give blood; however, she did not actually donate. Unfortunately, the class attendance roster indicated that she was not present the day of the presentation. The student was later contacted to see if she did hear the persuasive message, but she was unable to recall one way or the other. The rosters also showed that only one student from Group 2 (traditional BBD message) signed up to donate, but this time the student did give blood. No one from the control group signed up or did give blood. These findings fail to support the use of the TRA in this case. Possible causes of the failure will be discussed in greater detail in Chapter 3.
CHAPTER 3
CONCLUSIONS

3.1 Discussion of Results

The purpose of this research project was to investigate the applicability of the theory of reasoned action in designing persuasive public information campaigns. The TRA has been used primarily as a tool for predicting behavior, although its founders have called upon other researchers and practitioners to use the theory as a tool for education and persuasion. This research project tried to show that the TRA did, indeed, have real-world applicability in designing public information campaigns.

To recap, the TRA model suggests that the best predictor of a behavior is the intention to perform the behavior in question. To predict that intention, two components need to be discovered: attitude about performing the behavior and perceived social support for or against the behavior (subjective norm). Deeper still are the components that make up both attitude and subjective norm—beliefs. Attitude is comprised of the beliefs about the consequences
of performing the behavior and the perceived likelihood of those consequences actually occurring. Subjective norm, by contrast, is comprised of the perceived social approval or disapproval by significant referents for performing or not performing the behavior and the level of motivation to comply with those referents. In sum, Ajzen and Fishbein (1980) claim that the key to understanding behavior is understanding what these underlying beliefs are that make up both attitude and subjective norm.

From a theoretical standpoint, these behavioral beliefs and normative beliefs can accurately predict attitude and subjective norm respectively. Attitude and subjective norm can then be used together to predict intention to perform the behavior in question; intention, in turn, will predict actual behavior. From a practical standpoint, by understanding what these beliefs are, it is possible to augment, even alter, the beliefs about a specific behavior through the use of a tailored persuasive message. By manipulating the beliefs, it is hoped that one can start, stop, or change a behavior based upon the information gathered through the TRA. By designing a message that attacks the undesirable beliefs and reinforces the desireable beliefs, favorable results can be achieved.
Through Ajzen and Fishbein's (1980) prescribed procedures, this project attempted to accomplish an increase in the number of donors at a campus blood drive. The components of the TRA model (intention, attitude, subjective norm, behavioral evaluation, and motivation to comply) were investigated by using detailed questionnaires. The data were analyzed by computer to find relationships between the various components and then regressed to find the beta weights for the model. The values of the beta weight indicated that the subjective norm component was a significant predictor of intention to give blood, but the attitude component was not significant. Based on these findings, a PI campaign was designed from a normative angle. This persuasive message was given to an experimental condition (Group 1) in the form of an oral presentation backed up by a printed brochure that repeated the same information. A second experimental condition (Group 2) received a presentation and brochure that were similar in format to the first condition, but the information presented to Group 2 was from an existing BBD student blood donor brochure, not designed by the TRA. A control group received no message, but participants were provided with the dates of the campus blood drive. Sign-up sheets and lists of actual donors were provided by the BBD and were compared to class attendance rosters from the two experimental and
control groups. Only two students from the two experimental classes signed up or actually gave blood and neither one was exposed to the message designed using the TRA. No one from the control group even made an effort to sign up to donate. The hypothesis, therefore, was not supported.

3.2 Limitations of the Study

The failure of the experiment to support the hypothesis can be attributed to two types of limitations. First, methodological limitations are the oversights and possible procedural errors in the steps followed during the experiment. And second, theoretical limitations are based on the probable shortcomings of the theory of reasoned action itself, as well as the theoretical implications revolving around blood donation behavior and public information campaigns. These limitations will be discussed in the next two sections.

3.2.1 Methodological Limitations

As with most research projects, there is always a question of how well does the sample population represent the population as a whole. This was also the case with this research project and seemed to be the major limiting factor.

The samples used for the pilot study questionnaire, the second questionnaire, and the subsequent experiment were
chosen mainly for the convenience of being able to use classes within the Communication Department. Because all of the classes chosen for the surveys and experimental conditions were communication courses, it was assumed that the participants would be demographically and psychographically consistent with each other. Although at first this appeared to be true, closer investigation revealed some discrepancies.

The three classes used for the pilot study sample were all 300 level classes consisting mainly of juniors and seniors, of which only 21.1% were males. These classes were used to obtain roughly 40 to 60 useable, open-ended questionnaires, allowing for simple analysis of the responses.

The second phase of the investigation used students from a large, introductory class for communication majors to be respondents. These respondents were also primarily juniors and seniors; however, the size and the introductory nature of the class may have induced minor attitudinal or normative differences. This sample (N = 205) had a slightly greater percentage of males (25.4%) than either the pilot study or the experimental and control groups.

The two classes used as experimental groups and the one class used as the control were small, 400-level,
specialized communication classes. The percentages of males
in these groups were much lower (16.7%, 13.6%, and 15.4%
respectively) than the questionnaire sample, but were more
similar to the groups used for the pilot survey.

It can be seen that there is somewhat greater
similarity between the pilot study sample and the samples
used for the experimental and control groups. Since there
were some demographic differences between the pilot study
sample and the second questionnaire sample, the list of
advantages, disadvantages, and normative responses might
not have been exactly what the second group would have
listed. Thus, the behavioral beliefs and normative beliefs
used in the second questionnaire might not have been fully
representative of that particular response sample. Moreover, it is possible that the beta weights obtained from
the regression analysis differed from those that would be
appropriate for use with the experimental groups.

Since the persuasive message in the brochure was
designed by using the information obtained from the second
questionnaire and then presented to a third population,
discrepancies may have affected the experiment at this
crucial point as well.

As mentioned, it was hoped that representative
samples could have been obtained by using only classes
within the Communication Department; unfortunately some differences between the samples were observed after the fact. The observed discrepancies were slight; however, they may still have induced some errors into the experimental procedure.

Another problem arose from the demographics of the samples and target audience: a much larger percentage of females than males in each group. Communication classes at the University of Delaware typically have more females enrolled than males. This could be one major factor that contributed to the low blood donation rates. According to the information available, females, by nature, are not as likely to donate blood as are males. Burnett (1981) found that the "typical" blood donor was a married white male and that only 28.7% of the donors are female. Although Ajzen and Fishbein (1980) have argued that such demographic factors are merely external to the model and have little or no effect on blood donation behavior, the figures cannot be denied. Ironically, the ratio of females to males from the February blood drive does not agree with Burnett's findings. Of the 309 students who signed up to donate blood, only 41.6% were male and 60.4% were females. Interestingly, the figures are more closely matched when looking at the 158 actual blood donors; 47.4% were male and 52.6% were female.
Even though more women signed up and actually donated blood than men, it still would have been better to use a different academic department that has a more "natural" ratio of males to females to use as samples. It may also have been better to find a suitable target audience for the experiment first and then locate a sample that best represented the target. Finally, the representative sample should have been used for both questionnaires to limit the number of discrepancies.

Because the procedure was intended to be as unobtrusive as possible so not to bias the results of the experiment, no follow-up measure was taken assessing the components of the TRA model. It was believed that by distributing another survey to measure participants' beliefs, attitudes, subjective norms, and intentions to give blood, the participants might have become suspicious and that might have affected the results. Unfortunately, by failing to assess the model's components after the message, some valuable information may also have been forfeited. Although the study primarily focused on potential results of the blood drive (number of students who signed up and number of donors), it would have also been interesting to see what, if any, immediate effects the message had on beliefs, attitudes, subjective norms, and intention. Any positive changes in these components, as compared to the
results of the second questionnaire, could have possibly been attributed to the persuasive message. Some marginal results could have been claimed then.

Finally, and perhaps most limiting, were the sizes of the experimental groups and control group. Initially, it was thought that a sufficient number of participants were present in the two experimental conditions and the control group to have the statistical power necessary to detect effects between the groups. In retrospect, the sample used in this analysis did not meet these assumptions. First, the methodology used failed to take into consideration the highly emotional topic at hand--giving blood. Many people are just so terrified of the procedure that they never will donate blood no matter what is said to them. Also, only a limited number of people can even be considered as potential donors because of medical problems. These two considerations would have greatly skewed the distribution within the samples. After the experiment produced negligible results, further investigation was conducted on the statistics available for past University of Delaware blood drives. No precise data were available stating what percentage of UD students actually gave blood, but J. Derby (personal communication, August 8, 1990) from the BBD offered some insight. National blood bank figures estimated that only 3 to 5% of the eligible adult population can even
be considered as potential donors. These figures agree with the 4% cited by Oswalt (1977). If this is the case, optimistically only one person in 20 actually donates blood.

Derby (personal communication, August 8, 1990) added that college students should be a very productive blood donors because of their age. Unfortunately, because of the unique life styles particular to college students, those percentages are less promising than what one might expect. Excessive drinking, poor eating habits, living in close quarters, and sexual promiscuity could cause students to be rejected for a number of health reasons. She estimates that a college population may only produce one donor in 25 students. Therefore, our sample sizes of 24 and 22 for the experimental groups and 26 for the control group only had the potential to produce one donor per group. The actual results agree with this notion, since only one person from each experimental group signed up or gave blood and no one from the control group even signed up to donate.

It is now apparent that the size of those groups was insufficient to produce enough donors to measure any significant difference between the groups. There should have been well over 100 students per group, perhaps even over 200 students per group. This would have yielded a higher number of donors and possibly a measurable difference
between the groups. Unfortunately, few communication classes are that large, so once again, it would have been better to use a different academic department, even if the coordination of the surveys and experiment would have been more difficult.

In sum, although there were several methodological limitations noted, the two biggest problems seem to have arisen from the samples used. Because classes within the communication department were chosen, demographics typically reflected the unnaturally high percentage of female students in the sample. Since past research shows that females donate less frequently than males, the experiment may have been limited from the start. Ironically, the results of the postcampaign survey conflict with past research, showing more females donating than males. Additionally, the sizes of the experimental and control groups were by far too small to achieve any significant donation rates or differences between the groups. Random sampling may have avoided some of these problems.

3.2.2 Theoretical Limitations

It is well known that the study of human nature is not a perfect science. The theories that surround the prediction of human nature are even less perfect. Although the theory of reasoned action is promising in the area of
measure of participants' levels of emotion probably should be considered when assessing all relevant beliefs regarding a topic such as blood donation.

Likewise, the participants' level of involvement with the topic is not addressed by the TRA. The theory assumes that researchers are dealing with active audiences who are involved with the topic at hand. The components of the TRA measure what participants believe are the advantages and disadvantages (behavioral beliefs) of performing a behavior and what their significant referents would want them to do in regard to performing the behavior (normative beliefs). This suggests that Ajzen and Fishbein (1980) assume that subjects have some prior knowledge of the topic and are actively thinking about it, or at least that the participants are aware of the beliefs that shape attitudes.

But what about a topic that is not actively addressed by an audience? In the case of blood donation, it is quite possible that college students are not typically involved with the topic and so have never established a set of beliefs to explain their own attitudes. Since this was probably the first time these students were directly asked to become blood donors, they cannot be considered an active public. Grunig and Hunt (1984) stressed the importance of understanding a public's level of involvement with the topic
in order to put that topic on their "agenda." Basically, it seems that the TRA works best when the target audience is an active public that is involved with the topic. Doubts now exist about the TRA's effectiveness when targeting a passive, uninvolved public. The theory may need further clarification or expansion in this area as well.

Discrepancies noted in the results of this study as compared to the results of previous studies on blood donor procurement hint that there may also be limitations in the theoretical measurements prescribed by Ajzen and Fishbein (1980). The present study indicated that the subjective norm component was the significant predictor of blood donation behavior, while the attitude component was not significant. These findings required the persuasive message to be constructed from a normative perspective. By contrast, three prior studies in the field (Burnkrant & Page, 1988; Lima & D'Amorim, 1985; Warshaw et al., 1986) found the opposite to be true; the attitude component was the more significant predictor. While the first two studies measured attitudes and subjective norm and linked the components to intention to give blood, Lima and D'Amorim also used the information to design a persuasive message based primarily on the attitude component as their data indicated. A measure of attitudes and intention was taken after the message and favorable increases were noted in both
components, supporting the hypothesis. The research team attributed the increases to the persuasive message that used an attitudinal rather than a normative angle.

Even though the second questionnaire of this project found that subjective norm was the lone predictor of behavior, the results of the postcampaign survey indicated that this was not necessarily the case. Recall that a brief survey was given to blood donors after the donation procedure and asked them to rank order the three primary factors that motivated them to give blood on that day. Table 3.1 presents the results of this survey (see also Appendix F). Donors were asked to rank order the three main reason they gave blood that day from a lost of six close-ended responses. Three responses reflected behavioral beliefs/attitude (Helping others in need, Having blood available for me or my family if we needed it, Donating to a good cause) and three responses reflected normative beliefs/subjective norm (Being perceived as doing something good by my family and friends, Knowing that by donation is appreciated by patients, Donating with my friends). One open-ended response (other) allowed for additional reasons and an explanation. The open-ended responses were analyzed for content, then grouped as either an attitude or a subjective norm.
### Table 3.1 Postcampaign Survey Results

**WHAT MOTIVATED STUDENTS TO GIVE BLOOD ON DAY OF ACTUAL DONATION**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>(A) Helping others in need.</td>
<td>45</td>
</tr>
<tr>
<td>(A) Donating to a good cause.</td>
<td>7</td>
</tr>
<tr>
<td>(A) Having blood available for me or my family if we needed it.</td>
<td>5</td>
</tr>
<tr>
<td>(A) Other</td>
<td>3</td>
</tr>
<tr>
<td>(SN) Knowing that my donation is appreciated by patients.</td>
<td>2</td>
</tr>
<tr>
<td>(SN) Being perceived as doing something good by my family and friends.</td>
<td>1</td>
</tr>
<tr>
<td>(SN) Donating along with my friends.</td>
<td>0</td>
</tr>
<tr>
<td>(SN) Other</td>
<td>7</td>
</tr>
</tbody>
</table>

**Note**

N = 64

(A) Represents attitude response.

(SN) Represents subjective norm response.
The frequencies of the donor responses clearly show that attitude factors were far more important than were the normative components as was indicated by the second questionnaire. In the postcampaign survey, attitude responses appeared much more frequently than subjective norm responses. Forty-five donors indicated that "Helping others in need" was their first reason for giving blood. Seven donors ranked "Donating to a good cause" as their first reason, while five rated "Having blood available for me or my family if we needed it" as their first reason for donating. The normative responses appeared less frequently. While seven donors listed "other" normative responses as first, two people marked "Knowing that my blood is appreciated by patients" as first. Only one donor ranked "Being perceived as doing something good by my family and friends" as most important and no one ranked "Donating along with my friends" as their first reason for giving blood that day.

This is not to say that these frequencies show that subjective norm is now insignificant in understanding blood donation behavior in college students. The table does show a good number of donors who ranked "Knowing that my blood is appreciated by patients" as their second (17 responses) and third (16 responses) most important reason for giving blood. Perhaps this does imply that both attitude and
subjective norm contribute to donation behavior, just as the TRA states. Apparently attitude is the more important predictor according to the results of the post campaign survey; this is in agreement with the findings of Burnkrant and Page (1988), Lima and D'Amorim (1985), and Warshaw et al. (1986). These results also indicate some importance of subjective norm, but to a lesser degree than first thought. These conflicting findings may suggest that there are some additional theoretical problems within the TRA originating in the component assessment and measurement phases, so some modification may be required.

Before the two surveys were distributed to the sample populations, it was expected that both components would contribute significantly (though at different levels) to intention to give blood and both components would be used in the persuasive message. Because of the unexpected preliminary results, it was necessary to test the hypothesis by using only the subjective norm component in the brochure. In a real-life situation this probably would not have been acceptable or practical. A practitioner would have used all of the information gathered and then would have tailored it to fit the target audience. In this case, the persuasive message should have placed more emphasis on the subjective norm because of its significance, but it also should have
incorporated the most pertinent attitudinal information for emphasis and balance.

Another potential explanation for the nonsignificant contribution of the attitude component of the TRA is suggested by Bagozzi's (1981) claim that attitudes can be multidimensional. Consistent with Ajzen and Fishbein's (1980) belief-based operationalization of attitudes, Bagozzi stated that attitudes may be comprised of different elements, some of which may be positive and some of which may be negative. This implies that a person may hold an attitude that is in part positive and in part negative, rendering the attitude's contribution to behavioral performance neutral. According to the TRA, the effect of an individual holding some positive beliefs and some negative beliefs about the consequences of performing a behavior, should be that the attitude will not contribute to the individual's intention to perform the behavior in question. As long as one is concerned only with testing the relationships among the component parts of the TRA, the extent to which an attitude is multidimensional or unidimensional then, is not problematic. When a practitioner uses the TRA to design a persuasive message, however, the possibility that the attitudinal component may be multidimensional becomes problematic. That is, a practitioner wants to discover which set of beliefs should
be targeted for change in order to alter the intention to perform the behavior. Combining contradictory beliefs could potentially mask important information that could be used to design an effective PI campaign.

In order to discover whether or not the masking of relevant information occurred in this study, a post hoc factor analysis was performed on the 20 beliefs about the consequences of donating blood. The results of this analysis indicated that the attitude component of the TRA was made up of three separate dimensions: one strong factor that related the altruistic consequences of giving blood, another factor that related the physical consequences of giving blood, and a weaker factor that related the learning consequences of giving blood. The summarized results presented in Table 3.2 may indicate that attitudes are, indeed, multidimensional insofar as they may be comprised of several cognitive elements such as those identified by the factor analysis.
Table 3.2 Principle Factor Analysis Solution

<table>
<thead>
<tr>
<th>BEHAVIORAL CONSEQUENCES</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save lives</td>
<td>.78</td>
<td>-.16</td>
<td>.11</td>
</tr>
<tr>
<td>Increase blood supply</td>
<td>.77</td>
<td>.00</td>
<td>.24</td>
</tr>
<tr>
<td>Help people</td>
<td>.67</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td>Side effects</td>
<td>-.03</td>
<td>.81</td>
<td>.03</td>
</tr>
<tr>
<td>Faint at sight of blood</td>
<td>.02</td>
<td>.73</td>
<td>-.10</td>
</tr>
<tr>
<td>Physical/Mental distress</td>
<td>-.06</td>
<td>.64</td>
<td>-.05</td>
</tr>
<tr>
<td>Learn of health problems</td>
<td>.14</td>
<td>-.07</td>
<td>.66</td>
</tr>
<tr>
<td>Learn blood type</td>
<td>.15</td>
<td>-.12</td>
<td>.54</td>
</tr>
<tr>
<td>Promote community relations</td>
<td>.15</td>
<td>-.01</td>
<td>.42</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>5.07</td>
<td>2.41</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Note
The analysis accounted for 43.1% of the variance.
The finding that the target audience's attitude toward donating blood was based on three separate and contradictory factors is important in explaining the results of this study. That is, because the attitude component of the TRA did not contribute significantly to the target audience's overall intention to give blood, the message was designed to influence the target's subjective norm. However, the message used in this campaign may have been much more successful had it been aimed toward altering the negative beliefs that neutralized the target's attitude toward giving blood during the spring blood drive. This is an important point to keep in mind for practitioners who wish to use the TRA in future programs.

Finally, the TRA seems to be lacking in the last stages of investigation, specifically what exactly one should do with the information gained and how to design an optimal message from it. Granted, Ajzen and Fishbein (1980) originally designed the TRA as a method of explaining behavior and have called upon other researchers and practitioners adapt it to persuasion and education in the real world; however, additional guidance by the authors should be giving on how best to apply knowledge gained from the research.
In sum, though the majority of this study's limitations may have stemmed from methodological limitations, it is quite possible that additional problems came from limitations within the theory of reasoned action. Among those concepts discussed were high levels of emotional arousal and passive audiences, both of which are not properly addressed by Ajzen and Fishbein (1980). There also exists the possibility of limitations in the measurement phase of the theory as prescribed by the authors. This potential problem may have overestimated the power of the subjective norm in this study and also underestimated the power of attitudes.

3.3 Implications for the Future

The experiment failed to produce conclusive results one way or the other, but there is still potential for using the TRA in PI campaign design in the future. It was hoped that the TRA could be used as a guide in the construction of such campaigns and, in essence, this was accomplished. A target audience was first chosen to receive the persuasive message before the spring blood drive. Somewhat representative samples were used to conduct preliminary surveys that assessed beliefs, attitudes, subjective norms, and intention to give blood at the spring blood drive.
Based on the information gathered, a PI campaign was designed.

Because of the limitations discussed in the previous sections, the campaign did not appear to be effective. Nevertheless, this study did accomplish one thing it set out to do: develop a public information campaign based on information gathered from the TRA. It is important to keep the theoretical and procedural limitations in mind when designing future campaigns. It is also important to remember that any information gathered before conducting any type of public relations program will help in the development, implementation, and perhaps even effectiveness of the campaign. Frequently, practitioners have developed programs "by the seat of their pants" without doing any research on their target audience. Though most practitioners do conduct research on target audiences, sometimes the methods are less than scientific. The steps offered by Ajzen and Fishbein (1980) for designing an appropriate questionnaire can be extremely helpful to the practitioner. The resulting data from the surveys can provide a better understanding of what people think about a subject, even if it is only analyzed for content instead of analyzed by computer.
Of course, there is always room for more research on the TRA and how it can be better used for PI campaigns and blood donor procurement. As noted in the first parts of this paper, these topics, especially in combination have been virtually unexplored, so the possibilities are numerous. One possibility is to replicate this study, but avoid the methodological limitations noted by using a larger and random representative sample. Another idea would be to use the TRA in designing a purely informational campaign, rather than one that is persuasive in nature. This study could investigate what targets already know about a subject and what they do not know about it, then prepare a campaign to educate them on the topic. The audience could then be tested for an increase in knowledge on the subject rather than a measure of behavior. One last suggestion would be another investigation into persuasive PI campaigns, but using a less emotional altruistic behavior, such as monetary donation to a charity.

3.4 Conclusion

This was a first attempt, though limited, at investigating how the theory of reasoned action could possibly be used as a tool in designing persuasive public information campaigns. Although the experiment did not produce any significant results due to a number of
methodological and theoretical flaws, there may still be merit in using the TRA in designing campaigns.

The limitations of the study and findings of other related works may lead the way to incorporate the TRA with other compatible theoretical models. Warshaw et al. (1986) have already concluded that the TRA is a good tool of understanding and predicting behavior, but it should be augmented with additional theory. This paper wanted to show how the TRA could be used as a guide for designing campaigns. Perhaps that is all any theory can be—a guide. The ultimate power of any campaign is measured by the creative effort that goes into the program and the expertise of the practitioner who has assembled it.
REFERENCES


APPENDIX A
PILOT STUDY SURVEY

please answer the following questions as completely and honestly as possible. Please write neatly and do not put your name on the paper. It should only take you a few minutes to complete this survey. Thank you for your help.

1. What do you believe are the advantages of your giving blood at the University of Delaware in the spring semester, 1990?

2. What do you believe are the disadvantages of your giving blood at the University of Delaware in the spring semester, 1990?

3. What else comes to mind regarding your giving blood at the University of Delaware in the spring semester, 1990?

4. If you were to give blood at the University of Delaware in the spring semester, 1990, what individuals, groups, and/or organizations would approve of your giving blood? (No names please. Use specific titles as mother, father, boy/girl friend, fraternity/sorority, etc.)

5. If you were to give blood at the University of Delaware in the spring semester, 1990, what individuals, groups, and/or organizations would disapprove of your giving blood? (No names please. Use specific titles as mother, father, boy/girl friend, fraternity/sorority, etc.)
APPENDIX B
SECOND QUESTIONNAIRE

The purpose of this study is to learn what people think about giving blood at campus blood drives. First, we must ask a few general questions about your background. When you make the ratings on the accompanying response form use a #2 pencil and mark neatly.

Skip Option Block A and go to Option Block B.

In column 1, indicate your sex by writing a "0" for male and grid in the corresponding "0" below it, or by writing a "1" for female and grid the corresponding "1" below it.

In columns 2 and 3, indicate your age by writing the appropriate numbers in the spaces and then grid the corresponding numbers below them. For example, if you are 21: Write the number 2 in column 2 and grid 2 below it. Then write the number 1 in column 3 and grid 3 below it.

In column 4, indicate your parents' approximate combined income level.

- $0 to 25,000 grid 0
- $25 to 50,000 grid 1
- $50 to 75,000 grid 2
- $75 to 100,000 grid 3
- over $100,000 grid 4

In column 5, indicate your overall college grade point average.

- 0.0 to 0.9 grid 0
- 1.1 to 1.9 grid 1
- 2.0 to 2.9 grid 2
- 3.0 to 3.9 grid 3
- 4.0 grid 4
In the questionnaire you are about to fill out, we ask questions which make use of rating scales with seven places; you are to grid on the accompanying answer sheet the place which best describes your opinion. Each page will have a seven-point scale at the top from which you are to select the most appropriate response to the statements which are on the rest of the page.

FOR EXAMPLE:

1 2 3 4 5 6 7
GOOD-----------------------------BAD
extremely quite slightly neither slightly quite extremely

On this scale 1 is extremely good, 2 is quite good, 3 is slightly good, 4 is neither good nor bad, 5 is slightly bad, 6 is quite bad, and 7 is extremely bad.

So, if you were asked to rate "The Weather in Delaware" you would choose your response from the scale above. If you think the weather in Delaware is extremely good, you would grid 1. If you think the weather in Delaware is slightly bad, you would grid 5. If you think the weather in Delaware is neither good nor bad, you would grid 4.

You will also be using a rating scale with LIKELY-UNLIKELY as endpoints. This scale is to be interpreted in the same way.

1 2 3 4 5 6 7
LIKELY-----------------------------UNLIKELY
extremely quite slightly neither slightly quite extremely

So, if you were asked to rate "The weather in Delaware is cold in January" you would choose your responses from the scale above. If you think that it is extremely likely that the weather in Delaware is cold in January, you would grid 1. If you think that it is quite unlikely that the weather in Delaware is cold in January, you would grid 6. And so on.

In making your ratings please remember the following points:
(1) Grid all responses clearly in #2 pencil for the appropriate numbered question.
(2) Be sure to answer all item--please do not omit any.
(3) Never put more than one grid mark on a single line.
(4) Use only response numbers 1 through 7 on the grid sheet--do not use the numbers 0, 8, or 9. There is no response for those numbers.
The results of this study will contribute to our scientific knowledge, but will probably have no direct impact on you. Many of the statements may appear to be the same or repetitive. The survey is specifically designed this way. Please read each statement carefully and answer all of them. The study should take about fifteen minutes to complete.

All responses will be confidential. While we must ask you to sign this sheet, do not enter your name on the response form. The responses will be used in a master's thesis presenting statistical data, but all personally identifying material will be removed. You are free to discontinue participation at any time prior to the completion of the project.

Thank you for your help.

Vince Gambal
Cynthia Burggraf

I have read the above and give my consent to participate in this study.

Name  Date
please grid the number that indicates how you feel about the following statements.

1. I intend to give blood during the spring 1990 blood drive on campus.
   
   L I K E L Y ------------------------------------------ U N L I K E L Y
   extremely quite slightly neither slightly quite extremely

2. My giving blood during the spring 1990 blood drive on campus is:
   
   G O O D ------------------------------------------ B A D
   extremely quite slightly neither slightly quite extremely

3. My giving blood during the spring 1990 blood drive on campus is:
   
   W I S E ------------------------------------------ F O O L I S H
   extremely quite slightly neither slightly quite extremely

4. My giving blood during the spring 1990 blood drive on campus is:
   
   H A R M F U L ------------------------------------------ B E N E F I C I A L
   extremely quite slightly neither slightly quite extremely
please grid the number that indicates how you feel about the following statements. Use the scale on this page for statements #5 through #24 only.

5. Helping people in need of blood transfusions
6. Taking time out of my schedule to donate blood
7. Saving people's lives
8. Experiencing distress and/or fainting at the sight of blood
9. Having a feeling of self satisfaction
10. Contracting AIDS from giving blood
11. Increasing the healthy blood supply for times of emergency
12. Feeling possible side effects after giving blood (fainting, dizziness, nausea and/or bruises)
13. Knowing my blood type by having pre-donation blood tests
14. Knowing if I have any health problems or diseases by having pre-donation blood tests
15. Having a needle stuck in my arm for a long period of time
16. Contributing to a good cause
17. Having my blood rejected by the blood bank for medical reasons (low body weight, anemia, disease, etc.)
18. Having blood available if I needed it someday
19. Having blood available if members of my family needed it someday
20. Having a convenient place to donate blood
21. Promoting good relations between the U of D students and the community

22. Having an adequate facility to donate blood (private, comfortable, clean, etc.)

23. Being able to function physically and mentally in class after donating blood

24. Having sterile needles and equipment at donation site

Please grid the number that indicates how you feel about the following statements. Use the scale below for statements #24 through 44.

1 2 3 4 5 6 7
LIKELY---------------------------UNLIKELY
extremely quite slightly neither slightly quite extremely

25. My giving blood during the spring 1990 blood drive on campus would help people in need of blood transfusions

26. My giving blood during the spring 1990 blood drive on campus would require a lot of time from my schedule

27. My giving blood during the spring 1990 blood drive on campus would save people's lives

28. My giving blood during the spring 1990 blood drive on campus would cause me to experience distress or to faint at the sight of blood

29. My giving blood during the spring 1990 blood drive on campus would give me a feeling of self satisfaction

30. My giving blood during the spring 1990 blood drive on campus would cause me to contract AIDS

31. My giving blood during the spring 1990 blood drive on campus would increase the healthy blood supply for times of emergency

32. My giving blood during the spring 1990 blood drive on campus would cause possible side effects like fainting, dizziness, nausea and/or bruises

33. My giving blood during the spring 1990 blood drive on campus would let me know my blood type
34. My giving blood during the spring 1990 blood drive on campus would let me know if I had any health problems or diseases.

35. My giving blood during the spring 1990 blood drive on campus would cause me to have a needle stuck in my arm for a long period of time.

36. My giving blood during the spring 1990 blood drive on campus would contribute to a good cause.

37. My giving blood during the spring 1990 blood drive on campus would result in my blood being rejected by the blood bank for medical reasons (low body weight, anemia, disease, etc.).

38. My giving blood during the spring 1990 blood drive on campus would result in having blood available if I needed it some day.

39. My giving blood during the spring 1990 blood drive on campus would result in having blood available if members of my family needed some day.

40. My giving blood during the spring 1990 blood drive on campus would be at a convenient place.

41. My giving blood during the spring 1990 blood drive on campus would promote good relations between U of D students and the community.

42. My giving blood during the spring 1990 blood drive on campus would be at an adequate facility (private, comfortable, clean, etc.).

43. My giving blood during the spring 1990 blood drive on campus would render me physically and mentally incapable to function in class afterwards.

44. My giving blood during the spring 1990 blood drive on campus would be done with sterile needles and equipment at the donation site.
Please grid the number that indicates how you feel about the following statements. Use the scale below for statements #45 through #58

1 2 3 4 5 6 7

LIKELY-----------------------------UNLIKELY
extremely quite slightly neither slightly quite extremely

45.  My parents think I should give blood during the spring 1990 blood drive on campus

46.  My brother(s)/sister(s) think I should give blood during the spring 1990 blood drive on campus

47.  Most of my friends think I should give blood during the spring 1990 blood drive on campus

48.  Most members of my social groups (fraternity, sorority, clubs, church) think I should give blood during the spring 1990 blood drive on campus

49.  My roommate(s) think I should give blood during the spring 1990 blood drive on campus

50.  Patients in need of blood think I should give blood during the spring 1990 blood drive on campus

51.  My doctor thinks I should give blood during the spring 1990 blood drive on campus

52.  Generally speaking, I want to do what my parents think I should do

53.  Generally speaking, I want to do what my brother(s)/sister(s) think I should do

54.  Generally speaking, I want to do what most of my friends think I should do

55.  Generally speaking, I want to do what most members of my social groups (fraternity, sorority, club, church) think I should do

56.  Generally speaking, I want to do what my roommate(s) think I should do
57. Generally speaking, I want to do what patients in need of blood think I should do

58. Generally speaking, I want to do what my doctor thinks I should do

THANK YOU FOR YOUR TIME AND HELP
APPENDIX C

BROCHURE 1
Student Blood Donors

If
They Knew
You
Were Giving. . .

Blood Bank of Delaware
If They Knew
You Were Giving...

Look around a hospital at all the patients who need blood—surgery patients, recovering accident victims, cancer patients or burn victims. Imagine how highly these patients would think of YOU, because you were the one who made their treatment or operation possible. You don’t even have to visit a hospital to see how grateful people would be. Those who are closest to you—your parents, your family and your friends—would certainly express their admiration that you gave blood. It’s not always easy to get your loved ones to think so highly of your actions, but here’s an easy way to look good in their eyes. Less than an hour of your time will earn you the gratitude of the patients in need of blood and good thoughts about YOU in everyone’s mind.

Here’s What You Need to Know...

Donor Requirements

Age: 17 years or older.
Weight: Minimum of 110 lbs.
Good Health:
- No cold, sore throat, flu or active allergy symptoms.
- No recent major surgery.
- No history of hepatitis, convulsions, heart disease or cancer.

Persons at risk for AIDS (anyone listed below and their sexual partners) are NOT permitted to give blood:
- Anyone who has ever used illegal IV drugs (using needles).
- Prostitutes (since 1977) or their sexual partners in the past 6 months.
- Any male who has had sex with another male since 1977, even one time.
- Anyone from countries (i.e. Haiti & Central Africa) with many AIDS cases.
- Hemophiliacs who have received clotting factor concentrates.
What You Can Expect... 

**Step 1.** Sign up in advance and reserve your time at the blood drive.

**Step 2.** Come to the donor site at your scheduled time. Sign in and fill out your donor card.

**Step 3.** Receive a mini-physical—temperature, blood pressure and hemoglobin count. Answer some medical history questions.

**Step 4.** Settle down in a donor chair and relax. The actual giving of blood takes about 5 or 6 minutes.

**Step 5.** Now it's off to the canteen for 15 minutes of rest, relaxation and FOOD! (Soda, cookies & crackers are on us.)

**Step 6.** Congratulations! You did it and your efforts are appreciated by everyone.

The entire blood donation procedure from start to finish will take about 45-50 minutes.

*Thanks for being such a special person!*

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**Remember...**

*Hungry and tired people do not make good blood donors. Get a good night's rest and eat a full meal within 3 hours prior to donation.*

*Bring the names of any medicines you're taking. Most will not prevent you from giving blood.*

*After giving blood, avoid heavy lifting or strenuous athletic activity until the following day.*
More to consider...

As a blood donor, you receive that special feeling of knowing that people are grateful for what you have done. You'll know that you are an extraordinary person for several different reasons:

* Blood donors are a very important group of people. You get a strong sense of community belonging to this special group.

* Many people make blood donation a group project. Donating blood with your friends, your fraternity or sorority, or other student organizations gives everyone involved a feeling of group accomplishment and pride in your group effort.

* Donating blood at the Blood Bank of Delaware gives students an opportunity to do something that will earn them recognition from the community.

Be a regular blood donor...

We hope you will take your turn with other people who care by becoming a regular blood donor. Please note that you must wait 8 weeks between blood donations.

If you'll be in school next year, look for the signs announcing the next blood drive. Going to work next year? Ask your employer if a group blood program has been established there.

Next Campus Blood Drive:
Sign-ups: February 13, 14, & 15, Concourse, Student Center
Donation: February 21 & 22, Rodney Room, Student Center

Blood Bank of Delaware
Christiana Center
100 Hygeia Drive
Newark, DE 19713-2047
737-8400
Student Blood Donors

Giving the Gift of Life

Blood Bank of Delaware
A Personal Invitation
to Help Others...

You have the opportunity to make an important decision—to voluntarily give part of yourself to help someone else. Giving blood is a small action, but it can have BIG results. In fact, your one blood donation can help as many as three patients. This gift of blood can mean the success of an operation, the recovery from an accident, the treatment of a cancer patient or a burn victim. Your donation may mean the difference between life and death.

Here’s What You Need to Know...

Donor Requirements

Age: 17 years or older.
Weight: Minimum of 110 lbs.
Good Health:
* No cold, sore throat, flu or active allergy symptoms.
* No recent major surgery.
* No history of hepatitis, convulsions, heart disease or cancer.

Persons at risk for AIDS (anyone listed below and their sexual partners) are NOT permitted to give blood:
* Anyone who has ever used illegal IV drugs (using needles).
* Prostitutes (since 1977) or their sexual partners in the past 6 months.
* Any male who has had sex with another male since 1977, even one time.
* Anyone from countries (i.e. Haiti & Central Africa) with many AIDS cases.
* Hemophiliacs who have received clotting factor concentrates.
What You Can Expect.

Step 1. Sign up in advance and reserve your time at the blood drive.

Step 2. Come to the donor site at your scheduled time. Sign in and fill out your donor card.

Step 3. Receive a mini-physical—temperature, blood pressure and hemoglobin count. Answer some medical history questions.

Step 4. Settle down in a donor chair and relax. The actual giving of blood takes about 5 or 6 minutes.

Step 5. Now it's off to the canteen for 15 minutes of rest, relaxation and FOOD! (Soda, cookies & crackers are on us.)

Step 6. Congratulations! You did it and your blood is helping someone else survive.

The entire blood donation procedure from start to finish will take about 45-50 minutes.

Thanks for giving such a special gift!

Remember...

Hungry and tired people do not make good blood donors. Get a good night's rest and eat a full meal within 3 hours prior to donation.

Bring the names of any medicines you're taking. Most will not prevent you from giving blood.

After giving blood, avoid heavy lifting or strenuous athletic activity until the following day.
What do you get?

As a blood donor, you receive that special feeling of knowing you have helped to save a life. You can also use the credit for your donation in one of several ways:

* You may credit your donation to the Heart-to-Heart Fund. The credit will be given to someone who because of age, health or financial reasons cannot give blood to meet the membership obligation.

* You may credit your donation to a particular Blood Bank of Delaware membership. Simply indicate on your donor form the name of the Blood Bank member and his/her membership number.

* If your family is not covered by Blood Bank of Delaware, encourage them to apply for membership.

Be a regular blood donor...

We hope you will take your turn with other people who care by becoming a regular blood donor. Please note that you must wait 8 weeks between blood donations.

If you'll be in school next year, look for the signs announcing the next blood drive. Going to work next year? Ask your employer if a group blood program has been established there.

Next Campus Blood Drive:
Sign-ups: February 13, 14, & 15, Concourse, Student Center
Donation: February 21 & 22, Rodney Room, Student Center

Blood Bank of Delaware
Christiana Center
100 Hygeia Drive
Newark, DE 19713-2047
737-8400
APPENDIX E

CONTROL MESSAGE

The Blood Bank of Delaware is holding a blood drive at the University of Delaware.

Sign-ups: February 13, 14, & 15, Concourse, Student Center
Donation: February 21 & 22, Rodney Room, Student Center

Blood Bank of Delaware
Christiana Center
100 Hygeia Drive
Newark, DE 19713-2047
737-8400
We are trying to assess our donor recruitment program. Please complete the following short survey as honestly as possible. Thank you!

Please respond:

What motivated you to donate blood today? Rank-order only three (3) responses--1, 2, and 3--in order of importance to you (1 being most important).

___ Helping others in need.

___ Being perceived as doing something good by my family and friends.

___ Having blood available for me and my family if we would need it.

___ Knowing that my donation is appreciated by patients.

___ Donating to a good cause.

___ Donating along with my friends.

___ Other (explain)_______________________________