

# Applying Psychology to Health Behavior Interventions

## Not Last Decade's Approach

*Stuart Oskamp*

The focus of this volume is on organ donation, an emergent area in health psychology. My goal in this introductory chapter is to provide some historical and disciplinary context for this new field. I had originally considered as a subtitle “Not Your Dad’s (or Mom’s) Research Approach.” However, as I delved into the literature, I soon realized that this field began much more recently than a generation ago—indeed, mostly in the last decade.

As a social psychologist with a strong applied orientation, but not a health psychologist per se, I sought a source that would provide some background on the area of organ donation. Hence, I consulted two classic volumes on health psychology. The first was Shelley Taylor’s seminal textbook, *Health Psychology* (2nd ed.), published in 1991. I found that its index had no listing of *organ* or of *donation*. It did list *liver* and *kidney*, but only in a brief section that explained how these organs work in the processes of digestion and excretion. However, I reasoned, that book is now over 15 years old, so perhaps a newer volume might give a summary of research on organ donation.

So next I consulted the massive, multivolume series entitled *Handbook of Psychology*, published by Wiley in 2003—specifically, volume 9, *Health Psychology*, which is over 660 pages in length (Nezu, Nezu, & Geller, 2003). But again I found that its index did not list either *organ* or *donation*. Also, its chapter headings gave no indication that research on organ donation would fit within any of their purviews. Hmmm! I began to wonder—maybe *there is no research* in this field. Can that be true?

Thus, to begin the process of contextualization, I retreated to the broader area of applied social psychology—specifically, my own text in that field (Oskamp & Schultz, 1998). Of course, its subject index didn’t list *organ* or *donation* either! However, its chapters on various research methods and on health and health care did help me begin to fit the topic of organ donation into a broader perspective.

First of all, our topic is one area of applied psychological research on health behavior. Applied psychological research can and often does use any of the research methods of psychology. These methods include

- laboratory experiments, which manipulate independent variables in highly controlled situations and use precise measurements of their dependent variables, with the goal of showing clear-cut causal relationships between a treatment and an outcome.
- correlational studies, which measure and compare the levels of two or more variables that may or may not be causally related, but do not manipulate either one.
- evaluation research, conducted to determine the operation and effectiveness of a treatment program or policy as it functions in everyday practice.
- sample surveys, which study the levels of variables in a (we hope) carefully chosen and representative sample of individuals.
- epidemiological reviews, which survey vast numbers of people to determine what proportion have had a given medical or physical condition.

Whatever the particular research method that is used, most research on health psychology and health care issues is *field research*—that is, it studies human behavior directly as it occurs in natural, real-life settings. That feature often adds a considerable level of difficulty, as health researchers can unhappily attest.

But our topic of organ donation is not merely one area of field research. It is special in that it involves *an intervention*. It not only studies people's behavior as it naturally occurs but also tries to persuade people to volunteer for a medical procedure, and aspects of that procedure can be emotionally charged and highly important both to them and to others.

## Issues in Conducting Field Research on Health Behavior

Let's consider in greater detail many of the characteristics of field research and health interventions that may become issues in conducting research on organ donations:

- An initial issue is simply *obtaining respondents* to survey studies of health behavior—for instance, epidemiological studies on the extent of organ donation needs or organ donorship.
- Next, it is important to insure that these respondents are *representative* members of some group of interest, rather than self-selected, atypical individuals, who would not yield valid, useful data.
- Then, how should instructions be worded and organized for data collectors and for respondents in order to obtain the most useful and valid information?

- In an intervention to persuade people to become organ donors, what persuasive techniques are acceptable, and how should they be framed, both for clarity and for maximum effectiveness?
- Should an intervention be designed as a direct test of a theoretical viewpoint, or, alternatively, should it be a “big-bang” or “kitchen sink” kind of intervention, which includes several different types of influencing factors?
- What *control conditions* should be used for comparison to see whether the intervention had a significant effect? Related to this, are there any *artifacts*, stemming from the research procedure or comparisons, which would distort the meaning of the obtained significant findings? A similar question considers the likelihood of *interaction effects* between the intervention and other variables (which may often be unstudied ones)—such as the intervention working well for one type of target person but not for others (e.g., highly educated versus less educated, or individuals from different ethnic or cultural backgrounds).
- Beyond significance, what was the *size* of the obtained effect? In practical terms, what would be its degree of payoff, for instance in number of additional donors or their appropriateness?
- It is also important to consider possible problems of *self-report inaccuracy* and *attitude versus behavior differences*. It may be much easier to agree to donate an organ than to actually follow through, despite the best of intentions. What evidence is there about the behavioral follow-through of people who register as potential donors?
- What are the *costs*—both financial costs and nonquantitative social and personal costs—of the intervention program? And, in a cost–benefit analysis, do the benefits appear to outweigh or justify the costs?
- Going beyond the immediate effects, what *long-term effects* of the intervention can be determined—both effects on the organ donors (or even on people exposed to the intervention who remained nondonors) and effects on donation recipients (and possibly on their families as well)?
- What *ethical issues* are raised by the research—for instance, the possibility of harmful consequences, the question of truly informed consent, and the issue of deception in the procedures? Particularly important for research on organ donation is the possibility of negative impacts of the intervention, and the severity of any such impacts.

The questions listed above are ones that stem from research methodology and research ethics. However, there are other questions that arise because of the nature of the U.S. health care system—or *nonsystem*, as it has often been called. Of course, we are all aware that the United States has no program of universal health care for all citizens, and as a result well over 40 million of our citizens have no medical insurance or other means of accessing regular medical care. In the absence of a

federal health care system, many states apply different decision standards, and greatly different levels of funding, to their residents' medical care. In addition, socioeconomic levels of geographic areas have a great influence on the number and quality of hospitals there and the accessibility of medical care in general. For people who do have medical coverage within any given area, different competing systems of managed care often have widely different standards and costs for the same medical procedures. Undoubtedly, all of these factors have major impacts on the availability and the costs of such high-tech procedures as organ donations.

## **Persuasion Approaches and Framing of the Intervention Appeal**

Now let us change the topic and consider approaches to persuasion. Getting a person to sign an organ donation register is certainly a high-stakes persuasion task, and accomplishing it should be aided by following principles of persuasion that have been developed in the past 70 years of social psychological research. Some of the main theories of persuasion and attitude and behavior change are briefly described below, and a succinct summary of some of the research findings about persuasion principles has been provided by Nicholson (2007).

A theory that describes the process of behavioral change in general, rather than variables that produce it, is the transtheoretical model of behavior change (Prochaska, DiClemente, & Norcross, 1992). Two of its main contributions are the propositions that behavior change is a continuum rather than a single discrete action, and that different interventions may be needed for moving individuals forward who are lower on the continuum than for those who are higher on the continuum. The model specifies five stages that form a continuum of change that is applicable in any realm of health behavior. The stages are (a) *pre-contemplation*, where individuals have no thought or intention of adopting a healthprotective behavior (e.g., using condoms during vaginal intercourse); (b) *contemplation*, where they form an intention to adopt the behavior sometime in the future; (c) *preparation*, where the intended adoption date is imminent, and exploratory or trial attempts may be made; (d) *action*, where the new behavior is adopted; and (e) *maintenance*, where it becomes a routine part of life. When research is done with large samples, a difference as small as one quarter of a stage of change may be statistically significant; and with small samples, even seemingly small differences may be statistically significant. This is equivalent to one fourth of the respondents moving, for instance, from contemplation to preparation, a degree of change that is far short of most of the sample reaching the action stage (e.g., Fishbein et al., 1996).

Two other widely used and closely related theories of attitude and behavior change are the theory of reasoned action (TRA; Fishbein & Ajzen, 1975) and the

theory of planned behavior (TPB; Ajzen, 1991). As its name implies, the theory of reasoned action holds that people normally take actions that seem reasonable from their point of view. It posits that the only important determinant of someone's volitional behavior is the person's *intention* to take a particular action at a particular time. Two main components are specified as contributing to intentions: the person's *attitude* toward the behavior, and his or her *subjective norm* about what relevant other people think he or she should do. In turn, each of these components is a compound of the person's salient beliefs about the behavior and his or her evaluations (e.g., evaluations of various specific consequences of his or her acting in that way).

Ajzen's (1991) theory of planned behavior revised the TRA by adding one other factor—*perceived behavioral control*—that helps to determine whether individuals will act in accordance with their attitudes and subjective normative pressures. As an example, if you don't think your behavior has a chance of accomplishing a desired goal (i.e., you feel you have no behavioral control over losing 100 pounds), you are not likely even to try to reach the goal. In some situations, research has found that perceived control can be an independent predictor of behavior, rather than acting only through intentions (Armitage & Conner, 2001). Much research on health behavior, including studies on organ donation, has used the TRA and/or the TPB as a basis for interventions and predictions of outcomes.

A central theory in recent persuasion research is the *elaboration likelihood model*, advanced by Richard Petty and John Cacioppo (1981). It proposes that people are not just passive targets of persuasion, but rather they react actively to persuasion attempts, generating cognitive responses (that is, thoughts) that are favorable or unfavorable to the incoming message. Importantly, the theory holds that it is not the incoming message per se, but rather the balance of the recipient's favorable and unfavorable elaborations of its points, that determines whether the person will be persuaded or not.

Moreover, the theory proposes two routes that both lead to persuasion, but in different ways. The *central route* focuses on the information and arguments contained in the persuasive message, which are analyzed logically by the recipient. If the source is a credible one and the arguments seem strong, the recipient's cognitive responses are likely to be favorable, and persuasion will occur. The *peripheral route* relies much less on logical thinking and more on the recipient's emotions and feelings about the message. It is more likely to be used if the recipient is low in information, interest, motivation, or ability to analyze the message content. Then peripheral cues, rather than the arguments in the message, assume more importance. These may include the source's attractiveness or likeability, the slick production or humorous content of the message, or the happy or exciting emotions that it arouses. Because the peripheral route is cognitively "lazy," a cute slogan or a sexy model may have more persuasive effect than a strong, well-reasoned argument.

Since the goal of organ donation is an important one to both parties in the exchange—often one involving life-or-death consequences—we should hope that people will make their decisions concerning it by the central route of reasoned thought. That fact determines that our interventions should be aimed *primarily* at the recipient’s central processing reactions, not at his or her casual peripheral responses such as transitory feelings. This focus is also desirable because persuasion via the central route is usually *stronger, more lasting, and more resistant to counterattack* than is peripheral-route persuasion. Nevertheless, it is wise to maximize peripheral cues in the persuasive message as well, such as the attractiveness of the communicator and the artistic quality and clarity of the message.

In this brief overview, it is worth mentioning two other books that offer additional ways of looking at the persuasion process. Robert Cialdini’s *Influence: Science and Practice* (1993) suggests six categories of psychological principles that underlie persuasive influence. They are as follows:

1. Consistency: following through on our own public commitments or past behavior
2. Reciprocation: doing things for others who have rewarded us, or who we think will do so
3. Social proof: following the example set by others around us
4. Authority: trusting and complying with people we think are experts or legitimate authorities
5. Liking: agreeing with and following people whom we like
6. Scarcity: preferring and desiring things that seem to be less available or time limited.

Another book is *Made to Stick* by Chip Heath and Dan Heath (2007). It describes six qualities that are evident in communications that “stick” in the listener’s mind, such as highly effective stories or communications. As described by Nicholson (2007, p. 19), they are

1. Simplicity: the message should be as brief as possible but still be profound;
2. Unexpectedness: the message should surprise the audience so that they pay attention;
3. Concreteness: the message should not contain meaningless jargon, but rather use concrete details and examples that are based in real experience;
4. Credibility: the message should be delivered by a trustworthy source;
5. Emotions: the message should make the audience feel something; and
6. Stories: the message should be in narrative form, something that can be retold and imagined.

Another important consideration in persuasion research is how to *frame* the advantages stated in the persuasive message. Alex Rothman and Peter Salovey (1997) have done extensive research on what they call gain-framed or loss-framed messages. Their findings show that persuading someone to undertake a *preventative* behavior, such as getting a flu shot, will be most effective if the message emphasizes the *benefits* of getting the shot. But in persuading someone to engage in *detection* of a disease, such as cervical cancer, the message will be most effective if it highlights the potential *loss* or *negative consequences* of not getting tested.

These research findings grew out of the model of human decision making that has been termed *prospect theory* (Kahneman & Tversky, 1988). Kahneman and Tversky's research findings showed that people are usually more likely to take risks (that is, to choose an option whose chance of paying off is less than 100%) when the options are stated in terms of losses "but less likely to take risks when they are given options in terms of gains. . . . Basically, people tend to take risks when there is something to lose, but tend not to take risks when there is something to gain" (Nicholson, 2007, p. 18).

Unfortunately, it is not clear how to apply these findings to the area of organ donation. First of all, there are two classes of donations: ones after the donor's death, and ones made while the donor is living. Donating an organ seems to be neither a preventative act (for the donor) nor a detection act, because the disease state of the potential recipient is already well-known. Receiving the organ transplant *is* clearly a preventative act *for the recipient*. Perhaps, therefore, if the donor is highly identified with the donee, such as the donee being a nuclear family member or a close friend, donation of an organ might be considered a preventative act *for the donor* (i.e., to the extent that his or her identity overlaps with that of the donee). In that case, Rothman and Salovey's (1997) findings would indicate that the persuasive message should be stated in terms of possible gain to the recipient (as well as to the donor), rather than in terms of the loss to the potential donee without a transplant. This point leads to a simple research question: Is that what is usually done in soliciting donors?

In the case of donations after death, one might extend this reasoning to donations to any recipient, not just family members or friends—that is, there may be some overlap of identities because both parties are human beings, with feelings and hopes and dreams in common. However, the case of *living donation* of organs seems more complex than just suggested, for there the donor clearly is accepting some risk of bad consequences to him or herself. In that situation, Kahneman and Tversky's (1988) findings seem to suggest that the persuasive appeal should *not* be framed in terms of gains to the donee (or to the donor), but rather in terms of the losses that the potential donee will suffer without a donation. However, because there is some risk to the donor, it would seem that the losses to the potential donee without a donation should be described as much greater than the possible losses to the donor. Again, these points lead to a simple

research question: Which of these opposing approaches is usually used in soliciting organ donations, or is there any established practice in this area? And furthermore, is there any research evidence about which approach is more successful? These and many other questions about “best practices” in the field of organ donation seem ripe for research.

## Some Findings of Research on Organ Donation

Now let's return briefly to the initial question in this chapter of when research on organ donation began. In my literature search, I found that the U.S. Health Resources and Services Administration's (HRSA) program of extramural grants to increase organ and tissue donations began in 1999. Among the researchers who have worked in this area, my colleagues at Claremont Graduate University, Professors William Crano, Eusebio Alvaro, and Jason Siegel, began conducting research on organ donation almost 10 years ago, so my subtitle “Not Last Decade's Approach” seems just about right.

During this time, these researchers from Claremont, California, have studied a number of aspects of organ donation extensively and produced many replicated and useful findings. For instance, they have launched donor registries, and used experimental and quasi-experimental methods to test what medium and type of appeal were most effective in increasing registrations. They have tested TV ads, radio ads, billboards, kiosks placed in a variety of institutional locations, e-mails, and hotline calls as ways of generating donor registrations. They have compared the effectiveness of several different types of message appeals, as well as of messages produced by the National Coalition on Organ Donation. They have used several major cities as control communities to assess the success of appeals, and replicated their campaign findings in other cities. They have studied dependent variables of donation beliefs and family discussions on the topic, as well as donor registrations. They have studied both Hispanic and Anglo populations, are currently adding groups of African Americans and Asian Americans, and have conducted campaigns for both nonliving and living organ donations with Hispanic Americans. That is an impressive list of research topics and populations.

To add to these research findings, let me cite some bits of knowledge that I picked up recently from television programs. It is certainly gratifying that major TV programs are beginning to present useful information about the need for organ donations and the process of donating. In February 2007, a program in the PBS series *California Connected* reported on organ donations, particularly liver donations, in California. It stated that less than one third of the 92,000 people then on the national waiting list for a new organ would have a transplant operation within a year, and that typically one third of those on the waiting list would die before having an operation. In some California hospitals, as many as 58% of



waiting list patients had to wait for 3 years before an operation, whereas in other hospitals the figure was as low as 14%. The program also discussed patients going overseas for transplants, and stated that in China the care was good and the cost only one third of that in California. Obviously, that information is selective and may not be reliable, but it dramatically illustrates how far some patients are willing to go to get a transplant.

Another program, in March 2007 on ABC, had a number of discussions with the anchor, who was planning to donate a kidney to someone; and then a few days later, the anchor returned to the program and reported on his own experience and that of the person who received his kidney. Certainly this kind of empathic discussion on TV should be a help in raising awareness of the need for organ donations and of the safety of the operation. I have not learned whether any empirical research was done on public responses to the program, but such findings might be a profitable indication of public response to the issue of organ adoptions.

The chapters that follow provide many additional examples of research approaches and valuable findings concerning the process of organ adoption.

## References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Armitage, C., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40, 471–499.
- Cialdini, R. B. (1993). *Influence: Science and practice* (3rd ed.). New York: HarperCollins.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fishbein, M., Guenther-Grey, C., Johnson, W. D., Wolitski, R. J., McAlister, A., Rietmeijer, C. A., et al. (1996). Using a theory-based community intervention to reduce AIDS risk behaviors: The CDC's AIDS community demonstration projects. In S. Oskamp & S. C. Thompson (Eds.), *Understanding and preventing HIV risk behavior* (pp. 177–206). Thousand Oaks, CA: Sage.
- Heath, C., & Heath, D. (2007). *Made to stick: Why some ideas survive and others die*. New York: Random House.
- Kahneman, D., & Tversky, A. (1988). Prospect theory: An analysis of decision under risk. In P. Gardenfors & N. Sahlin (Eds.) *Decision, probability, and utility: Selected readings* (pp. 183–214). New York: Cambridge University Press.
- Nezu, A. M., Nezu, C. M., & Geller, P. A. (Eds.) (2003). *Handbook of psychology: Vol. 9. Health psychology* (I. B. Weiner, Ed.). New York: Wiley.
- Nicholson, C. (2007, January). Framing science: Advances in theory and technology are fueling a new era in the science of persuasion. *APS Observer*, 20(1), 16–21.
- Oskamp, S., & Schultz, P. W. (1998). *Applied social psychology* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.

- Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*. Dubuque, IA: Brown.
- Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, *47*, 1102–1114.
- Rothman, A., & Salovey, P. (1997). Shaping perceptions to motivate healthy behavior: The role of message framing. *Psychological Bulletin*, *121*, 3–19.
- Taylor, S. E. (1991). *Health psychology* (2nd ed.). New York; McGraw-Hill.