

What Underlies Medical Donor Attitudes and Behavior?

John T. Cacioppo and Wendi L. Gardner

Donor attitudes, intentions, and behaviors have typically been conceptualized as organized along a bipolar continuum. This conceptualization is evident in I. G. Sarason et al.'s study of increasing participation in a bone-marrow registry in this issue. When the cumulative research on blood, bone-marrow, and organ donor behavior is considered, however, evidence suggests that a single, bipolar continuum may be insufficient and that a 2-dimensional (Positivity \times Negativity) evaluative space may be minimally required to effectively represent and target the underlying substrates of donor behaviors. Negative beliefs and fears may constitute a particularly difficult obstacle to inducing donor behaviors and, thus, to promoting self-perceptions by people as donors. Understanding and changing these negative substrates, therefore, may be important if public health campaigns to increase donor behavior are to be cost-effective.

Key words: attitudes, blood donation, bone-marrow registry, affect

Medical science has developed ameliorative procedures for treating a variety of serious medical problems with blood products, bone marrow, and organs. It is the task of psychological science, however, to achieve and maintain an adequate supply of these materials. For more than 2 decades, investigators have studied the predictors of, and reasons for, people who donate blood products and organs (see Beatty, Atcher, Hess, Meyer, & Slichter, 1989; Oswalt, 1977; Piliavin, 1990). In this issue, Sarason et al. (1993) report the results from a study designed to aid in the recruitment of potential, unrelated bone-marrow donors who would agree to place their names in a bone-marrow registry. The Sarason et al. study, therefore, adds to the knowledge of the factors that predict donor behavior and contributes to the understanding of the psychological processes underlying donor behavior. In this article, we briefly review the Sarason et al. (1993) study and results, and we consider what might be the psychological mechanism underlying their results. We then place the Sarason et al. (1993) study within a broader context by briefly reviewing the extant literature on blood product and organ donor behavior. Two themes emerged from this review: (a) The psychological processes underlying donor behaviors are different for novice and experienced donors, and (b) the positive and negative substrates underlying donor attitudes and behavior appear to be separable (bivariate) rather than reciprocal and redundant (bipolar).

Subjects in the Sarason et al. (1993) study were randomly assigned to one of three conditions. One group received a

letter and questionnaire from the blood center, which praised them for their being a blood donor, emphasized their importance and uniqueness, and asked information about their life; their self-concept regarding their being altruistic and fulfilling their commitments; and their moods, anxieties, and social support. Two months later, these people received a brochure describing the unrelated bone-marrow registry and asking them to join it. A second group received only the brochure and the request to join the bone-marrow registry. This group's sign-up rate provided a baseline regarding the effects of the persuasive appeal (brochure) on the rate at which blood donors would sign up for the bone-marrow registry. A third group received no mailings from the blood center and, therefore, provided base-rate information about blood donors who would volunteer for the bone-marrow registry. Sarason et al.'s use of large cell sizes, naturalistic setting, representative community sample, randomization procedures, and pair of comparison groups is commendable.

Sarason et al. (1993) found that the percentage who joined the registry was significantly higher for the experimental group (12.9%) than for the brochure-only group (6.4%) and the no-brochure control group (5.9%). Subsequent analyses indicated that (a) the more frequently a person donated blood annually, the higher the likelihood that they would join the bone-marrow registry and (b) the effect of the questionnaire and brochure on joining the registry was primarily on people who were not frequent blood donors (i.e., blood donors less than three times per year). Sarason et al. (1993) interpreted these results in terms of social learning theory. People who had received a letter expressing appreciation and praise for being blood donors and exemplary people, combined with an expression of interest by the blood center to learn more about them, were posited to create more positive attitudes toward the blood center and its programs. Several other features of their results, however, suggest that self-perception rather than social learning processes may have underlain their

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results. According to self-perception theory (Bem, 1972), individuals' attitudes are inferred from observations of their own behavior. All subjects in Sarason et al.'s experimental (i.e., letter and questionnaire plus brochure) group received praise and expressions of interest from the blood center. If appreciation and praise alone underlay the increased registration rate in this group, then subjects in the experimental group would be more likely to join the bone-marrow registry whether or not they completed and returned the questionnaire. Self-perception theory, on the other hand, would anticipate that subjects who were induced to engage in behaviors that depicted them as supportive of the blood center and its programs—for instance, subjects who completed and returned the questionnaire—would be especially likely to join the bone-marrow registry when asked 2 months later. This is precisely what Sarason et al. (1993) observed. For the group receiving the questionnaire and brochure, the rate of joining the registry was heightened substantially (16.5%) for those who completed and returned the questionnaire, whereas the rate of joining (6.8%) was comparable to the two control groups for people who received but did not return the questionnaire. Although there clearly are limits to self-perception analyses of donor behavior (e.g., Foss & Dempsey, 1979), this self-perception interpretation also appears compatible with the intent of Sarason et al.'s operationalizations, for they note that their manipulation “was intended to stimulate such thoughts as ‘I am a real contributor to my community,’ ‘the blood center appreciates me,’ and ‘I am a special person.’”

Subjects in the Sarason et al. (1993) study were drawn from a list of people who had donated blood within the past 2 years at a regional blood center. Prior research on the predictors of and reasons of people who donate blood or organs or join a bone-marrow registry indicates that social influences (e.g., friends and peer pressure) are relatively important for initial donors, whereas internalized mechanisms (e.g., past experience and self-perceptions as being a donor) become important for repeat donors (e.g., Callero & Piliavin, 1983; Charng, Piliavin, & Callero, 1988; Edwards & Zeichner, 1985; McCombie, 1991; Paulus, Shaffer, & Downing, 1977; see also Callero, Howard, & Piliavin, 1987; Sarason, Sarason, Pierce, Shearin, & Sayers, 1991). Moreover, there appears to be a developmental process in which the self-perception as a donor occurs in some people as donor behaviors unfold. Thus, Charng et al. (1988) found that behavioral intentions were predicted by subjective norms and attitudes in novice donors but that the prediction of the behavioral intentions of repeated donors was improved by adding measures of “role identity.” Sarason et al. (1993) found that experienced donors were more likely to join the bone-marrow registry than novices but that novices were more influenced by the questionnaire and brochure. If one assumes that many of the experienced donors in the Sarason et al. (1993) study had already developed the self-perception of themselves as donors, then the Sarason et al. study suggests that this self-perception process can be fostered in novice and early-stage donors by well-designed interventions. Abetting this developmental process is nontrivial because, left unaided, the course between first-time and experienced donor is completed by few. Most people never become donors, and most first-time donors never become experienced

donors. This is so obvious that it is easy to forget that many nondonors hold positive attitudes toward donor behaviors and realize the need and value of blood and organ donations (Pomazal & Jaccard, 1976). Why are so few people with positive attitudes toward donor behaviors themselves donors? The answer may lie in a second organizing theme that can be found in the extant literature: The positive and negative evaluative processes underlying donor attitudes and behaviors are separable, and it is the negative substrate that tends to be the impediment.

Although multidimensional conceptualizations of donor attitudes have been explored, the dominant conceptualization of the evaluative processes underlying donor behavior is that they are bipolar—that is, that people's attitudes and intentions range from very negative and not at all positive to very positive and not at all negative (cf. Breckler & Wiggins, 1989). An intuitive attraction of this bipolar conceptualization is the apparent bipolarity that characterizes much of behavior. People approach, acquire, promote, or support certain classes of stimuli or requests and withdraw from, avoid, attack, or reject others. Many behaviors that do not fall at these extremes can nevertheless be placed along an approach-withdrawal continuum. These behavioral constraints may be manifest in bipolar attitudinal expressions and behavioral dispositions, but they do not have the same force at the level of underlying mechanism. Studies of behavioral conflict and attitude ambivalence have shown that a person's position on this bipolar continuum can be insufficient to identify important differences in psychological mechanisms and behavioral predisposition.

The assumption that the beliefs and feelings underlying donor attitudes, intentions, and behavior are organized along a negativity-positivity continuum is built into most of the assessment instruments that have been used to study donor attitudes and intentions, consequently leaving little room for disconfirming this assumption. There is suggestive empirical evidence, however, that positive and negative evaluative processes are not simply the opposite poles of a single continuum but rather can be aroused separably and complexly. Briggs, Piliavin, Lorentzen, and Becker (1986), for instance, found that the greater a person's perceptions of personal risk in donating bone marrow, the less willing he or she was to join a bone-marrow registry, and Sarason et al. (1993) noted that bone-marrow donations were less likely than blood donations because they were “more time-consuming and painful and involve more risk to the health of the donor.” In addition, several studies have shown that beliefs regarding the negative consequences of donating differentiate people who intend from people who do not intend to become (or continue as) blood donors (e.g., Condie, Warner, & Gillman, 1976; Edwards & Zeichner, 1985; Obone & Bradley, 1975; Oswald & Napoliello, 1974; Pomazal & Jaccard, 1976). Finally, Parisi and Katz (1986) developed an attitude scale toward posthumous organ donation, which consisted of two subscales, Positive (prodonation) and Negative (antidonation). Responses to the scale by a sample of 110 participants, most from lower- to middle-management positions in several financial corporations in the Wall Street area of New York, revealed that the Positive and Negative subscales were uncorrelated. Parisi and Katz also found that subjects who had strong positive attitudes and weak

negative attitudes were the most likely to sign donor cards but that only when the score on the Negative subscale was low did it make a difference whether the score on the Positive subscale was high or low.

The separability of positivity and negativity underlying donor attitudes appears attributable to these substrates being influenced by different factors. Parisi and Katz (1986) found that positive feelings about posthumous organ donation derived from personal satisfaction, beliefs in the humanitarian benefits of organ donation, and feelings of pride in being a donor, whereas negative feelings originated in fears of body mutilation and of receiving inadequate medical treatment when one's life was at risk. Studies of blood donors further suggest that prior or anticipated aversive consequences of donor behaviors contribute to the level of negativity aroused by the prospect of becoming (or continuing as) a blood donor or participant in a bone-marrow registry. Thus, a single bipolar dimension may be insufficient, and a two-dimensional (Positivity \times Negativity) evaluative space may be minimally required to effectively represent and target the underlying substrates of donor behaviors. The importance of this issue extends beyond the domain of measurement: Whether the bivalent processes underlying donor attitudes and behaviors are bipolar or bivariate has significant implications for behavior change. Public health campaigns to increase blood donations have often appealed to social responsibility and altruistic tendencies, with modest success at best (e.g., Condie et al., 1976; Oswalt & Napoliello, 1974). Given the separability of the positive and negative substrates and the relative importance of negative substrates in restraining donor behaviors, understanding and changing the negative as well as the positive substrates may be key. Results from the Sarason et al. (1993) study are a reminder, however, that the mechanisms underlying the behaviors of novice and experienced donors differ and that the content of the negative and positive substrates may change across the course of medical donor development.

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