The Journal of Sociology & Social Welfare

Volume 9
Issue 4 *December*

Article 5

December 1982

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WOMEN AND VOLUNTARY BLOOD DONATION*

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ABSTRACT

This study explores the patterns of and motivations for voluntary blood donation by men and women in Toronto, Canada. Examining social systems with differently structured opportunities for altruism illustrates both the influence of the sex-role differential on altruism, and also the impact of these social structures upon sex-role behaviour.

Data are drawn from a postal questionnaire completed by a random sample of about 1,000 males and 850 females who had voluntarily donated blood in Toronto, at least once between June 1974 and February 1978.

The study finds men and women donate about equally in a voluntary system, in contrast to lower female participation with market-based blood procurement. Further, the reasons to begin and cease donor activity are basically similar for each sex, though observed differences are quite compatible with traditional role assumption.

Implications are assessed for both altruistic behaviour and sex-role patterning.

There is, by now, an extensive literature comparing national systems of blood procurement based on market and non-market criteria (Cooper and Culyer, 1968; Titmuss, 1973; Johnson, 1976; Sapolsky and Finkelstein, 1977; Collard, 1978; Pinker, 1979). On the one hand, the United States continues to place primary emphasis on blood donations induced by cash payment, replacement and pre-insurance (or blood banking), all of which are considered to involve exchange or market transactions. By contrast, in many other countries, including Britain, Canada and Australia, blood procurement is a purely voluntary process, in which donors receive no tangible returns for their actions except perhaps small pins or free coffee. Similarly, in

* I wish to thank Leah Cohen, M.A., for her helpful comments on this paper as well as Shirley Trentowsky, M.S.W., and Linda Meyers, M.S.W., who served as research assistants. Financial assistance was provided through a Faculty Development Grant at the University of Toronto and the co-operation of the Canadian Red Cross is acknowledged as well.

these settings, the receipt of blood for transfusion purposes is totally free in unlimited quantities, upon medical determination of need. In these latter countries, then, blood donation is based upon a system marked by the unilateral transfer - what Richard Titmuss (1973) called a "gift relationship" - rather than upon market criteria of exchange or insurance.

Debate concerning the relative efficiency of these two basic approaches turns in part on technical arguments about the probability of "bad blood" under various donating conditions, and the issue must, at present, remain fundamentally unresolved.[1] What is perhaps an even more important policy question, however, arises from the study of these voluntary national blood donation systems outside the United States: In a society such as Canada or Australia, otherwise based largely on market values and market structures, what are the inducements for an individual to perform an act of altruism? What are the motivations to give a free, voluntary and anonymous gift of blood to some unidentified 'other' within the community?

The question may be delineated even further: given differential socialization into the market economy on the part of men and women, how may each sex be expected to respond to a social need in the absence of market constraints? Or, more generally, do men and women differ in significant ways when they are asked to perform a relatively altruistic act on behalf of the larger community?

To explore these questions, this study examined the patterns and motivations of voluntary blood donation by men and women in Toronto, Canada. When the same behaviour -- blood donation -- was observed in various social systems providing differently structured opportunities for altruism, it was possible to observe, not only how the sex-role differential influenced altruism, but also how these differing opportunities for altruism impacted upon sex-role behaviour.

Theories of Altruism

Altruistic behaviour -- action "carried out to benefit another without anticipation of rewards from external sources" (Macaulay and Berkowitz, 1970:3) -- has been viewed by some as lying within the norm of social responsibility (Berkowitz and Daniels, 1963) or the norm of giving (Leeds, 1963). Fellner and Schwartz (1971) claimed that altruism had "fallen into disrepute," superceded by exchange or reinforcement theory (Darley and Latane, 1970).

An important theoretical contribution was made by Schwartz (1970) who identified two cognitive processes -- an awareness of the consequences and ascription of personal responsibility to oneself -- as necessary to activate moral norms. When there are associated costs, however, countervailing norms arise to neutralize the initial norms; primary among these are the denial or ignoring of consequences for others and the denial of one's personal responsibility.

Most of this work on altruism, however, has tended either to deal with "deliberate and momentous moral decisions" (Schwartz, 1970:283) such as a kidney or bone marrow transplant (Simmons, 1977; Schwartz, 1970. See also London, 1977; Rosenhan, 1977; and Fellner and Marshall, 1977) or, alternatively, the focus has been on very minor acts, such as the giving of directions to a stranger (Darley & Latane, 1970).

Voluntary blood donation falls between these extremities, and in fact, represents one of the few continuing opportunities for altruistic behaviour which are available to the individual today (Collard, 1978; Pinker, 1979; Titmuss, 1973). There are, of course, costs associated with the act (time, possible pain, etc.), but these do not comprise "a decision-making crisis" (Simmons, 1977: 444). Likewise, Schwartz's (1970:284) denial of personal responsibility is easy, because of the anonymity between giver and recipient, a condition held by Titmuss (1973:272) to be essential. Finally, the anticipated rewards may be only "vague, indirect, and far in the future" (Titmuss, 1973).

Women as Volunteers

Recent literature on women's participation in voluntary activities generally identifies two broad causes (Gold, 1971) -- a response to secondary status in the labour force; and a result of woman's particular social conditioning. In a society in which success is operationalized in economic terms, non-market, non-competitive activities, by definition, do not lend themselves to "success" in the conventional sense, and hence there is no need for the woman to "fear" this success (Horner, 1969). Voluntary service enables a woman to extend the traditional mothering function of protective nurturing -- the "biblical help-mate tradition" (Gold, 1971:540) -- beyond the family, without threatening either herself or her partner, by possibly encountering "success." Barbara Adams (1971), has labelled this entire process the "compassion trap."[2]

Yet, voluntary blood donorship represents a very particular form of voluntary behaviour, qualitatively unlike participation in a hospital auxiliary. It does not depend upon marginal labour force participants seeking more meaningful outlets for their energies; because donation only occurs once every three months, at a maximum, it is compatible with any set of other activities, whether in or outside the market. Blood donorship is not a system in which professionals -- usually male -- rely upon volunteers -- usually female -- to provide a non-threatening support service; rather, it is the volunteers who actually perform the central tasks of donating the blood. And, significantly, blood donation is anonymous, in that blood is indistinguishable with respect to sex, and the donor has no further involvement with the "gift" once it is given.

At the same time, voluntary blood donation does encourage socially approved behaviours for women which are devoid of competition, success, and marketplace pressures. Further, the actual physical process of donating blood may be seen as a relatively explicit and tangible manifestation of the "protective and nurturing role" (Adams, 1971:556), which may be available to a woman outside her immediate family (Simmons et al, 1977).

Thus, insofar as blood donation can be viewed as a traditional voluntary act, there would be an expectation of substantial female participation, particularly if the nurturing aspects are stressed. On the other hand, the process of voluntarily giving of one's own blood may be seen as an "heroic" or

"dramatic" act, possible verging on the "macho"; or, it may be deemed a real social need, as distinct from a make-work project for matrons. In either of these latter cases, women may act out the traditional nurturing function by organizing and running the blood clinics, while men assume centre stage as primary donors. The extent of female participation in blood donation thus becomes ultimately an empirical question.

Prior Research

Virtually every study of blood donation to date has found a majority of donors to be males; the size of the differential between the sexes appears to vary, dependent upon the context.

Titmuss (1973) cited the findings of several studies of community blood banks in the United States. He found "the great majority of blood donors (in the U.S.) are men, the proportions ranging from 78 percent... to 94 percent" (p. 123). A major review of the literature by Oswalt (1977) reported on 60 English language articles dealing with the recruitment and motivation of blood donors and non-donors. He reported that for seven U.S. studies, the percentage of males varied from 66 to 91 percent, and he concluded that "the average donor tends to be male" (p. 123). The 1973 survey conducted by the Public Health Service (1976) sampled approximately 120,000 persons living in about 41,000 households, and found that on a national basis, 8.0% of males of eligible age gave blood compared to 2.9% of females (p. 1); of an estimated 10.2 million blood donations in 1973, 73.8% were by males (p. 12).

Outside the United States, two Australian studies (Phillips, 1961; Mai and Beal, 1967) found 67 and 70 percent men, respectively. Titmuss' own work (1973), based on data from 3813 donors in England and Wales yielded 60% males. However, after he limited his comparison to the relevant age population and excluded "expectant and nursing mothers," Titmuss was able to draw a general conclusion "that the donor sample broadly resembles the total population in respect of... sex" (p.144).[4] A 1976 study of 184 voluntary blood donors in Hamilton, Ontario yielded 48% males.

Taken together, these prior findings suggest that the closer one comes to a fully voluntary system of blood donation, the greater the proportion of women participants. Conversely, the greater the extent to which blood procurement is marked by criteria of exchange or pre-insurance, the more donation is viewed as within the proper domain of the male. These differences between the U.S. studies on the one hand (Titmuss, 1973; Oswalt, 1977; Public Health Service, 1976) and the Australian (Phillips, 1961; Mai and Beal, 1967)/British (Titmuss, 1973; Oborne, 1975)/Canadian (1976) on the other, cannot be interpreted as reflecting a definitive, cross-national distinction, and indeed, the differences cannot be unambiguously attributable to the relevant national blood donation systems. At the same time, these results are consistent with the expectations of the literature: women do, in fact, appear to participate more in altruistic behaviours than when the identical activity is placed within a market setting.

There is also some evidence from the literature to suggest that the motivations for men and women to donate blood differ. Traditional role socialization would suggest that in both becoming and remaining voluntary blood donors, women may tend to respond more to "internal" or personal (non-market) motivations while for men, the primary incentives will be more "external" or societal (Alexander et al, 1978).

Grace (1957:273) reported that "more women than men donate for humanitarian reasons (.01 level)". The Public Health Service (1976) found that 65% of blood donations by men were either sold, given for replacement purposes or for blood banking; for women, the corresponding figure was 60%, with the remaining 40% of donations for "other" (altruistic) reasons. In his literature review, Oswalt (1977:129) noted "it has been reported that women respond to humanitarian appeals... and men to the practical aspects of blood supply for the family."[3]

Several studies reported on the reasons for which women cease to be blood donors. Grace (1974:274) suggested that women may not "feel they belong to a community": they will "rally to domestic disasters," but subsequently fall by the wayside. In a similar vein, a 1961 French study (Simery-Masse and Riffault, 1962), reprinted in 1972 (American Red Cross), identified the "solitude and isolation of women (which) leads to passivity which is not counteracted by any form of group pressure" (Oswalt, 1977:132).

The San Francisco study (London and Hemphill, 1965) reported women to be "consistently more chary of the discomforts connected with donation than men, though the differences for each item are generally small." Oswalt (1977) found "reactions, fainting, dizziness, occur in young donors, particularly females, with a previous history of fainting."

This previous research does imply that women may be more likely to participate in blood donation when it is viewed as a voluntary act for the community rather than when it is placed in the context of an exchange or insurance relationship. At the same time, the motivations to donate blood or to cease donating cannot be clearly interpreted in the light of previous work: such findings as are available are potentially consistent with a set of very traditional expectations as to role assumption. In none of these studies, however, was the question of sex differential a major focus of the research and hence the findings are generally a by-product of other primary interests. By contrast, the present study was centrally concerned with male/female variations in the extent of and motivations for the performance of a relatively altruistic act. It reports on the findings of a postal questionnaire completed by about 1000 males and 850 females who had voluntarily donated blood in Toronto, Canada at least once between June 1974 and February 1978. The study briefly describes the two samples and then compares the patterns of blood donation for each group. Subsequently are reported the motivations for men and women to become blood donors initially, as well as the reasons for which they terminate their involvement as donors. After the differences between the sexes are noted and interpreted, the study concludes by briefly assessing the implications for both altruistic behaviour and sex-role patterning.

Methods

A random sample consisting of every 37th name was drawn from an alphabetical master listing of all persons who had voluntarily donated blood at least once through the Canadian Red Cross in Metropolitan Toronto, at some point between July 1974 and February 1978. The total population represented approximately 150,000 names and about 4,300 of these were drawn, with those recording a permanent home address outside the boundaries of the municipality dropped. A student project at the University of Toronto involved personal interviews with approximately 160 of these donors (Alexander, et al, 1978), with the questions serving, in effect, as a pretest for the present study. Subsequently, a postal questionnaire was sent to the approximately 3,900 names remaining on the sample listing.

A letter of introduction on Red Cross letterhead and signed by the Area Coordinator of the Red Cross was printed on the first side of the questionnaire which consisted of one sheet folded in three parts. The form was professionally printed on glossy paper in two colours (red letterhead and black type), a self-addressed return envelope was enclosed and both stamps were manually affixed to the envelope; no names were sought on the return questionnaire and no follow-up was made.

The questionnaire sought limited information on the blood donor histories and personal demographics of the respondents. It also contained a listing of "reasons that may cause people to donate blood." Respondents were asked to assess the relative importance of these "in your own personal decision to donate blood the first time." The questionnaire also specified a series of reasons "that may prevent people from donating blood regularly." Respondents were asked if any of these reasons "ever stopped you from donating blood" and, if so, to specify which factors.

Of the 3,954 letters sent, 1,885 completed questionnaires were returned within two months. The response rate lay between 48% and 71%, dependent upon the number of forms actually received by the intended respondents.[4]

Males comprised 1,041 or 55 percent of the 1,885 responses, with the remaining 45 percent females. Limited summary data on the population of all blood donors in Toronto for the relevant time period (n=159,000) showed the percentage of males to be 58. Thus, while females were slightly over-represented in the present sample, relative to the population of all donors ($p < .01$), the gap is not felt to be substantial or likely to produce serious biases. The sex ratio is also very much in line with previous findings for voluntary blood donation, as reported above.

Results

A. The Sample

Two very distinct profiles emerged of the male and female voluntary blood donor, with each of the demographic characteristics differing between the

groups at the .01 level of significance or better. Men tended to have some secondary education or less, or a University degree, while the educational levels of women were in between. The males tended to be married or equivalent, four years older on average, and employed full time, usually in a professional/ managerial capacity, in sales, or as skilled or unskilled labour. By contrast, women were more likely to be single or equivalent and employed part time, usually in the clerical field. They were also more likely to be homemakers and less likely to be retired. Their incomes were low compared to those of men.

B. The Motivations to Donate Blood

Table 1 presents the percent distribution of the most important motivators for male and female blood donors the first time they gave blood. The ordinal rankings of the responses are also presented for each group.

TABLE 1

Most Important Motivators in
Donating Blood "The First Time"
(Percent Distribution)

	Males (n=1041)		Females (n=844)	
	Percent	Rank	Percent	Rank
Convenience of Clinic	10.7	3	11.4	3
TV, Radio, etc.	0.9	14	0.6	14
Company of a Friend	3.0	10	4.1	8
Expected Feelings of Satisfaction	4.9	6	7.0	4
Strong Persuasion by Others	3.2	9	2.6	11
General Desire to Help Others	29.1	1	34.0	1
Sense of Duty	8.4	4	6.4	5
Support for the Work of the Red Cross	4.0	8	4.4	7
Crisis/Emergency	6.8	5	3.7	9
Curiosity	2.9	11	2.8	10
Need for Rare Blood	1.1	13	1.5	13
Religious Convictions	0.2	15	0.1	15
Feelings of Repayment for Transfusion*	4.3	7	4.9	6
Encouragement from Others	2.1	12	2.0	12
Clinic/Drive at School or Work	18.5	2	14.5	2
	100.1		100.0	

Spearman Correlation: r=0.94
Significance: $p < .001$

*Because there is no formal obligation to replace blood in Canada, either in kind or in cash, the terminology for this factor refers to a moral or ethical sense, rather than a quasi-legal status.

The Spearman correlation was significant at the .001 level with a coefficient of 0.94: eleven of the 15 motivators were ranked identically or within one place by men and women, with a further three items placed two rankings apart. The remaining factor (crisis/emergency) was ranked considerably lower by women than by men.

In terms of the individual item responses, there was less than one percentage point difference in the male and female responses for nine of the fifteen motivators. Of the other items, slightly more women reported three as most important: expected feelings of satisfaction, general desire to help others, and company of a friend. The three remaining motivations were identified with relatively greater frequency by men: sense of duty, crisis/ emergency, and clinic or blood drive at school or work.

C. The Reasons to Not Donate Blood

Table 2 reports on a list of reasons which "ever" stopped the respondents from donating blood. As in Table 1, the responses are in form of percentage

TABLE 2

Reasons Which "Ever Stopped You From Donating Blood" (Percent Distribution)

	Males (n=818)		Females (n=716)	
	Percent	Rank	Percent	Rank
Fear of the Needle	2.4	9	3.4	7
The Sight of Blood	2.1	12	1.1	13
Temporary Illness	16.4	3	19.1	2
Other Medical Disqualifications*	7.9	4	19.1	2
Religious Reasons	0.0	16	0.0	16
Not Telephoned by the Red Cross	4.6	7	1.3	12
Apathy	7.5	5	4.2	6
Unpleasant Clinic Setting	0.5	15	0.6	15
Lack of Conveniently Located Clinic	20.4	2	20.0	1
Too Busy to go to the Clinic	23.2	1	14.7	4
Discomfort During Donation	2.7	8	2.9	8
Unpleasant After-Effects	2.3	10	6.4	5
General Nervousness About Giving Blood	2.2	11	2.2	10
Long Line-Up at the Clinic	4.8	6	2.5	9
Rude Staff	1.2	14	1.1	13
Incompetent Staff	1.7	13	1.8	11
	99.9		100.4	

Spearman Correlation: r=0.88
Significance: $p < .001$

*This item was intended to connote long-term disqualification as contrasted to "temporary illness"; however, it appears to have been viewed in a variety of ways by respondents and no general interpretation is possible.

distributions, for males and females separately, with the ordinal rankings also presented.

Once again, the Spearman rank order correlation was highly significant at the .001 level, indicating a strong and systematic association between the ordinal rankings of men and women. The coefficient was high (r=0.88), with nine of the sixteen items ranked identically or within one place by the two groups; a further three factors were within two places for the men and women, with the remaining four items placed quite differently: men assigned considerably greater priority to the perception of being too busy, a long line-up at the clinic, and a failure of the Red Cross to telephone; women, on the other hand, ranked unpleasant after-effects much higher on the list.

Roughly comparable information was obtained from the actual percentage distribution of the two respondent groups: for nine of the sixteen factors, the percentage responses of the men and women differed by one point or less. Those items for which there were larger response differences included the four items cited above; in addition, more men identified apathy as having stopped them and more women reported temporary illness and other medical disqualifications. Two factors in particular yielded very large discrepancies between the percentage responses of men and women: far more males reported themselves as being deterrred by being "too busy," while women reported "other medical disqualifications" more than twice as frequently as did the men.

Conclusions

This study has shown roughly equal involvement by men and women in voluntary blood donation, though men give significantly more times on average (a difference of means of 5.5, reflecting a time gap of at least 1½ years). If one were to follow Titmuss (1973) and exclude "expectant and nursing mothers," much of this differential would probably vanish.

One may suggest, therefore, that the blood donation patterns of men and women are roughly the same in a voluntary system. Women form a greater percentage of donors in the present study (and indeed, in the total population of donors in Toronto) than is found in previous work, and it may be reasonable to infer that as the United States moves farther away from a market system and closer to blood procurement based on "gift relationships," women will continue to participate in ever increasing numbers.

The priorities assigned to the various possible motivators appeared virtually identical for men and women, insofar as these priorities were reflected in the ordinal rankings of the response categories. The Spearman correlations in both Tables 1 and 2 -- both the high values of the coefficients and the strong statistical significance -- indicated the priorities and relative importance assigned to the various motivators by men and women were very similar.

Additionally, there were a few dimensions in which men and women responded differently in both Tables 1 and 2, and these do impressionistically seem to

reflect greater "external" or societal influence upon the men with "internal" or personal reasons more relevant to the women.

Some of the sex-role differences -- such as the greater importance of a clinic at work or school for men -- undoubtedly reflected the fact that more men are engaged in paid work. Other factors -- such as the greater relevance of time constraints for men (line-ups, too busy, no telephone call) -- are more difficult to interpret clearly: they may reflect more limited opportunities due to the "pressures" of work, an inability to get to a clinic; alternatively, they may represent a form of inertia or apathy, an unwillingness to assign the needed time as a priority in one's life, in the absence of some external stimulus such as a telephone call. Medical and health related issues were clearly a greater concern and impediment for the women respondents, but the questionnaire unfortunately did not yield enough information to attempt a clear interpretation.[5]

Overall, then, one may conclude that men and women do donate blood roughly equally in a voluntary system, and women certainly are involved to a greater extent than in systems dominated by market criteria. And, more generally, when the social structures are conducive, it appears that the behaviour and motivations of men and women will tend to be similar, despite the countervailing impact of biology and socialization.

Footnotes

1. Overall participation rates in blood donation are difficult to measure in different countries because there appears to be only one national survey (Public Health Service, 1976), and individual blood banks cannot accurately identify the multiple donor. The ultimate efficiency question is purely empirical -- whether an adequate supply of blood of requisite type and purity will be forthcoming, such that necessary surgery need not be cancelled, and in extremis, people do not die from lack of blood or transfusions of 'bad blood'.

2. The ideas expressed in this paragraph represent the classical or traditional view of woman's socialization. They are not presented as contemporary reality, nor do they attempt to deal with the impact of structural considerations and social institutions as causal forces.

3. This summary statement yields one footnote reference, referring to a single study of 5581 blood donors in San Francisco, 1964. The authors of the primary study (London and Hemphill, 1965) found that "explicit humanitarian reasons have the greatest appeal to women", a conclusion based on two questionnaire items dealing with the humanitarian incentives to give blood. See also Titmuss (1973).

4. Because addresses are not updated by the Red Cross and are not purged from the master list until there are four years of inactivity, many potential respondents had become unreachable since the date of their last donation; additionally, 464 letters were returned by the post office as undeliverable. If the same ratio of "no contact made" to "returned by post office" be assumed as was found in the personal interviews (Alexander et al, 1978), it would follow that 2,655 mailed questionnaires were actually received by the intended recipients. This would produce a net response rate of 71 percent. The alternate assumption, in which all questionnaires were received, would yield a response rate of 1885/3954 or 48%, or, perhaps 1885/3490 or 54% if the 464 returns are excluded.

5. It is of course also possible that women are socialized to articulate more readily their feelings of physical and/or mental pain, although both sexes may experience the same degree of actual discomfort.

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