Motivation, recruitment and retention of voluntary non-remunerated blood donors: a survey-based questionnaire study

A. H. Misje, V. Bosnes, O. Gásdal & H. E. Heier

Background and Objectives The aim of this study was to establish which motivational and socio-demographic factors are important for the development of a long-term commitment as a voluntary, non-remunerated blood donor.

Study Design and Methods A cross-sectional sample survey of active blood donors in Oslo, Norway, was conducted. Donors filled in a self-administered questionnaire during donation. Data on motivation were analysed using factor analysis.

Results The blood donors' socio-demographic characteristics were found to be similar to those of the population as a whole. The single, most important, recruitment channel was the influence of active blood donors. Five dimensions of blood-donor motivation were identified with factor analysis. These were: altruism and empathy; social reasons (such as the influence of friends and family); strengthening of one's self-esteem; positive experiences associated with donation; and a moral obligation to donate. Support for statements on altruistic motives for donation was strong and similar in long-time and short-time donors. In contrast, short-time donors were more likely to be motivated by factors related to self-esteem than were long-term donors.

Conclusion The 'good habit' of continued blood donation seems not to be exclusively linked to a high degree of reported other-regarding ('altruistic') reasons, but also to a combination of motives, including some modestly self-regarding motives.

Key words: altruism, blood donor recruitment, blood donors, motivation for donating blood.

Introduction

Voluntary, non-remunerated blood donors have been shown to be less likely to carry transmissible diseases than remunerated donors [1,2]. The same applies to repeat donors when compared with single-time donors. A transfusion service should therefore rely as far as possible on voluntary, non-remunerated repeat donors, in accordance with recommendations by the World Health Organization (WHO) [3] and the Council of Europe [4].

Few studies have investigated the motives that lead healthy individuals to give blood without financial compensation and, furthermore, to become repeat donors [5]. Studies of volunteer, non-remunerated donors may be especially important now that many western countries are encountering difficulties in recruiting and maintaining their donor pools [6,7], while eastern and Third World countries are striving to build modern transfusion systems with a high degree of safeguard against transmissible diseases [3].

Norway has a healthcare system that generally meets high international standards. The country has remained self-sufficient in blood and plasma products since 1982, using only voluntary, non-remunerated donors [8,9]. All 56 Norwegian blood banks are integrated parts of public hospitals, and each recruits and maintains its own donor pool. About 10% of the donor pool is renewed annually, and more than 75% of those...
who sign up for registration as donors become repeat donors [6]. Donors receive only a small token of gratitude (e.g. an umbrella, bag or cap with the blood bank logo), or money to cover public transportation expenses. The Norwegian blood donor pool therefore would seem well suited for studies on motives for non-remunerated blood donation.

Voluntary, non-remunerated blood donation is often termed ‘altruistic’ owing to the fact that donors receive no material incentives for donating. The social scientist, David H. Smith, has defined altruism as:

... an aspect of human motivation that is present to the degree that the individual derives intrinsic satisfaction or psychic rewards from attempting to optimize the inner satisfaction of one or more persons without the conscious expectation of participating in an exchange relation whereby those ‘others’ would be obligated to make similar/related satisfaction optimization efforts in return. [10].

Altruism, as defined by D. H. Smith, is an important motivation for voluntary blood donation. However, the sociologist, Richard M. Titmuss, recognized that altruism was not the sole motivational basis for voluntary, non-remunerated blood donation:

No donor type can, of course, be said to be characterized by complete, disinterested, spontaneous altruism. There must be some sense of obligation, approval and interest; some awareness of need and of the purposes of the blood gift ... [11].

This article reports a questionnaire-based study of motivational anddemographical characteristics of active blood donors conducted at the Blood Bank of Oslo (BBO). Two samples were collected: the first in 2000 and the second in 2003. Our aim was to explore the multimotivational underpinnings for the commitment as a blood donor. Different people may involve themselves for a broad range of reasons, and the same individual may donate because of more than one motive. The importance of different motivations to the individual donor may also change during the involvement. We wanted to investigate whether the motivational profiles of long-term blood donors differ from those of more recently recruited ones.

Materials and methods

Subjects from the blood donor survey

Donation behaviour, motives for donation and recruitment were analysed using a cross-sectional sample of donors at the BBO as respondents. Two questionnaire-based samples were collected: the first in 2000 with 1029 participants; and the second in 2003 with 1085 participants. Study periods lasted for 2.5 weeks. Blood bank staff distributed a four-page self-administered questionnaire to be filled in during donation and to be returned anonymously. Almost all donors returned the questionnaire, giving a response rate of about 98%. The donors were recruited from the community of Oslo and from the surrounding suburban area of Akershus County. The BBO has about 16,000 active donors and is responsible for about 25% of the transfusion activity in the country.

Variables

The four-page questionnaire contained 25 items, including socio-demographic information (gender, age, social status, education, annual income, etc.), donation history, recruitment method, the donors' evaluation of the blood bank service and 19 statements on motives for donating. The questions on motivation targeted donors with previous donation experience, and first-time donors were therefore excluded from the motivational analysis. The statements on motives were primarily based on the volunteer functions inventory (VFI), elaborated by Clary et al. [12]. The VFI was designed with the dual purpose of providing researchers with a useful measurement of volunteerism and helping the administrators of voluntary organizations to manage human resources. The VFI seemed well suited to mapping the multimotivational underpinnings of voluntary blood donation. The original inventory measures six primary factors that serve as motives for individuals to volunteer, labelled ‘values’, 'understanding', ‘career’, 'social', 'esteem' and ‘protective'. Each of the six factors is assessed by corresponding items in the inventory. The individual respondent is expected to rank the reasons in the inventory on a scale from low to high. The VFI is designed for identification of motives for volunteerism with the statistical technique of factor analysis.

Motives relating to improving one's professional career were considered to be irrelevant to blood donation and were therefore not included in our questionnaire. We also considered the ‘protective’ motives of the VFI (escape own troubles, personal problems, etc.) for volunteering as having little relevance to blood donation. Thus, only four VFI factors of motivation ('value', 'social', 'esteem' and 'understanding') were included in our questionnaire [12]:

(1) 'Value' motives refer to altruistic and empathic reasons for volunteering (e.g. helping others, compassion, important cause).

(2) 'Social' reasons reflect the normative influence of friends, family, or a social group that motivates people to volunteer.

(3) 'Esteem' represents reasons for volunteering in order to feel better about oneself (e.g. feel better about myself, feel important) by helping others.

(4) 'Understanding' refers to positive experiences associated with volunteering (e.g. 'explore own strengths', 'learn from experience').
An English translation of the questionnaire is available at http://publ.bosnes.net

Statistical methods
Factor analysis is a statistical technique that is frequently used in social psychology to identify latent (not easily observed) attitudes in populations (e.g. factors of motivation) by grouping sizeable correlated variables together. The most distinctive advantage of factor analysis is its data-reduction capability. Factor-analytical techniques permit the identification of underlying patterns of relationship between variables. These patterns of correlated variables may be reduced to a set of factors (also called 'components' or 'dimensions') that can be taken as source variables for further analysis. In this article we were concerned with identifying latent motives. We wanted to uncover a latent structure of variables (the donors' evaluation of reasons to donate blood) in terms of a number of factors (types of motives). Factors were extracted using a common factor (principal axis factoring) solution, because this factor model is recommended for the identification of latent factors [13]. The number of factors to be extracted was decided using the latent root (eigenvalue) criterion on the unrotated factor matrix. Only factors with latent roots higher than 1 were included in the analysis. In order to determine the number of relevant factors of motives, a scree test was conducted of the unrotated factor matrix. A rotation of the factor matrix was performed in order to achieve a simple and meaningful factor pattern. An oblique rotational method (i.e. permitting factors to be correlated with each other) was selected because this method represents the clustering of variables more accurately than the alternative orthogonal method (i.e. each factor is computed to be independent of all other factors) [13]. Only correlations (factor loadings) greater than ±0.40 were considered to be important. The Cronbach alpha was used to determine the reliability of factors. A χ²-test of independence was conducted to explore whether long- and short-time donors differed in their support for motivational factors. The statistical analyses were conducted using SPSS version 12.

Results
Socio-demography
Men slightly outnumbered women among the donors (53% vs. 47%). The average educational and income levels among blood donors were similar to that of the population of Oslo. The age distribution among donors (18–65 years) was compared with that of the same age group in the general population. The youngest (18–25 years) and oldest (56–65 years) age groups were found to be under-represented among blood donors compared with the general population. Correspondingly, blood donors were slightly over-represented in the three 'intermediate' age groups (Fig. 1). The proportion of married persons among blood donors (49%) was similar to the same age group (18–65 years) in the general population (48%). The proportion of unemployed individuals was considerably lower among blood donors (0–2%) than in the general population (3–9%). The proportion of people working in health and social services was lower among blood donors (12–4%), than in the total work force (17–6%) [14]. Socio-demographic profiles for donors in this study were similar to those from a considerably larger blood donor survey conducted at the BBO in 1997 [15,16].

Recruitment
Blood donors were asked to state the most important source of information that led them to volunteer as blood donors. The single most important recruitment channel was the influence of active blood donors. In total, 55% of all donors reported that they had been recruited by interpersonal contacts. A total of 28–5% of all donors reported to have been recruited by colleagues, neighbours or acquaintances. Twelve per cent of the donors were recruited by relatives and 10% by friends, but only 4% by a spouse or partner. The second main recruitment channel was media advertising. In total, 20% of donors indicated that they had been recruited via advertisements in newspapers, magazines, leaflets, posters, TV or radio. Other types of recruitment represented only a small percentage of the reported influences to volunteer for blood donation. We noted that 5% started donating on the recommendation of healthcare professionals, and several of these blood donors reported having haemochromatosis.

Total number of previous donations
The total number of previous donations ranged from 0 to 201; 8% were first-time donations. About half (50–50%) of the donors
had donated more than 20 times (Fig. 2). If donors had difficulty in remembering the number of donations, blood collection staff were able to provide the exact number from records.

**Recruitment channel, and number of donations**

Long-term donors were defined as donors with a history of more than 20 donations. Twice as many mass media-recruited donors (newspaper, TV/radio, poster, leaflet) were found among recently recruited donors than among long-term donors. However, three times as many long-term donors than short-term donors reported that they did not remember how they had been recruited (Fig. 3).

**Donors' evaluation of the BBO service and facilities**

Overall, 94.5% of the BBO blood donors reported that they were satisfied (fully or partly agreed to a positive statement) with the professionalism of the collection staff. However, 5% found donation fully or somewhat unpleasant. Eighty-four per cent of all donors gave a positive evaluation of blood bank facilities. Little criticism was made about facilities (i.e. access to a parking space, although 11.8% indicated trouble finding a parking space). Only 4.7% of all donors wanted increased material rewards for donating blood.

**Motives for donating blood**

Blood donors gave a high level of support for altruistic and empathic reasons to donate. However, a broad range of reasons to donate blood, not easily categorized as altruistic, also received a high level of support (see Table 1). We wanted to simplify the information on blood donors' motivation, shown in Table 1, by the identification of possible latent (hidden) structures of motivation. Our aim was also to investigate whether VFI factors of motivation could be found among blood donors. Twelve of the 19 motivation-related items in the questionnaire were adapted directly from the VFI. The statements A, J and L correspond to the 'value' factor of the VFI; B, G, C and N to the 'esteem' factor; D, K and R to the 'social factor'; and M and O to the 'understanding factor'. In addition, seven items of our own design were included (statements E, F, H, I, P, Q and S). These addressed a broad range of reasons for donating blood that were not covered by the VFI.

Factor analysis was conducted in order to search for latent structures of motives. Five factors met the latent roots (eigenvalues) criterion. Two of these had strong eigenvalue scores, the other three had weak scores, barely above the latent root criterion (see Table 2).

**Factor 1**

The first factor that emerged was produced by the correlation between variables M, O, Q, C, N, H and S. Variables M and O correspond to the VFI-instrument's 'understanding' factor. Variable Q ('blood donation is an important part of who I am'), although not part of the VFI, is also clearly related to the VFI concept of 'understanding'. Variables C and N correspond to the 'esteem' factor of the VFI, and variables H and S address perceived health benefits from donation ('regular health control', and 'donating improves my own health'). Factor 1 accounted for a large proportion (28%) of the total variance. Although it included some unrelated variables, we will label factor 1 the 'understanding' factor.

**Factor 2**

The second factor was composed of the responses to statements L, J and A, which cite altruistic and empathic reasons for giving blood. These statements correspond to the VFI 'value' factor.

**Factor 3**

The third factor was formed by variables B and G, which address positive feelings or increased self-esteem associated with giving blood. These variables correspond to the VFI 'esteem' factor. As noted above, variables C and N, which in our analysis correlated with factor 1, were also part of the VFI 'esteem' factor. In spite of this discrepancy, we will label factor 3 the 'esteem' factor.

**Factor 4**

The fourth factor was composed of responses to statements K, D, R and E. The first three variables emphasize the importance
Table 1  Blood donors' support for statements about reasons to donate blood

<table>
<thead>
<tr>
<th>Wording of motivational statements of the questionnaire</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Blood donation is a cause that is important to me</td>
<td>Fully 69%</td>
</tr>
<tr>
<td>B. Donating blood makes me feel important</td>
<td>Partly 24%</td>
</tr>
<tr>
<td>C. Blood donation is a way to make new friends</td>
<td>Neither agree 2-5%</td>
</tr>
<tr>
<td>D. My spouse/partner thinks blood donation is an important activity</td>
<td>Partly 5%</td>
</tr>
<tr>
<td>E. Whenever I see the blood bank logo, or an advertisement for blood donation, I get a good</td>
<td>Fully 3%</td>
</tr>
<tr>
<td>F. F seldom think about blood donation, it's a habit</td>
<td>Don't know, or no response</td>
</tr>
<tr>
<td>G. Donating blood makes me feel better about myself</td>
<td></td>
</tr>
<tr>
<td>H. I think blood donation benefits my own health</td>
<td></td>
</tr>
<tr>
<td>I. For me blood donation is primarily a moral duty</td>
<td></td>
</tr>
<tr>
<td>J. I donate because I feel compassion towards the receivers of blood products</td>
<td></td>
</tr>
<tr>
<td>K. My friends think it is important that I donate blood</td>
<td></td>
</tr>
<tr>
<td>L. I donate blood because it's important to help other people</td>
<td></td>
</tr>
<tr>
<td>M. By donating blood I can explore my own strengths</td>
<td></td>
</tr>
<tr>
<td>N. Donating blood makes me feel needed</td>
<td></td>
</tr>
<tr>
<td>O. Donating blood lets me learn through important direct experience</td>
<td></td>
</tr>
<tr>
<td>P. If I don't contribute, no-one else will</td>
<td></td>
</tr>
<tr>
<td>Q. Blood donation is an important part of who I am</td>
<td></td>
</tr>
<tr>
<td>R. My colleagues, and other people I know, place high value on volunteering as blood donor</td>
<td></td>
</tr>
<tr>
<td>S. An important reason for donation is that I get a health check for free</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Results from factor analysis using principal axis factoring (oblique rotation) for five factors of reasons to donate blood

<table>
<thead>
<tr>
<th>Wording of motivational statements of the questionnaire</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
<th>Commonalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. By donating blood I can explore my own strengths</td>
<td>0.794</td>
<td>0.191</td>
<td>-0.337</td>
<td>-0.545</td>
<td>0.245</td>
<td>0.517</td>
</tr>
<tr>
<td>O. Donating blood lets me learn through important direct experience</td>
<td>0.777</td>
<td>0.150</td>
<td>-0.286</td>
<td>-0.502</td>
<td>0.235</td>
<td>0.581</td>
</tr>
<tr>
<td>Q. Blood donation is an important part of who I am</td>
<td>0.670</td>
<td>0.232</td>
<td>-0.316</td>
<td>-0.484</td>
<td>0.367</td>
<td>0.454</td>
</tr>
<tr>
<td>C. Blood donation is a way to make new friends</td>
<td>0.515</td>
<td>0.142</td>
<td>-0.268</td>
<td>-0.444</td>
<td>0.120</td>
<td>0.292</td>
</tr>
<tr>
<td>N. Donating blood makes me feel needed</td>
<td>0.511</td>
<td>0.376</td>
<td>-0.475</td>
<td>-0.440</td>
<td>0.230</td>
<td>0.396</td>
</tr>
<tr>
<td>H. I think blood donation benefits my own health</td>
<td>0.482</td>
<td>0.126</td>
<td>-0.171</td>
<td>-0.246</td>
<td>0.178</td>
<td>0.228</td>
</tr>
<tr>
<td>S. An important reason for donation is that I get a health check for free</td>
<td>0.422</td>
<td>0.031</td>
<td>-0.120</td>
<td>-0.241</td>
<td>0.150</td>
<td>0.194</td>
</tr>
<tr>
<td>L. I donate blood because it’s important to help other people</td>
<td>0.131</td>
<td>0.667</td>
<td>-0.204</td>
<td>-0.224</td>
<td>0.200</td>
<td>0.270</td>
</tr>
<tr>
<td>J. I donate because I feel compassion towards the receivers of blood products</td>
<td>0.223</td>
<td>0.587</td>
<td>-0.191</td>
<td>-0.314</td>
<td>0.225</td>
<td>0.267</td>
</tr>
<tr>
<td>A. Blood donation is a cause that is important to me</td>
<td>0.148</td>
<td>0.504</td>
<td>-0.353</td>
<td>-0.170</td>
<td>0.009</td>
<td>0.202</td>
</tr>
<tr>
<td>F. I seldom think about blood donation, it's a habit</td>
<td>0.082</td>
<td>-0.189</td>
<td>0.149</td>
<td>0.010</td>
<td>0.068</td>
<td>0.070</td>
</tr>
<tr>
<td>B. Donating blood makes me feel important</td>
<td>0.317</td>
<td>0.312</td>
<td>0.762</td>
<td>-0.328</td>
<td>0.073</td>
<td>0.331</td>
</tr>
<tr>
<td>G. Donating blood makes me feel better about myself</td>
<td>0.420</td>
<td>0.193</td>
<td>0.543</td>
<td>-0.229</td>
<td>0.400</td>
<td>0.317</td>
</tr>
<tr>
<td>K. My friends think it is important that I donate blood</td>
<td>0.436</td>
<td>0.214</td>
<td>-0.187</td>
<td>-0.735</td>
<td>0.336</td>
<td>0.390</td>
</tr>
<tr>
<td>R. My colleagues, and other people I know, place high value on volunteering as blood donor</td>
<td>0.356</td>
<td>0.296</td>
<td>-0.283</td>
<td>-0.633</td>
<td>0.257</td>
<td>0.353</td>
</tr>
<tr>
<td>D. My wife/husband think blood donation is an important activity</td>
<td>0.379</td>
<td>0.116</td>
<td>-0.176</td>
<td>-0.520</td>
<td>0.069</td>
<td>0.248</td>
</tr>
<tr>
<td>E. Whenever I see the blood bank logo or an advertisement for blood donation I get a good feeling</td>
<td>0.371</td>
<td>0.318</td>
<td>-0.430</td>
<td>-0.441</td>
<td>0.106</td>
<td>0.279</td>
</tr>
<tr>
<td>L. For me, blood donation is primarily a moral duty</td>
<td>0.276</td>
<td>0.291</td>
<td>-0.152</td>
<td>-0.210</td>
<td>0.455</td>
<td>0.193</td>
</tr>
<tr>
<td>P. If I don’t contribute no-one else will</td>
<td>0.163</td>
<td>0.087</td>
<td>-0.075</td>
<td>-0.196</td>
<td>0.428</td>
<td>0.110</td>
</tr>
</tbody>
</table>

Eigenvalues:

- 5.321
- 1.623
- 1.177
- 1.106
- 1.070

Total variance explained in per cent

- 28
- 8.5
- 6.2
- 5.8
- 5.6

Important correlations (above 0.4) are shown in bold text.
of support from other people as reasons for donation, and correspond to the VFI 'social' factor. Variable E addresses positive feelings when seeing the blood bank logo or advertisements for blood donation. We will label factor 4 the 'social' factor.

**Factor 5**
The fifth factor was produced by a relatively weak correlation between variables P and I, which describe blood donation as a 'moral obligation' and as a 'duty'. We will label factor 5 the 'moral duty' factor.

Thus, all four VFI factors were identified, and in addition a fifth factor, 'moral duty', emerged. However, the results were not as clear-cut as expected according to the VFI. Several variables (M, O, Q, C, N, G, K and E) correlated to more than one factor. There was especially strong covariance between factor 1 ('understanding') and factor 4 ('social') (Table 2). This indicates problems when using the VFI on motives for blood donation.

A reliability test of the factors was performed using Cronbach alpha (value scores range between 0 and 1; higher values indicate higher reliability). The results from this test showed acceptable, but not very strong, reliability for all factors. The weakest Cronbach alpha was found for factor 1, 'understanding' (0.580) and the strongest for factor 5, 'moral duty' (0.704). The other factors were in the intermediate range: factor 2, 'value' (0.684); factor 3, 'esteem' (0.649); and factor 4, 'social' (0.628). The factor analysis was performed on pooled data from the years 2000 and 2003, as well as on the data from each year separately. All three analyses gave similar results.

Eighty-nine per cent of all donors agreed strongly or partly to the statements of value-orientated motives, and only 1.5% strongly or partly disagreed to value statements for donating. However, initial motives to volunteer as a blood donor may differ from those of a long-term donor. In order to explore which motives were linked to donor endurance, we calculated the average support for the five motives for short-term and long-term donors, respectively. Long-term donors were defined as donors with a history of more than 20 donations (about 50% of all donors). The scores for 'fully' and 'partly agree' and 'disagree' were added together, giving 'disagree' and 'agree' groups. Support for 'neither agree nor disagree' and 'don't know' responses were added (Table 3). The statistical significance of differences between long-term and short-term donors was tested with the $\chi^2$ test for independence. Support for the 'value factor' (altruism, empathy) was nearly equally strong among long-time and short-time donors. Long-time donors were less supportive and more likely to disagree with statements regarding the importance of the 'esteem factor' for blood donation, than were short-time donors. Support for the 'understanding', 'social' and 'moral duty' factors was similar for short-time and long-time donors.

Finally, we found a higher percentage of men (57.4%) than women (42.6%) among long-time donors, and correspondingly a higher percentage of women (55.9%) than men (44.1%) among short-time donors.
Discussion

About 50% of the donors had donated more than 20 times. This indicates that the commitment to donate blood is high among Norwegian donors.

Generally, blood donors' socio-demographic characteristics were found to be similar to those of the average population. However, some differences were documented. The under-representation of the youngest age group (18–25 years) among blood donors should be noted. Similar findings have been reported in Finland (J. Rautonen, personal communication). Some exclusion criteria apply mainly to young people (e.g. frequent change of sexual partner, body piercing). We are currently investigating the reasons for the under-representation of young people among blood donors.

The small under-representation of women may be explained by screening of low-weight persons (in Norway there is a 50 kg weight limit for donation). The under-representation of women among long-time donors may partly be explained by the cessation of blood donation caused by pregnancy. In addition, the prevalence of depleted iron stores is higher among Norwegian female donors than among male donors [17].

Unemployed individuals were found to be under-represented among blood donors. This may reflect reduced health status among the unemployed, which would probably exclude from donation. We were surprised to find that healthcare professionals were under-represented among blood donors. Healthcare professionals may be expected to be more aware of the need for blood transfusion than others.

Figure 3 may be interpreted to indicate that donors recruited by mass media advertising are more likely to lapse than those recruited by other donors. We do not think that this is the case. The high number of long-term donors having difficulties remembering how they were recruited may explain some of the differences observed in recruitment history. Furthermore, there has been an increased mass media recruitment effort by the BBO in recent years. From 1996, the BBO has launched several recruitment campaigns with the assistance of a commercial advertising company. The high number of mass media-recruited people among short-term donors, may therefore actually reflect the efficiency of these campaigns.

The importance of social networks as a recruitment channel for blood donation is noteworthy. The decision to begin and to continue blood donation was likely to be influenced more by peripheral persons (co-workers, neighbours) than close ones (spouse, or close friends). Therefore, active blood donors are probably the ones best suited to recruit and to motivate other people to become committed donors.

We found weak internal reliability for several of the factors from the VFI measurement, and some covariance among the factors. This indicates that the VFI questionnaire is not optimal for measuring the motivational process behind blood donation. Therefore, it is an important task to develop an improved motive-measurement tool for voluntary blood donation. This could provide donation agencies with a better tool for evaluating their practices for blood donor recruitment and retention. In spite of the problem of covariance between factors, important distinctions in donors' motivational profiles were documented. We found that donors were motivated by values (altruistic and empathic), social and some slightly self-regarding reasons (esteem, and understanding).

An important aim of this study was to investigate whether the motivational profiles of long-term blood donors differ from those of more recently recruited ones. When asked why they give blood, nearly all donors supported other-regarding, value-based (altruistic and empathic) motives. The satisfaction from blood donation would seem to derive from an 'inner joy' from contributing to someone's health, or saving another person's life. A consistent finding in the literature of volunteerism is that the individuals with the longest participation record are the most altruistically motivated ones [18]. In contrast, we found virtually no difference in support for 'value'-based (empathy and altruistic) motives between long- and short-term donors. Furthermore, short-term donors were found to be more supportive of self-esteem motives than long-term donors. The positive effect of increased self-esteem as a result of donation seems to be more important to less-experienced donors than long-term donors. Similar results were found in an extensive study on blood donor motivation, conducted by Piliavin & Callero in the USA [5,19]. They found 'habit' to be the strongest predictor for future donation. Other research on blood donors' motives has indicated that motivation for donation changes from initial 'external reasons' (e.g. influence from friends or relatives, emergency, convenience of clinic) towards 'internal motivations' (e.g. desire to help, duty, support for the Health Service) [20]. We suggest that less experienced blood donors were particularly motivated by the increased self-esteem associated with donation. This motivation was found to be less important for the more experienced donors.

In conclusion, we found that most donors were recruited by other donors. Their continued involvement as blood donors was primarily linked to altruistic and empathic reasons. However, donors were also found to be motivated by moral obligation and some modestly self-regarding motives. Increased self-esteem from being a blood donor was a more important motivation to donors with a short donation record than to more experienced ones.

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